Skills retention and internship programmes: the case of engineers in Emalahleni Local Municipality

by

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A dissertation submitted in fulfilment of the requirements for the degree of Municipal Administration: MAdmin (Public Administration)

In the Faculty of Economic and Management Sciences

In the School of Public Management and Administration

At the University of Pretoria

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Date of submission

September 2014
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Signature                      Date

September 2014
DEDICATION

To my beloved parents, Thandi Sylia Ntshingila and Phineas Stanley Maupa, and grandmother Elizabeth Thoko Maupa for being my sources of inspiration, and allowing me to explore my passion for education. Through them I came to understand the meaning of courage, caring and perseverance.
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My heartfelt appreciation goes to my parents, grandparents and siblings for their understanding, love, support and reassurance.

I extend my sincere appreciation to my girlfriend Vuyiswa for her support and understanding, and my friends for their patience during the entire period of the study.

Last, but by no means least, I thank my colleagues and the South African community for opening their doors to work with me in my various community projects.
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<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>AMMSA</td>
<td>Association of Mine Managers of South Africa</td>
</tr>
<tr>
<td>AsgISA</td>
<td>Accelerated and Shared Growth Initiative for South Africa</td>
</tr>
<tr>
<td>CA</td>
<td>Charted Accountant</td>
</tr>
<tr>
<td>CAA</td>
<td>Chartered Accountant Academy</td>
</tr>
<tr>
<td>CEASA</td>
<td>Clinical Engineering Association of South Africa</td>
</tr>
<tr>
<td>CoGTA</td>
<td>Department of Cooperative Governance and Traditional Affairs</td>
</tr>
<tr>
<td>CSIR</td>
<td>Council for Scientific and Industrial Research</td>
</tr>
<tr>
<td>CTA</td>
<td>Certificate in the Theory of Accounting</td>
</tr>
<tr>
<td>DBSA</td>
<td>Development Bank of Southern Africa</td>
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<td>DPSA</td>
<td>Department of Public Services and Administration</td>
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<td>EAP</td>
<td>Employees Assistance Programme</td>
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<td>ECSA</td>
<td>Engineering Council of South Africa</td>
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<td>ECSA</td>
<td>Engineering Council of South Africa</td>
</tr>
<tr>
<td>FEANI</td>
<td>Fédération Européene d’Association Nationales d’Ingénieurs</td>
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<tr>
<td>GCC</td>
<td>General Conditions of Contract</td>
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<td>GDP</td>
<td>Graduate Development Programme</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HR</td>
<td>Human Resource</td>
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<td>HRD</td>
<td>Human Resource Development Strategy</td>
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<td>HRM</td>
<td>Human Resource Management</td>
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<td>HSRC</td>
<td>Human Sciences Research Council</td>
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<td>ICMEESA</td>
<td>Institute of Certified Mechanical and Electrical Engineers of South Africa</td>
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<td>IDP</td>
<td>Integrated Development Planning</td>
</tr>
<tr>
<td>IET</td>
<td>Institution of Engineering and Technology</td>
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<td>IFME</td>
<td>International Federation of Municipal Engineers</td>
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<td>IMESA</td>
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<td>IntET</td>
<td>International Engineering Technologists</td>
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<tr>
<td>IPET</td>
<td>Institute of Professional Engineering Technologists</td>
</tr>
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<td>IRPE</td>
<td>International Registration of Professional Engineers</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
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<td>------------------------------------------------------------------------------</td>
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<tr>
<td>JIPSA</td>
<td>Joint Initiative on Priority Skills Acquisition</td>
</tr>
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<td>LFS</td>
<td>Labour Force Survey</td>
</tr>
<tr>
<td>LGSETA</td>
<td>Local Government Sector Education and Training Authority</td>
</tr>
<tr>
<td>LSM</td>
<td>Living Standard Measure</td>
</tr>
<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MEC</td>
<td>Member of Executive Committee</td>
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<tr>
<td>MFMIP</td>
<td>Municipal Finance Management Internship Programme</td>
</tr>
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<td>MFMRP</td>
<td>Municipal Finance Management Reform Programme</td>
</tr>
<tr>
<td>MIG</td>
<td>Municipal Infrastructure Grant</td>
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<tr>
<td>MQA</td>
<td>Mining Qualification Authority</td>
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<tr>
<td>NCOP</td>
<td>National Council of Provinces</td>
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<tr>
<td>NDP</td>
<td>National Development Plan</td>
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<tr>
<td>NERSA</td>
<td>National Energy Regulator of South Africa</td>
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<td>NIP</td>
<td>National Infrastructure Plan</td>
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<tr>
<td>NIP</td>
<td>National Internship Programme</td>
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<td>NPM</td>
<td>New Public Management</td>
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<tr>
<td>NQF</td>
<td>National Qualification Framework</td>
</tr>
<tr>
<td>NSDS</td>
<td>National Skills Development Strategy</td>
</tr>
<tr>
<td>NYDA</td>
<td>National Youth Development Agency</td>
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<tr>
<td>OSD</td>
<td>Occupation Specific Dispensation</td>
</tr>
<tr>
<td>PEJC</td>
<td>Professional Engineering Joint Council</td>
</tr>
<tr>
<td>PICC</td>
<td>Presidential Infrastructure Coordination Commission</td>
</tr>
<tr>
<td>RDP</td>
<td>Reconstruction and Development Programme</td>
</tr>
<tr>
<td>SAACE</td>
<td>South African Association of Consulting Engineers</td>
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<tr>
<td>SACPE</td>
<td>South African Council for Professional Engineers</td>
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<td>SAIAE</td>
<td>South African Institute of Agricultural Engineers</td>
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<td>SAICE</td>
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<td>South African Institution of Civil Engineering</td>
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<td>South African Institution of Chemical Engineers</td>
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<tr>
<td>SAIEE</td>
<td>South African Institute of Electrical Engineers</td>
</tr>
<tr>
<td>SAIIIE</td>
<td>Southern African Institute for Industrial Engineers</td>
</tr>
<tr>
<td>SAIMechE</td>
<td>South African Institution of Mechanical Engineers</td>
</tr>
<tr>
<td>SALGA</td>
<td>South African Local Government Association</td>
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</table>
SAQA: South African Qualification Authority
SDA: Skills Development Act
SETA: Sector Education and Training Authority
SIAM: Sustainable Infrastructure Asset Management
SIPs: Strategic Integrated Projects
UNDP: United Nations Development Programme
UYF: Umsobomvu Youth Fund
ABSTRACT

A high number of skilled engineers continue to leave the Emalahleni Local Municipality subject to a skills shortage leading to poor public service delivery in the municipality. The exodus of engineers from the municipality to the surrounding mining and steel mill industries raises a serious concern for the municipality since it cannot fully satisfy its constitutional mandate of public service delivery to the local households. There were some public-private partnership interventions done to improve the level of skills availability in various municipalities in the region, which saw an exponential improvement in public service delivery such as access to water and sanitation facilities. However, such interventions were short-lived. It is the conviction of this study that municipalities need to develop strong and sustainable administrative capacity to retain scarce and critical skills. This is because administrative capacity has a direct impact on the skills capacity of municipal institutions. For this reason, this study explores the retention strategies for engineering interns pertinent to the Emalahleni Local Municipality. This is done with the intention of determining the role of Human Resource Management (HRM) in attracting and retaining critical skills using internship programmes.

The discussion on the early development of the theories of Public Administration in the realm of HRM enriched the contextual understanding of the HRM in public administration discourse in this study. This was because the theories provided an insightful understanding of the origin, development and relevance of HRM in a modern society; about how government institutions utilise their human resources and the efforts to reform earlier discontent spawned from the spoils and gentlemen theories. There is a resounding consensus from numerous public administration authors about the urgency and need to not only attract scarce and critical skills, but to also retain them. Available literature points to the latter as one of the severe challenges facing government institutions. The literature alludes to many factors such as remuneration, motivation, job flexibility and management style as some of the factors contributing to the challenge of retaining scarce and critical skills.
Internship programmes have been widely accepted as a means of increasing human resource capacity and reducing unemployment in South Africa and other developing countries. Implementation of internship programmes in government institutions has been different from that of the private sector. It is the legislative requirement, as per the Department of Public Services and Administration guidelines on implementing a determination on interns in the public service, which each government institution makes up five per cent of interns in the staff establishment. This is indicative of the government’s seriousness to create employment, and most importantly to boost skills capacity through internship programmes.

A comparison of South Africa’s current state of engineers has been made with other developing and developed countries such as China, the United States of America and India throughout this study. This was done in order to provide an international perspective of the importance and shortage of engineers. South Africa has a healthy growth in producing dynamic engineers when benchmarked with these countries.

Using the analysis of documents as a means of data gathering, the study presented three case studies of internship programmes from two distinct government institutions. The case studies revealed that these two government institutions have a similar policy approach to internship programmes, but there is a variance in the practical administration of the programmes. The research revealed that it is the practical administration of internship programmes and policies that determine the weaknesses and strengths of the programmes in as far as the retention of scarce skills is concerned.
CHAPTER 1: INTRODUCTION AND GENERAL BACKGROUND TO THE STUDY

1.1. INTRODUCTION

There is a high rate of shortage of essential skills in municipalities. Under the guidance of the law, municipalities are constantly engaging in policy, legislation and implementations in an endeavour to meet their basic service delivery mandate. It is for this reason that municipalities need to attract and retain the right talent and skills. The latter are the qualified persons from different fields. This study examines the attraction and retention of skills from the fundamental level of internship programmes in municipalities as an integral part of skills capacity development.

The harsh reality of critical skills shortage in South Africa’s most important sectors of the economy continues to loom where such skills are needed most. In the public sector, especially in municipalities, the engineering skills shortage has been described as the worst capacity crisis that has hit South Africa for many years. The critical skills shortage has been the challenge even prior to the democratic dispensation in South Africa in 1994. The challenge of scarce critical skills was rife during the apartheid era in South Africa. This was because of the apartheid-based economy which restricted skills growth and development, internationally and locally, in the secondary and tertiary economic sectors. Be that as it may, the concern for scarce skills continued to dominate the national agenda even after the South African democratic breakthrough of 1994. In the list of critical skills shortage, civil engineering skills have been identified as one of the worst in the South African local municipalities. The civil engineering skills in the municipalities can be described as the skills vital to the planning and management of a municipality’s essential projects such as construction of roads, pavements, bridges and storm water outlets. The Engineering Council of South Africa (ECSA) requires a three-year practical work experience or formal training from qualified engineers in order to be registered as professional engineers. Some local municipalities offer training programmes for the qualified engineers through various programmes such as unstructured or structured internships.
To enhance a better understanding of the environment in which this study is conducted, this chapter will first discuss the geographic location of the subject under investigation in this study. The chapter provides the reasons for this study. This is done through the motivation for the research and the detailed exploration of the problem attributed to this study. Since the research is designed to address a particular problem, this chapter highlights the research problem as a cornerstone of this study. The research problem encompasses the research question as well as the research objectives.

1.2. GEOGRAPHIC LOCATION OF EMALAHLENI LOCAL MUNICIPALITY

Emalahleni Local Municipality is a Category B municipality situated in the Highveld of Mpumalanga Province. The name Emalahleni is derived from the area's main economic activity, which is coal. Thus, the direct translation of the name Emalahleni is “the place of coal”. This municipality is also known as Witbank (Afrikaans for White Ridge). It is one of the six local municipalities in the Nkangala region (South Africa 2010:1). The municipality was amalgamated with the five neighbouring local municipalities to form the Nkangala region which are Thembisile Hani, Dr JS Moroka, Steve Tshwete, Victor Khanye (formerly known as Delmas Local Municipality) and Emakhazeni (formerly known as Highlands Local Municipality) Local Municipality. The Emalahleni Local Municipality adjoins the boundaries between Mpumalanga and Gauteng province in the western region of the Mpumalanga province. It is surrounded by approximately 22 coal mining industries. It is also composed of numerous power stations and steel mill industries. As such, it forms part of the Energy Mecca of South Africa (South Africa 2010:1). The latter is the term used to refer to the areas of mass energy production in South Africa. “The southward road and rail connect the Emalahleni Local Municipality area to the Richards Bay and Maputo harbours, offering export opportunities for the coal reserves” (Emalahleni Local Municipality 2010:1).

According to the Community Survey conducted by the Statistics South Africa in 2007, Emalahleni Local Municipality had an estimated population of 435 217 people and 105 592 households. Based on the estimated annual growth rate of 8.63 per
cent, the municipality’s population was approximated at 523 577 before the official Statistics South Africa Census 2011 (Emalahleni Local Municipality 2012:35). The Census 2011 projected the total population of Emalahleni Local Municipality to be 395 466 households, of whom 81.3 per cent are black and 15.7 per cent are white (Statistics South Africa 2012). According to these statistics, the population in the municipality has increased by 289 874 households between 2007 and 2011. Emalahleni Local Municipality is surrounded by several towns which make up the municipality. The towns include the Emalahleni City (being the central business centre), Ogies and Phola, Ga-Nala and Thubelihle, Reitspruit, Van Dyksdrift and Wilge (Emalahleni Local Municipality 2010:1). The following table represents the percentage of the total population found in the areas mentioned above.

Table 1: The population percentage of the Emalahleni Local Municipality

<table>
<thead>
<tr>
<th>CENTRES</th>
<th>PERCENTAGE OF TOTAL POPULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>eMalahleni City</td>
<td>69%</td>
</tr>
<tr>
<td>Ogies and Phola</td>
<td>9%</td>
</tr>
<tr>
<td>Ga-Nala and Thubelihle</td>
<td>6%</td>
</tr>
<tr>
<td>Van Dyksdrift</td>
<td>2%</td>
</tr>
<tr>
<td>Non-urban</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
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</table>

Source: Emalahleni Local Municipality (2010:37)

The majority of the population of Emalahleni Local Municipality reside in the urban areas of the municipality, with only 11 per cent residing in non-urban settlements. This might be because of the high economic activity, such as mass power production in power stations, taking place in the urban areas and surrounding locations. The majority of the population in urban areas, especially the Emalahleni City, might be residing in the areas because of employment and employment opportunities in the local mines, power stations and steel mill industries. Therefore, the economic activities, which are heavily dominated by the private sector, are the primary cause for urbanisation in Emalahleni Local Municipality.
1.3. MOTIVATION FOR THE RESEARCH

The quantity of the skills available in municipalities provides a basis for the discussion about the relevance of this study. A study conducted by the Institute for Democracy in Africa (Idasa) indicates a cumulative figure of municipalities which suffered from a scarcity of engineering skills between 1996 and 2005. It was discovered that out of 278 municipalities, approximately 45 per cent of the municipalities did not have enough capacity in terms of civil engineers and technicians to develop the infrastructure and execute projects during this period (Idasa 2008:1). This has prompted the government to introduce numerous pieces of legislation with the aim of improving skills capacity in the country. It is important to acknowledge that there is no quick fix solution to the skills shortage (Sheoraj 2007:16). More effort is needed to promote skills development in municipalities as the skills shortage challenge continues to manifest.

The challenge of scarce engineering skills is not unique to the 21st century South Africa under a democratic government. It dates back to the early years of the South African democracy. This challenge is further not unique to South Africa. Other countries face similar challenges too. The research by the Human Sciences Research Council (HSRC) indicates that the total number of professional engineers employed in South Africa, including in the public services, during the period of 1996-2005 on average was 124 567. In this, only 60,98 per cent (24 202) had degrees, 16,79 per cent (6669) had National Diplomas and 22,21 per cent (8817) had lower qualifications (HSRC 2008:5). These figures indicate the low rate of skilled graduates and qualified engineers available in South Africa. The low throughput of engineering students adds to the scarcity factors of engineers in South Africa; an analysis of this trend is provided in detail in the fourth chapter of this study.

Furthermore, this hinders infrastructural developments, provision of basic services to the households and growth in South Africa, as engineering skills remain of critical importance in as far as technical and infrastructural projects are concerned. In fact, skills development is central to the economic growth of the country (Sheoraj 2007:16). The South African government has placed the development of technical
skills such as engineers at the core of meeting the country’s development requirements outlined in the National Development Plan. Table 2 below shows the number of professional engineers employed in South Africa from 1996 to 2005.

Table 2: Employment of engineering professionals in South Africa (1996-2005)

<table>
<thead>
<tr>
<th>Total employed as engineering professionals</th>
<th>1996</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>Total</th>
<th>Average employed p.a</th>
<th>% Average annual growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>129874</td>
<td>60317</td>
<td>72843</td>
<td>126782</td>
<td>122929</td>
<td>121950</td>
<td>136129</td>
<td>770824</td>
<td>110118</td>
<td>3.89</td>
</tr>
</tbody>
</table>

Adapted from HSRC (2008:7)

Table 2 above shows a fluctuating number of engineers employed in South African industries and the public service from 1996 to 2002. The fluctuating number of employed engineering professionals since 1996 until 2002 is indicative of scarce engineering skills in South Africa. Although these figures could be responding to external pressures, such as special projects requiring engineering skills, the years 1997 and 1998 show a drastic decrease. This could be because of numerous factors such as low qualifications, lack of experiential training and experience, which can be acquired through internships and other training and development programmes (HSRC 2008:5-6). Other external phenomena include the introduction of legislation such as the Employment Equity Act, 55 of 1998 which might have played a role in the low number of employed engineers in 1998, since more white than black people were qualified as engineers. The Act compelled every employer to promote equal opportunity of employment by having a racially and gender balanced workforce. Another piece of legislation passed during this era was the Skills Development Act, 97 of 1998, which aimed at bringing about a “skills revolution” in the country, through raising the skills base to the levels required to support growth and social development (Mining Qualification Authority (MQA) 2008:6). Notwithstanding the intentions of this piece of legislation, the South African skills base is still inadequate to promote economic growth and social development. The Emalahleni Local Municipality is a case in point in this assertion.
1.3.1. Engineering skills shortage: a global concern

As the world has become globalised, developing and developed economies remain in dire need of engineering skills. China, the United States of America (U.S.A), and India are the top three leading countries in producing engineers in the world. Between 2006 and 2011 China was rated the largest producer of engineering graduates in the world with about 600 000 engineering graduates a year, followed by India with 350 000 and the U.S.A with 70 000 engineering graduates a year (Kiwana, Kumar and Randerson 2012:2). Amidst the heavy presence of engineers in these countries, just like South Africa, China, India and the U.S.A equally suffer from the engineering skills shortage. In India the challenge of low qualified computer science and Information Technology (IT) engineers hamper the development of engineering skills (Dore 2013). About 80 per cent of engineers in the computer science and IT sector were reported as lacking in the ability to apply the academic theory to real the world.

As much as China is a leading country in terms of engineering skills compared to many developing and developed countries, with over two million engineers, China has also identified the need to strengthen education in engineering. Just like India, the majority of engineers in China lack application and practical skills (Guanya 1998). One of the reasons for the shortage of professional engineers is the traditional education which overstressed the theoretical part of the engineering discipline and overlooked the practical training of engineers. These types of engineers are referred to as transactional engineers since they perform “routine tasks in the workplace, and are often produced by lower-tier universities, with simpler curricula and weaker emphasis on research, group work, applied engineering and interdisciplinary thinking” (Kiwana, Kumar and Randerson 2012:8). In responding to this challenge, the Chinese government established an independent body known as the Chinese Academy of Engineering (CAE) (Guanya 1998). The CAE is responsible for the development of engineers with the ultimate objective of boosting the country’s professional engineering capacity.
Conversely, this challenge extends to developed countries like the U.S.A. The National Science Foundation survey showed that out of 100 graduates only four received their engineering qualification in the U.S.A. This has brought the country to a total of four per cent of engineers in the country’s employment pool (Augustine 2007:41). It is clear that education and qualifications play a major role in the country’s skills capacity. These leading countries produce more in quantity, than in quality, engineers. They lack the capacity of dynamic engineers, who possess a high level of innovative thinking and problem-solving skills. This comparative analysis gives a clear indication of the serious nature and extent of the challenge of engineering skills in both developing and developed economies in the world.

1.3.2. Skills shortage trends in South African municipalities

In an effort to utilise the available critical skills, South African municipalities are faced with another challenge of skills turnover. The table below indicates the turnover rates in the then Department of Provincial and Local Government from March 2006 to February 2007.

**Table 3: Critical skills turnover in the South African local government (March 2006- February 2007)**

<table>
<thead>
<tr>
<th>Field</th>
<th>Engineers</th>
<th>Town &amp; Regional Planners</th>
<th>Land Surveyors</th>
<th>Industrial Technicians</th>
<th>Spatial Planners</th>
<th>Legal Admin Officers</th>
<th>Media Liaison Officer</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>10</td>
<td>15</td>
<td>5</td>
<td>20</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Statistics South Africa (2007:7)

Engineers make up 10 per cent of the turnover rate according to Table 3 above. Town and Regional Planners work closely with engineers and make up 15 per cent. They are sometimes referred to as Town and Regional Planning Technicians when dealing with the more practical and technical part of their profession. Hence, the technical part, which comprises town and regional planners, industrial technicians and spatial planners, add up to 25 per cent. The skills indicated in the table above are critical, because they are interrelated and important in delivering the needed
services in the municipalities. For instance, for infrastructural development projects to be successfully executed in the municipality, regional planners need to assess the municipal area for infrastructural needs and lead the strategic planning projects of new infrastructure. As a matter of fact, these skills have been identified by the government as the “greatest impediment to its public infrastructure and private investment programmes” (Beyers 2:2008). Therefore, the unavailability of skills such as town and regional planners hampers the infrastructure development of the municipalities.

1.3.3. State interventions in response to the scarce skills challenge in municipalities

It has been confirmed by numerous senior personnel from various institutions, including *inter alia*, the Registration Manager at Engineering Council of South Africa, the Chief Executive Officer of Altron, the Chief Executive of International Marine Contractors Association, the Chamber of Mines President and Exxaro Chief Executive Officer, that scarce engineering skills remain a global challenge (HSRC 2008:3). However, South Africa, particularly municipalities, suffers most from the dearth of scarce skills (Lawless cited in HSRC 2008:3). This challenge has resulted in the insourcing of engineers in South Africa. The acquisition of skilled foreign workers in areas of critical skills shortage has been facilitated by the South African government to address immediate skills shortages (Sheoraj 2007:16). However, the Joint Initiative on Priority Skills Acquisition (Jipsa) argues that the insourcing of scarce critical skills would only sustain South Africa for the short to medium term. Hence, the challenge of the scarce skills will remain in the long run (Accelerated and Shared Growth Initiative for South Africa (AsgiSA) 2006:19). The Jipsa was formulated in March 2006 to assist the AsgiSA in critical skills development areas (AsgiSA 2008:25). This was two years after the Labour Force Survey (LFS) revealed that there is approximately one engineer in every 20 133 employed South African citizens (Erasmus and Brier 2009:87). The objectives of Jipsa include bringing the skills challenge to the national attention, creating enough capacity for training; skills retention and training programmes.
The Jipsa identified the increasing challenge of scarce engineering skills and established a working relationship with the Umsobomvu Youth Fund (UYF) and the Independent Development Trust in 2006. The UYF was a government youth development initiative which merged with the National Youth Commission to form the National Youth Development Agency (NYDA) in 2009. The UYF and Independent Development Trust collaborated in placing a number of graduates in South African companies, including 97 practitioners placed in municipalities in 2006 through the Siyenza Manje programme. The Siyenza Manje (which can be directly translated as “we are doing it now”) is a capacity building programme initiated in 2006 by the Development Bank of Southern Africa (DBSA), National Treasury, the then Department of Provincial and Local Government and South African Local Government Association (SALGA) with the aim of capacity building in South African municipalities (DBSA 2007:1).

During its first financial year, the Siyenza Manje programme initiated the implementation of 471 projects in municipalities. A total of 97 projects were successfully implemented during this period. The 2007 report by the DBSA indicates a total number of 81 experts deployed in under-capacitated municipalities in eight provinces to assist with the implementation of infrastructure projects, planning and financial capacity building through the Siyenza Manje programme (DBSA 2007:1). This was intended to ensure that all funds allocated as Municipal Infrastructure Grant (MIG) were spent to fulfil the purpose for which they were allocated. The MIG is the conditional grant allocated to municipalities with the aim of ensuring that municipalities provide a basic level of infrastructure services to communities (Department of Provincial and Local Government 2006:3). In 2008, 190 civil engineers were deployed to 154 municipalities to complete 374 projects which were not completed in the programme’s first financial year (AsgiSA 2008:28). This witnessed an increase in access to basic services such as water and sanitation by local households.

The DBSA’s 2010/11 annual report shows an improvement in the work of the Siyenza Manje programme. Through this programme, the bank deployed 826 professionals to 186 municipalities (126 direct and 60 on a shared-service basis) and
to 20 provincial departments in 2010/11 financial year. During this period, 1 114 technical and 1 994 non-technical projects were completed with the facilitation of 2 984 programmes at the MIG with a capital expenditure to the value of R8, 7 billion (DBSA 2011:20). The report shows that by 31 March 2011 the following skilled workers were employed and deployed in various low-capacity municipalities through the Siyenza Manje programme: 163 engineers and technicians, 72 finance experts, 26 planners, 135 young professionals and 430 apprentices. Also, there was a further increase of “152 772 households with access to basic services such as sanitation services, 432 432 households with access to bulk sanitation systems and 129 858 households were connected to water reticulation networks” (DBSA 2011:152). These figures highlight that significant attention is given to the scarce skills shortage in municipalities. These programmes also attempt to expedite and accelerate the provision of basic services as required by the MIG. The Siyenza Manje programme made a significant contribution in attracting more skilled employees to implement the infrastructural development projects in various municipalities. It played a critical role in Jipsa’s deployment of scarce critical skills in municipalities. In tabulated form, the input and output of the DBSA through the Siyenza Manje can be described as follows:

Table 4: DBSA contribution through Siyenza Manje programme in 2010/11

<table>
<thead>
<tr>
<th>Allocated budget in billion rands</th>
<th>No. of skills deployed</th>
<th>No. of projects completed</th>
<th>No. of beneficiaries (municipalities)</th>
<th>No. of beneficiaries (households)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.7</td>
<td>1652</td>
<td>3108</td>
<td>206</td>
<td>715062</td>
</tr>
</tbody>
</table>

As highlighted above, the Siyenza Manje programme, was initially managed by the DBSA, funded through the Bank’s Development Fund, in partnership with the National Treasury, the then Department of Provincial and Local Government, and the South African Local Government. In 2011, the DBSA took a decision to transfer the responsibility of the Siyenza Manje programme to the Department of Cooperative Governance and Traditional Affairs (CoGTA) and the National Treasury (Parliamentary Monitoring Group 2011). The National Treasury is mandated with the responsibility of the administration of funding and financial management and support.
of the programme, and CoGTA will take on the infrastructure component of the programme (Western Cape Community Law Centre 2011:4). The latter implies that CoGTA will continue with the planning and implementation of programmes as established by the DBSA.

In further response to the increasing scarce skills shortage in municipalities, the National Treasury introduced the Municipal Finance Management Reform Programme (MFMRP) in 2004. The MFMRP was formulated with the primary objective to help reform the internship programmes of municipalities that lacked financial management skills. In addition, the MFMRP makes specific reference to the development of knowledge and skills of interns in the strategic planning, strategic management, and municipal budgeting and finance management fields through the Municipal Finance Management Internship Programme (MFMIP) (National Treasury 2004:1). The programme was established to address the municipalities’ financial management capacity backlogs. This was a government response to the negative skills capacity in municipalities. It was believed that internship programmes would provide a fundamental basis to train and develop skills, but the retention of such skills continue to be a difficult undertaking in municipalities.

Another intervention in the form of the Rand Water Academy was created through the collaboration of the National Treasury, CoGTA, Department of Water and Environmental Affairs, and Rand Water. The initiative was launched in 2012 with the aim of “developing a pool of skilled and capable workers that contributes to the benefits and opportunities of economic expansion” (Mail and Guardian 2014). This programme comprised beneficiaries from various professions including engineers, technicians, artisans, graduates, experiential learners, internships and bursary holders. These professions represent the identified skills gap in municipalities, especially in the water provision sector. In pursuit of its objective, the academy produced “120 graduates consisting of 40 process controllers, 30 water quality generalists, 30 apprentices and 20 engineers” (Mail and Guardian 2014). The training programme for engineers is called the “Graduate In-training Programme for Engineers” (Alli 2013). The academy training programme runs for about 36 months, which is split into two parts. Trainees are expected to complete the first 18 months
doing theoretical training at Rand Water and another 18 months in practical training at a designated municipality or water service authority in the form of an internship programme. One of the objectives of this split in the training programme is to equip graduates with the skills necessary to be absorbed in the municipalities. It is interesting to note that the ultimate purpose of this programme is to promote the retention of skills in municipalities. This is one of the strategies to ensure skills capacity in municipalities through proactive retention measures.

In its initial phase, the Rand Water Academy initiative targeted municipalities in three South African provinces; Gauteng, Mpumalanga and Free State province. Mpumalanga province has been a major beneficiary with three out of the five municipalities that have benefited to date; Govan Mbeki Local Municipality, Emalahleni Local Municipality, and Thembisile Hani Local Municipality. This is indicative of the plague of scarce skills crisis in the province. Emalahleni Local Municipality is again among the municipalities at the epicentre of this intervention. It is clear that the scarce skills shortage is a serious concern in this municipality. This initiative aims at providing access to clean water and sanitation to the local households of the identified provinces.

1.4. PROBLEM STATEMENT

The previous section of this chapter alluded to the fact that the challenge of skills shortage is universal. Be that as it may, the South African municipalities share their unique difficulties of the scarce skills challenge. The Emalahleni Local Municipality as the focal point of this study also faces its unique skills shortage problems. The skills audit was conducted in the Mpumalanga Provincial municipalities by the Standing Committee on Finance and Appropriations. The findings showed that “engineering, financial management and project management are some of the areas where the province seriously lacks skills” (South Africa 2010:5). In the budget vote speech by the Member of Executive Council (MEC) for Agriculture, Rural Development and Land Administration in Mpumalanga Province, it was reported that the province was exploring various remedial options to overcome this challenge. Furthermore, it has been discovered by the Nkangala District Municipality
institutional review in its inspection of the capacity of personnel and training that the Highveld region of Mpumalanga is widely affected by the high turnover of qualified engineers (Steve Tshwete Local Municipality 2007:16). This challenge in the Emalahleni Local Municipality is reported to occur after the internship programme, where intern engineers “migrate from the municipality to the local mines and industries because they are being offered better remuneration packages and other benefits more than what a municipality could afford” (South Africa 2010:5). The turnover of skills in municipality weakens the administrative capacity since the municipality cannot adequately serve communities in their day-to-day needs. The HRM in the municipality carries the responsibility of ensuring the replacement of the lost skills so as to strengthen the administrative capacity of the municipality.

Therefore, this study addresses the following question: What retention strategies for engineering interns are pertinent to the Emalahleni Local Municipality? This research question prompts a further investigation on the existence of the relationship between administrative capacity and skills shortage in the public sector. The internship programme is used as the case study to determine this correlation in the Emalahleni Local Municipality.

1.4.1. Skills turnover due to remuneration reasons

A large number of coal mining and other industries have opened opportunities for employment of engineers and other technical skilled employees at Emalahleni Local Municipality. As much as these coal mines and steel mill industries are the major players in the economic activity and growth of the Emalahleni Local Municipality, their ownership does not belong to the local municipality. These industries are private entities, thus they do not have an obligation to provide direct services to the local households. Available literature points to the lack of motivation, with particular reference to the remuneration standards, as the primary push factor for the migrating interns from the municipality to these private entities. The Executive Director of the South African Institute for Civil Engineers (SAICE) asserts that public sector remuneration for engineers is a third of what engineers in a private sector earn (Erasmus and Brier 2009:88). In the public service, the remuneration of interns is
guided by the determination on interns and learners promulgated by the Minister of Public Service and Administration on 1 June 2006. In the municipalities, the remuneration is determined by the total revenue collected from its various sources of income, such as tax on property value, water and electricity rates (Sheoraj 2007:105).

The comparison between the private and public sector is complex, since the nature of these institutions and their remuneration standards differ. Whilst the municipalities have the public interest at heart, the private entities are motivated by capital gain and profit. Hence there is a huge variation in income and remuneration of employees. The then Department of Local Government and Housing in the Limpopo province argues that staff turnover due to financial reasons, such as salary or service benefits, should be avoided (Limpopo Department of Local Government and Housing 2006:8). The provision is made by the Public Service Regulation, 2001 (issued in terms of Public Service Act, 1994) to allow government departments and institutions to increase employees' salaries within the specific limits in order to encourage skilled employees to stay. This method is better known as the Occupation Specific Dispensation (OSD), which is discussed as a case study in the fifth chapter of this study.

Amidst the challenge of the increasing exodus of engineering interns in the public sector, municipalities to be precise, it is believed that the public sector provides attractive incentives to public servants. The incentives for working as a civil servant comprise of both intrinsic and extrinsic benefits as indicated in Table 5 below:
Table 5: Compensation of incentives to become a civil servant

<table>
<thead>
<tr>
<th>Current rewards</th>
<th>Contractually provided</th>
<th>Non-contractual intangible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base rewards</td>
<td>Monetary</td>
<td>In kind</td>
</tr>
<tr>
<td>Allowance</td>
<td>1. Base wage/salary</td>
<td>2. Health insurance</td>
</tr>
<tr>
<td></td>
<td>4. Transportation, housing, meals, telephone, travel, cost-of-living allowance</td>
<td>5. Transportation, housing, meals, travel</td>
</tr>
<tr>
<td></td>
<td>6. Trips abroad, training</td>
<td></td>
</tr>
<tr>
<td>Future expectations</td>
<td>7. Pension</td>
<td>8. Housing, land, etc.</td>
</tr>
<tr>
<td></td>
<td>9. Reputation, re-employment after retirement</td>
<td></td>
</tr>
</tbody>
</table>


The incentives highlighted in the table above apply mostly to permanent public sector employees. However, due to the skills turnover problem occurring at the end of the internship programme, the incentives could be considered to encourage interns to stay after the completion of the programme. Notwithstanding the fact that there is an incentive guide for civil servants, it is difficult to compare the public and private sector remuneration. In the South African private sector, the remuneration standards are heavily influenced by the union-negotiated “across-the-board” increase, which uses the inflation range of three to six per cent as a yardstick of negotiating (Bussin 2011:321). As the negotiations revolve around the inflation range, agreements are reached within the range. There are embedded incentives such as performance based, overtime bonuses, and allowances. Therefore, the level of motivation of employees in the public and private sector differs. This uniqueness is suggestive of the distinctive strategies each sector needs to employ when dealing with employees’ motivation to avoid skills exodus.

1.4.2. Effects of skills turnover on the Emalahleni Local Municipality service delivery

Apart from the municipal administrative challenges which are caused by the skills migration as discussed above, the effects extend to municipal development and growth. It is evident from the dilapidated infrastructure, roads, water and sanitation in
the Emalahleni Local Municipality that engineering and technical skills shortages are not only affecting the staffing and functioning of the municipality’s administration, but the challenge detrimentally affects basic public service delivery to local households. In the assessment of the Emalahleni Local Municipality water infrastructure, the spokesperson of the Emalahleni Local Municipality confirms that some of the major service delivery predicaments faced by the municipality include “poor maintenance of major storage dams, failing water and sewerage infrastructure and out-dated and poorly maintained delivery systems” (Mofokeng 2011:1). In spite of these overarching challenges, the municipality retains and promotes its policy position to “ensure enough human resource capacity with relevant skills and knowledge to achieve the present and future goals of the municipal council” (Emalahleni Local Municipality 2006:1).

It is clear that the increasing engineers’ turnover will have long-term effects on the municipal development plans, since the municipality requires such skills for its infrastructural, economic development and service delivery purposes. This is mainly because the engineering skills are vital to the planning and management of municipal essential projects such as “construction of roads, pavements, bridges and storm water outlets and drainages” in the public sector (Idasa 2008:1). More discussion on the importance of engineering skills in municipalities is provided in detail in the fourth chapter of this study. It is for this reason that the local and provincial government focus mostly on engineering skills in their employment for urban and infrastructure development (Erasmus and Breier 2009:81). In fact, the overwhelming focus on the development of technical and engineering skills is motivated by the government objectives to meet the country’s national development requirements by 2030.

It is important to note from the outset that the infrastructure development projects in municipalities would not be successfully executed in the absence of skilled engineering workers. For example, Erasmus and Breier (2009:82) highlight that in 2006 the AsgiSA allocated a budget of approximately R372 billion for the period of 2009 - 2010 to the provincial and local spheres of government to assist with infrastructure development. However, because of the lack of skills capacity such as
engineers, the entire infrastructure development process was curtailed. In 2009, the Emalahleni Local Municipality was allocated a budget of approximately R7,5 billion for infrastructure development. A further R360 billion was assigned by the government to assist municipalities with a poor water supply capacity over the next 15 years (Mofokeng 2011:1). The under-spending in infrastructure development is indicative of adequate capacity needed to fulfil the spending needs.

1.5. RESEARCH QUESTIONS

This study endeavours to answer some of the following underlying questions in an endeavour to understand better the skills shortage challenge faced by the Emalahleni Local Municipality and provide recommendations to resolve this challenge:

- What are the internal factors that prevent engineering interns from staying in Emalahleni Local Municipality after completing their internship programme?
- What are the municipal human resource management initiatives to prevent the exodus of engineering skills?
- What is the correlation between the institutional administration and the skills development programmes such as internship programmes?

The premise from which this study moves is that administrative capacity has a direct impact on the skills capacity in government institutions. According to the United Nations Development Programme (UNDP 2006:10) administrative capacity development refers to the development of individual skills and organisational competency with the “focus on strengthening a leader’s capacities in areas such as accounting, organisational strategy, fund raising, human resource development and knowledge management” (more discussion on capacity development is provided in Chapter 3 of this study). In the context of this study, the investigation of administrative capacity in the Emalahleni Local Municipality is aimed at establishing whether the municipality has the necessary conditions and resources to prevent the turnover of critical skills and boost the municipal human capital.
1.6. RESEARCH OBJECTIVES

For the purpose of this study, objectives refer to the outputs which this study seeks to achieve as highlighted in the research questions above. By attending to the research problem as outlined in a previous section, the study achieved the objectives related to investigating the engineering skills shortage in the Emalahleni Local Municipality. The objectives are vital to the design, planning and completion of the study. As a matter of fact, the successful completion of this section serves as the point of departure for the conceptualisation of the chapters of the research (Brynard and Hanekom 2006:28).

The five main objectives of this study are to:

- determine the role of human resource management in attracting and retaining scarce skills;
- explore the importance of engineering in municipal service delivery;
- describe procedures used in attracting and retaining scarce skills in the public sector;
- investigate the relationship between internship programmes and skills retention; and
- propose recommendations on administrative strategies to be followed by the Emalahleni Local Municipality in addressing their challenge of engineering skills shortage.

Each of the objectives listed above is discussed and explored in depth in the parts of the succeeding chapters of this study. The discussion of the discipline of human resource management explains the discipline and provides its background and the processes involved in the human resource management with specific reference to the public sector. The engineering profession is regarded as one of the cornerstones of municipal service delivery. Hence further details about this profession are discussed in the fourth chapter of this study. The case studies of internships and skills retention will provide a thorough analysis to meet the objectives of this study.
1.7. SURVEY OF RELATED LITERATURE

The main aim of the examination of previous literature is to determine the extent to which the related literature was conducted, recognise the findings made in the literature, and identify the void in the literature. The review of the literature helped in laying the foundation from which the research problem, research questions and research design emerged. The investigation is also done with the intention of acknowledging the previous studies conducted in the field and bridging the knowledge gap which exists in research. The two components of the research topic to be probed in this section are skills retention and internship programmes with specific focus on South African local municipalities. Limited literature has been developed in the field of internship programmes and skills retention as a major concern to a variety of organisations, and as such few authors have recommended ways in which municipalities could utilise their internship programmes to retain the existing pool of skills in organisations.

1.7.1. Analysis of the concept “skills shortage”

Skills shortage is a very complex concept since it is embedded in other related concepts such as scarce skills and skills mismatch. It is against this backdrop that the concept of skills shortage needs critical analysis, since it is comprised of various connotations and as such can be understood differently from context to context. There are two distinguishable components of the concept “skills shortage” which aim to clarify the understanding of the concept when applied in different contexts (Daniels 2007:5). These two components create a comprehensive understanding of skills shortage in the labour market, because they provide two distinct meanings attributed to skills shortage.

Firstly, skills shortage could be understood in the context of scarce skills. Scarce skills can be defined as the current and future lack of qualified and experienced workforce causing the imbalance in the quantity between the skills on demand and the skills on supply (Finance and Accounting Services Sector Education and Training Authority (FASSET) 2006:1). This denotes that there is a deficiency or inadequacy of
particular skills in a specific profession. Such skills dearth might be caused by a variety of factors, such as the exodus of skills from one organisation to another or one country to another, low capacity of skilled employees, and lack of appropriate qualifications, expertise and experience. In South Africa, this phenomenon was experienced in the late 1990s, where there was a high number of engineering graduates or skilled engineers migrating overseas for better career opportunities, while the country was experiencing the sharp scarcity of engineers (South African Institution of Civil Engineering (SAICE) 2000:10).

Considering Brazil and China as developing economies suggests that the migration of skilled workers is a universal challenge. Brazil has noted the migration of skilled labour as one of the primary causes of skills shortage, especially in the oil industry (University of Pennsylvania 2011). Doctors and engineers are chief among the skills migration from India to the developed countries (Khadria 2006:6). Even though there is a small percentage of the migration of skilled labour such as craftsmen and traders in China, the migration of rural labour between 1992 and 2006 stood at 115 million. Most migration in China takes place within the borders of the country, mostly from rural to urban areas (Chan 2008:8). A minimal portion of Chinese skilled labour migrates to other countries.

*Secondly*, skills shortage could be defined in the context of the need for a specific skill in a profession. In this regard, there is a shortage of a specific skill in a profession at large. The shortage of civil engineers in South African municipalities can be qualified as an example to this second component. This could be experienced when there is a need for specific skills, yet the available skills could not fill the vacancy due to low level of experience or other related factors. This notion could be referred to as skills mismatch. It is clear from the above two paradigms of skills shortage that “skills shortage” is the broader term. For the purpose of this study, skills shortage is used in this context to refer to scarce skills.
1.7.2. The retention of scarce skills

Kaplan and Meyer (2000) focus on finding means of retaining migrating expert skills to prioritise the development of the country. Their primary aim was to assess the reasons for the skills migration, especially in areas of critical skills. Their intention was to prevent skills drain, which is associated with the migration of skills. Mattes, Crush and Richmond (2000:6) cast a different perspective regarding skills migration as opposed to Kaplan and Meyer (2000). They assert that whilst the country’s most important skills migrate, these can be replaced by the immigrating skills and perhaps also close the inadequacies of the country’s education and training system. Such domestic and structural challenges in developing countries push the skilled labour to the developed countries. The views of Kaplan and Meyer (2000) and Mattes, Crush and Richmond (2000:6) are two sides of the same coin, because while the former diagnose the skills migration problem, the latter propose remedies to the underlying challenges causing skills migration. But the major question is whether the loss and benefit is proportional. In municipalities, there has been an increasing demand for municipal engineering skills such as civil engineers. It is in this context that municipalities are required to continuously attract, develop and retain the municipal engineering skills.

In the assessment of strategies used to retain nurses in selected public hospitals, Zweni (2005:1) discusses the migration of nurses to other municipal hospitals from the Nelson Mandela Metropolitan area due to better job offers. This study is different from the ones discussed above by Kaplan and Meyer (2000) and Crush and Richmond (2000). The focus of the migrating skill takes place among various organisations in the same country. This is often attributed to as skills mobility. There is an increasing nurse skills mobility in Nelson Mandela Metropolitan area due to workloads, global competition and resignations because of better job offers elsewhere (Zweni 2005:1). It is important to note that nurses, like engineers in municipal infrastructure services, are of critical importance in South Africa’s health services. The continuous loss of such skills might put the country’s health service in jeopardy, since the communities would receive low level health standards.
Other academic contributions in the skills retention diaspora came through authors such as Potgieter and Pretorius (2009). The low-level unskilled workforce and highly skilled technical professionals are the two areas identified by Kransdorff and Klegon (cited in Potgieter and Pretorius 2009:37) as the areas which experience the highest turnover rate in South Africa. In the context of this study, the low-level unskilled workforce could be considered as interns and highly skilled technical profession could be viewed as qualified professional engineers. Potgieter and Pretorius (2009:37) are of the opinion that managers are more successful in attracting talent, but struggle to retain it. The difference in needs and expectations of professionals and organisations are contributing factors to this problem. They attribute this to “the fundamental difference between professional and corporate culture” with particular reference the training and development of technical professionals (Potgieter and Pretorius 2009:37). Whilst the technical professionals come to organisations with a mind-set of independent and flexible working environment, organisations may want to adhere to their norms and standards, and rules and procedures. This is common in municipalities, since municipalities are governed by laws which require strict adherence.

Potgieter and Pretorius (2009) conclude that organisations should prioritise on retaining the best talent, promote a flexible working environment, and develop sustainable incentive and performance appraisal systems for professional engineers. Some of their recommendations include adapting human resource practices which have a proven success track record of retaining professional workforce and clearly communicating the vision of the organisation to the professionals and channel the thinking of the professional workforce to the organisation’s vision and goals. A sound understanding and collaboration between the technical professionals and managers in organisations is important to enhance the work environment which impacts positively on the retention of the low-level unskilled workforce and highly skilled technical professionals. This study will develop from this perspective to address the gap of skills retention in municipalities, with specific reference to Emalahleni Local Municipality.
1.7.3. Scarce engineering skills

The engineering profession serves as an impetus for the skills audit of this study. The focus of this study is located within municipalities, with specific focus on Emalahleni Local Municipality. An interesting study on scarce and critical engineering skills was conducted by Du Toit and Roodt (2009) under the HSRC, Development Policy Research Unit and Sociology of Work Unit, and commissioned by the Department of Labour. In their research, Du Toit and Roodt (2009) consider the engineering skills as the prerequisite for development and growth in South Africa. Their study indicates the previous and current engineering skills capacity, the demand for the engineering skills, and the reasons for the shortage of such skills as some of the research developments. They discovered that the engineering profession had shifted the focus from the public sector to a more private sector prone productivity. They further attributed the level of education and qualifications as some of the factors related to this focus shift. They concluded that the engineering skills dearth is not unique to South Africa, it is a global phenomenon. This is particularly the case in most developing economies as discussed earlier in this chapter.

The authors introduced a gender element in their discussion of engineering skills. Women are not adequately represented in the engineering profession due to the low number of women qualified as engineers (Du Toit and Roodt 2009:5). Hence, they advocate for more and clear transformation policies addressing the fair and equal representation of gender in the engineering profession. Although Du Toit and Roodt’s (2009) research is relevant to this study, especially in the engineering skills spectrum, it encompasses a broader analysis of the problem diagnosed in this study. Whilst this study focuses on intern engineers in municipalities, their investigation of engineering skills shortage is conducted on the national sphere of government, and the probation of the engineering skill is at the general field of engineering. Thus, this study remains relevant in contributing to the literature in the field of engineering skills shortage.
1.7.4. Human Resource Management strategies for skills retention in the public sector

Public officials possess specialised skills to drive service delivery in the public sector. It is important that these officials are constantly trained and developed to meet the desired standards of service delivery. Mafunisa (1995) discusses broadly the promotion and training of public officials in order to professionalise public administration in municipalities. His point of contention was that municipalities should be governed by ethical standards to enhance accountability, promote democracy, efficiency and effectiveness. He used clerks in a municipality as a case study given the scope of their functions. One of his findings indicated that due to the scope and demanding nature of municipalities, it was imperative that new incumbents be properly inducted and the existing employees retrained. He added that this would have significant effects on the promotion of a public service ethos. It is against this milieu that HRM needs to carefully consider their skills intake and channel the new incumbents into accepting and respecting the organisational culture and understanding their roles and functions in the organisation. This would likely have long-term effects on staff satisfaction and increase their interest in the work, because of the continuous training provided. Such interest has possible positive effects to boost the organisational skills capacity and avoid the exodus of the much needed skills.

1.7.5. Internship programmes in municipalities

Minimal attention has been given to internship programmes in municipalities by authors in the field of public human resource management. Ndamase (2004) completed a Master’s research dissertation about internship programmes. His research was based on the need to introduce internship programmes to develop school principals in South Africa. Ndamase’s (2004) research falls within the ambit of government, thus making his study relevant to this research topic. There is a need for internship programmes in the municipalities, so as to introduce the incumbents to the organisation and allow them an opportunity to meet the challenges and find opportunities for strategic growth (Ndamase 2004). It is further indicated in the study
that internship programmes play a vital role in the improvement of a person’s soft skills such as “problem-solving, decision–making, listening, communication and analytical skills”. Internship programmes are necessary to equip graduates with “soft skills”, prepare them for the workplace environment and to obtain relevant experience (Pop 2009:6). Soft skills refer to the desired personal attributes in a workplace; these include “time management, creative thinking, communication skills, goal and priority setting and team work” (Pop 2009:6). Hence, many organisations structure their internship programmes in a manner that will encompass the phase for developing the soft skills of graduates. As much as internship programmes are designed to attract new talent and introduce it to the work environment, it is equally important that the internship programmes be structured to promote the absorption and retention of the developed skills.

This study put more emphasis of the retention of the engineers in municipalities through internship programmes. The motivation for such emphasis is augmented by the perspective that the municipal engineers have a vast role in the economic growth, service delivery and social development of municipalities. More examination of the impact of engineers in municipalities is provided in the fourth chapter of this study.

From the theoretical perspective of related literature discussed above, it can be concluded that the study of skills retention in municipalities, with specific reference to the Emalahleni Local Municipality, has not been explored extensively. Little information is available about engineering skills migration in municipalities. There is however, literature pointing to the direct and indirect causes of the general skills exodus from municipalities to the private sector. For example, Lawless (cited in Greve 2011:1) indicates “complex and long bureaucratic procedures, longwinded decision-making processes, poor working conditions and low remuneration” as some of the push factors for engineering skills migration from municipalities to the private sector. The continued quest for better opportunities by newly qualified graduates contributes significantly to this predicament (Pop and Barkhuizen 2010:1).
Other factors indicated by the Limpopo provincial government include “historical reasons, the impact of HIV and AIDS, globalisation and increased mobility” (Limpopo Provincial Government 2008:5). It is important to note that some of these challenges are direct and indirect, as well as inevitable and avoidable. The organisational issues such as the political or bureaucratic procedures could be regarded as indirectly influencing the skills turnover in municipalities. This is because there is no direct impact on the employees. The low motivation of employees, as a result of low remuneration and poor working conditions, impacts directly on employees. Both factors could be avoided by municipal human resource management. However, factors such as HIV and AIDS and death impact directly on the loss of skills in organisations and are also inevitable.

1.8. SIGNIFICANCE OF THE STUDY

Numerous municipalities have been identified as the most negatively affected by the engineering skills shortage crisis. In China the evidence of this effect is found in the rural villages, where the skilled labour migrates to urban areas. In South African municipalities this is totally a different scenario, as the competition for scarce skills is between the public and private sectors. The Emalahleni Local Municipality is faced with the challenge of successfully attracting scarce engineering skills over its direct mining and steel industry competition. As indicated earlier, this has had a severe impact on the municipal human resource capacity and service delivery. Therefore, skills development and retention is of particular significance in addressing the skills shortage problem facing municipalities in South Africa. Also, building enough skills capacity in municipalities is vital to the economic and social development of municipalities. This study addresses human resource issues relating to skills shortage and explores the possibility of overcoming the engineering skills shortage challenge. This will assist in the achievement of the South Africa’s development and economic objectives service delivery mandates in the Emalahleni Local Municipality.
1.9. LIMITATIONS OF THE STUDY

Due to some municipal and other relevant institutions’ information being classified and not being available for public consumption, such as personal records from the HRM unit or department, minutes of official meetings and memos, the study conducted a desktop research process (to be discussed in detail in the methodology section). There were limited publications available regarding the research problem under investigation, which affected the research information of the study. Since the problem statement in the previous section indicated that the scarce engineering skills problem in the Emalahleni Local Municipality was diagnosed a few years ago, there were no precise records of tracing the trends of this phenomenon.

Several attempts to reach the relevant authority to provide information in the municipality were made with little success since 2011. This had a huge impact on the progress of this study. Adding to this was the slow response rate from the municipality in providing the required information after permission was requested. Limited information was provided by the municipality, making the case study analysis of the municipality internship programme insufficient.

1.10. CONCEPT CLARIFICATION

This section is aimed at providing a clarification of key concepts used in this study with an objective of elucidating any ambiguity that may arise in relating them to the discipline of Public Administration.

1.10.1. Public Administration and public administration

Denhardt and Denhardt (2006:1-2) define Public Administration (in capital letter prefix) as an academic discipline that studies the day to day operations, policy and issues of government.

Public administration (in lower case prefix) is concerned with the execution of government policies and implementation of political values with the objective of
maintenance of “law and order, regulation and currency, coinage, maintenance of land records, promotion of agriculture, education, health, social welfare and services” (Rathod 2010:1-5).

1.10.2. Local government

The South African Constitution, 1996, defines local government as a sphere of government which consists of municipalities that govern the local affairs of its community. The interest of local citizens is represented through the municipality executive and legislative authority according to the categories as defined by Section 155 of the South African Constitution, 1996.

1.10.3. Municipality

A municipality according to Section 1 of the Municipal Structure Act, 117 of 1998, is the legal body of government in the local sphere that is mandated to deliver public services to local households in collaboration with the “municipal executive and legislative authority in the area with a municipality within whose area falls” (South Africa 1998:14).

1.10.4. Human Resource Management

Human Resource Management is an official body of the institution tasked with utilising acquired human resources to achieve organisational objectives (Mondy, Noe and Premeaux 1999:4).

1.10.5. Internship programme

Internship programmes are programmes designated by organisations to recruit students that have completed their tertiary studies into the work environment (Pop 2009:8). These programmes are designated to assist graduate students in gaining first-hand experience on their field of study and increase their chances of employability.
1.10.6. Intern

An intern is a “graduate with no, or little, practical experience in the required discipline, who seeks to enter the field of work through an internship programme” (Pop 2009:9).

1.10.7. Engineer

An engineer is a professional employee in possession of a four-year Bachelor of Science (BSc Eng) or Bachelor of Engineering (B Eng) from a recognised university and capable of performing the required engineering functions and duties.

1.10.8. Engineering

Engineering is a discipline concerned with the planning, designing, construction, testing, managing and operation of infrastructure, facilities, machines structures, and other mechanical and electrical devices.

1.11. PRELIMINARY RESEARCH FRAMEWORK

The research is divided into various areas of focus which constitute chapters of this study. The first chapter consists of the introduction of the study, geographic description of the area in which the study was conducted, motivation for the study, problem statement, research questions and objectives, survey of related literature, clarification of concepts and sequence of chapters. This chapter gives a comprehensive analysis of skills shortage in South Africa and the background of the research problem.

The second chapter of this research is the methodological approach the researcher followed in conducting the research. The deficiencies that this study addresses are indicated in this chapter. From the shortcomings identified in the first chapter, this chapter provides a guideline of the extent to which the investigation of the problem
statement was conducted. The manner in which the information was gathered and organised is highlighted in this chapter.

The third chapter defines Public Administration, describes the development of the science of Public Administration and provides a human resource management perspective in public administration and the processes involved in the practice, and a background of internship programmes and development of municipalities in South Africa. This is followed by a fourth chapter discussion on the engineering profession in South African municipalities; background, legislative framework, impact and the challenges facing municipalities in their acquisition of engineers. The chapter also looks at the current state of engineering skills in South African municipalities.

Case studies about the relationship between internship programmes and skills retention are necessary for the successful conclusion of this study, with the aim of assessing whether internship programmes play a role in the skills shortage. The National Treasury and the Emalahleni Local Municipality are presented as comparative and explanatory cases in the fifth chapter.

The final chapter provides a brief synopsis of all chapters of this study. It offers a concluding analysis of the research and findings made in the study. This chapter also provides recommendations for the Emalahleni Local Municipality in addressing the challenge of engineering skills shortage.

1.12. CONCLUSION

This chapter provided a brief theoretical perspective and motivation of the study. It is indicated in this chapter that the scarce skills shortage in the public sector received high level attention even before the advent of democracy in South Africa. The skills shortage challenge extends beyond the geographical borders of South Africa. Its impact is also evident in both the developed and developing countries. In South Africa, this challenge continues to affect municipalities, more specifically in the project management and infrastructure development spheres. These functionalities require engineering and relevant technical skills to achieve the required objectives.
Hence, since 1994 the municipal agenda identified the development and retention of scarce critical skills as one of its principal priorities. Skills retention should be the priority of municipalities. Improved human resource management should also be the principal objective of strategic planning of government departments and institutions.

According to the plethora of scientific reports presented in this chapter, it is clear that Emalahleni Local Municipality is suffering from the high exodus of skills after having completed internship programmes. This has had a negative impact on municipal services delivery, because skills such as engineering are important in delivering most essential municipal services. Also, such skills are of great importance to economic development of the municipality, because they are useful in a number of infrastructure development projects such as the building of dams, bridges and roads. One of the research objectives endeavours to address the research question of this study includes the determination of the administrative role of human resource management in attracting and retaining scarce skills. It would be useful to determine the administrative role of HRM for easy comparison when determining whether or not the Emalahleni Local Municipality lacks administrative capacity.

It was emphasised that the shortage of both technical and financial management skills is a serious issue that has affected numerous municipalities. Steps have been taken to mitigate this problem through various initiatives such as Siyenza Manje programme, MFMRP and MFMIP to mention but few. However, there is an indication that there is an increase in the skills shortage in areas such as engineering.

Numerous authors have contributed to efforts at resolving the problem of the scarce skills shortage. Gaps have been left in addressing the engineering skills shortage in municipalities and internship as a tool to attract such skills. The gaps are exposed through the literature that points to the growing concerns for skills development as highlighted by the high rate of critical skills turnover in South African municipalities. As indicated in this chapter, the study investigates the relationship between internship programmes and skills retention in Emalahleni Local Municipality as a framework from which recommendations are provided. The next chapter looks closely at the methods which were used in investigating the research problem.
CHAPTER 2: METHODOLOGY

2.1. INTRODUCTION

It is required that any scientific research adopts a proper methodology through which to collect research data and information. As it is understood that an empirical research requires a methodology, it is important to first understand what research is. There is a plethora of academic literature defining the concept “research”. Some authors describe research as a tool used to prove a specific social or scientific phenomenon in an academic setting. In this context, a research methodology can be seen as a vehicle through which the phenomenon is proven in a research. For the purpose of this study, research is defined as a process of investigating the “scientific knowledge by means of various methods and procedures” (Welman, Kruger and Mitchell 2005:2). As a working tool, research methodology provides a systematic approach underlying the procedures and processes to be followed in investigating a research problem and performing a conclusive analysis. The methodology is the manner in which a research plan, structure and execution are outlined, to achieve scientific research results with the use of a defined method of collecting data (Brynard and Hanekom 2006:36). The use of a method to collect or gather information is a basis by which a researcher is guided in respecting the issues involved in research such as research ethics and scope. It is therefore noteworthy that every research adapts to a distinct style of collecting information, depending on the scope of the research and research target.

The aim of this chapter is to systematically describe the methodology used in collecting the information provided in Chapter 5 and its relevance to this study. The delineation of research and its significance are briefly discussed in the content of this chapter. This is done with the purpose of assessing the research environment and eliminating possible risks. An explanation for the selection of instruments which this study used in gathering the information is provided in this chapter. Some of the provided reasoning includes the actuality and practicality of conducting research in a municipality.
2.2. RESEARCH METHOD

In a scientific expedition to discover reality, social scientists are constantly involved in what is known as epistemology, which is a science of discovering the truth (Babbie 2007:4). Moutinho and Hutcheson (2011:1) refer to this notion as positivism. They assert that the ultimate goal of social science is to observe and explain the world as it is. They add that social scientists apply a unique approach of scientific methods in testing the existence of social phenomena. The application of this approach is better known as methodology. Methodology can be described as the manner in which social scientists discover the truth about human beings and the phenomena surrounding them. Postmodernists reject this statement by asserting that there cannot be an “objective or final truth as all truth is a socially constructed entity” (Maree 2007:63). Their objection is based on the premise that truth and knowledge cannot be generalised, they are dependent on human culture, personality and biology. Post-positivists concur with this objection to a certain extent. They are of the view that since research, especially qualitative research, is conducted with a degree of subjectivity it hinders the achievement of objectivity in research. Their bone of contention is that “truth does exist, but cannot be perfectly understood” (Maree 2007:65). Their argument leaves much to be desired in a real world. Truth cannot exist in a vacuum. According to Leedy and Ormrod (2013:39) qualitative research has two main approaches, and they are: the “real world” and “capturing and studying the complexity of the real world phenomena”. As much as qualitative researchers are influenced by perceptions, impressions and bias they strive to be objective in their research.

There is therefore an intellectual thirst to determine the basis from which the truth exists in qualitative research. Under these circumstances, social scientists use the research method to determine the unknown through studying human beings from different cultures and with different personalities. The method of collecting data is a way of explaining the “unknown” in research and adding the “new body of knowledge to the existing knowledge” to discover the truth (Brynard and Hanekom 2006:35). Thus, without a clearly defined research method, a researcher will not be able to achieve the intended objectives of the research. It is against this background of the
prerequisite of a research method for scientific research that this study has carefully selected its research method.

2.2.1. Quantitative versus qualitative research method

There are two eminent types of data collection found in the social science research fraternity, namely the quantitative and qualitative research methods. Both methods apply different experiments and approaches which are governed by ethical standards to test their assumptions and to discover reality. The ethical standards are set to ensure compliance to ethical issues such as confidentiality, safety, provision of appropriate information and purpose to participants or respondents (Hesse-Biber and Leavy 2011:100). Thus, the terms of research ethics include information, privacy, strict confidentiality and ensuring a safe environment to participants or respondents.

On the one hand, Moutinho and Hutcheson (2011:3) argue that quantitative research is more appropriate in instances where a study seeks to “generalise the results of the population sample than providing objective research results”. On the other hand, Flick (2009:13) dismisses this claim by stating that the quantitative research approach is a traditional approach which was used by psychologists and social scientists to generalise and “formulate general laws” based on a random selection of the population. The population and sample based methods originate from the statistical analysis. This reveals that the quantitative research method has its roots in the statistical environment. Some of the techniques applied in the quantitative research method are hypothesis tests, regressions, cluster and factor analysis and time series analysis (Baggio and Klobas 2011:3). However, these techniques are best fitted in disciplines such as tourism, accounting and numerically sensitive topics. It is important to note that the quantitative research’s aim is not to effect change to the subject under investigation or “determine cause-and-effect relationships” between phenomena, but rather it is aimed at describing the situation as it is (Leedy and Ormrod 2013:184). The quantitative research method reports on a situation based on the collected and carefully analysed data. The advantage of the quantitative research method is that it is designed to be objective since there is no
involvement of human behaviour, perceptions and emotions. It is, however, disadvantageous to adopt a quantitative research method when studying human beings and their behaviour. The qualitative research method is the best method to study situations involving human behaviour.

The qualitative research method interprets and analyses what people say or have written about, their perceptions and experiences, and does not include any statistical data analysis such as numbers or counts (Brynard and Hanekom 2006:35). Instead, the qualitative research method uses research instruments such as case studies, interviews, observations, questionnaires and analysis of documents. The qualitative research approach is deemed appropriate when the purpose of the research includes formulating objective and empirically well-founded research statements and results (Flick 2009:14). The qualitative research method is used in numerous academic disciplines such as anthropology, sociology, psychology, biology, history, political science, education and medicine (Leedy and Ormrod 2013:139). In this context, this study fits within the realm of sociology and political science as it seeks to observe social phenomena and address challenges within a political institution. The rationale for adopting the qualitative research method is provided in detail in the following sections.

2.2.2. Qualitative research method

In endeavouring to achieve the research objectives, this study used a qualitative research method to collect data. According to De Vos et al. (2002:79), a qualitative research method brings with it an interpretive and holistic approach in its attempt to understand “social life and the meaning that people attach to it”. Social science is a complex discipline, which involves human behaviour, perceptions and emotions among other phenomena. An attempt to understand such phenomena using an interpretive approach alone could pose a challenge. This is because the research outcomes “could be misleading and not give sufficient acknowledgement to the diversity of approaches within qualitative research” (Maree 2007:56). It is therefore important to encompass the elements of both interpretive and holistic approach in a research design.
The qualitative research method can be described as one which produces descriptive data according to social phenomena attached to people. Other than just describing the collected data, the qualitative research method allows for the collected data to be analysed for subjective and critical assessment. In addition, the qualitative research method has the purpose of describing and understanding observable facts according to how people describe them (Boeije 2010:11). This method explains participants’ experiences and perceptions of the meaning about the world that revolves around them (De Vos et al. 2002:79). Silverman (2001:32) argues that the qualitative research approach produces profound understanding of social phenomena as compared to the quantitative research approach. The qualitative research method is the best tool that researchers in social sciences use when seeking to explain and understand the social trends from the environment in which participants reside. The qualitative research method is also undertaken to discover other factors such as reliability, correlation and hypothesis among social factors.

The ultimate interpretation of the meaning about observable facts depends on the intended objectives of the researcher and the relationship with the target audience (Strauss and Corbin 1998:283). The qualitative research approach was selected in this study to collect data to determine the retention strategies for engineering interns pertinent to the Emalahleni Local Municipality, and explaining the relationship between internship programmes and skills retention. This approach was also selected for this study because:

- this study cannot be conducted experimentally for practical or ethical purposes;
- there are no proven variables that can explain the behaviour of interns at the Emalahleni Local Municipality; and
- research will be conducted on an actual case.

Within the interpretive and holistic qualitative research approach, qualitative research studies can be classified into three broad categories. They are exploratory, interpretive and causal research studies (Magoro 2010:29). The exploratory research study explains the social behaviour of people to understand the social phenomenon
underpinning behaviour. Interpretive research study entails subjective analysis of the behaviour of people underpinned by their social setting (McNabb cited in Magoro 2010:30). This study considered an exploratory approach in gathering the research information from both the two case study institutions. A crucial part of the research method is the manner in which the method will be organised and used to conduct the research. The research design section below outlines the techniques which were used when approaching this research.

2.3. RESEARCH DESIGN

A research project needs a plan for its successful execution and conclusion. As researchers are involved in collecting and analysing data, it is important that they provide an outline of how such information was collected and analysed. The importance of such a plan for this research cannot be overemphasised. A research design is a “blueprint” that guides the manner in which a researcher conducts the research (Mouton 2011:55). As a blueprint, it is important that a researcher follows the research design and assesses the research progress based on its research design. In general, the research design is the means of achieving research objectives. It “clarifies the type of study to be undertaken” (Maree 2007:35).

The design to achieve the research objectives stated in this study was helpful due to the nature of the research problem and location of the municipality. According to Maree (2007:70) there are six broad types of research designs in qualitative research, and they are: conceptual studies, historical research, action research, case study research, ethnography and grounded theory. Each of these research design types has its own sub-category from which researchers could choose to frame their research. This study undertook a case study research through the use of a multiple-case approach. The selection of the case study approach was informed by the nature of the research problem investigated in this study. It would be difficult, if not impossible, to successfully answer the research question and objectives outlined in Chapter 1 of this study by focusing only on one case study. This is because the results would be biased and overgeneralised, in a sense that the research problem would not be tested against a distinct environment. The multiple-case study
approach provides an opportunity for two or more similar cases to be satisfactorily compared. Such comparison would conclusively yield objective results.

The case study research, which is sometimes referred to as *idiographic research*, is a study in which particular carefully selected cases are studied intensively within set period from which the research problem occurred (Leedy and Ormrod 2013:141). Important to note in this description of case studies is that case studies are not random, but rather are aimed at specific phenomena within a defined period of time. Case studies are widely used in numerous academic disciplines, which include medicine, education, political science, law, psychology, sociology and anthropology (Leedy and Ormrod 2013:141). Thus, a case study qualitative research approach is relevant to this study. Case studies analyse a system of action rather than individuals or groups through unit analyses (Maree 2007:75). A case study is one of the most effective methods of conducting research, especially when the objective is to compare two or more occurrences or variables. Such comparison should occur when two or more variables “share some common features or characteristics” (Druckman 2005:3). Comparative analysis normally involves a small number of cases, and the decision in selecting such cases is strongly influenced by the phenomena under investigation and how they are conceptualised (Collier 1993:105).

This study considered internship programmes at the Emalahleni Local Municipality and the National Treasury as they are relatively similar in the manner in which they are administered under their respective human resource management systems. Internship programmes form part of the larger human resource component of these two institutions. The primary intention for their selection was to juxtapose the administrative strategies employed in the National Treasury internship programme with that of Emalahleni Local Municipality in order to assess the administrative capacity and strategies of retaining engineering interns in the Emalahleni Local Municipality. Furthermore, the Emalahleni Local Municipality and the National Treasury share the following features, among others:

- they are both public institutions;
- they are both located in a competitive environment in as far as their skills demands are concerned; and
• engineering is a scarce skill in the Emalahleni Local Municipality, as are the accounting and financial management skills in the National Treasury.”

For the actual presentation of case studies, Leedy and Ormrod (2013:141) recommend the following structural presentation of data:

• chronological arrangement of details about the case;
• categorisation of data into meaningful groups;
• analysis and interpretation of specific data for a case;
• identification of patterns that might relate to the interpretation of data; and
• general critique of the case study.

This study followed this sequence in presentation of data for its case studies. Since two cases were compared, the study applied this approach for each of the cases to ensure consistency and synergy of the presented data. This was achieved through the collection of information from the secondary sources such as those outlined in the research methodology section. There was sufficient information obtained from the National Treasury, enough to provide a comparative analysis and recommendations to the Emalahleni Local Municipality. Before further discussion on the comparative analysis of these public institutions, it is important to explore the tools utilised in collecting data for this study.

2.4. RESEARCH INSTRUMENTS

As alluded to earlier on, in applying the qualitative research method, researchers search for a meaning by using flexible research methods such as interviews, questionnaires and analysis of existing literature in order to describe, explain and understand the research problem. Also, these instruments are intended to ultimately find possible solutions to a research problem. The qualitative research method uses four primary methods for collecting data (Marshall and Rossman 2011:137). The methods are; the researcher’s participation in the research setting, direct observation, in-depth interviews, and analysis of the documents. For the purpose of this research only the latter - analysis of documents - was considered. The municipal environment is rapidly changing as far as the leadership and organisational
structures are concerned. For instance, there is a high likelihood of change of municipal leadership in terms of municipal political and administrative structure every five years, due to local government election processes, which occur every five years. The change in political leaders affects the change in municipal management and officials. Moreover, such changes affect an organisation, and staff turnover may occur due to the change in leadership. This trend is attributed to a variety of employees’ psychological factors or perceptions such as trust in the leadership or management, and the fear of the unknown. These psychological factors play a significant role in the movement of employees, especially when there is an organisational change. For this reason, the research was conducted through the analysis of existing documents, which was in the form of a non-human sources of research information and which remain available even when the leadership and management changes.

2.4.1. Analysis of documents

Numerous scholars of research methodology such as Brynard and Hanekom (2006) refer to this conception as “literature review”. However, the literature review and analysis of documents are not synonymous. A literature review notes previous studies conducted in the same research field and links them to the current study. The analysis of documents is the collection of information from various sources of information relevant to the study and analyses such information. Therefore, for the purpose of this study, the research instrument is referred to as analysis of documents. The underlying principle for such reference is found in Silverman’s (2002:58) lucid definition of documents. He defines documents as “social facts which are produced, shared and used in socially organised ways”. Researchers collect information and codify it in a scientific and comprehensive manner for people to be able to access, use and share the documented information. It is in this line of reasoning that research studies develop, because researchers use the documented information to make their own findings and conclusions. However, in most cases the data collected from such documents has a risk of being biased, especially when collected from non-academic or non-peer reviewed documents such as newspaper
articles and magazines. Hence, one should be cautious when consulting documents for research purposes, because, as Silverman (2004:58) puts it:

“Documentary sources are not surrogates for other kinds of data. We cannot, for instance, learn through written records alone how an organisation actually operates day by day. Equally, we cannot treat records – however official – as firm evidence of what they report.”

It is clear from the above statement that as academic researchers rely on documents in conducting research, they should be critical of every document they refer to. What makes this study relevant to the above connotation is that there was a direct interaction with the officials in getting information. This research did not solely rely on the online information, it specified the kind of information required from the officials and confirmed its validity and reliability. This study further critically analysed the content of the documents received before including them as part of its final data.

There are two distinguishable applied approaches in document analysis in the social sciences. According to Bell (2010:125) there is a source-oriented and problem-oriented approach. In the source-oriented approach, researchers develop a research problem based on the extent of information sources discovered and consulted. In this approach, researchers do not bring predetermined questions to the problem, but rather the information gathered guides the researchers into the appropriate research questions to be investigated. The problem-oriented approach investigates what has already been discovered about the subject before establishing the focus of the study and then researching the relevant primary sources. In this approach, researchers first identify a problem and then follow up through a scientific investigation to discover the causes and impact of the problem in order to find recommendations and solutions. This study adopted the problem-oriented approach, because the problem of engineering skills shortage has been identified. What remains to be addressed are the possible causes of this problem and the provision of recommendations to the diagnosed problem. This is achieved through the consultation of secondary research sources such as departmental policies and records. This approach played an important role in collecting the necessary information for the research, historical
background and observable facts of the internship programme in the public sector. The data collected from various primary and secondary sources assisted in devising appropriate recommendations to address the challenge of engineering skills shortage in the Emalahleni Local Municipality.

The use of official documents, reports and publications as instruments for collecting information was useful for developing an understanding of the organisations and the environment of the internship programmes. Furthermore, the usage of these instruments did not interfere with the actions or duties of other HRM officials, since no interviews or questionnaires demanding attention and time on the part of the officials were conducted. Likewise, there was no actual involvement of participants (interns) in a research as the data was collected in a documented format. However, due to the fact that the most recent information is not easily accessible, requests were made to relevant officials in identified public institutions to access the information.

In sum, the analysis of documents improves the manner in which the research results are interpreted, which relates to the problem-oriented approach of investigation. After documents have been gathered, the researcher has an opportunity to analyse the collected information to reach a scientific conclusion. This is the case in this study where Chapter 6 provides a conclusive perspective on the findings made on the investigation. This helped in the elimination of bias and the achievement of objectivity in providing the recommendations.

2.4.2. Data collection

The term “collecting” means an act of compiling or accumulating objects, such as documents, artefacts and archival records, related to the research (Yin 2011:147). As indicated in the previous section, this research used a problem-oriented approach as a method through which information was collected. The study also considered the Emalahleni Local Municipality’s library as a centre from which relevant data was to be collected if deemed necessary. However this study relied on official HRM reports
such as interns’ statistics and internship programme planning. As such, the study collected information from the following sources:

- Institution policies;
- official reports;
- unpublished documents related to interns, internship or the HRM; and
- E-mails from the relevant HRM officials;

These sources were vital to the investigation of the relationship between internship programmes and the administrative capacity to attract and retain the scarce skills in the public sector.

2.4.3. Analysis of data

This section builds on the discussion in the research design section of this chapter. As indicated in the research design section that the collected data needs to be systematically organised, it also needs to be analysed. Analysis is a process of the disintegration of information and arranging the disintegrated information into a comprehensive and well-understandable fashion (Jorgensen cited in Boeije 2010:76). When the data is collected it is arranged in a way that provides a scientific explanation of the study. It only makes academic sense if the data is collected and presented in a logical sequence. Analysis makes it possible for the data to be subdivided into units and be logically arranged. Bogdan (cited in Boeije 2010:76) describes data analysis as a systematic process of “searching and arranging the interview transcripts, field notes and other materials that you accumulate to increase understanding of them and enable you to present what you have discovered to others”.

The literature contributing to the research problem from various documents was systematically arranged for the research problem to be empirically presented. This makes an understanding of the research problem less complex. The collected data was segmented into specific sections to allow the logical analysis of the information. The presentation of data was arranged according to the case being analysed. For example, the information about the recruitment processes of interns was discussed
in each case study as each case is unique. The data was further grouped according to its relevance and topic for easy analysis. This process is understood as inductive data analysis. Inductive data analysis is the practice of identifying different facts related to the study to reach a comprehensive conclusion (Maree 2007:37). This is followed by the concluding section where all the segmented data is integrated and synthesised to a single conclusive section. The integration and synthesis of data provides the findings of the research problem investigated in this study.

2.5. ETHICAL CONSIDERATIONS

For purposes of research ethics, the study received an official ethical clearance from the University’s Faculty Committee for Research Ethics before engaging in actual research. The study is justified by the nature of the research on the Emalahleni Local Municipality. This is because the Emalahleni Local Municipality and one comparable public institution served as a repository through which the necessary data was successfully collected. A further step of sending a letter of introduction, requesting access to utilise the institutions as case studies was undertaken. Due diligence was shown on the conditions attached in the letters granting permission from these institutions relating to the research objectives of this study. The consent to utilise the institutions as case studies was granted through an official written response from the HRM.

2.6. CONCLUSION

The research is important in providing scientific knowledge and explanation of the social phenomenon attached to this study. As such, gathering of the information to produce scientific knowledge requires a consistent and defined method of data collection. In scientific research, the data may be collected using either a qualitative or quantitative method. A researcher may also adopt both methods to collect data for scientific research. This research opted for the exploratory qualitative research method as a method of collecting data. This was because the research intended to explain the challenge of shortage of engineering skills at Emalahleni Local
Municipality and provide an empirically and scientifically justifiable conclusion and recommendations to the scarce skills challenge.

The following chapter discusses acceptable human resource processes in public administration. The chapter serves as an important impetus for setting the ground for the successful analysis of the Emalahleni Local Municipality administrative capacity to retain skills. In order to understand the research problem, this study conducted the research through the analysis of documents as an instrument for gathering information for critical analysis purposes. The ethical issues relating to this research were considered and all standards were met before the commencement of the research. This research followed research ethics procedures and guidelines as well as the terms agreed on with the subject institutions from which the research case studies were conducted.
CHAPTER 3: PUBLIC ADMINISTRATION: A HUMAN RESOURCE MANAGEMENT PERSPECTIVE

3.1. INTRODUCTION

As indicated in the last section of the first chapter of this study, several scholars of Public Administration distinguish between Public Administration (in capital letter prefixes) and public administration (in lower case prefixes). The distinction is found in the efforts of various authors to conceptualise Public Administration into a uniform, comprehensive and a universally acceptable academic discipline and practice. The practice of public administration is a multifaceted matter since it is made up of various disciplines such as politics and law. In as much as politics and law have influence in the practice of public administration, Public Administration as an academic discipline remains a distinct field; separate from politics and law. However, their functions are interrelated. Since human beings study and practice public administration, their roles are coordinated through government institutions.

The HRM plays a vital role in coordinating officials and enhancing their effectiveness and proficiency in public institutions. The effectiveness and proficiency of public officials impact positively on the capacity and efficiency of public administration. In order to understand the social and political phenomena attached to human resource management, it is important to study the underlying theories of the development of this function. Three kinds of theories are distinguishable in the development of public human resource management, viz: the gentlemen, spoils and merit theories.

This chapter outlines the emergence and development of Public Administration as a science and public administration as a practice, as proffered by various proponents of this discipline. The chapter also closely investigates the development of public human resource management. The relevance and functions of public human resource management are discussed later in the chapter. A theoretical background of the internship programmes and skills shortage in municipalities is also provided in this chapter. This will be achieved by introducing the work done by other scholars in the discipline of HRM and Public Administration, the legislation of internships and
their composition in the public sector. The development of South African municipalities is also discussed later in the chapter.

3.2. THE EMERGENCE OF ADMINISTRATION

As highlighted in the introduction, there is a huge body of literature developed in the discipline of Public Administration in an attempt to propagate a link between Public Administration as an academic discipline and public administration as a practice. Attempts of this nature are not new to the modern Public Administration versus public administration debate. Hanekom and Thornhill (1983:2) suggest that “the practice of public administration is as old as mankind itself, the academic study of Public Administration is of fairly recent origin”. They assert that the practice of public administration can be traced as far as the writings of ancient writers in past centuries such as Socrates, Aristotle, Plato, Cicero and Polybius. A number of scholars continued the quest to produce a comprehensive science of Public Administration through countless essays and scholarly papers as indicated in Urwick’s (1970:361-371) article on Papers in the Science of Administration. But through these works many writers made no clear reference to Public Administration as a science. The latter is thus the product of “first generation” in the development of science of Public Administration by authors such as Woodrow Wilson (Thornhill 2006:794). It is of significant magnitude to continue this section by discussing the origins of both public administration as a practice and Public Administration as an academic discipline to understand the context of the development of the science of Public Administration.

3.2.1. The origin of Public Administration

The first generation to pioneer the science of Administration started as early as the nineteenth century, with Lorenz von Stein in 1855 (Thornhill 2006:794). Scholars such as Joseph Willetts continued as the second generation to develop the science of Administration (Urwick 1970:361). Willetts’s point of departure in developing the science of Administration was in the works of Henri Fayol entitled ‘Administration Industrielle et Generale’. However, Willetts faced the challenge of coining the works of Fayol into a comprehensive enlightenment of the discipline, as his direct
translation was titled ‘General and Industrial Administration’. The latter was debated by many American scholars, and led to the conclusion that Willetts did not conform to the views as advocated by Woodrow Wilson in his 1887 article. The second writer that emerged amidst the shortfall of Willetts was Isaac Pitman. Unlike Willetts, Pitman succeeded in viewing Fayol’s work to be relevant to the American understanding of the concept of Public Administration, by publishing the translated work of Fayol with the title ‘General and Industrial Management’ in 1949.

It is worth mentioning that between the period of Willetts and Pitman there was yet another writer who focused on the development of the science of Administration in the 1930s. This scholar was known as Luther Halsey Gulick (Jr.). Contrary to Willetts and Pitman, Gulick approached the discussion of the development of science of Administration from a different perspective (Urwick 1970:363). He gathered different pieces of scholarly literature from various authors which were relevant to the science of Administration and ultimately published a book in the discipline of Administration. He was acknowledged as an editor of the book, since he played an instrumental role in merging the work done by different authors in the Administration discipline. This was done with an intention to give the science of Administration an academically sound meaning and application in the field of public administration.

Notwithstanding the remarkable work done by these authors in developing the science of Administration, there was a need to bring the focus closer to government by introducing the science of Public Administration. As the development of the science of Administration was an industrious task, the introduction and promotion of Public Administration was not an easy undertaking. The subsequent section provides a theoretical background of the development of the science of Public Administration.

3.3. THE DEVELOPMENT OF PUBLIC ADMINISTRATION

Although authors such as Brian J Cook (1997) regard Woodrow Wilson as an early thinker who fathered Public Administration through his 1887 renowned article ‘The study of Administration’, the intellectual heritage of Public Administration can be traced back to the works of Lorenz von Stein (1885) in Europe. The work of scholars
such as “Frank J. Goodnow, 1893; L.D. White, 1926; J.F. Pfiffner and R. Presthus, 1935; L. Gulick and L. Urwick, 1937; A. Lepawsky, 1949; and H.A. Simon, D.W. Smithburg and V.A. Thompson, 1950” cannot be undermined, as they have contributed significantly to the development of Public Administration (Thornhill 2006:797). However, the greatest emphasis in this discussion is on the works of Von Stein as one of the early scholars who contributed to the development of Public Administration. His academic writing was multidisciplinary in approach, which eclectically covered disciplines such as sociology, political science and public finance (Thornhill and Van Dijk 2010:99). It was from this notion that Public Administration was described by Coetzee (1987) as a discipline suffering from the “identity crisis”. Hence, Von Stein’s focus was more on developing administrative law in the context of Public Administration. There was a need to study Von Stein’s work in detail and isolate Public Administration from other disciplines such as politics and law. Although Public Administration acknowledges law, it is distinct from law. Law is an academic discipline in itself, which also requires profound scientific study. The latter is also true with politics. The politics-administration dichotomy received great attention through Woodrow Wilson, and as such it inspired many debates which are still relevant today.

Wilson’s article received more prominence than the early writings of Von Stein (Thornhill and Van Dijk 2010:99). Even though Wilson was instrumental in reforming the discipline of Public Administration by introducing the politics-administration dichotomy, it however spurred tension among the Public Administration scholars. This has made it difficult, if not impossible, to separate politics from administration (Barber 1983:7). Many proponents contend that administration is the product of politics since administrators make administrative decisions which are heavily influenced by political leaders and values. In the same vein, Wilson agrees that “the science of administration is the latest fruit of the science of politics” (Wilson, 1887:198). This is mainly because “administration involves the determination of major policies; the development and adoption of specific programmes; the creation of the organisation; provision of human resources; authorisation of finances; administrative supervision, coordination, and control of activities; and the audit and
review of results” (Gulick cited in Fry 1989:80). Politics plays a crucial role in coordinating public policy between the citizens and the government.

Due to the greater scope of public administration and continuing debates in the Public Administration discipline, there has not been a universally accepted definition of this discipline. Nevertheless, scholars in the field of Public Administration have successfully distinguished between Public Administration and public administration in their attempt to define the discipline. The use of upper case prefix in the term “Public Administration” and the lower case letters in the term “public administration” denote the distinction between the two terms. Wessels and Pauw (1999:10) state that “Public Administration” is an academic discipline which studies “public administration”. Public Administration is a science which has been developed to investigate the practice of public administration.

3.3.1. The functions of public administration

Specialists of Public Administration developed the generic functions of public administration which puts the public service at the core of government services. The functions are generic because they are interconnected in all spheres of government to bring about effective and efficient functioning of the public service (Thornhill and Van Dijk 2010:102). Other than the generic functions of government, it should be noted that the central role of government is to deliver services and be client-centred (Schütte, Schwella and FitzGerald 1995:4). Thus the effective delivery of these services cannot be achieved through the generic functions only. Thornhill (2012:87) mentions managerial, auxiliary, and instrumental and line functions as other functions to be performed by administrative executive institutions. Other functions of government include: the provision of state security and justice, education, water and sanitation, and health services (Klingner 1983:6). By performing these functions, the government provides services to the public.

The word function and service in government are often mistakenly used interchangeably. Synonymously a function by government is often regarded as a service. There is a distinction between a government function and service rendered.
In a more qualified sense, the government acts as an agent (function) to the clients (the public) in rendering the public services. A function is a “specialised professional activity to realise effective institutional performance and service delivery” (Van der Westhuizen and Wessels 2011:12). Thus, the government is institutionally mandated to provide the required services to the citizens.

In Table 6 below, Thornhill (2012:87) provides the holistic functions performed in public administration. He groups the conceptual and directive functions and managerial functions in one cluster as generic and managerial functions. Other groups include the auxiliary, instrumental and line functions. All these functions are composed of specific meanings as carried out by administrative executive institutions.
### Table 6: Functions performed in administrative executive institutions

<table>
<thead>
<tr>
<th>Generic administrative and managerial functions</th>
<th>Managerial functions</th>
<th>Auxiliary functions</th>
<th>Instrumental functions</th>
<th>Line functions (also known as functional activities)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Conceptual (initiatory and directive functions)</strong></td>
<td>Planning Programmes Monitoring and Evaluating Setting duty inventories for units and individuals Constructing and operating communication systems Leading Training Assessing performance Maintaining discipline Counselling Reporting on human resource systems and individuals Costing/cost-benefit analysis Preparing draft estimates of income and expenditure accounting checking and improving methods and procedures devising methods and procedures Applying standards prescribed Checking on quantity and quality of products Reporting (feedback)</td>
<td><strong>Research</strong> Conducting public relations Providing legal services Notifying functions Publishing the official gazettes and other publications Constructing and maintaining information systems</td>
<td>Personal Decision making Communicating: - writing - reading - speaking Conducting meeting Negotiating Impersonal Provision of: - offices - workshops - laboratories - furniture - equipment Motor and other transport - uniforms - stationery For example occupational/professional work for: Building roads Nursing patients Providing health services Transporting goods Educating citizens Conserving the environment Providing library services</td>
<td></td>
</tr>
<tr>
<td><strong>Policy making and analysis</strong></td>
<td>- Identifying needs - Preparing legislation, regulations, instructions and other directives - Analysing existing Policies and systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organising</strong></td>
<td>- Devising and improving structures - Micro and macro</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Staffing</strong></td>
<td>- Devising systems - Preparing legislation and other directives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Financing</strong></td>
<td>- Devising financing systems - Preparing directives on financial affairs - Audit arrangements - Reporting to governmental and legislative institutions and office bearers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Determining work methods and procedures</strong></td>
<td>- Preparing procedure codes/manuals - Overall work study systems - Productivity improvement systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Controlling</strong></td>
<td>- Devising control systems and directives - Reporting to political office bearers/institutions and legislatures - Setting standards for services and products - Devising auditing Systems</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Thornhill (2012:87)

Apart from the visible grouping of these functions, they are also interconnected and they are usually performed simultaneously without any particular order when providing a public service in an administrative executive institution (Thornhill 2012:87).
2012:87). However, these functions are likely to begin spontaneously from conceptual to line function as arranged in Table 6 above. This is because executives in public institutions commence their administrative functioning by formulating a concept or a policy as a performance compass. The successful results of the execution of these functions require thorough and sound management, implementation and monitoring.

3.3.2. Public administration in South Africa

In South African public administration, the government is lawfully required to abide by the set of values and principles of public administration in performing its functions as enshrined in Chapter 10, Section 195 (1) of the South African Constitution, 1996. These basic values and principles suggest that the public administration must be governed by the democratic values and principles which include the following (South Africa 1996):

- the promotion and maintenance of a high standard of professional ethics;
- the promotion of efficient, economic and effective use of resources;
- the development-oriented approach of public administration;
- impartial, fair, equitable, and unbiased provision of services;
- responding to people’s needs and encouraging them to participate in policy-making;
- the promotion of public administration that is accountable;
- fostering transparency by providing the public with timely, accessible and accurate information;
- the cultivation of good human resource management and career development practices, to maximise human potential; and
- broad representation of South African people in public administration, with employment and human resource management practices based on ability, objectivity, fairness, and the need to redress the imbalances of the past to achieve broad representation.

Adding to these values are the requirements highlighted by Müller and Van Rooyen (1994:193) that encourage public servants to optimally serve the citizens in a
dignified and trustworthy manner. They underline the following two requirements as cardinal pillars for effective public service:

- public servants should be sensitive and responsive to the needs and challenges faced by the citizens; and
- public servants should at all times strive to promote equity, fairness, reasonableness and justice in providing public services.

One possible classification of the generic functions of public administration is, *inter alia*, “planning, organising, commanding, staffing, directing, co-ordinating, reporting, and budgeting” (POSDCORB) (Gulick and Urwick 1977:119). In this context, commanding implies the means to make the staff do their work. Since public administration is highly regulated, the means should not be castigatory, but rather they should strive towards cooperation among employees and their leadership.

### 3.3.3. The challenges of Public Administration in South Africa

Like any other practice, public administration faces its unique challenges. The study of Public Administration entails problems faced in public administration and the environment of the discipline. These problems include efficiency of the government, public context, political environment and government powers (Barber 1983:1). The following topics are pertinent to the challenges of Public Administration:

- the political and constitutional environment of public administration;
- organisational theory and government organisation;
- administrative processes such as planning, decision-making and co-ordination;
- public service – characteristics, human resource, problems, and so forth;
- central and local financial administration;
- control of administration; and
- the relatedness to non-central government bodies.

It is of critical importance that scholars of Public Administration understand the environment in which public administrators operate; their chain of command, powers and functions and relations with other non-governmental bodies. The understanding
of these dynamics would enable scholars to at least grasp the science of Public Administration and be able to respond to any emerging trends such as undemocratic political environment, abuse of power and state resources.

There are five underlying problems in the practice of public administration and management; planning, establishing a viable and fruitful relationship with sovereign sources, maintaining expertise, maintaining efficiency, maintaining responsiveness and accountability (Stahl 176:8-9). Responsiveness and accountability define some of the priority values of public administration. It is recommended by many scholars of Public Administration that efficiency be upheld at all times in public administration. It requires utilising the expertise and resources available to implement the plan of the government well on time. In doing this, public servants should respond to the needs of the public and be accountable to the public. This is explored in detail in the following section, where some of the public administration values are discussed.

3.4. HUMAN RESOURCE MANAGEMENT IN THE PUBLIC SECTOR

The human resource management is a generic function that can be performed both in public and private institutions. The terminology “management” is often attributed to the functions performed in the private sector, especially when contrasted with “administration” as a function of the public sector. This spurred debates about the need to change “public administration” to “public management” both in the academic syllabus and in practice. The New Public Management (NPM) was the focal point of the debate. The NPM was introduced in the 1970s and 1980s in Britain, the United Kingdom (Thornhill 2012:118). However, the NPM concept gained international attention in the early 1990s in New Zealand and Australia (Goldfinch and Roberts 2013:81). New Zealand undertook a major reform in 1992, which came as a result of the elected liberal government that replaced the Cain Labour government. The liberal government focused on “a small and efficient public service concentrating on core services, and the promotion of the private sector as a vehicle for providing government services” (Goldfinch and Roberts 2013:82). This entailed that the practices in public institutions would be similar to those in business administration (Thornhill 2012:118). The ideology underpinning the NPM is the public sector reform,
which seeks to reform the government approach from the traditional liberal approach to neoliberal methods. The primary characteristic of the NPM is the transfer of ideas and strategies from the private sector to the public sector, to enhance an efficient public service (Christensen and Laegreid cited in Theobald 2012:62).

There are numerous critics of the NPM such as the Argyriades (2000), Goodsell (2004), Kickert (2006), Manning (2001), United Nations (2005), Haque (2000) and Minogue (1998). In the criticisms brought by these critics is the argument put forward by Minogue (cited in Cameron 2009:913), that the NPM compromises the traditional public administration values such as “equity, community, democracy, citizenship and constitutional protection”. Haque (cited in Cameron 2009:913) adds that the NPM undermines the traditional values such as “impartiality, equality, representation, integrity, fairness, welfare, citizenship and justice”. The conflict between business and government values is the primary cause for the difficulty in replacing public administration with public management. Business values such as efficiency, competition, profit and value for money are taking precedence over the traditional public administration values. However, advocates of the NPM responded by affirming that the advantages of the NPM, which are embraced internationally, include the effective control of the public expenditure, sharing of the social responsibility with the private sector and restructuring public policies that no longer contribute progressively to the society (Pollitt and Bouckaert cited in cited in Cameron 2009:913).

The NPM is divided into two broad categories (Cameron 2009:911). On the one hand, the NPM advocates for the efficient and effective utilisation of resources in the public sector through the use of private sector mechanisms. On the other hand, the NPM is concerned with the development of the economy through the adoption of private sector systems such as privatisation and public-private partnerships. However, the South African public administration environment makes it difficult to adapt the NPM approach in as far as the constitutional values are concerned. Section 195 of the Constitution of the Republic of South Africa, 1996, and the Bill of Rights require that the public administration must uphold the public values such as fairness and effective service delivery (Thornhill 2012:118). Furthermore, the South
African public institutions are guided by values of the *Batho Pele* in formulating and implementing policies and laws, and delivering public services. The Public Service Commission (2008:5) notes the following eight *Batho Pele* principles that guide public institutions in an effort to deliver sustainable public services:

- consultation;
- service standards;
- access;
- courtesy;
- information
- openness and transparency;
- redress; and
- value for money

Notable in the *Batho Pele* principles listed above is that they present a blend of traditional public administration and NPM values. As pointed out earlier, in practice, public administration is guided by political values and principles and management by business motives and principles as indicated in the NPM discussion (Thornhill 2012:119). This implies that public administration is influenced by the political milieu in decision making, whilst management is steered by rationality and business principles such as profit maximising and value for money. In public administration, management is a tool to implement the political and executive decisions in the public sector. The management of human resources through recruitment, compensation, appraisal, training, discipline and dismissal is one of the managerial functions of the public sector. As a practice, the human resource management is well located within the public administration.

A historical background of human resource management in public administration as it was applied in the U.S.A gives an accurate analysis of the origin and development of human resource management. There are three fundamental theories of human resource management in public administration as per political leadership styles according to Rosenbloom and Goldman (1993:200-201), and these are: gentlemen, spoils and merit.
3.4.1. The gentlemen theory

The gentlemen theory was pioneered by the former U.S.A President George Washington in his first administration in 1789. The appointment of public officials was largely politicised in the gentlemen theory. During Washington’s administration, public officials were appointed because of the status they held in the community and the integrity they possessed. The gentlemen theory equated the fitness to hold public position to social status. No merit was considered in such appointments, it was believed that the appointees would develop knowledge and skills as they became acclimatised to the public administration environment (Rosenbloom and Goldman 1993:200).

This theory is not compatible with contemporary democracies such as South Africa since it does not promote fair and equal treatment of citizens. Also, this system would have an adverse effect on the accountability of officials in democratic states.

3.4.2. The spoils theory

The social class appointment (gentlemen theory) was put to an end by the seventh President of the U.S.A, Andrew Jackson, in 1829. This was achieved through the introduction of the “spoils” system. Spoils is a metaphorical reference to public employees who have served in a particular public sector position for a defined period, and were replaced when another political party came into power or there was a new government administration. In South Africa, this is seen through the appointment of ministers after a general election and the election of the president in the Parliament. The ministers and their deputies are appointed by the president for a five-year term. In the U.S.A, the Tenure of Office Act of 1820 set a four-year term for appointed employees, thereafter they were replaced by other members of the political party assuming power. President Jackson was influential in changing this provision by setting a standard that rotation after the four-year term was mandatory to every employee. This approach encompassed several challenges which included the decline of ethics, efficiency and performance in public administration (Rosenbloom and Goldman 1993:201). This might be because the rotation of
employees after a four-year term interrupted the future plans and work of employees. The reformers proposed a rather different system for public positions.

3.4.3. The merit system

The merit system was developed during the 1860s and 1870s, and successfully passed as legislation in 1883 in the U.S.A. The reformers argument against the spoils system was that the system is largely politicised and public employees are appointed based on partisanship and political orthodoxy. They argued that politicians occupy public office without any form of qualifications, and this stunt has compromised effectiveness and efficiency in public services. Another argument against the spoils system was that the system excluded people of different creeds and political affiliations from serving the public. The reformers were the advocates of the merit system who were found between the battle lines of industrialists and upper middle-class Anglo-Americans and the lower-class and migrant populations. These divisions galvanised the two opposing views; the Progressive movement and the Populist sentiment. The former subscribed more to the merit system than the latter. Some of the critical points presented by the reformers in favour of the merit system are:

- the selection of public employees based on open competitive examination rather than partisanship;
- de-politicisation of the public service and the promotion of privatisation;
- tenure in office should be based on competency of public employees rather than political appointment; and
- the supervision of the public service through a central authority.

The merit system has been proven to be in line with the democratic political principles and values such as fairness and equality. Stahl (1976:41) is of the view that this system is not only limited to the selection of public employees in many democracies today, it also comprehends elements of fair remuneration, performance management and suitable working environment. The merit system attracts qualified persons to apply for a vacant public service post, the appointment of the best qualified applicant(s), and the remuneration, retention and promotion of staff based
on merit (Thornhill 2012:219). Stahl (1976:42) describes the merit system as “a human resource system where the comparative merit achievement governs each individual’s selection and progress in the service and in which the conditions and rewards of performance contribute to the competency and continuity of the service”. The merit system enhances the delivery of public service which is efficient, since the best skills are used and adequately motivated. It is for this reason that the Public Service Commission (2010:15) affirms that well-recruited, managed and developed human resources endorse the delivery of the public service mandate. Be that as it may, retaining the best skill is still a challenge in the public service.

3.4.4. The establishment of the human resource management functions

As much as the U.S.A paved the way for the development of the human resource management in the public sector, its systems were not cast-in-stone. As the years went by, there were successful attempts to reform the systems. Serious structural changes in human resource management took place in the aftermath of the Second World War (Thornhill 1985:85). Public recruitment policies and procedures were revised to redress the injustices of the past colonial era. During this era citizens could not work for the state because of poor educational background in the U.S.A. In the process of reconstructing the U.S.A human resource management system, the government nationalised some of the state’s large entities such as electricity providing corporations, gas and transport industries. There was a growing need to establish a central and local government authority to manage the employees in these public entities. According to Thornhill (1985:86), some of the functions of human resource management entailed:

- planning, recruitment, selection, placement and termination;
- education and training;
- career development;
- provision of terms of employment, methods and standards of remuneration;
- establishment of working conditions and employee services;
- formal and informal communication and consultation both through the representatives of employers and employees and at all levels throughout the enterprise;
negotiation and application of agreements on wages and working conditions;
procedures for the avoidance and settlement of disputes; and
the human and social implications of change in internal organisations and
methods of working, and of economic and social changes in the community.

The above encompasses the holistic human resource management process in public administration, since public administration puts in place these functions which are required to be implemented by the managers. In the workplace there were mutual relationships which recurrently developed between the employers and the employees, and as such it was important that these relationships be safeguarded through labour laws and human resource policies and agreements. The motivation of employees is one of the critical functions of public human resource management (Klingner and Nalbanian 1980:9). Employees needed to be remunerated in order to be motivated and enhance their proficiency. Remuneration came in different scales in the public services. These scales were introduced following the report of the Ridley Commission (1886-90), which sought to regulate the remuneration standards of public employees according to the services they provide (Thornhill 1985:98). In South Africa, the Public Service Act, 1994 (as amended) gives right to the employees’ remuneration in the public sector as declared by the Minister of Public Service and Administration. The determination is done according to the levels of the employees’ occupation.

3.4.5. Public human resource management processes

As pointed out earlier in this chapter, some of the important elements of human resource management are having a clear performance management system and that employees should work in a suitable working environment. The latter is enhanced through the provision of systematic policies and rules, and techniques intended to facilitate fairness in the accomplishment of the functions of public human resources. Klingner and Nalbanian (1980:16) identify procurement, allocation, development, sanction and control and adaption as key processes of public human resource management. Klingner and Mohammed (in press) add planning, acquisition development and sanction to the list. These processes are known as PADS in short.
In addition, Van der Westhuizen and Wessels (2011:12) state the following functions as the primary functions of human resource management in the public sector:

- strategising and planning for the public sector human resource management;
- obtaining (provision of) suitable human resources;
- utilising and developing the public sector employees;
- remunerating and caring for the public sector employees; and
- public sector employee relations.

Crous (2002:147) refers to these processes as human resource management input processes. These human resource management input processes can be divided into five phases:

- Planning
- Job analysis
- Recruitment
- Selection
- Placement and induction
- Retention of skills

The human resource managers must apply these phases in the execution of their duties, especially when bringing skills into the institution. In a diagram format, the human resource management processes can be represented as follows:
The following sections give detailed discussions on each of these steps in the human resource management input process.

3.4.5.1. Planning

Job planning is the principal function of the public human resource management input process. It is the planning process in human resource management as the method of assessing the organisation’s strategic objectives and the need for an incumbent to perform the function to achieve the objectives, thereby developing ways of employing a competent employee to perform such functions (French cited in Crous 2002:147). Fowler (1995:10) asserts that this is a ‘forward view” of what needs to be done in an organisation. This is the strategic process of human resource management in planning on meeting their employment objectives. Crous (2002:147) views “meeting the future needs for skilled labour, legal requirements, co-ordination of human resource management activities and linking of human resource strategies with the institutional strategies” as the main reasons for planning in the human resource management. This emphasises the need for the integration of employees and the service objectives. The human resource management should prioritise
planning in order to realise the objectives of their organisations. Proper planning is of paramount importance to the acquisition and retention of scarce skills in the public sector such as engineering skills in municipalities.

According to Crous (2002:148), effective planning includes the following essential principles:

- an ability to “interpret” and meet the goals and objectives of senior management;
- listening to the needs of employees and managers who are directly involved;
- providing strategic documents entailing means and ways of achieving the objectives and goals;
- analysing the different means and selecting the best ones leading to the successful accomplishment of the goals;
- outlining a clear action plan;
- determining a performance agreement; and
- identifying and making available the resources required for the successful implementation of the action plan.

These principles enable human resource managers to be able to identify the need for skills; to find means of improving the existing staff; determining the efficient resources required; providing a practical way of introducing new initiatives; and developing ways of dealing with both the internal and external environment (Fowler 1995:10-11). Stahl (1976:113) is of the view that it is ideal that public human resource managers take into consideration the training and development of new incumbents. This will have a significant impact on inducting the newly employed incumbents to the work environment (internal and external) and equipping them with the necessary skills for development and growth in their careers. In the case of employees with scarce skills, the employer should ensure that new incumbents are inducted properly and be assured of their competence in promoting the ideals of the institution.
3.4.5.2. Job analysis

Job analysis is a planned process of collecting and providing detailed information about a specific “job content, work environment and human capital” (Buford and Linder 2002:130). Job content is concerned with activities involved in the job; work environment entails a working area and its conditions; and human capital is about the required skills and competencies to undertake the job. Therefore, job analysis is a process of identifying the position in an organisation and finding competent persons to perform the duties identified in a vacant job (Desseler 2011:142). It comprises of “work activities, human behaviours, machines, tools, equipment and work aids, performance standards, job context and human requirements” needed for the job (Desseler 2011:142). Hence, it is deduced that job analysis is an act of examining the job and its environment, including who should do the job, with what, how and where. This is because job analysis contains detailed information about a specific job, aligned with the organisation’s objectives. Public institutions employ officials in possession of a variety of skills. It is necessary to identify clearly the competencies required through job analysis to ensure that employees with scarce skills are utilised effectively.

Job analysis has various elements to be taken into consideration. Some of the factors to bear in mind when doing a job analysis according to Condry (2010:588-592) are: job description; job evaluation; job review; organisational analysis; legal and quasi-legal requirements; job classification; efficiency; safety analysis; job design and redesign; performance appraisal; training; employee selection; career planning; and vocational guidance. Buford and Linder (2002:133-137) add job tasks, job responsibilities and knowledge, skills and abilities to the list. All these are stand-alone human resource management functions, separate from the job analysis. Some of these topics will be discussed later in the chapter. However, it is important to note that the process of job analysis considers all these factors in examining the specific job. This is because these components form an integral part of job analysis. For example, a job description is a separate function, which describes briefly what needs to be done. Job analysis “is a process in which to identify the tasks and requirements” (Condry 2010:588). In the case of jobs requiring engineering skills,
employers should specify the specialisation areas in which the engineer is needed, such as civil engineering, and the environment in which the engineer will be working in such as the designing of bridges.

Another compelling factor in job analysis is the legal requirement such as the employment equity. The South African government passed the Employment Equity Act, 55 of 1998 to ensure fairness and equality in labour matters. According to Craythorne (2006:203), the Employment Equity Act, 55 of 1998 is aimed at the eradication of discriminatory employment practices and the promotion of equal opportunity and fair treatment. It also serves the purpose of accommodating the previously excluded groups such as blacks, women and people with disability in the employment practices. In municipalities, the Municipal Systems Act, 32 of 2000 (to be further discussed later in the chapter) serves as a benchmark for the job requirements.

### 3.4.5.3. Recruitment

Recruitment involves both internal and external processes. External recruitment processes entail determining the labour market, being creative, reaching the target market, establishing an employment office, placing advertisements in newspapers, advertising through advertising and employment agencies, professional associations, colleges and other recruitment centres (Novit 1979:60-64). Internal recruitment procedures are carried out through direct interaction with the applicants, such as interviews with shortlisted applicants, placing and inducting successful candidates. Noteworthy in these processes is the labour market and newspaper advertisements. The latter is the form of conventional print media advertisement campaign aimed at reaching and restricting the number of applicants. This is mainly because the specific newspapers are designed to reach a particular region and audience in a country. The newspaper advertising process makes the proper determination of the labour market effective. This is because the newspapers will target a particular segment and class, with the specification of the required competencies and skills. When applying this type of advertising, the recruitment agencies or employers use instruments such as the Living Standard Measure (LSM) to determine the trends
such as age, attitude, demography and lifestyle of the intended audience. The LSM is a collection of information by institutions such as Statistics South Africa used for marketing purposes.

As it is practically difficult to respond to all the applicants, especially when many applications are received, most public institutions limit their responses only to the shortlisted candidates. The advertisements also describe the job to be done and job conditions such as its duration and the skills required. This is done with the intention of minimising the costs of screening a large volume of applicants. The recruitment is regulated through policies and procedures which vary from institution to institution. According to Van der Westhuizen and Wessels (2011:206), these policies and procedures should clearly specify the position of the institution; “general objectives of recruitment and the principle of equal job opportunities”. Fowler (1995:52) points out seven mostly used methods of recruitment:

- advertisements;
  - print media
  - internet
  - local radio and television
- job centres;
- career services;
- school, college and university career services;
- private-sector employment agencies;
- management consultants; and
- executive search consultants.

Depending on the targeted applicants, organisations choose any of the above methods to reach the correct audience. For example, if the organisation is targeting young talent, such as new graduates, they would prefer the college and university career services as their medium of communication. These tools are important because they are specific to the intended audience, and as such they have proven to be effective tools for recruiting.
3.4.5.4. Selection

This is one of the most critical steps in human resource management input processes, as it determines who gets employed by the organisation. Selection as a process of utilising the information received from the recruitment phase to make a decision of the most successful applicant to get the job comes in various forms (Buford and Lindner 2002:186). Buford and Lindner (2002:186) emphasise the need for selecting not only competent, but also committed candidates. They assert that this is essential in meeting the strategic objectives of the organisation and boosting its image. The latter will be demonstrated through the incumbents’ sense of interpersonal relations with their colleagues and stakeholders. Employees who are committed to the organisation and the work they do are unlikely to leave the organisation, because they get attached to the organisation (Meyer and Allen cited in Gould-Williams 2003:33).

There are six basic methods of selection and they are: curriculum vitae analysis, reference enquiries, testing of the writing and presentation skills, testing of ability to work with groups, psychometric assessments and interviews (Fowler 1995:53). These methods apply only to specific applicants. For example, the testing of writing and presentation skills mostly applies to senior job positions. Methods such as interviews are intended to screen the qualifying applicants and eliminate the non-qualifying ones and also verify the truthfulness of what has been written in the application (Craythorne 2006:204). Depending on the kind of job applied for, the selection methods can extend to “medical evaluation/physical examination” (Buford and Lindner 2002:196). When positions are to be filled for employees with scarce and critical skills, selection methods have to be devised in a way that would afford an employer the opportunity to identify candidates that could perform the specialised jobs skilfully.

3.4.5.5. Placement and induction

Soon after the qualifying candidates have been identified and selected, they need to be placed in their respective job positions and be inducted. This is a final input
process in the human resource management. The purpose of this phase is to familiarise the new recruits with the work environment and communicate to them the organisation’s expectations (Crous 2002:147). It remains the responsibility of the human resource manager to place incumbents into the positions for which they were selected.

The words induction and orientation are often used interchangeably. According to Buford and Lindner (2002:198), the advantages of orientation are:

- demonstration of commitment;
- reduction of start-up costs;
- reduction of anxiety and hazing;
- reduction of turnover; and
- increasing productivity.

As indicated earlier in this section, new incumbents should demonstrate commitment, and the organisation should act likewise to indicate that they are welcome. This is a critical first step to determine if employees are committed to an organisation. The new employees may use the orientation period to enquire about work-related issues they may want to know about. Equally, the organisation uses orientation to educate the new employees about the organisation, such as education regarding the organisational culture. This has a significant impact in addressing the questions that would have been asked at a later stage, hence saving time and other resources. From these efforts, it is highly likely for the new employees to become knowledgeable, effective and productive in their new roles. As such, it is supposed that the more the new employees feel welcomed, acknowledged for their skills and given enough information for executing their new roles, the higher the chances of them staying within the organisation longer.

Human resource management issues, particularly relevant to scarce skills, are training and skills development, remuneration and maintaining employer-employee relations. Human resource managers are responsible for facilitating the advancement of employees, through promotion or exiting in a form of retirement,
transfer, retrenchment, dismissal, redeployment, resignation, medical boarding or death (Grobler and Wärnich 2012:11).

Human resource management encounters challenges. Unlike during the previous century where human resource management was conducted in a similar and predictable manner, today human resource management requires flexibility in policy due to its unpredictability (Grobler and Wärnich 2012:28). This has been largely influenced by a changing work environment and job requirements, emerging talents, technology and regulated markets. However, contemporary human resource management is recognised for the training available for high level responsibilities in management (Novit 1979:238).

3.4.5.6. Retention of skills

It has been argued that the effective execution of the functions of public administration by public officials is determined by their performance, honesty, and motivation. Ideally, these can be viewed as essential tools for retaining skills in government institutions. However, in practice, the retention of skills is an intractable and multifaceted phenomenon, where numerous factors are at play.

The retention of skills in an organisation should neither be overemphasised nor overlooked. Skills retention is as important as the attraction of skills. It costs organisations fortunes to attract and acquire skills, so should there be lack of control and management of the existing skill, organisations will face serious challenges. These challenges can range from financial to productivity. The Department of Public Services and Administration (DPSA) has prioritised the retention of skills even to smaller areas such as internships. The DPSA (2009:12) encourages government departments and institutions to treat interns as they do other employees. As soon as an internship programme successfully concludes, interns should be subjected to the normal skills retention procedures. They should compete for selection. In cases of the identified critical skills preference is given to the competing skills. Therefore, government departments or institutions should treat the retention of critical skills differently according to their organisational strategies. Examples of internship
programmes utilised as skills retention strategy are given as case studies in Chapter 5 of this study.

3.5. INTERNSHIP PROGRAMMES IN THE PUBLIC SECTOR

As the HRM plays a significant role in the administration of officials, there is an increasing demand for employment by graduates from various academic disciplines. This has undoubtedly put enormous pressure on the South African government to create employment opportunities. One of the techniques through which the government utilises to create employment opportunities for new graduates is the internship programme. The government has responded by making it compulsory for all public institutions to have internship programmes in their staff establishment. This programme is however not unique to government, the private sector also utilises internship programmes as a method of recruiting new talent from tertiary education institutions. As a skills development programme offered in various public and private institutions, internship programmes are managed by HRM. Whilst the HRM plays a pivotal role in ensuring the effective and efficient use of human resources within institutions, it also inevitably faces challenges of administration of the human resources. As highlighted in the previous section of this chapter, the management of the resources ranges from talent attraction to skills retention.

In a government context interns are defined as “unemployed, inexperienced graduates appointed in the public service under an internship programme for not more than twelve months, under the auspices of the Minister of Labour and the Minister for the Public Service and Administration” (DPSA 2010:1). Internship programmes provided in various government departments are centrally coordinated through these two ministries. However, the roles of these ministries are limited to monitoring and leading the administration of internship programmes. It is the responsibility of each government department or institution to implement the internship programmes. Government departments or institutions carry a heavy responsibility for the process of transition of interns from academic theory to applied experience. This requires the ability to apply the academic theory into real world issues (dynamic skills). Hence the transition from tertiary to a professional work
environment always brings challenges to newly qualified graduates (Solway cited in Kuhn 2003:10). This is because of the specific goals and expectations of the organisation and the source of authority in various institutions. Interns are recruited after they have completed their tertiary qualifications without any practical work experience in the professional work environment. It would be ideal for an employer to retain such skills once acquired in the workplace. This is primarily because of the costs the employer incurs during the recruitment of interns. According to Alexander (1995:197), some of the costs incurred by municipalities in the administration of internships are the:

- initial start-up cost to create an internship programme;
- time and money spent on recruitment, screening and interviewing;
- resources devoted to orientations and training; and
- continuous commitment to provide strong supervision, direction and assistance to interns.

It is worth noting that in the contemporary corporate environment, internship programmes have been expanded beyond mere “staff functions, such as budget, personnel and management”, to incorporate a systemic approach to the governmental processes (Murphy 1973:4). Other than recruiting interns for simple administrative and routine duties, government institutions have realised the rationale of applying internship programmes to every operational facet of the government department concerned. The government departments such as the National Treasury utilise the internship programmes for the development of new graduates. The graduates are developed through rotation from one work unit to another and the provision of in-house training courses. In most government departments and institutions, interns are recruited and placed in all the work units of the department, especially where there is low skills capacity, from human resource management to technical functions such as Information Technology and Communications. Since the ultimate goal of the internship programme is to develop the inexperienced graduates, the DPSA has set the following basic standards for internship programmes in the public service:
the programme should strive towards the achievement of the government target of five per cent of the staff establishment of the government departments;

- interns should participate in a structured learning and development programme to enhance their skills;
- there should be a mentor/coach assigned to each intern;
- there should be a set standard of performance to measure the performance of interns; and
- every government department or institution should report to the DPSA every year about the implementation and progress of their internship programmes.

This assists the government to effectively identify, utilise and retain scarce skills among the interns. This fresh approach, as applied in various government departments and institutions, necessitates the provision of a suitable environment for the internship programmes to provide sufficient training and development of interns. According to Botha (2009:9) and the Department of Labour (2004:2), a suitable internship programme is characterised by the following:

- well-documented policies for the recruitment and development of interns, as the latter will enhance institutional growth and efficiency;
- the appointment of a coordinator of the internship programme;
- the identification and appointment of a mentor or line manager;
- the use of an accredited Education and Training Provider (ETP) for the provision of the theoretical and practical training components of the programme; and
- the evaluation of an intern’s progress during the programme and at the end of the programme.

Internships can be classified according to their length, their sequence in an academic career, whether they are voluntary or mandatory or whether they are located in an executive or political organisational structure (Murphy 1973:8). In South Africa, most government institutions offer internship programmes for a period of 12 months and a stipend or living allowance is paid to interns every month. There is a
“Remuneration Schedule for Interns” determined by the DPSA (2010:5). The aim of this schedule is to classify interns into different categories based on their qualifications.

There are three categories that determine the remuneration of interns. Each category caters for a different group of interns, and each category is divided into different sub-categories. For example, Schedule A caters for National Qualification Framework (NQF) Level 1 to 4. This Schedule is partitioned into three categories (Schedule A1, A2 and A3) according to qualifications. Interns with General Education and Training Certificates and Adult National Senior Certificates are classified under Schedule A1, National Certificates under Schedule A2, and National Senior Certificates under Schedule A3. Schedule B provides the remuneration levels of interns with post-matriculation qualifications (NQF 5 to 8). These are interns with Higher Certificates, Diploma Advance Certificates, Bachelor Degrees and Advanced Certificates, and Masters Postgraduate Diplomas and Professional Qualifications. These are Schedule B1, B2, B3 and B4 respectively. Schedule C regulates the remuneration scale of interns with postgraduate qualifications (NQF 8 to 10). There are only two sub-categories in this schedule. Schedule C1 (Masters Degree) and Schedule C2 (Doctoral Degree). In monetary terms, interns at Schedule A are remunerated on a lower level than those at Schedule B and C. A tabulated description of the Remuneration Schedule for Interns is shown in Table 7 below:
## Table 7: Remuneration Schedule for Interns

<table>
<thead>
<tr>
<th>COLUMN 1</th>
<th>COLUMN 2</th>
<th>COLUMN 3</th>
<th>COLUMN 4</th>
<th>COLUMN 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>STIPEND SCHEDULE</td>
<td>QUALIFICATION</td>
<td>NQF EXIT LEVEL</td>
<td>PERCENTAGE OF THE MINIMUM SALARY LEVEL CONTAINED IN COLUMN 5</td>
<td>PUBLIC SERVICE SALARY LEVEL</td>
</tr>
<tr>
<td>C2</td>
<td>Doctoral Degree</td>
<td>Level 10</td>
<td>35%</td>
<td>8</td>
</tr>
<tr>
<td>C1</td>
<td>Masters Degree</td>
<td>Level 9</td>
<td>35%</td>
<td>7</td>
</tr>
<tr>
<td>B4</td>
<td>Masters Postgraduate Diploma Professional Qualification</td>
<td>Level 8</td>
<td>35%</td>
<td>6</td>
</tr>
<tr>
<td>B3</td>
<td>Bachelor Degree Advanced Certificate</td>
<td>Level 7</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>Diploma Advanced Certificate</td>
<td>Level 6</td>
<td>35%</td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Higher Certificates Advanced National Certificate (vocational) 5</td>
<td>Level 5</td>
<td>35%</td>
<td>5</td>
</tr>
<tr>
<td>A3</td>
<td>National Senior Certificate (Grade 12) Adult National Certificate</td>
<td>National Certificate (Vocational) 4</td>
<td>Level 4</td>
<td>35%</td>
</tr>
<tr>
<td>A2</td>
<td>ALL PAST QUALIFICATIONS/ACCREDITED UNITS OF LEARNING TO BE ACCUMULATED</td>
<td>National Certificate (Vocational) 3</td>
<td>Level `3</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>National Certificate (Vocational) 2</td>
<td>Level 2</td>
<td>35%</td>
</tr>
<tr>
<td>A1</td>
<td>General Education &amp; Training Certificate (Grade 9) Adult National Senior Certificate</td>
<td>Level 1</td>
<td>35%</td>
<td>3</td>
</tr>
</tbody>
</table>

Source (DPSA 2010:6)
3.5.1. Types of internship programmes in the public sector

There are three types of internships provided in the public sector according to the DPSA (2009:6), and these are:

- “traditional graduate internships offered to a person who has completed a qualification and requires workplace experience in order to enhance future employment opportunities;
- student internships which are offered to persons who are enrolled at a tertiary education institution and required practical experience as part of their study programme; and
- internships linked to professional development and which are a requirement for professional registration with Professional Bodies or Councils”.

The last form of internship discussed above is mostly undertaken by interns in highly specialised fields such as engineers and Chartered Accountants to register with their respective professional bodies.

Alexander (1995:196) looks further into the municipal level. He adds that most municipalities also provide internship programmes for experiential purposes. However, municipalities differ in their provision of internship programmes, since municipalities offer internship programmes that best suit their needs with regard to their skills gap and service demands. Thus, internship programmes may be categorised as follows:

- full-time internship in two or more departments;
- one-year full-time internship in one department;
- part-time internship in a manager’s office;
- part-time internship in a specific department – budget office, fire department, personnel, or park and recreation; and
- cooperative education or internships established with one or more local schools.

Although these are typical categories of an internship programme, it may be argued that no fixed programme can be determined for internships in municipalities. A
municipal human resource management may develop a tailor-made programme to meet the needs of each department and the municipality in general. It is for this reason that internships can be either structured or unstructured. Fick (2010:1-2) distinguishes between structured and unstructured internship programmes. Structured internship programmes consist of a defined curriculum and specific hours of work needed to acquire the required experience. Unstructured internship programmes share similar features with structured internships, but they are distinctive in that their curriculum is undefined.

3.5.2. The legal framework of internship programmes in municipalities

As a tool for recruiting newly qualified graduates from tertiary education institutions into the professional work environment, internship programmes follow the prescribed processes of the HRM. This suggests that like any other HRM function, internship programmes are also governed by specific laws. In municipalities, internship programmes are managed under human resource policies, which are in line with the Skills Development Act, 97 of 1998 (Department of Provincial and Local Government 2007:31). The Skills Development Act, 97 of 1998 makes provision for the Recruitment Policy, Human Resource Development Strategy (HRD) and Training Policy of intern workers. The Recruitment Policy, HRD and Training Policy of the municipalities are managed under human resource policies, which are in line with the Skills Development Act, 97 of 1998 (Department of Provincial and Local Government 2007:31). The Skills Development Act, 97 of 1998 makes provision for the Recruitment Policy, Human Resource Development Strategy (HRD) and Training Policy of intern workers. The Recruitment Policy, HRD and Training Policy of the municipalities are protected by the Labour Relations Act, 66 of 1995, in order to ensure fair labour practices and that qualified persons are given a fair opportunity to get jobs by providing them with proper training and development (Emalahleni Local Municipality 2003:1). The HRD Strategy was established through a joint effort between the then Department of Education and the Department of Labour after realising the need for skills development. According to Sheoraj (2007:130), the principal objectives of the HRD Strategy are to:

- review government strategic programmes in the jurisdiction of the HRD to build more capacity for skills development;
- improve the integration of all government policies and programmes to develop capacity in the public service;
• implement a credible and comprehensive programme to address strategically scarce skills, such as financial management, communication and project management skills;

• promote adherence to the public service standards that are in line with the objectives of the developmental state; and

• ensure proper and effective collaboration of government strategic planning, budgeting, HR strategy, HR development, institutional systems and structures and monitoring and evaluation.

The accomplishment of these objectives would enhance an effective workplace skills plan, which would attract, develop and retain scarce skills in South African municipalities and government departments.

There is no clear reference to internship programmes in the Skills Development Act, 97 of 1998. However, more has been mentioned about learnership programmes in Chapters 4 and 5 about the Skills Development Act, 97 of 1998. The learnership programmes are intended for post-matric or tertiary students to gain experience through experiential learning, which results into a student graduating from an academic course. Based on the premise that both learnership and internship programmes are aimed at equipping students with first-hand experience in their fields, internship programmes can be classified under learnerships or skills programme. The Skills Development Act, 97 of 1998 stipulates that providers of such programmes must be lawfully recognised and accredited by the NQF (Botha 2009:7). Institutionally, internships are governed under the Sector Education and Training Authority (SETA) of the Department of Labour. The SETA is a government programme established in 2001, administered by the Department of Labour and the Department of Higher Education and Training to provide skills training for the unemployed and untrained population of South Africa (Daniels 2007:5). The Department of Labour has the primary responsibility of ensuring proper execution of the National Skills Development Strategy (NSDS) (AsgiSA 2006:17). The NSDS is supported through the levy-grant system under the National Skills Authority.
Other countries such as Botswana have a national central administrative body for internship programmes. The Botswana government established the National Internship Programme (NIP) in August 2008 as an economic and social strategy to “place unemployed graduates into employment to gain valuable work experience that would hopefully lead to full-time employment” (Powell and Short 2013:3). The NIP is managed by the Botswana Department of National Internship Programme, a division of the Ministry of Labour and Home Affairs. Applications for internship programmes in the public sector are made through the NIP. Graduates submit their applications and if successful are placed in various government departments. The challenge with this approach as applied by the Botswana government is that an intern’s skill is not officially and legally recognised after the completion of the internship programme since there is no assessment of interns during the programme (Powell and Short 2013:5). This inspires the question about the structural management of internship programmes in the public sector.

Contrary to Botswana, South Africa established a system that ensures proper implementation of internship programmes to meet the government objective of 2.5 to five per cent interns in the staff establishment in each government department and institution (DPSA 2009:1). This tool is in an electronic format and is called the Internship Reporting Tool. Government departments and institutions are required to use this tool to monitor and report on the progress of the implementation of internship programmes. The DPSA also requires the departments to submit the Internship Annual Report every year (DPSA 2009:1). Moreover, the South African Skills Development Act, 97 of 1998, section 16, stipulates that skills development programmes such as internships could be established by government institutions if (Department of Labour 1998:12-13):

- they consist of a structured learning component; this includes the practical work experience of a specified nature and duration;
- they would lead to a qualification registered by the South African Qualifications Authority (SAQA) and related to an occupation;
- they are occupationally based; and
- they comply with the prescribed requirements.
As opposed to learnership programmes, it is not mandatory for internship programmes providers to certify the intern with a qualification as stipulated above. However, interns are assessed during the programme and their level of learning and experience is certified after the programme. In the engineering discipline, interns should be awarded a competency certificate after the successful completion of the internship programme. This is because technical fields such as engineering require that a student undertake a process of formal experiential learning from a recognised institution in order to graduate. However, the challenge of receiving experiential learning contributes to the low level of engineering skills in South Africa (this will be discussed in detail in Chapter 4).

3.6. TRANSFORMATION OF SOUTH AFRICAN MUNICIPALITIES

South African municipalities are a direct result of the country’s political history. The apartheid system of government compounded and accelerated the disintegration process between black and white South Africans following decades of oppression by the colonial regime (Meer and Campbell 2007:2). The colonial era translated to apartheid rule in 1948. One of the successes of the disintegration process could be traced back to the structural leadership in former local homesteads. During the apartheid era, black (refers to black African, Coloured and Indian people) communities were largely excluded from the leadership category in municipalities (Ndletyana and Muzondidya 2009:23). These communities were centrally administered through the Bantu Affairs Administration Boards. The administration was intended to enhance central control of the movement of people and labour (South African History Online 1972). In addition to the Black Local Authorities Act, 1982, provision was later made for black involvement through the establishment of Management Committees and Local Affairs Committees. However, these committees were not entirely inclusive and representative of the South African population in as far as the demographics were concerned; black Africans remained excluded from the leadership structures. The black people’s participation was still not enough and the government needed to find permanent residency for the black dwellers in the urban areas. The Black Local Authorities were established and Administration Boards facilitated the development of these areas. This facilitation
role led to the boards been renamed “Developmental Boards” (Wittenberg 2003:14). The development of these communities was not achieved throughout this era as the black communities in Bantustans were subjected to inadequate services and low service delivery standards.

Nonetheless, the national reform processes, accompanied by a myriad of protests in the late 1980s until early 1990s, brought the demise of the apartheid initiated local government system (Nyalunga 2006:2). The collapse of the apartheid local government system witnessed a reformation of municipal authorities and structures through the promulgation of new local government legislations and policies. These pieces of legislation include the Local Government Transition Act, 209 of 1993 (which mapped the way for local government transition from previous apartheid authorities to a democratic local government system), the Development Facilitation Act, 1995 (obliged all municipalities to comply with section 153 of the South African Constitution, 1996, which fosters development in municipalities), the Municipal Demarcation Act, 27 of 1998 (facilitated the successful integration of municipalities) and Chapter 7 of the South African Constitution, 1996 (the chapter put into effect the establishment and recognition of the municipalities, defined their powers and functions and facilitated their development process) (Nyalunga 2006:2-4). The White Paper on Local Government 1998, Municipal Structures Act, 117 of 1998 and the Municipal Systems Act, 32 of 2000 are other pieces of legislation which played an important role in the transformation from apartheid to a democratic municipal system (Mokobe 2002:2).

In post-apartheid South Africa, the Government of National Unity and later the African National Congress (ANC) alliance government were tasked with the responsibility of re-demarcating municipalities. This process enhanced “de-racialised and financially better-resourced municipal structures” (Ndletyana and Muzondidya 2009:24). Abrahamse (2002:25) and Ndletyana and Muzondidya (2009:24) contend that the demarcation process (through the Municipal Demarcation Act, 27 of 1998), which preceded municipal integration, had decreased the number of municipalities from 1100 racially divided municipalities to 824 non-racial municipalities and ultimately to 284 by December 2002, covering the total geographic area of South
Africa. In this process smaller municipalities (mainly poorly resourced former black municipalities) were incorporated into larger municipalities (well-resourced municipalities). The well-resourced municipalities were mandated to cross-subsidise the rural and other underdeveloped urban areas since they lacked adequate capacity to generate income for municipal services. In 2013, the official total number of South African municipalities had decreased to 278. These municipalities were split into three distinct forms; metropolitan municipalities, local municipalities, and district municipalities. There are eight metropolitan municipalities, 226 local municipalities, and 44 district municipalities (Municipal Demarcation Board 2013). These municipalities are further categorised according to their economic activity and population density. Chapter 1 of the Municipal Structures Act, 117 of 1998 distinguishes between three categories and types of municipalities as follows:

- **Category A**: these are normally metropolitan municipalities. These types of municipalities constitute high population density, high economic activity, and extensive development.

- **Category B**: these are usually local municipalities and have low economic activity and population as compared to category A.

- **Category C**: these are mostly district municipalities with slightly similar characteristics as category B.

Through the integration process, the government introduced the Integrated Development Planning (IDP) as a tool vital for the coordination of intergovernmental relations. The then Department of Provincial and Local Government (2007:39) put it concisely that an IDP is an “inclusive” process within which planning, budgeting, management and decision making in municipality can take place. An IDP requires sound and effective management in order for it to be carried through efficiently and effectively in all its processes. It is for this reason that the government realised the rationale of restructuring the integrated municipalities to be comprised of unified management structures. Shortly after the re-demarcation process the then Department of Provincial and Local Government devised and approved the following management structure in most local municipalities: Municipal Manager, Town Secretary Department, Town Treasury Department, Engineers Department, Electrical Engineers Department, Protection Services and Licensing Department,
and Health Department (Abrahamse 2002:29). These municipal leadership structures are required by law, through pieces of legislation such as the Employment Equity Act, 55 of 1998, to eliminate discrimination in terms of race, gender and disability of South Africans. The departments such as Borough Engineers Department and Borough Electrical Engineers Department are of great necessity in municipalities with large infrastructural development needs such as Emalahleni Local Municipality. These departments form an integral part of the entire human resource of the municipality.

3.7. HUMAN RESOURCES IN SOUTH AFRICAN MUNICIPALITIES

People are an important component and “the primary source” of human resource management (Fowler 1988: 1). Since people bring skills in to the public sector, it is important that employees with scarce skills be adequately compensated so that they can be motivated to stay. This is mostly because “human capital is unquestionably a critical element that drives the qualitative and quantitative aspects of a company’s bottom line” (Parak 2012:1). Human capital can be viewed as employees who have spent years to acquire a particular skill in an academic or training institution and are experts in their fields of study. Thus they bring with them expertise such as technical and project management, secretariat and leadership skills. Since these skills are essential to the effective functioning of municipalities, they should be adequately compensated and retained. However, Fowler (1998) and Parak (2012) overlook the importance of early training and development during internship programmes. They assert that as opposed to senior or permanent incumbents, who have acquired experience, interns have no practical skills in the particular work environment which may be costly to the organisation. However, interns may be considered as the long-term investment of the organisation. Interns are usually compensated lower than their senior staff. Be that as it may, like any other person in the organisation, interns are important and should be treated as valuable assets.
3.7.1. Enabling human resource management issues

Before a discussion on the human resource management composition, it is important that some of the enabling issues to the human resource environment are briefly introduced in this section. There are four primary issues affecting human resource management in municipalities today according to Benscoter (2012: XI), and they are: identifying, attracting and retaining talent; improving leadership development; employee engagement; and strategic workforce training. These are in addition to the functions of the human resource management as discussed earlier in the chapter and they directly affect the daily management of human resources in most, if not all, municipal functions. As indicated earlier in this chapter, municipalities start by identifying the need for the human resource, advertise the vacancy, recruit and place an employee. It is important that the recruited skill or talents be developed and retained. The latter serves as the cornerstone for this study. The improvement of leadership development is vital for the successful and efficient management of employees in municipalities. As such, employees need to be constantly monitored, trained and motivated to enhance the functionality of the organisation. These are the issues compounded in the human resource management environment. Hence, ignoring them would make the human resource management unable to realise the objectives of the municipalities.

3.7.2. Composition of municipal administration

It is required by Section 6 of the Municipal Systems Act, 32 of 2000 that the municipalities be governed by democratic values in rendering and sustaining their services. Municipal administrations are composed of different leadership structures, which represent the interest of the municipality and the local citizens. As highlighted earlier in this chapter, after the first South African local government election in 1995, the municipalities’ workforce was represented under Council in their leadership structures. The structure was mainly composed of municipal councillors and different chiefs of administration of the municipality such as Town Clerks, City Treasurer, City Secretary, Senior Managers, Accountants and City Engineers to mention but a few (South Africa 1998:376).
A municipal manager is the head of administration in municipalities. The Municipal Systems Act, 32 of 2000 requires that municipal managers meet the requisite skills, experience and qualifications as stipulated in the Local Government: Performance Regulations (Ntlisiywana 2012:18). According to Craythorne (2006:193), some of the responsibilities of the municipal manager are, *inter alia*:

- ensuring the smooth running of the administration;
- safeguarding the interests of the municipality as promulgated by the Municipal Systems Act, 32 of 2000;
- ensuring the implementation and monitoring of municipal policies and programmes;
- guaranteeing that proper procedures are upheld in the appointment of staff;
- ensuring that the appointed staff receive adequate training and that the human capital is utilised;
- upholding the discipline of staff;
- promoting sound labour relations and compliance to the labour policies pertaining to municipal labour relations; and
- performing any other functions as assigned by the council.

The municipal manager oversees all the administrative functions of the municipality. It is also the responsibility of the municipal manager to promote external relations such as labour relations with labour unions. The municipal manager is also the accounting officer of the municipality.

The second-level position under and accountable to the municipal manager is the senior management (Craythorne 2006:194). The senior management includes the chief financial officers, heads of departments, directors and their deputies. These senior managers, as managers directly accountable to the municipal manager, are appointed by the municipal council, after consultation with the municipal manager. According to the Local Government: Performance Regulations, these managers need a minimum of five years’ experience at senior management level in order to qualify as senior managers in the municipality (Ntlisiywana 2012:1). The requirements need to be complemented by the “relevant skills and experience to
perform duties associated with the vacant position in question” (Municipal Systems Act 2000:59).

The employment of both municipal manager and the senior management are guided by a set of legislation derived from the Municipal Systems Act, 32 of 2000. The employment of these officials is subject to section 57 of the Municipal Systems Act, 32 of 2000, which requires annual performance agreement and monitoring (Craythorne 2006:194). The employment contract should strictly adhere to the labour legislation such as clearly stating the duties of the incumbents, their remuneration, benefits and other terms and conditions. The remuneration of municipal managers is guided by the remuneration policy as developed and adopted by the municipal remuneration committee. The human resource executive is an official body appointed by the council to “ensure that remuneration arrangements support the strategic aim of the business and enable recruitment, motivation and retention of senior executives while complying with the requirements of regulatory and governance bodies” (Deloitte 2009). It is important that the remuneration committee be consistent in their application of the remuneration policy, so as to enforce fairness even to the new senior incumbents.

Other functional components of the municipal personnel include financial managers, municipal town planners, engineers, environmental health specialists and emergency and disaster managers. The functional structure of Emalahleni Local Municipality is made up of Municipal Manager, Directors, Development Planning, Administration Human Resource Management, Public Safety, Finance, and Infrastructure and Basic Services (Emalahleni Local Municipality 2011). This is to emphasise the point that municipalities may differ in their composition, because they each need to deliver on specific mandates of their respective municipalities. The relevant subject to probe after the understanding of the composition of municipalities, is its capacity under the arrangement to boost the service delivery mandates.
3.8. CAPACITY DEVELOPMENT: A HUMAN RESOURCE MANAGEMENT ISSUE

Literature exists on capacity building in public institutions. However, there are limited sources which focus on capacity development as a human resource management issue in public institutions. Whilst the practice of capacity building implies the building of new structures, systems and policies among other things, the art of capacity development suggests the development and strengthening of already existing resources in an organisation. Systems, resources and policies for skills development are already in place in the Emalahleni Local Municipality, thus the focus should be on strengthening these inherent structures and resources to ensure retention of the developed skills. Sustainable development discipline authors such as Nanfosso (2011:195) emphasise that human capital (skills, knowledge and experience) and capacity are related concepts. Individual, organisational and institutional capacity is an essential part of human resource development. Hence, one of the research objectives of this study relates to the investigation of the administrative capacity of the Emalahleni Local Municipality to enhance engineering skills. This is of particular importance to determine the ability of the municipality to meet the Government priorities such as Outcome 9 of responsive, accountable, effective and efficient local government system, which is a service delivery agreement established to ensure expedited public service delivery in municipalities (The Presidency 2010:1). The Outcome 9 was instigated to solve pressing municipal challenges, which among others is developing capacities in poorly capacitated municipalities to effectively and efficiently deliver essential municipal services. For the purpose of this discussion, it is important that the concepts of capacity and capacity development are first defined.

Various disciplines such as political science, social sciences, economics and human behavioural sciences offer different definitions of capacity and capacity development within the context of their pedagogy. This has resulted in the absence of a universally agreed upon definition of capacity and capacity development. As working definitions for this study, capacity refers to “the ability to perform tasks and produce outputs”, and capacity development is “the process by which people and organisations create and strengthen their capacity over time” (EuropeAid 2005:5).
These definitions suggest that capacity is a function of people, organisations and environment, and as such capacity development is a process that involves individuals and resources within organisations. It is clear from these definitions that administrative capacity development in the Emalahleni Local Municipality requires individuals and the municipality as an institution to undergo certain stages using resources and policies in the institution. Capacity can be distinguished in three different types; and these are individual, institutional and environmental (Peters and Van Nieuwenhuyzen 2013:275). Before further discussion on the administrative capacity development, it is important that this section also highlights some of the mandatory steps for an effective capacity development process.

There are various stages or steps in the capacity development process. Each step in the process can be discussed in greater detail. However, the steps are just identified for the sake of information in this study. The diagram below depicts five crucial steps in the capacity development process.
Figure 2: Capacity development process

Source: (United Nations Development Programme (UNDP) 2009:21)

It is of critical importance that every institution, which endeavours to develop its capacity, follows all these steps. The steps are interrelated and flow in a chronological order; hence they are numbered in order of their occurrences. Some of the core pillars of great influence which need to be considered in the capacity development process are institutional arrangements, leadership, knowledge and accountability (UNDP 2009:13). Institutional arrangements include things such as role clarification, skills development, business unit coordination, monitoring and evaluation of systems and partnership with other parties. Leadership is a significant element of the capacity development process. It encompasses the driving of the strategic vision of the institution, motivation of employees, programme facilitation and decision-making. Knowledge in the process entails education and training about the capacity that is being developed. Accountability re-enforces the process of capacity development to ensure transparency and cooperation with all stakeholders. It involves checks and balances, provision of feedback and participation.
After all these criteria have been fulfilled, the outputs, outcomes and impact should be assessed. The capacity development process needs to indicate signs of change at all capacity levels, performance and societal benefits. In the case of the Emalahleni Local Municipality, positive signs of a successful administrative capacity development would include pro-active leadership and policies addressing critical skills shortage, change in organisational culture, reduced critical skills turnover and sustainable development of infrastructure projects such as access to water and sanitation. In a nutshell, effective implementation of the capacity development process would manifest in the achievement of the Outcome 9 of responsive, accountable, effective and efficient local government system as determined by the Government. This entire process can be summed up in a holistic capacity development diagram shown below:

**Figure 3: Framework for measuring capacity development**

![Framework for measuring capacity development](source: UNDP 2009:48)
It is eminent from the diagram that the capacity development process brings a significant amount of change in an institution’s strategic vision, objectives, policies, performance and ultimately the society. Therefore, it can be concluded that a direct consequence of capacity development is change. Change is, however, another component of capacity development worth a separate and in-depth academic discussion. However, the purpose of this section is to highlight some of the pertinent issues which form part of administrative capacity in municipalities.

3.8.1. Administrative capacity development in municipalities

As indicated in the diagram above, capacity development interventions play a vital role in strengthening capacities of municipality on all levels. On the individual level, capacity development entails training of municipal officials to be able to execute tasks efficiently. At the institutional level, capacity development encompasses the strengthening of policies and procedures, knowledge and institutional memory, partnerships, leadership, human resources and financial management, and organisational ethics (Peters and Van Nieuwenhuyzen 2013:276). However, amidst the introduction of capacity building and development initiatives such as the National Capacity Building Framework for Local Government (NCBFLG), Local Government Turnaround Strategy (LGTAS), and Siyenza Manje programme, South African municipalities are still faced with capacity-related challenges like attracting and retaining critical skills such as engineers, spatial planners and chartered accountants (Deloitte 2013:1). This may be the result of a poor work environment and inefficient human resource management practices in municipalities. These shortcomings suggest that there is a need for a continuous evaluation, monitoring and review of such capacity building and development initiatives.

The municipal environment is volatile and some aspects of the environment are beyond the influence and control of municipalities. The environment includes “socio-economic and demographic composition; the political, legislative and social capital within communities; the ecological, geographic and non-municipal infrastructure; and natural, mineral and environmental resources” (Peters and Van Nieuwenhuyzen...
2013:276). Therefore, failure to build or develop adequate capacity within a municipality may have a negative impact on the environmental landscape of the municipality. For example, the development of administrative capacity to attract and retain engineers has an impact on service delivery in the municipality. Failure to strengthen administrative capacity in this regard may spiral numerous societal challenges such as service delivery protests due to poor or no delivery of core services caused by lack of skills and poor employee performance due to poor support.

3.9. EFFECTS OF UNAVAILABILITY OF SKILLED WORKERS

The 2011/2012 audit report on local government indicates a high inadequacy in municipal performance. The report attributes some of the causes of ineffective municipal performance to a poor financial management system and unavailability of critical skills. The auditing firm, PricewaterhouseCoopers (PwC) recommends good governance systems which would enable the attraction and retention of best talent as one of the possible solutions to the municipal inefficiency problems (Institute of Municipal Engineering of Southern Africa 2012:1).

The growing human settlements such as new residential areas and the development of economic and social conditions of the communities have necessitated the upgrading of municipal infrastructure. The upgrades of infrastructure and methods linked to the restructuring of internal work environment have caused an increasing demand of skills in municipalities (Vyas-Doorgapersad 2010:52). Admittedly, engineering and other technical skills are of critical importance in infrastructural development in municipalities. For example, engineering is vital in the installation of more water reticulation equipment, the development of proper sanitation structures and the designing and building of new roads and bridges. Financial managers are important in ensuring sound financial management. Therefore, the shortage of such skills would have dire consequences in the local economic development and infrastructure upgrade of the municipalities.
Concerns for the unavailability of skilled workers can manifest in various forms. Due to the lack of human resources in administering the newly demarcated municipal structures, the municipalities are not functioning efficiently (Thornhill cited in Vyas-Doorgapersad 2010:48). This is a task that rests in the leadership of municipalities. However, there has been non-compliance with the Municipal Systems Act, 32 of 2000 in numerous municipalities, where municipal managers and other senior managers lack the necessary qualifications and skills for the job (Ntliziywana 2012:1). This can be a result of “poor recruitment practices, political interference in the appointment and dismissal of employees, inability to attract and retain technical skills and ineffective performance management systems” (Ajam 2012:6). Such non-compliance has made it difficult for these incumbents to deal with the administration of newly demarcated municipalities efficiently and effectively.

Other causes for the unavailability of skilled workers in municipalities include (Vyas-Doorgapersad 2010:52):

- no commensurate increase in the staffing of human resources despite an increase in the service demand;
- lack of experienced senior managers such as municipal managers;
- low qualifications in areas such as municipal management, municipal finance, corporate services, technical services, and strategic and development planning;
- poor performance of senior municipal staff; and
- frequent change of the councillors which is weakening the municipal leadership, since they have to be introduced to training programmes in order to be able to deal with municipal complexities.

The municipalities need to adhere to capacity building and development specification as stated in Section 68 of the Municipal Systems Act, 32 of 2000, with particular reference to employee training and performance management. However, the Institute of Municipal Engineering of Southern Africa (2012:1) sees the high number of pieces of municipal legislation as the core problem, because municipalities spend much time trying to comply. This subject is explored further in the following chapter.
3.10. RELATED FACTORS IMPACTING ON SKILLS SHORTAGE

As indicated in the previous chapter of this study, there are various other contributing factors to the skills shortage challenge in municipalities such as the history of South African municipalities, HIV and AIDS, globalisation and skills mobility. The historical trends which contributed to the skills shortage in South Africa are the skills policies imposed by the apartheid government. These policies were restrictive to the low income class in areas of highly specialised skills such as “those necessary to be doctors, lawyers, accountants, and engineers” (Limpopo Provincial Government 2008:6). Predominant in these policies was the education policy which advocated *Bantu* education, which the majority of black South Africans were subjected to receive at primary and secondary education levels. The curriculum for *Bantu* education was structured in a manner that only catered for the low income black population, thus making it difficult to access tertiary education institutions after matriculation. The impact of such policies is still visible even in this era. It is for this reason that there is still a huge gap between low and middle class income. Prevalent to this dichotomy is the lack of qualifications and skills. Also, the New Growth Path indicates that these inequalities were result of the apartheid geographical demarcation, where many black South Africans were in the *Bantustans* and only less than 30 per cent of adults in these areas were employed (South Africa 2010:3).

The HIV and AIDS epidemic increasingly contributes to the skills shortage challenge in South Africa. The public sector is at a great risk in this regard, since it employs more than one million people in different public sector institutions (Public Service Commission 2010:9). It is for this reason that the government introduced and implemented the Employee Assistance Programmes (EAPs) in most of the public sector institutions (Public Service Commission 2006:2). It is worth noting that the EAP was introduced in the public service long before HIV and AIDS became widely known. The EAP was introduced in the 1980s to assist employers in dealing with complex work, personal and health issues which negatively impacted on employees' productivity (Maiden 1999:1). The EAP is of critical importance in the context of HIV and AIDS since it offers educational and prevention programmes to the employers and employees. To mitigate the challenge of loss of skills and in particular scarce
skills due to HIV and AIDS mortality, managers need to be responsive to this epidemic and implement EAPs (Limpopo Provincial Government 2008:6).

As the societies increasingly become interconnected, workers possessing the most essential skills seek employment opportunities outside the country. More often than not, there is a high rate of skills migrating from the domestic to foreign countries because of aspirations for better job opportunities. According to the Human Resources Development Review published by the HSRC in 2008, South Africa experienced a sharp increase of emigration of essential skills between the period 1993 and 2002 due to the growing recognition of South African professionals in the international market (Kraak and Press 2008:381). It is for this reason that the post-1994 South African Government has been engaging with relevant role players through the Growth and Development Summit to respond to this challenge and develop strategies to mitigate, if not completely resolve, the skills emigration challenge which is a result of globalisation (Department of Education 2009:9).

Skills migration does not only take place among countries, it can also take place within a country from one employer to another and this is referred to as “skills mobility”. A relevant case is the Chinese case study discussed in this study, where there’s a massive migration from rural to urban areas. Skills mobility is mostly motivated by various factors such as preference, demographic composition, relocation or quest for more lucrative opportunities, to mention but a few. Skills mobility can take place between employers (inter-mobility) or within the employer (inside-mobility). Notwithstanding these mobility types, mobility creates a skills gap when an employee moves from one sector to another. The skills gap is more evident if the migrating skills are scarce and in high demand. It is thus imperative for employers to retain their existing pool of skilled employees, whether going outside or moving inside their sector, to avoid the challenge of increased skills mobility. In 2004 the HSRC conducted a study on skills mobility, with specific reference to the mobility of research and development workers. One of the findings indicates that the loss of skilled workers presents brain drain pressures for the employer and career development opportunities for the skilled worker (Polity 2004). Municipalities should avoid the mobility of scarce skills such as engineering and other technical skills.
Brain drain has severe economic impact, since the migrating skill creates a gap which requires more resources to attract, develop and replace similar skills in the vacant position.

3.11. CONCLUSION

The emergence of the science of Public Administration has influenced the manner in which public services are perceived and carried out today. In fact, numerous democracies and emerging economies have subscribed to the ideologies of the science of Public Administration as popularised by Woodrow Wilson. The science has focused on a number of disciplines including public human resource management, which entails acquiring the necessary skills and manpower to carry through the public service.

The achievement of democracy in South Africa brought numerous policy reforms and a pyramid of policy legislations to deal with the injustices of the past which included reconstruction and development of infrastructure, land and most importantly skills development. These pieces of legislations and policies have to adhere to the democratic principles enshrined in the South African Constitution of 1996. For instance, the Constitution makes provision for human resource and skills development, thus the government and other institutions had to satisfy this requirement and formulate policies which would deal with developing adequate human resource and skills capacity in South Africa.

The human resource management serves as the pillar of resource management. The public institutions, including municipalities, consist of organised teams of practitioners responsible for the acquisition and retention of employees. There are set processes in which these practitioners appoint the employees with the required and identified skills. The challenge of unskilled workers remains rife in municipalities. Legislations such as the Municipal Systems Act, 32 of 2000 were put in place to provide an enabling environment for the municipalities, but the political and other influences remain a distraction. This has had negative effects on the municipal administration, infrastructure and service delivery among other areas. The chapter
that follows investigates other municipalities management issues, in particular service delivery issues associated with engineering skills in a South African context.

Internship programmes as a tool designed to close the skills shortage gap are instituted and regulated through different government policies, thus making them responsive to the skills needs in the public sector. Notably in the regulation of internship programmes is that, unlike in Botswana, they lead to a recognised experiential learning. Thus, increasing the graduates chances of employability.
CHAPTER 4: THE ENGINEERING PROFESSION IN SOUTH AFRICAN MUNICIPALITIES

4.1. INTRODUCTION

Ancient history has indisputably set precedence for the increasing need of engineering professionals in today’s world. There is a growing realisation that the engineering profession is of high importance in shaping the lives of citizens and stimulating the economic growth of countries. Contrary to the ancient history of the French Revolution where the engineering profession served as a tool to develop structures for wars, the profession is today used as a tool to develop the livelihood of citizens across the world. It is in this context that in South Africa the engineering profession is prioritised in the skills development agenda as it impacts greatly in basic service delivery, especially in municipalities. Also, the impact of the scarcity of this profession extends to the human resource administration and financial capacity in local municipalities.

The role played by the HRM in strengthening the capacity of local municipalities cannot be underrated. Human resource managers have a direct influence in the recruitment and retention of municipal engineering skills. Also, the education milieu is one of the indirect factors influencing the engineering skills capacity of municipalities in South Africa and other countries in the world. These factors and the manner in which they have influenced the current state of skills capacity in municipalities are discussed last in the chapter.

The chapter explores the engineering professions and attempts to understand the background and rationale behind their development, their relevance, impact and jurisdiction in municipalities. The founding ideas of the four fields of engineering are discussed first in this chapter and a brief linkage with the contemporary municipal needs is provided in the discussion. The manner in which the engineering professions are structured in South Africa underpins the level of their interrelatedness in providing public services. This further ignites the level of increasing demand for engineers, with particular reference to civil engineers. The
latter is the cornerstone in meeting the country’s development requirements, with reference to infrastructure development as re-enforced by the National Development Plan (NDP).

4.2. THE BACKGROUND OF THE ENGINEERING PROFESSION

The engineering profession was predominately considered a discipline practised by scientists and craftsmen who possessed knowledge of mathematics and science. The knowledge of these learning subjects was deemed vital to deal with “planning, designing, construction, testing, management or operation of facilities, machines structures, and other devices used by engineers in different segments of society” (Fletcher and Shoup 1978:2). It was mandatory that graduates who aspire to be engineers complete a tertiary qualification with majors in mathematics and science in order to be considered as qualified engineers. To obtain the latter was a challenging and daunting task, and as such those who succeed were considered and endorsed as being intelligent and having problem-solving skills. This discipline involved mentally demanding work such as designing and planning which required creativity and innovation. There are four distinguishable fields of the engineering profession as discussed by Fletcher and Shoup (1978:3); civil, mechanical, chemical and electrical engineering. These fields are distinct and each requires a separate level of education.

4.2.1. Civil engineering

The first field of engineering to be recognised in the 18th century was civil engineering. However, Amstead and McNutt (1967:49) argue that engineers were available even before the 18th century. This century only paved the way for the institutionalisation of civil engineers through the first formal school of engineers, known as military engineering and later civil engineering. Therefore, the first academic discipline to be formally recognised in the field of engineering in the 18th century was civil engineering. Napoleon Bonaparte founded the art of civil engineering during the French Revolution, by developing plans and building bridges necessary for the French military battalion attack (Fletcher and Shoup 1978:3). On
the contrary, today civil engineering is regarded as a civilised profession which plays a pivotal role in promoting the quality of life of citizens, thereby establishing projects which boost the national economy through uplifting the living standards of underdeveloped communities (Pansegrouw 1991:7). The essence of the field is still the same as in the past, to construct and develop infrastructure, but the purpose for which the tasks are done has changed from war to nation building. Those who were involved in the planning and supervision of the construction of bridges, airports, transportation systems, buildings and other structures were called professional civil engineers. The word “civil” was used because the building of infrastructure in communities was designated for use by civil citizens. Thus, civil engineering can be viewed as a practice of engineering providing public infrastructure design, development and maintenance services.

In South Africa, municipalities are the main proponents of infrastructure development and maintenance at the local sphere of government. Civil engineers are at the core of municipal infrastructure construction, development and maintenance. Their services in municipalities involve activities such as specifying infrastructure needs, designing, constructing, and maintaining streets, sidewalks, water supply networks, sewer, street lighting, municipal solid waste management and disposal, storage depots for various bulk material used for maintenance and public works, public parks and bicycle paths. It is through the important role they play in the municipalities that their shortage impacts negatively on municipalities, and ultimately the entire country. This impact may range from poor or non-service delivery to administrative complications such as adverse financial implications. The latter was highlighted by the Deputy President of South Africa, in his capacity as the head of the Presidential Infrastructure Coordination Commission (PICC) when responding to the National Council of Provinces (NCOP) in February 2013, that municipalities need capacity to maintain bulk infrastructures, because the decaying water infrastructure prompted the municipalities to pay for the leaking water that flows unused through the streets (Water Sewage and Effluent 2013:12).

The municipalities need to account for the wasted water to the water service authorities and providers, which make the cost unavoidable even when the
municipality did not fulfil the municipal mandate of providing water access to the households. The PICC is the government “body overseeing selection, planning, monitoring and coordination of large infrastructure projects, composed of representatives selected from national, provincial and local government” (National Treasury 2012:55). The PICC is headed by the state president and can be seen as an initiative aimed at satisfying the infrastructural needs of the country to enhance economic growth and social development.

It should be emphasised that it would be difficult, if not impossible, to implement this initiative if the required skills to implement the planned infrastructure projects is absent. Civil engineers play a critical role in the planning, implementation and maintenance of these infrastructure projects. Their absence hinders the delivery of basic services to the households. The shortage of civil engineers could be described as intractable and multifaceted since it affects both the administration of municipalities and the livelihood of local communities.

4.2.2. Mechanical engineering

England set precedence for the development of mechanical engineering between 1750 and 1850 by introducing technology in the field of engineering (Fletcher and Shoup 1978:3). The development was brought by the growing interest of civil engineers to use machines and technology in the execution of their tasks. This notion was referred to as “industrial age”, where there was an increase in the number of people contributing to the advancement of science and technology (Burghardt 1991:36). Technology became common in the practice of engineering and it was vital for the locomotion of machines in industries, hence the name mechanical. The leading proponents of mechanical engineering, Thomas Newcomen and James Watt, championed the development of steam engine to be used for the provision of “power needed in textile mills, iron furnaces, rolling mills, and other industries” (Burghardt 1991:37). Since this was the industrial age, the contribution of these leading scholars added a significant impact in the development and growth of industries in the French Revolution.
Since the Emalahleni Local Municipality's economic strength is in exporting coal reserves to the neighbouring countries, mechanical engineering skills are of high importance to ensure the construction and maintenance of automotive vehicles necessary for the transportation of coal reserves to bordering destinations. Other sectors of the economy in the Emalahleni Local Municipality need mechanical engineering skills to satisfy the business demands, such as the supply of coal reserves for energy production within the area. Thus, mechanical engineering plays a substantial role in the economic growth of the municipality. Nevertheless, due to the large number of industries in need of mechanical engineers within the area and other surrounding areas such as Middleburg in the Steve Tshwete Local Municipality, mechanical engineering skills remain competitive.

4.2.3. Chemical and electrical engineering

The third branch of engineering is chemical engineering, which emerged in the late 19th century. As industries became interconnected, there was a need to develop chemicals to produce synthetic products such as fuel, oil and gas. Within the same era, Thomas Edison invented and developed a system that generates and distributes electricity, boosts communications, and electronics material (Fletcher and Shoup 1978:4). However, Burghardt (1991:38) traces the invention of electrical engineering through the effort of Pieter van Musschenbroek in developing a device to hold a static electrical charge, known as the capacitor in 1746. This introduced the field of electrical engineering in the broader spectrum of engineering. The introduction of electrical engineering necessitated electrical engineers to “design and supervise the manufacturing of large generators, networks of wire, transformers and relays to carry electrical energy over long distances with minimum loss” (Amstead and McNutt 1967:73). This field of electrical engineering remains important for the provision of energy, lighting, electric flow, radiation and radio waves in human and industrial interactions.

The National Energy Regulator of South Africa (NERSA) mandated the South African municipalities with large electrical power distribution to appoint certified electrical engineers under the General Conditions of Contract (GCC) (Association of
Municipal Electricity Utilities 2009:1). The GCC is meant to assess the competence of electrical engineers in executing their duties. Amidst the shortage of the GCC certified electrical engineers, it is mandatory that municipalities attract and maintain certified electrical engineers to sustain efficient electricity distribution in the area.

The link between civil, mechanical, chemical and electrical engineers is important in providing an integrated service delivery in municipalities. These branches of the engineering field played a vital role in the development of industries during the French Revolution and industrial age; their relevance has today translated into growing the economy and developing the livelihoods of citizens.

4.3. DEMAND FOR ENGINEERING PROFESSIONALS IN SOUTH AFRICA

In South Africa, there are three distinguishable types of engineering professionals; engineers, engineering technologists and engineering technicians (Du Toit and Roodt 2008:2). The distinction of these professional engineering types can be drawn from the higher education qualification received from a recognised institution of higher education. Engineers hold a four-year Bachelor of Science (Bsc Eng) or Bachelor of Engineering (B Eng) from a university, a technologist holds a Bachelor of Technology (BTech) from a university of technology, and technicians hold a National Diploma (NDip) from a university of technology (Du Toit and Roodt 2008:2). Further Education and Training colleges in South Africa also offer vocational training and qualifications related to engineering, such as National Certificate (Vocational) in civil engineering and building construction. The Engineering Council of South Africa (ECSA) is responsible for ensuring curriculum compliance of these fields of engineering both in the universities and colleges. This is to warrant professional development standards for eligibility to register with the ECSA after the successful completion of a tertiary qualification. These various engineering professions cannot be substituted by each other, as they each have a specific functional responsibility in the execution of engineering work. The Association of Municipal Electricity Utilities (2010:2) summary report on GCC engineers in municipalities uses the analogy of nurses, paramedics and doctors in the medical field to emphasise the uniqueness of the different types of engineering professions; that like nurses and paramedics can
never replace doctors, because they need each other for successful medical procedure and the same implies to the engineering profession. Thus, the shortage of and demand for each of these types of engineering professionals can never be underestimated, especially in municipalities.

There are several reasons for the demand for and employment of engineers. For the purpose of this study only three reasons are discussed as identified in the previous three decades in the South African labour market. The low agricultural activities and mining contribution to the country’s Gross Domestic Product (GDP), the relative decline of labour productivity, and the degree of capital industries are the factors acknowledged by Du Toit and Roodt (2008:3). The mining and agricultural sectors were the largest producers of economic commodities necessary for economic growth. This played an important role in the economy by providing huge employment opportunities and producing the economy’s most needed resources such as food and gold. With the emergence of new manufacturing markets, more engineering professionals were employed in the manufacturing sector, which caused a shortage of engineering professionals in the agricultural and mining sectors.

Between 1994 and 2001 there was a significant decline of the percentage of engineers employed in industries (Du Toit and Roodt 2008:3). The reasons include; migration of engineers from one industry to another, increasing opportunities for the engineering professionals and engineering professionals practising as self-employed managers through sub-contracting. The latter is considered as one of the factors which contributed to low industrial capital because such engineers cannot be counted as employed engineers in industries, but as being self-employed. They are usually not registered with professional institutions such as ECSA, thus they are not counted in the national labour market statistics.

One of the models used by municipalities in the development of the local infrastructure is “community-based construction”, which invites public participation in the development of infrastructure (Watermeyer 1995:6). Community participation ranges from community members defining their infrastructural needs, their being involved in the construction of the infrastructure through learning and thereafter
contributing their skills. A first project as an example of these community based engineering projects is the one which was initiated by the Council for Scientific and Industrial Research (CSIR) in the Phuthaditjhaba area, Free State Province, in 1995 (Hendricks 1995:3). The CSIR community-based roads maintenance project was aimed at training community members in road maintenance. The aim of the project was to equip the community with road maintenance skills, reduce the high unemployment rate in the area and utilise the limited resources to maintain community infrastructure (Hendricks 1995:3).

It is important to note that community-based engineering projects have a great impact on the livelihoods of communities, thereby providing employment opportunities and skills necessary to perform related engineering tasks. Also, the development and building of infrastructure have a direct positive influence on the development of human well-being (SAICE 2011:10). This is because properly planned and designed buildings and other infrastructure provide convenient ways for social interaction and ensure that all the social ills such as crime are curbed because of the installation of infrastructure such as street lights and proper roads. The impact expands to the mode of communications such as roads in municipalities. It is for such reasons that communities should be involved in their infrastructure development projects from the initial stage of planning. The community-based projects can, however, not serve as surrogates for professional engineering skills in municipalities, as professional engineers possess specialised skills and expertise essential to successfully deal with modern demanding and technologically advanced infrastructure projects.

4.4. THE LEGISLATIVE FRAMEWORK OF THE ENGINEERING PROFESSION

Engineering is a wide field with a variety of opportunities both locally and internationally. Wide as it is, engineers need to comply with local or international laws in order to exploit these opportunities. The Institution of Engineering and Technology (IET) is one of the bodies granting the legal status to engineers to practise internationally. The IET licences professional engineers to practise in Europe through the Fédération Européene d’Association Nationales d’Ingénieurs.
(FEANI), the International Registration of Professional Engineers (IRPE) or the International Engineering Technologists (IntET) (IET 2014). These federations give engineers the professional rights limited to the European countries. South Africa reserves its own legislative requirements of recognising professional engineers.

The ECSA is the leading statutory body of the professional engineering milieu providing educational and professional development standards for engineers in South Africa. The ECSA came into effect in 1991 after replacing the South African Council for Professional Engineers (SACPE) which was an official body representing the interests of over 10 000 engineers from different fields of engineering in South Africa (IMESA 1991:22). The SACPE succeeded the Professional Engineering Joint Council (PEJC) which was established in the 1960s as the “common spokesman” of South African engineers (IMESA 1991:22). The ECSA is governed by the Engineering Professional Act, 46 of 2000 in the execution of its responsibilities in terms of “education, training and registration of professional engineers, the protection of public interest with regard to engineering activities, and the recognition of professional associations” (Du Toit and Roodt 2009:26). Like many other acts, the Engineering Professional Act, 46 of 2000 was legislated through Parliament with the objective of setting governing standards complying with the laws of the country. One of the primary purposes of the Act is to “describe the basis on which guidelines for professional fees are established and to establish a method for the annual review of the guidelines” (South Africa 2009:43). The legal requirements for the guidelines for professional fees are set in Section 34 of the ECSA Act. It is worth noting that registration with ECSA is not compulsory, and as such their regulations only bind registered engineering members.

The ECSA (2012) lists the following as some of the local professional engineering institutes/societies/associations; Association of Mine Managers of South Africa (AMMSA), Clinical Engineering Association of South Africa (CEASA), Institute of Professional Engineering Technologists (IPET), Institute of Certified Mechanical and Electrical Engineers of South Africa (ICMEESA), Institute of Municipal Engineering of Southern Africa (IMESA), South African Association of Consulting Engineers (SAACE), South African Institute of Agricultural Engineers (SAIAE), South African
Institute of Electrical Engineers (SAIEE), South African Institution of Chemical Engineers (SAIChE), South African Institution of Civil Engineering (SAICE), South African Institution of Mechanical Engineers (SAIMechE), and Southern African Institute for Industrial Engineers (SAIIE). Du Toit and Roodt (2009:26) single out SAACE, SAICE, SAIEE, SAIChE and SAIMechE as principal professional institutions of the engineering profession in South Africa. They make a note that SAACE was renamed as CESA (Consulting Engineers of South Africa) in 2009. These bodies have an impact in shaping the engineering profession in municipalities, with IMESA being of particular note.

4.4.1. The professionalisation of engineers in municipalities

The South African Constitution of 1996 commissions municipalities to take executive authority for the functions of municipal services such as “cleaning, refuse removal, refuse dumps, and solid waste disposal” (Hutchinson 2006:19). The stipulation of the executive authority of municipalities is made in Section 151 of the Constitution (South Africa 2009). All the resolutions and by-laws formulated in the municipalities should abide by the Constitution. The management of municipal services such as refuse removal and solid waste disposal require specialised skills. Proper infrastructure should be developed and maintained for the disposal of the waste collected from households. The development and maintenance of the waste disposal infrastructure requires significant investment from the municipal budget. For example, the Ekurhuleni Metropolitan Municipality spent approximately twelve per cent of its capital budget to develop Rietfontein Waste Disposal Site during the 2002/2003 financial year. This is a large amount considering other needs of the municipality. A lesson can be learnt from this municipality. However, fiscal expenditure seems not to be a great challenge since the municipalities are under-spending on their budgets (this is discussed further in the following section).

The International Federation of Municipal Engineers (IFME) was established in 1960 as an “international association of a variety of technical and scientific professionals employed in local government structures around the world” (Laubscher 2003:6). The federation provides a benchmarking platform for municipal infrastructural

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development across the world. It also provides an opportunity for the exchange of views and ideas and sharing of experiences and knowledge with reference to municipal infrastructure and engineering. The South African government is benchmarking its municipal infrastructural development with developing economies such as China and India. South Africa, through IMESA, is part of the IFME and it hosted the 2003 annual conference to discuss some of the cutting-edge issues pertaining to municipal development and engineers. The municipal road infrastructure such as toll roads and the safety of public transport on local roads are some of the issues deliberated on during the conference in Cape Town (Engineering News 2003). It is through such platforms that South Africa, as a developmental state, could have world class infrastructure and facilities, especially in municipalities.

As indicated earlier, the most instrumental professional engineering association at the municipal level is the IMESA. The IMESA is a professional engineering institution which is aimed at “promoting the interests of municipal engineers and their profession, and creating a platform for the exchange of ideas and viewpoints on all aspects of engineering with the aim of expanding the knowledge and best practices in all Local Government municipalities” (IMESA 2011). It is a common practice that municipalities have an official body promoting the interest of engineers even in other countries. Engineering graduates are only eligible to practice as consulting engineers when they are registered with municipalities to be able to submit public plans, designs, or drawings for approval and for record purposes and they need to hold a recognised qualification from the Institute of Engineers (India) in India (IEINDIA 2008).

These types of associations in the sphere of local government are catalysts for infrastructural development in municipalities as they ensure professionalism in the field of engineering. They utilise their pool of engineers to drive and support infrastructural development in municipalities. One of the IMESA approaches towards the infrastructural development is Sustainable Infrastructure Asset Management (SIAM). The SIAM is an initiative aimed at managing community infrastructure assets to enhance the standard of living for the population of South Africa (Byrne 2011:13). However, the lack of adequate capacity, poorly maintained infrastructures, continued
introduction of by-laws and regulations, lack of efficiency, shortage of skills, and an ageing workforce are some of the predicaments hindering the success of SIAM programmes (Byrne 2011:15). All these factors need careful scrutiny to enhance the effectiveness and efficiency of SIAM. The administrative institutional support from municipalities could be a possible intervention strategy to promote an enabling environment for the implementation of SIAM programmes. There is an urgent need to resolve the skills shortage backlog. As identified, it is at the apex of this study, because without adequate skills and capacity, infrastructural development initiatives such as SIAM would remain a dream.

The Strategic Framework for Water Services was approved and passed by the Cabinet on 17 September 2003 to replace the 1994 Water Services White Paper (IMESA 2003:31). The framework set clear guidelines for municipal “governance, institutional reform, finance, tariffs, planning, norms and standards, regulation and support” (IMESA 2003:31). It furthermore provides a “comprehensive approach with respect to the provision of water services in South Africa, ranging from small community water supply and sanitation schemes in remote rural areas to large regional schemes supplying water and wastewater [sic] services to people and industries in largest urban areas” (South Africa 2003:ii). This framework is an instrumental tool in expediting the water infrastructural development and management to provide access to clean water and sanitation for the municipalities. It is one of the initiatives aimed at accelerating the provision of access to clean water and sanitation to meet the Millennium Development Goals (MDGs). As indicated earlier in this chapter, civil engineers are required at municipal level to contribute to the successful achievement of such development objectives.

4.5. THE IMPACT OF CIVIL ENGINEERS IN SOUTH AFRICAN MUNICIPALITIES

The municipalities are at the core of service delivery in the local sphere of government. The service delivered by municipalities comes in diverse, yet integrated form. They are integrated because they cannot be substituted, but rather complemented. For example, the building of schools without proper sanitation is not
adequate, so is the building of clinics without proper road infrastructure. Some of the services delivered in municipalities have already been identified throughout in the discussion of the preceding sections of this chapter, but they need to be emphasised; water and sanitation, refuse and waste management, electricity and gas supply, infrastructural development and maintenance, education and health, justice and safety, and transportation and communication provision. It should be highlighted from the outset that the delivery of these services is not an easy task. Chapter 7 of the South African Constitution, 1996, gives the municipalities the mandate to deliver basic services to communities. It is therefore a legislative requirement of the municipalities to fulfil this mammoth responsibility. However, without the availability of the required capacity this constitutional requirement will not be realised. The necessity for the services of civil engineers, as the focus of this section, is at the epicentre of this quandary.

Section 153 of the South African Constitution, 1996, stipulates that “municipalities must structure and manage their administration, budgeting and planning processes to give priority to the basic needs of the community, and to promote the social and economic development of the community” (South Africa 1996). The Constitution recognises the administrative capacity, budgeting and planning as chief tenets of municipalities’ basic service delivery. The absence of enough administrative capacity and planning would be a greater stumbling block to municipal effectiveness. These three tenets of basic service delivery influence one another. It is virtually impossible for a municipality to function without finances. Similarly, municipalities can hardly operate without adequate human resources responsible for planning, implementation and management.

The National Treasury allocated R85 billion for municipal infrastructure spending during the financial year 2013/14, but the municipalities under-spent the allocated budget (Maake 2013). Maake (2013) citing from the data provided by CoGTA indicates the under-spending by municipalities. Three districts in Mpumalanga spent only 32.09 per cent of their allocated R1.4 billion, five districts in Limpopo spent 36.04 per cent of their allocated R2.5 billion, and three districts in Gauteng spent 32.54 per cent of their R484 million budget. Some of the reasons attributed to such
under-spending in municipal infrastructure include late registration of projects planned for the current financial year, non-availability of skilled persons to implement the planned infrastructure projects and poor planning (Maake 2013). These challenges causing under-spending in municipalities are clear indications of the failure to meet the constitutional requirements as set out in Chapter 7 of the South African Constitution of 1996. Therefore, the fulfilment of these constitutional requirements depends on the three underlying principles of basic service delivery; administrative capacity, sound financial management and proper planning.

4.5.1. Infrastructural and developmental needs in South African municipalities

The development of municipalities, with particular reference to municipal infrastructure and development, is dependent on human resources. The latter involves municipal or civil engineers. It should be noted that contrary to the scarcity of civil engineers today, the skill was in oversupply in the early 1990s. Another fact to note is that during the latter period there was a huge task which needed civil engineering skills. This was because of the democratic government policies such as the Reconstruction and Development Programme (RDP), commissioned under the New Housing and Strategy for South Africa (known as the 1994 Housing White paper), aimed at eradicating the unjust structural social system created by the apartheid government and aimed to provide socio-economic development. One of the priorities of the RDP was to provide 350 000 unit houses per annum for a period of five years, and provide at least one million houses to the low-income earners over five years (Smit 2000:36). The project was a major task and with its five year life span it posed numerous challenges. It is for such reasons that some provincial governments decided, in their legislative prerogatives provided for by Section 7 of the Housing Act 107 of 1997, to extend the life span of the project. For instance, in 1996, the Gauteng Province adjusted their mandate to building 300 000 new houses over a period of ten years (Clark 1996:10).

Of particular note in this activity is that there was an overcapacity of civil engineers. This implied that there was more than the needed skill to do the civil engineering work. In his interview response to the challenge of civil engineering skills
overcapacity, the then MEC of Housing in Gauteng Province highlighted that such skills are not only required for the building of houses, but they are also needed for the maintenance and rehabilitation of the built infrastructure (Clark 1996:10). Indeed erecting a building structure without maintenance plans may cause the built structure to become dilapidated a short period after building it. The oversupplied civil engineering skills should have been retained to ensure that there was continuous maintenance, refurbishment and rehabilitations of already existing infrastructure. The retention of technical skills such as those of engineers is discussed in detail in subsequent sections.

The supply of civil engineering skills reached its break-even point in the early 2000s (SAICE 2000:10). This was a point where there was no oversupply and no deficit of civil engineering skills. The state of civil engineers was unclear because whilst there was a mass export of engineers to work overseas, there was a lack of skilled and dynamic civil engineers (SAICE 2000:10). Murray (2000:14) indicates that South Africa had a skills trade relationship with China in 1999, where the Chinese Government offered opportunities for the mass contractors, consultants and academics in the engineering field to assist with huge infrastructure projects such as the development of China’s largest city, Shanghai in 2000. Although the exodus of civil engineers to help develop China was beneficial to China and its economy, it left serious gaps in South Africa’s infrastructural development and economic growth. It was during this era, that South Africa was hit by a huge epidemic of cholera due to the absence of an effective system to promote the improvement of sanitation at community level (Muller 2002:12). Proper maintenance of sanitation and water infrastructure would have prevented the cholera epidemic, but due to the low capacity and transactional engineering skills the epidemic worsened in the rural areas of South Africa. Municipalities had to carry a heavy burden and rely more on technicians and technologists who were not adequate to fulfil the infrastructural development and maintenance needs of municipalities. This ultimately led to the poor provision of basic service delivery to the communities because there were no adequate skills to render these services.
The proportional balance of the civil engineering skills with the infrastructural and development requirements is a necessity in municipalities. Government initiated projects should encompass the existing pool of civil engineers to avoid brain-drain and skills shortage challenges. The former would occur when the skilled workforce feel under-utilised and the latter would transpire in cases where there is a large task, but limited skilled workforce. The role played by civil engineers in local municipalities impacts on various facets of municipal administration. Large budgets are needed for the infrastructure work and inadequate development and or maintenance of such infrastructure can directly or indirectly affect the livelihood of the households. The government in association with various stakeholders has responded to this need through the National Infrastructure Plan (NIP).

Municipalities continue to receive support from other spheres of government to develop infrastructure and boost economic growth. The latest notable support came from the National Treasury in collaboration with other government departments such as the National Department of Public Works, Department of Water Affairs and Department of Transport, and state entities comprising Telkom and Transnet. The support was commissioned under the PICC and it was named the NIP. The plan was adopted in 2012. It aims at stimulating South African economic growth by developing and upgrading infrastructure, creating jobs and delivering basic services in all nine provinces through its Strategic Integrated Projects (SIPs) (South Africa 2012). The National Treasury vouched to allocate an amount of R827 billion to implement the plan over three years from 2012 (South African 2012). The plan promised to satiate the 18 identified SIPs, which included: strengthening the economy of North West Province; supporting the green economy sector; expanding electric capacity to support the socio-economic development; assisting 23 municipal districts with infrastructure backlog challenges; and increasing the capacity of water and sanitation services in municipalities. The major focus of the SIPs is in municipalities since they are the major beneficiaries and users of local infrastructure in South Africa. With adequate, properly trained and motivated human resources, the capacity of municipalities to develop and upgrade infrastructure and boost economic growth could be realised.
4.6. MUNICIPAL HUMAN RESOURCE MANAGEMENT CAPACITY TO RETAIN MUNICIPAL ENGINEERS

The important phase, which is somehow difficult to implement in many organisations and institutions, is the retention of the recruited talent. Many organisations focus too much on the recruitment of talent, and overlook the constant motivation and good management of those recruited for their skills for them to remain longer in the organisation. The retention of municipal engineers such as those with civil engineering skill depends on five main management issues according to Potgieter and Pretorius (2009:37-41): organisation management style, motivation, reward and compensation, performance management, and organisational structure. In their article, Potgieter and Pretorius (2009:37-41) refer to the general engineering and technology fraternity as technical skills. For the purpose of this study, municipal engineers will be referred to as civil engineers as it is the greater component in the municipal engineering pool.

4.6.1. Managing civil engineers

There are four main reasons that make it difficult to manage civil engineers according to Potgieter and Pretorius (2009:37):

- “much of the work done by technical professionals is intangible, thus difficult to define, measure, evaluate and control”;
- due to the level of work they do; technical professionals seek autonomy in their work thus resisting organisational control;
- technical professionals need to be valued, so that they can develop loyalty, commitment and be productive; and
- they prefer professional over organisational rules and regulations.

As indicated in the first section of this chapter, engineers are considered an intelligent workforce; they require a flexible environment that will not restrict them to a set way of doing things. They need to continuously explore new concepts and formulate new solutions to problems. Therefore, it makes it difficult for managers to understand and evaluate the work of civil engineers. In a political environment such
as municipalities, this dilemma is worsened as political managers would seek legislative control, while civil engineers seek autonomy. A growing body of evidence indicates that the red tape and numerous laws with which they should comply make it difficult for technical professionals to fully explore their creativity. It is in the best interest of organisations, and municipalities, to have civil engineers in management positions in the technical division. In the past, engineers – as distinguished from the technicians and technologists – with extensive experience would be placed in the management-level position of the technical workforce (Erasmus and Breier 2009:83). Nevertheless, this kind of management should not be seen in isolation, as a stand-alone management unit. It could function best if there is integration and synergy across various parts of the organisation, cross-functional units to carry out the entire process, and collaboration with suppliers and customers” (Lawler III and Mohrman 2003:4). This strategy is essential to enhance collaborated organisational values and objectives, because there would be constant checks and balances of work done in various management units. Furthermore, the technical professional management needs administrative and strategic support from the organisations, institutions or municipalities in which they work. One of the less valued, yet most important support strategy that could be offered by the executive is “sending away senior personnel to prestigious external training courses, enrolling for Master of Business Administration degree or attending business related events” (Thorne and Pellant 2007:56). In this way, employees would feel valued and appreciated in the organisation.

It is recommended that civil engineers in municipalities are given a flexible role to manage themselves and initiate projects in commensurate with municipal strategic objectives. As much as it is important that civil engineers enjoy their autonomy, the integration and collaboration of their work with other units such as technical workforce, financial managers, technical and strategic advisors, and the general management should be promoted. Opportunities should be afforded for civil engineers to interact with stakeholders on various platforms.
4.6.2. Motivation of civil engineers

As highlighted earlier in the chapter that engineers enjoy challenging and mentally demanding work, the work they do can be a major determinant of their motivation. Potgieter and Pretorius (2009:37) are of the view that the retention and productivity of an employee depends on the level of motivation. They assert that Maslow’s hierarchy of needs depicted below is the cornerstone for employees’ motivation.

**Figure 4: Maslow hierarchy of needs**

![Maslow hierarchy of needs](source: Urwiler and Frolick (2008:84))

Like many employees, civil engineers need to be satisfied in most of these areas of their needs. They should be encouraged to be creative; they need to be valued for the work they do; they need to interact with their colleagues and managers; and they need to be assured of safety. The latter is critical since most areas where engineers work are hazardous and organisations should ensure that safety measures are in place.

Employees who are engaged with their jobs are highly likely to stay motivated in organisations. This fulfils the need to self-actualisation and self-esteem, since
employees feel valued and trusted in the work they do. According to Macey, Schneider, Barbera and Young (2009:1-17) engaged employees are productive in their work and produce some of these desired effects:

- proactive decision making to achieve the organisation’s goals and objectives;
- flexibility to formulate strategies to meet the new demands aligned with organisational goals;
- continuous culture of learning to expand skills to develop and achieve the strategic goals of the organisation;
- ability to find consistent ways to deal with the challenges presented by the work they do; and
- the ability to adapt to change without the efforts of the top officials.

The challenging nature of civil engineering needs employees to be constantly engaged with their work. Reduced influence from the executive authority in municipalities can galvanise the benefits highlighted above. However, it is worth noting that the engagement process could be costly to the organisation if a less skilled and experienced workforce is engaged. This is because the level of autonomy they enjoy would be better exercised by someone who is highly qualified, skilled, knowledgeable, and familiar with the work environment. For example, the negative effect could be produced if the same level of engagement with professional engineers is done with intern engineers.

4.6.3. Reward and compensation

The rewarding of employees can come through extrinsic and intrinsic forms of strategies. The former can be achieved through actions such as remuneration and promotion, and the latter can be attained through congratulatory and encouragement notes from the executive authority which is likely to stimulate further interest and engagement in the job. Potgieter and Pretorius (2009:38) add “time off, the freedom to select tasks or projects, the freedom to implement their own ideas, flexible working hours, and funds for personal goals unrelated to organisational goals”, to the intrinsic and extrinsic kinds of reward and compensation. A well-designed remuneration system has significant impact on promoting the achievement of the strategic
objectives and goals of the organisation where there is high competition, as it influences employees to improve their job performances (Martocchio cited in Bussin 2011:1). There is a strong correlation between compensation and job performance, with the latter resulting in the overall success of the organisation. Expert and skilled employees want to be remunerated according to the level of their expertise and skills.

4.6.4. Performance management

Performance appraisal is regarded as the best tool in managing the employees and their productivity according to Fombrun and Laud (cited in Potgieter and Pretorius 2009:38). Acknowledging and appraising the effort invested by employees in an organisation could augment the motivation of employees to continue with their efforts to produce the desired organisational deliverables. In addition, performance appraisal can be intrinsic as well as extrinsic. Intrinsic can range from an appraisal statement from the executive authority to job satisfaction, and as much as it is intrinsic it can bear extrinsic and tangible results for the organisation due to the elevated level of motivation, which induces higher performance. Extrinsic performance appraisal includes incentives such as performance-based remuneration and paid leave of absence from work. Some of the main objectives of performance-based incentives according to Bussin (2011:59) are: “strengthening the relationship between performance and reward; driving the organisation’s strategy implementation to individual level; retaining top performers by rewarding them for sustained superior performance; sending a clear message to non-performers; instilling a performance culture into the organisation; facilitating and necessitating performance contracting; and differentiating reward levels in a defensible manner”. In some organisations, including the public sector, the performance remunerations are formula based. The incentive comes after the performance review process. This process rates all the input and output that an employee has made in the previous months and generates an aggregate percentage from which an employee is rated. Thus, performance incentives are not standardised for all employees, they are based on the individual performance of an employee.
In technical fields such as civil engineering, the immediate superior is responsible for evaluating the performance of the subordinates (Potgieter and Pretorius 2009:38). There is a contestation in choosing the superior evaluator, because the credibility of the evaluator plays a significant role in the evaluation of subordinates. The evaluator needs to be an expert in the specific area of evaluation and needs to be trustworthy. Otherwise an alternative model of peer evaluation may be adopted.

4.6.5. Organisational structure

The manner in which different components of the organisation are structured influences the management of employees. Components in organisations are distinct workforce units with a mandate to deliver a specific organisational output. These units collectively function to the advancement and achievement of general organisational goals and objectives. As such, the units are interrelated and interdependent. The former and the latter are likely to spur conflict among the different units. It is for this reason that organisational structure comes into play in the technical and professional fields. Potgieter and Pretorius (2009:40) unpack three structural arrangements which might mitigate the conflict of technical employees and improve the management efficiency which are dual ladder, triple hierarchy, and broad-banding structures.

The dual ladder places technical professionals at a parallel proximity with the management with evaluation, control, authority, and advancement measures so as to reduce conflict. The main objective of this structure is to advance career growth of technical professionals through possible promotion, compensation, recognition, and prestige proportional to that of the management. The triple hierarchy is designated for promotion opportunities of technical professionals. Opportunities are made available for the technical professionals to be promoted to the managerial, professional and technical, and or administrative level. Thus, this organisational structure provides three career growth opportunities for technical professionals. However, it should be highlighted that fair regulations and procedures should be in place to avoid conflict over opportunities. Broad-banding focuses more on the salaries of technical professionals. It seeks to minimise salary gaps, with each group
having unique salary opportunities. This is done by setting a minimum salary percentage for all professionals within the same group, but the percentage may increase based on the competence of professionals. In this sense, competent technical professionals may receive higher salaries than managers. There is however, a maximum percentage of salary payment which employees have to adhere to. The emphasis in this model is on “flexible roles, individual career development, and competency growth” (Potgieter and Pretorius 2009:40).

Proper management of civil engineers is essential for retaining them in municipalities. It is important that municipalities enhance their capacity to ensure that there is sustainable motivation of civil engineers. The motivation needs to be sustainable in order to imprint a lasting legacy in the municipalities and extend the motivation effects to the subsequent generation of civil engineering skills to join the municipality. As highlighted above, various management strategies of motivation should be adopted by municipalities such as adequate remuneration and incentives, scarce skills allowance, promoting the introduction of organisational structures such as the dual ladder and triple hierarchy structures. These interventions should also be attractive to female civil engineers (Erasmus and Breier 2009:111). The increase in the number of female civil engineers would be beneficial to society as a diversified workforce will be achieved and the level of civil engineering capacity will be strengthened.

It remains unclear, based on the management issues discussed above, if municipalities have enough capacity to attract, motivate and retain civil engineers. Monetarily, municipalities receive funding through numerous sources of funding such as the equitable share from the National Treasury, Siyenza Manje and Municipal Finance Improvement Programme to improve the technical skills capacity. While there is a wide shortage of engineers, municipalities still experience administrative backlogs. This conundrum has impacted negatively on infrastructural development and fiscal behaviour in municipalities in meeting the country’s development requirements which is enhancing the infrastructural capacity of the country. Municipalities continue to underspend on the allocated Municipal Infrastructure
Grants (MIGs) and equitable share, which is an amount allocated by the National Treasury to municipality every year based on the local municipality’s needs.

4.7. UNDERLYING ISSUES INFLUENCING MUNICIPAL ENGINEERS IN SOUTH AFRICAN MUNICIPALITIES

The Emalahleni Local Municipality in the Eastern Cape – a municipality located in the Chris Hani District of the Eastern Cape with the same name as the municipality under investigation in this study, for purposes of this study, this municipality shall be referred to as the Eastern Cape Emalahleni Local Municipality to avoid confusion - acknowledges the challenge of scarce technical skills as a universal problem, not unique to the municipalities. This challenge impacts significantly on the civil engineers availability in municipalities. The Eastern Cape Emalahleni Local Municipality makes specific reference to the need for strong retention strategies in municipalities in dealing with this challenge (Eastern Cape Emalahleni Local Municipality (2010:2). Without effective strategies which ensure enough skills capacity in municipalities, the service delivery in local government sphere could be brought to a standstill (Lawless cited in Swart 2008:12). This is because municipal engineers such as civil engineers are the cornerstones of numerous municipal services, and as such their absence influences the level of service delivered. A particular case in point is the Emalahleni Local Municipality’s incapacity to deal with sewage and water supply management due to the scarcity of civil engineers. There is no evidence of shared strategies among the municipalities in dealing with the challenge of scarce civil engineering challenge. Some of the reasons for the absence of a blanket solution across municipalities to address the challenge of scarce civil engineers includes different needs, priorities and sizes of municipalities.

Notwithstanding the need for strong retention strategies, there is evidence of the increasing demand for skilled employees and the shortage of supply of such skilled employees. The Presidency signalled a possible stumbling block in meeting the Comprehensive Housing Plan for the Development of Integrated Sustainable Human Settlements aimed at delivering quality housing and human settlement to 500 000 households by 2014 (South Africa 2012). This gesture is motivated by the indication
of the low supply of technical skills in provinces and municipalities. Some of the factors which impact on the availability of civil engineering skills in municipalities include “economic factors, emigration, mobility and the global economy, low remuneration, educational issues, lack of experiential training opportunities, and transformation policies” (Du Toit and Roodt 2008:89-91). Most of these issues have been highlighted and discussed in the previous sections and chapters of this study. Of particular note in this section are the educational issues and lack of experiential training opportunities since they are intertwined in the manner in which they impact on civil engineering skills in municipalities.

The low pass rate in physical science and mathematics, as the pre-requisite to enrol for studies in engineering, has had dire effects on the development of engineers. In 2007, not even a single student passed higher-grade mathematics with 51 per cent and above (Swart 2008:12). Furthermore, civil engineering has over the years been regarded as one of the most difficult higher education courses with low throughput. For example, out of the “unduplicated headcount” of approximately 9314 learners who enrolled for Civil Engineering and Technology in 2006 only about 1228, which represent nearly 13 per cent, graduated (Construction Education and Training Authority 2009:33). This was below the Student Enrolment Planning of 17 per cent as stipulated by the Minister of Education in 2005. Civil engineering students enrolled in the universities of technology require both theoretical and experiential training to graduate. However, the Department of Public Works and the Construction Industry Development Board have identified the failure of students to secure experiential learning with accredited employers as the major challenge contributing to the low graduation rate of civil engineers, and therefore the unavailability of engineers (Department of Public Works 2007:6). It is evident that the influence of the unavailability of civil engineers in municipalities emanates beyond the administration of municipalities. The education of learners in schools to the graduation of students in tertiary education institutions plays a vital role in influencing civil engineers in South Africa. The factors influencing the availability of civil engineers in South African municipalities need serious investigation across the spectrum of civil engineers, both in learning institutions and municipal administration. The South African Government needs the “long-term view investigation” approach to align the
educational system with skills requirements to meet the 20-year infrastructure plan (Burmeister cited in Esterhuizen 2012).

4.8. THE STATE OF ENGINEERING SKILLS IN SOUTH AFRICAN MUNICIPALITIES

As highlighted earlier, many South African municipalities experience difficulties in attracting and retaining the existing pool of skills, especially the engineering skills. The Landelahni Infrastructure Sector Research Survey published in 2012 indicates that in 2011, only 15 per cent (1 800) of South African engineers were employed by the government and state-owned entities (Esterhuizen 2012). The required engineers and technicians to meet the development needs in South Africa are estimated at 800 000. The 15 per cent filled a gap of the needed engineering and technical skills by a mere 0.225 per cent. As indicated in the first chapter of this study, there were 826 professionals, including 163 engineers and technicians, deployed in municipalities by the DBSA in 2011. This group of deployed engineers made up approximately nine per cent of the above reported 15 per cent. This challenge is exacerbated by both the direct and indirect factors influencing municipal engineering skills discussed in the previous sections of this study.

During the 3rd Expanded Public Works Programme (EPWP) Municipal Summit held with all the 278 municipalities in November 2012, the National Department of Public Works encouraged the municipalities to increase their skills capacity in areas of technical and engineering skills to meet the infrastructure development needs of the municipalities (Mpyatona 2013). It may be argued that this summit paved the way for government to launch its plan to train and develop 30 000 engineers by 2014 (Infrastructure News and Service Delivery 2013). However, due to the low pass rate in mathematics and science subjects at school level and the low graduation rate of engineering students at tertiary education institutions, this plan was hampered. The number of engineers could increase through government efforts to make access to tertiary education institutions easier. Government is already taking steps to deal with this indirect influence. There is R7 billion provided by the government to expand the
National Student Financial Aid Scheme (NSFAS) and develop teachers education through the “service-linked” bursary scheme Fundza Lushaka (South Africa 2013).

While South African higher education institutions are struggling to produce the adequate number of needed engineers, China and India produce an excess number of qualified engineers. The Chinese Statistical Yearbook of 2005-2010 reported an annual total of over 7.6 million new graduates from higher education institutions, of which 5.3 million hold undergraduate and diploma qualifications from regular institutions, 1.9 million from adult education and a further 0.4 million hold postgraduate qualifications (Kiwana, Kumar and Randerson 2012:2). An estimate of India’s engineering output by 2011 based on the institutional capacity was; 1 522 colleges and 1 244 polytechnics institutions offering engineering courses with an aggregate annual student intake of 847 000. This puts India and China in the list of top engineering producing countries in the world. Their strong higher education institutional capacity is enough to cater for their over one billion population to ensure their countries’ socio-economic development (Kiwana, Kumar and Randerson 2012:2). However, critics argue that the rapid expansion of higher education institutions administering engineering studies in India has compromised the quality of the engineering skills, citing increasing unemployment of graduates as one of the prevalent indicators. This can be attributed to the facts highlighted in Chapter 1 of this study that most of the engineers produced by these countries are transactional. This, they argue, has created a gap between the modern industry needs and the education system. While it is clear that China and India’s state of engineering production is at the peak, there is comparatively no doubt that the state of municipal engineers in South Africa is at the vertex of development. To a considerable extent, the South African Government is prioritising the engineering and technical skills in their skills development initiatives from the basic education level. In addition, municipalities need to play an active role in retaining their existing pool of municipal engineers, while working with other government departments and entities in developing and attracting new skills.
4.9. CONCLUSION

This chapter aimed at examining the engineering profession since its founding days and how the engineering field was relevant then and how it is relevant now. Various traditional branches of engineering were unpacked and provided a closer look at engineers in the South African context. Among the branches of engineering, civil engineering was recognised as the most prevalent in municipal service delivery and development of public infrastructure. An observation made from the study is that the civil engineering branch is also in high demand in the agricultural and mining sectors. However, the other branches of engineering also play a significant role in municipalities and private sector organisations.

Various institutions play a part in the jurisprudence of the engineering professions internationally and in South Africa. This includes institutions such as IFME, ECSA and IMESA. IFME recognises the international status of engineers, ECSA guards the interests of professional engineers nationwide, and IMESA has a specific interest on professional engineers in the local sphere of government. These institutions serve as a professional milieu of the engineering profession, and as such their prerogatives should conform to the international best practices and the laws of the country such as promulgated by the constitution and the by-laws in the municipalities.

One of the observations made in this chapter is that as much as the engineering skill depends on the administrative capacity of the municipalities, there are underlying factors which impact indirectly on skills capacity. The education curriculum at the basic educational level and the graduation rate of engineering students play an indirect, yet significant, role in influencing the availability of the engineering skills. The government has taken steps to intervene at this low level of influence in dealing with an overarching challenge for scarce engineering skills, especially civil engineers in local municipalities.
CHAPTER 5: CASE STUDIES

5.1. INTRODUCTION

Three case studies from two institutions have been selected for analysis in this chapter. These institutions are herein referred to as subject studies. The National Treasury is the first subject study in this chapter. The second subject study in this chapter is the Emalahleni Local Municipality. Of distinctive note in these subject studies is the fact that, unlike the Emalahleni Local Municipality, the National Treasury is not a municipality and is not located in any industrial or mining area. Furthermore, it does not offer any internship programme for engineering graduates.

This chapter is organised in a scientifically acceptable order as discussed in Chapter 2 of this study. The data retrieved during the research is arranged in a logical order, categorised according to specific focus areas, internship policies are presented as primary data, and the overall reflection of both cases are interpreted. An insightful exploration for which the case studies in the National Treasury were selected is provided later in this chapter.

Some of the guiding questions used in selecting information from these subject studies are:

- When was the graduate or internship programme established in the institution?
- How is the graduate or internship programme structured within the institution?
- Does the institution have a recruitment and/or selection policy for graduates? If so, are there any measures to enforce compliance?
- How is the recruitment done; yearly, once in two years or other?
- What are the recruitment steps for the graduate or internship programme (i.e. advertisement, interviews, assessments, and so forth)?
- What attracts graduates to apply for the graduate or internship programme?
- How many graduates or interns stay and how many leave at the end of the programme?
- What are some of the common reasons given for departure and staying?
• Does the institution have a skills retention policy for the engineers? If so, how is it implemented and monitored?

Not all the relevant information for answering the questions above was successfully accessed or received. The reasons for such shortcomings are provided in the case analysis section of this chapter.

The case studies conducted in the National Treasury assess the structure and management of the graduate programme. It is worth emphasising that the National Treasury’s graduate programme shares similar traits with the internship programme in Emalahleni Local Municipality. As highlighted in Chapter 2 of this study, there are two similar factors, which are competitiveness and scarcity. Both the National Treasury and Emalahleni Local Municipality are located in a highly competitive environment and the supply of the financial management and engineering skills, respectively, is limited. It is therefore important to open the discussion in this chapter by introducing the location of the National Treasury as the subject study.

5.2. SUBJECT STUDY ONE: NATIONAL TREASURY

The National Treasury is located in Pretoria, the Central Business District of the City of Tshwane Metropolitan Municipality and the administrative capital of South Africa. The City of Tshwane Metropolitan Municipality is classified as a Category A municipality according to the Municipal Demarcation Board and the Municipal Structures Act, 117 of 1998. As indicated in the third chapter of this study, Category A municipalities constitute high population density, high economic activity, and extensive development. The City of Tshwane Metropolitan Municipality has a population of about 2.5 million people and covers about 33 per cent of Gauteng’s terrain, and “stretches almost 121 km from east to west and 108 km from north to south making it the world’s third largest city after New York and Tokyo” (City of Tshwane 2010). The longitudinal scope of this metropolis denotes the tense day-to-day economic activities in the area. Most of the services provided are of a public nature (i.e. from government institutions), followed by industries such as
manufacturing, and commerce like banks and other financial institutions (City of Tshwane 2010).

For a fruitful economic growth, the city needs an optimum utilisation of skills and talents in these areas. The financial management skill is one of the most needed resources in the area. In addition to the so-called ‘Big Four’ international accounting firms - KPMG, Ernst and Young, Deloitte & Touche, Tohmatsu, and PriceWaterhouseCoopers – which have offices in the municipality, all the South African national departments listed in the South African Government Information website, important public structures like the Union Buildings and Reserve Bank, as well as diplomatic embassy structures are housed in the area (City of Tshwane 2010). This puts emphasis on the assertion that the National Treasury is located in a highly competitive environment in as far as accounting and financial management skills are concerned. Therefore, the National Treasury is fitting to provide an explanatory and comparative case study to the Emalahleni Local Municipality, since it also has pressure to attract, acquire and retain the scarce and critical skills.

5.2.1. National Treasury in a nutshell

The National Treasury is one of the South African national government departments. It was rated in the top four national departments in 2012/13 Management Performance Assessment of National and Provincial Departments in terms of management performance assessment by the Department of Performance Monitoring and Evaluation (DPME) in the Presidency (DPME 2013). This achievement indicates the degree in which the department is utilising its human resources to deliver its core services and satisfy its legislative mandate. Its jurisdiction is enshrined in Chapter 13 of the Constitution of the Republic of South Africa of 1996. Another important piece of legislation governing the National Treasury is the Public Finance Management Act, Act 1 of 1999. As per Chapter 2 of the Act, the National Treasury is also responsible for the coordination and the management of government’s economic and financial activities such as yearly equitable share among all the three spheres of government (National Treasury).
5.2.2. Case study one: National Treasury internship programme

As per the DPSA’s determination guide on the implementation of internships in the public service, the National Treasury internship programme is structured into two; traditional graduate internship and internship programmes linked to professional development (see detailed discussion on Chapter 3 of this study). In the National Treasury, interns are recruited and placed through the programme known as the Graduate Development Programme (GDP). The GDP is aimed at graduates who have completed or are in the process of completing their studies (National Treasury 2013:1). These are graduates studying towards a qualification in the field of study relevant to one or more work divisions in the National Treasury (National Treasury 2008:4). One of the approaches applied by the National Treasury in attracting the required skills through GDP is to provide bursaries to students who intend studying or are already registered for financial management and related qualifications in universities. Upon graduation, these students are obligated to serve a minimum of one year and a maximum of two years working for the department or any other department in the public service. The GDP is split into two sections; the traditional internship programme and the Chartered Accountants Academy (CAA). The former is discussed as the first case study in this section, and the latter will be discussed as the second case study later in the chapter.

The four main objectives of the National Treasury internship programme as stated in the internship policy (National Treasury 2008:2) are to:

- address and provide the basic competencies that are strategic to the Department's service delivery;
- provide skills as predicted by the National Treasury Human Resource’s Plan;
- recognise relevant and meaningful work experience by the appropriate sectorial education and training authority; and
- to offer opportunities to demonstrate capacity for work and exposure to demand.

Undeniably, the National Treasury internship programme’s objectives meet some of the basic standards of an internship programme as outlined by the Department of
Labour, discussed in Chapter 3 of this study. One of the set standards is the educational aspect of the programme, by making available the accreditation of the training through sectorial education and a training authority. Where applicable, the training authorities are discussed in detail throughout the presentation of the case studies in this chapter.

5.2.2.1. Structure

The National Treasury has about eleven divisions namely; Corporate Services, Public Finance; Budget Office; Office of the Chief Procurement Officer; Tax, Financial Sector Policy; Economic Policy; International and Regional Economic Policy; Intergovernmental Relations; Assets and Liability Management; Government and Technical Advisory Centre; and Office of the Accountant-General (see Figure 5 below). Each division funds its internship programme. It is required that each division has a budget of a minimum of ten interns per annum (National Treasury 2008:2). Interns are placed in the chief directorates as per their field of interest and as per a need analysis carried out within a division. A chief directorate is the work section that is responsible for a specialised function of the National Treasury such as Strategic Projects and Support under Corporate Services, and Economic Services under Public Finance (refer to the figure below). Therefore, the organisational structure of the National Treasury is three-tiered i.e. division, chief directorate and directorate. A division is made up of all chief directorates within one function. An example would be Budget Office and Office of the Accountant-General in the organisational structure diagram. A directorate is a sub-unit reporting to the chief directorate.
The Internship Policy asserts that the transfer of interns from one division to another is not allowed, because it will jeopardise continuity and adherence to the internship curriculum (National Treasury 2008:4). Despite the fact that the policy advocates for the non-transfer of interns from one division to another, the information provided from the HRM office indicates that the rotation or transfer of interns from one division, chief directorate or directorate is permitted on merit. Discussion between the line managers from and to which the intern is rotating should take place before the intern(s) moves from one directorate to another. The reason for allowing the rotation of interns is to broaden exposure to various functions of the department. Twenty-two interns have rotated out of the chief directorates they were initially placed in since 2010 to date. This amounts to about 15 per cent of the 147 intern intakes from 2010 to 2013.
5.2.2.2. Planning phase

The planning of the internship programme is the responsibility of each division (National Treasury 2008:2). It is required that each division completes and submits the strategic internship analysis need by May each year. The strategic internship analysis is a fundamental document which identifies and recommends the need, job profile, plans and duration of intern(s) in the work unit. The job profiles are submitted to the division’s Business Unit - formerly known as Education, Training and Development (ETD) - before June each year. The Municipal Finance Management Act 56 of 2003 describes one of the objectives of the ETD as the facilitation of the learning process and assessment to ensure that a learner meets the prescribed competency standards of the curriculum (National Treasury 2009:2). With the job profiles, the Business Unit outlines the competency standard that interns should meet during their tenure. This is necessary for the recruitment planning, because it allows for the right talent to be attracted. In the human resources management input processes discussed in Chapter 3 of this study, the Business Unit process falls between the planning and job analysis. This is because it gives a framework of what is to be learnt and aligns it to the internship programme’s content.

Chapter 3 of this study set-out that mentors should be made available as a basic requirement of internship in government. It is the obligation of each chief directorate to identify and allocate a mentor to the new interns (National Treasury 2008:3). Mentors are necessary to help the new interns learn about the working environment. Usually, there are a set of expectations to guide a mentor-mentee relationship. For the chief directorate to have mentees and mentors there must be a recruitment process. The recruitment processes are directed at attracting suitable applicants and finally selecting the best talent among the pool of applicants.

Further to the Business Unit’s planning process, there is another planning procedure which needs to be fulfilled. The needs of relevant chief directorates are analysed each year before the commencement of the recruitment process. The information obtained from the HRM offices indicates that the analysis determines the number of interns needed in each directorate and the preferred level of education (qualification)
as recommended by the line manager and mentor. For the purpose of this study, only the Corporate Services division will be cast as an example.

For the year 2014 interns’ intake, the following needs were submitted to the HRM as recommended by the directorate line manager and mentor in the Corporate Services division:

Table 8: National Treasury needs analysis: Corporate Services

<table>
<thead>
<tr>
<th>Chief Directorate</th>
<th>Directorate</th>
<th>Number of interns needed</th>
<th>1st preferred qualification</th>
<th>2nd preferred qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Management</td>
<td>Management Accounting</td>
<td>1</td>
<td>Bachelor of Commerce: Management Accounting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial Accounting</td>
<td>1</td>
<td>Bachelor of Commerce: Accounting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supply Chain</td>
<td>1</td>
<td>Bachelor of Technology: Supply Chain</td>
<td></td>
</tr>
<tr>
<td>Human Resource Management</td>
<td>Organisational Development (Employee Wellness Programme)</td>
<td>1</td>
<td>Bachelor’s Degree: Social Work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organisational Development (Job Evaluation)</td>
<td>1</td>
<td>Bachelor of Commerce: Human Resources</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Human Resources</td>
<td>1</td>
<td>Bachelor of Commerce: Human Resources</td>
<td></td>
</tr>
<tr>
<td>Information and Communication Technology</td>
<td>System integration and Development</td>
<td>2</td>
<td>Bachelor of Commerce: Business Administration. Bachelor of Science: Information Technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Service Support</td>
<td>1</td>
<td>Bachelor of Science: Computer Science</td>
<td></td>
</tr>
<tr>
<td>Chief Risk Officer</td>
<td>Facility Management</td>
<td>2</td>
<td>Bachelor of Technology /Bachelor’s Degree in Architectural Science or Space Planning</td>
<td></td>
</tr>
<tr>
<td>SPS</td>
<td>Knowledge Management</td>
<td>1</td>
<td>Bachelor of Arts: Communication</td>
<td></td>
</tr>
</tbody>
</table>

Source: National Treasury (2013)

The table above indicates that most recruited graduates are from the finance discipline. The Bachelor of Commerce degree dominates in the skills needs of the Corporate Services. The table also highlights that most directorates capped their needed number of interns at one for the 2014 intake. The highest number of needed interns was two; highlighted in Security Management, System integration and Development, and Facility Management Directorates. The needs were based on the identified vacant positions and the budget of each chief directorate. However, the final allocation of interns was subject to the availability and suitability of the applicants.
5.2.2.3. Recruitment phase

The National Treasury has positioned itself to be the “Employer of Choice” by recruiting the best talent in various disciplines to maximise the achievement of their strategic and operational requirements (National Treasury 2009:1). Their recruitment process of graduates is an endorsement of this assertion. The recruitment process is carried through a conventional method of advertising such as the print media and internet, as well as outreach methods such as onsite visits to the South African universities and dispatching information regarding the GDP in universities’ career offices. This process applies also to the CAA programmes since they fall under the same recruitment operation as the internship programme. Therefore this discussion must be linked to a CAA case study, with particular reference to recruitment processes. The CAA Policy outlines the recruitment process as follows:

- participation in tertiary education institutions open days;
- attendance at universities’ career fairs and exhibitions;
- presentations to students in the final year of the Certificate in Theory of Accounting (CTA);
- advertisement in national newspapers; and
- a list sourced from Thuthuka Bursary Fund as per the signed agreement with SAICA.

These recruitment methods are applied with the objective of reaching the targeted audience; the students. The universities and advertisements in the Thuthuka Bursary Fund listed sources are perfect platforms to reach the right talent. All these recruitment drives are executed within budgetary limitations (National Treasury 2009:8). Therefore, there are limitations in the scope of the application of these recruitment initiatives. For example, there is a specific roster that the National Treasury recruitment team follows in visiting learning institutions around the country.

The year 2013 record shows the following institutions were visited, with the name of the event and respective dates during the recruitment outreach:
### Table 9: 2013 National Treasury recruitment roster

<table>
<thead>
<tr>
<th>Institution</th>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unitas Secondary School</td>
<td>Industry Visit</td>
<td>18 April 2013</td>
</tr>
<tr>
<td>University of Kwazulu-Natal</td>
<td>Career Fair</td>
<td>26 April 2013</td>
</tr>
<tr>
<td>University of Free State</td>
<td>Presentation</td>
<td>15 July 2013</td>
</tr>
<tr>
<td>University of Zululand</td>
<td>Industry Visit</td>
<td>17 July 2013</td>
</tr>
<tr>
<td>Stellenbosch University</td>
<td>Presentation</td>
<td>23 July 2013</td>
</tr>
<tr>
<td>University of Johannesburg</td>
<td>Career Fair</td>
<td>25 July 2013</td>
</tr>
<tr>
<td>University of Limpopo</td>
<td>Industry Visit</td>
<td>25 July 2013</td>
</tr>
<tr>
<td>University of Limpopo</td>
<td>Career Fair</td>
<td>26 July 2013</td>
</tr>
<tr>
<td>University of Cape Town</td>
<td>Presentation</td>
<td>01 August 2013</td>
</tr>
<tr>
<td>University of Cape Town</td>
<td>Career Fair</td>
<td>07 August 2013</td>
</tr>
<tr>
<td>Nelson Mandela Metropolitan University</td>
<td>Career Fair</td>
<td>08 August 2013</td>
</tr>
<tr>
<td>University of Fort Hare</td>
<td>Career Fair</td>
<td>12 August 2013</td>
</tr>
</tbody>
</table>

Source: National Treasury (2013)

Interesting to note in the table is that the National Treasury also visited a secondary school as part of its outreach project. This was done with the aim of introducing the department to the secondary school pupils, so as to prepare them for opportunities provided in the department. The naming of the events is the responsibility of the host institutions. Hence, the different names of the events. It is also important to note that the National Treasury does not decide on most of the dates of these visits, the dates come as an invitation to a specific “career fair” event.

Adding to this recruitment platform, the National Treasury also advertises the GDP in the print media and website. The print media that has been used for advertisement thus far is the *Sunday Times* newspaper. There are no reasons provided for the selection of this particular newspaper. The National Treasury’s internet site is used as an official website in which the advertisement is placed.

Due to the high volume of applications the National Treasury receives each year, there are no precise recorded statistics of the number of applicants. An estimated minimum of 1000 applications are received yearly by the HRM office. From these applications, only shortlisted applicants are invited for the telephone interview, followed by a psychometric assessment, and then the face-to-face interviews. Depending on the need for graduates in that particular year, the National Treasury
selects a required number from the interviewees. A three-year record indicates that the National Treasury has successfully selected and placed 33 graduates in 2010, 37 in 2011, 35 in 2012 and 42 in 2013 into the GDP (National Treasury 2013). This fluctuating number of recruited interns since year 2010 is due to the varying skills needs from year to year as discussed throughout this section.

5.2.2.4. Selection

The Business Unit serves as the repository of information for the recruitment phase of the internship programme for future reference. The policy suggests that the Business Unit maintains a record of all the GDP applicants each year so as to consult when the need for more or replacement of intern(s) arises (National Treasury 2008:3). This is important in minimising the risks and costs of resuming the recruitment processes for new intern(s) whenever a need occurs. As a full record of the applicants is kept, it makes it less difficult to identify and select new interns. However, this action compromises the quality of interns, because the department would then select from the least successful applicants.

After interviews which are conducted by the Business Unit telephonically, the successful applicants are invited to the next round of face-to-face interviews. The face-to-face interview and selection of interns are conducted through a panel of interviewers. There are three representatives that conduct the interview and selection: HRM representatives, the Business Unit representative and the senior line manager(s) from the specific directorate (National Treasury 2008:3). This composition of the representatives is vital to foster transparency and fairness in the selection of interns. For instance, a manager from a specific directorate for which the interview is conducted has a fair chance to assess and contribute towards the selection of the best candidate for his or her directorate.

Candidates who are in possession of, or studying towards, a relevant qualification from the designated groups (blacks, women and people with disabilities) are given preference in the selection process (National Treasury 2008:3). The first consideration is given to academically excelling students who demonstrate
commitment or desire to pursue a career in the Public Service. This practice is the enforcement of Chapter 3 (Affirmative Action) of the Employment Equity Act, 55 of 1999. The Affirmative Action ensures equal employment opportunities to people from designated groups. This ensures safeguards for the racial, gender and disabilities balance in institutions.

The Director-General reserves his or her right to formally appoint the selected candidates. Before the appointment and placement, successful interns undergo the normal verification process like any other ordinary employee employed in the National Treasury or any government institution. This includes but not limited to security clearance and reference checks.

5.2.2.5. Placement phase

The third and final phase in the administration of new interns is the placement. Generally, placement entails locating a new employee into the position which he or she was shortlisted and ultimately selected for. In specific terms, placement refers to placing and contracting new interns into appropriate divisions, inducting and orientating, and making conducive the working environment for new interns (National Treasury 2008:4). The placement of interns commences through a scheduled induction process before the actual allocation to the specific directorate.

In the National Treasury, the induction process lasts for at least one week. During the proceedings of the induction, new intern recruits are introduced to basic public service concepts and principles such as the Public Finance Management Act of 1999. Other training or induction is on soft skills like time-management and introduction to the departmental policies. The HRM office is responsible for facilitating the induction process.

5.2.2.6. Set curriculum for interns

As the programme name suggests (Graduate Development Programme), interns work within a set framework of learning for development purposes. This requirement
is stipulated in Section 16 of the Skills Development Act, 97 of 1998, which requires a structured learning component for interns. The National Treasury developed a structured framework from which interns’ performance and competence will be assessed. The following are outlined in the National Treasury Internship Policy as elements of the internship programme curriculum:

- description of the intern (name, field and level of study);
- learning to be provided throughout the programme and its module content;
- expected outcomes;
- training providers;
- duration of the programme;
- programme that boosts and/or complements the competence of the interns with their job profiles;
- assessment and evaluation standards and criteria; and
- a properly planned learning facilitation programme.

In order for the interns to be deemed competent, they need to be assessed and evaluated periodically throughout the programme. The responsible line managers conduct the assessment and evaluation based on the programme curriculum. Performance in actual work assignments serves as a yardstick for which interns are assessed and evaluated.

Initially, the intern must sign a learning agreement with the line manager at the beginning of every six months. This will be followed by the performance evaluation at the end of the six-month period. The learning agreement states the key learning areas, learning plan and performance measurement. Both the intern and the line manager should agree on the learning areas, required output, set timelines, expected quantity and quality since the final evaluation will be based on them. The learning agreement also indicates some of the courses (in-house and outsourced) that the intern should undertake to enhance his or her learning and development. There is an even percentage allocated to each learning area. Thus, the intern will be rated according to the final percentage score in the learning agreement.
5.2.2.7. Remuneration standards

Like any other internship programme in government, the internship programme in the National Treasury is not voluntary (i.e. it is not without compensation). The 2014 advertisement of the GDP states that “interns are offered competitive market-related salaries, which are structured according to the individual areas of work, level of expertise and qualification” (National Treasury 2013:2). Market-related remuneration focuses on individual qualifications, experience and position. In the case of National Treasury, focus is based on the qualifications of interns. This could be because most interns come with little or no experience; hence it would be unfair to benchmark the remuneration standards based on the experience interns hold. For the mere fact that graduates participate in the internship programme, it means they need to acquire experience. Therefore, remuneration based on experience in an internship programme is irrelevant. The Internship Policy stipulates that the minimum salary notch is salary level six for the interns who are recorded as studying by the time of their selection and maximum salary level nine based on the qualification and experience. However, since the Internship Policy is under review, the current minimum salary level is said to be seven, notch one and maximum salary level eight. This market-related remuneration is practised in order for the public sector to be able to compete with the private sector. Salary levels are determined by the DPSA remuneration policy of interns; the Remuneration Schedule for Interns. The DPSA remuneration policy on full-time employees not covered by the Occupation Specific Dispensation (OSD) outlines the basic salary level seven notch one to be R170 790 annually from 1st April 2013. The last notch on salary level eight from 1st April 2013 is projected at R249 849 per year. Therefore, a taxable income bracket for the National Treasury interns can be estimated at R170 790 to R249 849 per annum.

The monetary benefits of interns in the National Treasury are only limited to the basic remuneration as noted before. Interns are not entitled to any performance-related bonuses, housing allowance, Government Employees Pension Fund or employer’s contribution to a medical scheme.
The National Treasury internship programme is by far the highest in terms of remuneration compared with other national government departments. Most departments comply with the DPSA recommendation of minimum stipend equivalent to salary level one and maximum salary level eight based on educational qualification by the time of assuming an internship role (KwaZulu-Natal Department of Works 2006:26). This directly translates to R63 135 (salary level one, notch one) to R249 849 (salary level eight, notch twelve) per annum as on 1st April 2013. This stance automatically qualifies the National Treasury’s GDP into the OSD since it attracts and recruits critical skills. The OSD is promoted by the DPSA and it relates to the preferential treatment of a specific skill within the institution, with particular reference to remuneration. The OSD is mostly introduced on scarce skills within an organisation, with the aim of retention.

Some of the DPSA stipulated benefits for interns are (KwaZulu-Natal Department of Works 2006:27):

- annual, sick, special and study leave;
- payments for performing overtime duty;
- travel and subsistence;
- night shift allowance;
- danger and special danger allowance;
- standby allowance;
- camping allowance; and
- a uniform allowance.

Only selected benefits from the above list are applicable in the National Treasury. For instance, the National Treasury does not require uniforms for its interns, thus there is no uniform allowance for interns. Most of the benefits listed above, such as leave and travel and subsistence, are applicable in almost all government departments where deemed fit.
5.2.3. Case study two: National Treasury Chartered Accountants Academy

A brief reflection on Chapter 1 of this study will provide a good impetus for this case study. There are two main groups of experts deployed in municipalities through the Siyenza Manje programme as noted earlier in the first chapter of this study. The deployment was meant to boost the skills capacity to assist with the implementation of various infrastructure projects. The groups of experts deployed into municipalities were engineers and Chartered Accountants (CAs). The deployment of these experts was carried out through the joint efforts of the South African Institution of Civil Engineering (SAICE) and the South African Institute of Chartered Accountants (SAICA) (DBSA 2009:59). This study has thus far centred the discussion on scarce engineering skills in pursuit of its objective to propose remedial measures to the engineering skills exodus challenges faced by the Emalahleni Local Municipality. Suffice to indicate that the accounting and financial management skills, CAs in particular, are also in demand in the public sector. This section is an excellent fit to explore the extent in which CA training programmes are administered in the public sector as a case study and considers one of the public institutions which needs this skill the most. The reason for choosing CAs as a comparative case to engineers is because:

- they are a specialised, critical and scarce skills group;
- they were identified together with the engineers as being in short supply in municipalities by the DBSA;
- they are recruited through a graduate training programme;
- like engineers, CAs are institutionalised through an official body – SAICA - promoting their interest; and
- play an important role in institutional skills capacity.

The case study provides a sound background into the scarce skills acquisition and retention measures and strategies applied in the public sector. This gives an analysis of the administrative capacity to retain scarce skills, or a lack thereof, in the public sector. Thoughtfulness has been exercised in this section to consider CAs in the same level of career as that of the engineering interns. Thus, graduates who are
training or practising to be qualified as CAs are considered as a case study in this section. The CAA – a training programme for prospective CAs offered by the National Treasury and regulated by SAICA was chosen as a case study subject in this section because it attracts scarce and critical accounting and financial management skills to deliver the core services of the National Treasury.

5.2.3.1. The CAA structure

On a large scale, like internship programmes, the CAA trainee programmes are designed for graduates to gain first-hand practical experience into the financial management and accounting field. The specific aim of the CAA trainee programme in the National Treasury is to “provide experience and on-the-job training for aspiring CAs, to generate top class CA’s and to retain them in the public sector with preference being given to candidates from disadvantaged backgrounds” (National Treasury 2009:5). The common purpose of internship and CAA trainee programmes stimulates an interest for continual exploration of this case study.

Unlike learnership programmes which do not require a formal university qualification, internship and CAA trainee programmes oblige the interns to be in possession of a formal certificate from a recognised institution of higher learning. A Bachelor of Commerce in Accounting (BCom Accounting) qualification is a minimum requirement for qualifying as a CAA Trainee (National Treasury 2009:2). Entry to the CAA trainee programme is competitive and has specific requirements. The following are the three basic requirements stipulated in the CAA policy:

- it is open to graduates in the universities as well as current employees of the National Treasury;
- only graduates from SAICA accredited institutions are considered; and
- preference is given to Thuthuka Bursary Fund holders in a possession of a Certificate in the Theory of Accounting (CTA).

The CAA trainee programme is a well-organised and formal programme, composed of a governing structure responsible for the sound and effective management of the programme. The governance structure comprises of the Steering Committee and
members of participating institutions (National Treasury 2009:7). The former consists of senior managers appointed by the Director-General in the National Treasury. This committee is vested with the responsibility of ensuring fairness and transparency in the administration of the CAA trainee programme by adhering to the Terms of Reference (TOR) approved by the Director-General (National Treasury 2009:7). The members of participating institutions are appointed by the heads of their departments and their successful appointment to the governance structure is subject to the approval by the Director-General of the National Treasury. It is important to note that as much as the programme is intended for junior or entry level trainees (CA trainees), the highest decision-making body is the organisation’s administrative principal, which is the Director-General. This indicates the level of importance in which the programme is regarded. One of the points discussed in one of the five management issues in the previous chapter of this study is the importance of valuing professionals so as to augment their commitment, loyalty and productivity to the organisation. Thus, the governance structure of the CAA programme is playing a critical role in the smooth management of the trainees to increase their commitment, loyalty and productivity.

There is no clear indication of the number of CAA trainees’ involved in the programme each year. The intake is dependent on the administrative capacity. This includes “training capacity, a need assessment and availability of funds” (National Treasury 2009:7). It is worth mentioning that the CAA trainees do not only train in the National Treasury. Some of the trainees are placed in participating institutions that meet SAICA requirements in all spheres of government. These institutions are referred to as primary sites. The placement to primary sites is subject to the approval by the National Treasury as the main administrative body of the CAA trainee programme.

5.2.3.2. Recruitment and selection process of CAA trainees

The HRM, as the main office responsible for the skills acquisition among other things, the Office of the Accountant General (OAG), and participating primary sites share the responsibility in the planning and execution of the CAA recruitment
initiative (National Treasury 2009:8). The recruitment process is carried under the banner of the GDP. This is after it has been officially approved by the relevant authorities.

Like the internship programme, subsequent to the conventional advertising and outreach recruitment processes, there are selection, appointment and placement processes. The selection includes assessment tests and interviews. The representatives from the primary site where the trainee will be placed form part of the interview panel together with representatives from the National Treasury (National Treasury 2009:8). However, in cases where the trainee will not be placed in any primary site, the chief directorate within the National Treasury, representatives from primary sites do not form part of the interview panel. The National Treasury focuses on “quality and equity” in the selection of candidates, and it bases its selection decisions on the best skill available in the pool of applicants (National Treasury 2009:2). The focus on quality ensures that the best, among the competing candidates, are selected. The equity application endeavours to instil and ensure fairness and objectivity in the selection process. The following are the criteria influencing the selection of candidates:

- assessment of competencies through tests and presentations;
- screening and verification of educational qualifications and experience; and
- conducting reference checks;

The process continues to the stage of decision making. After the selection interview, the following are the steps taken during the decision making process in selecting the best candidate (National Treasury 2009:12):

- all the information gathered during the interview assessment is discussed and compared;
- the reasons for the candidates not selected are documented; and
- the best candidate becomes the first choice, and when deemed necessary the second best candidate, is also recommended for selection in a final decision.

This process resembles the best practices of fair interviews and selection as advocated by Buford and Lindner (2002:186) that the primary determinant in
selection is information collected during the interviews. Thus, the candidate with well-presented information during the interview has the highest chance of being selected.

5.2.3.3. Placement

The CA trainees are placed either at the National Treasury or at the primary site. As pointed out earlier, primary sites are other government departments which entered into an agreement with the SAICA and the National Treasury to offer training to CA trainees. In the National Treasury, CA trainees are placed and rotated in different work divisions within the department according to the Rotation Schedule, such as the Accounting, Office of the Chief Financial Officer, Internal Audit, Supply Chain, Office of the Accountant General and Management Accounting. The trainees are recruited for a five-year contract, which is split into two segments. In the first three years the graduates are placed as CA trainees under the CAA. After they have successfully completed their three-year programme in the CAA, they then are recruited into an internship programme for two years. This practice is presumably applied as the retention strategy to qualified CA’s (National Treasury 2009:6).

5.2.3.4. Employment conditions

The CAA trainees who received bursaries for their degrees are contracted for a three-year compulsory period, where they either work in the National Treasury or are deployed in the primary sites (National Treasury 2009:17). This period is referred to as a work-back period, because the trainees are working back the number of years sponsored by the department. This is in line with Section 35 of the National Treasury Bursary Scheme Policy, 2007, which requires that the bursary holder serves the National Treasury or any other public service department for at least one year after attaining the qualification (National Treasury 2007:8). The Public Service Act, 1994, Labour Relations Act, 1995 and Basic Conditions of Employment Act, 1997 are pillars of legislation within which the CAA trainees are appointed (National Treasury 2009:8). These pieces of legislation govern the appointment of any employee employed in the public sector. This means that the CAA trainees are subject to the same conditions and treatment as any other public servant or official.
5.2.3.5. Remuneration standards

The CAA remuneration structure is determined by the DPSA remuneration policy according to the National Treasury (2009:11). Trainees in possession of the CTA are remunerated at level nine notch one, and those without the CTA are remunerated at level eight notch one as determined by the DPSA. The DPSA remuneration policy groups together salary levels one to ten in terms of benefits, and yet specifies the salaries. The policy document indicates that these employees qualify for a “guaranteed package that includes a basic salary, the annual service bonus, and the employer contribution to the Government Employees Pension Fund (GEPF)” (DPSA 2008:1). However, just like the traditional internship programme discussed earlier in this chapter, the CA trainees’ benefits do not include the annual service bonus and the employer’s contribution to the GEPF. The benefits structure of the CA trainees resembles that of the interns. The CAA policy goes further to stipulate that the trainees’ salary increment is subject to performance, which boosts the increase in the salary notch.

5.2.3.6. Retention of CAA trainees

The CAA policy confers the introduction of the retention strategy of the CAA trainees as a means of absorbing the trainees after they have successfully completed their term. As a scarce skills programme, the National Treasury applies the OSD as a means to retain the trainees. Some of the underlying principles of the OSD mentioned in the DPSA (2008:5) are:

- unique salary structure per occupation;
- salaries of occupational categories will, where necessary, be aligned to the market;
- centrally determined grading structures and broad job profiles;
- adequate career pathing [sic] opportunities, which is a forward-looking plan to systematically increase salaries of public servants after pre-determined period based on specific criteria such as performance, qualification, scope of work, experience, and so forth; and
• a pay progression with a salary band and grade progression.

As much as the National Treasury commits itself to retain the CAA trainees, it reserves its prerogative to terminate the trainee’s contract on the following grounds:

• poor work performance;
• failure to complete the CTA and other prerequisite academic components;
• resignation by the trainee from the programme;
• breach of the employment contract and working agreements; and
• if found guilty of misconduct.

Such termination is facilitated by the Programme Manager within the OAG chief directorate.

The National Treasury recruitment and selection policy regards the employment and retention of scarce and critical skills as an act of strategic importance.

5.3. SUBJECT STUDY TWO: EMALAHLENI LOCAL MUNICIPALITY

Like many other South African local municipalities, the management structure of Emalahleni Local Municipality is twofold. There is a Political Structure and Administration Structure (Emalahleni Local Municipality 2013:36). These structures play two distinct and interrelated roles in the management of the municipality. The Political Structure is responsible for administration of the community and political activities in the municipality. The Administration Structure is concerned with the administration and management of the organisation (municipality) and its day-to-day resources and activities at the institutional level. The Administration Structure is made up of different functional divisions to be able to fulfil its constitutional mandate and render the services to local communities. There are six divisions in the Emalahleni Local Municipality Administration Structure, viz: Civil Engineering; Corporate Services; Development Planning; Community Services; Electrical Services; and Finance (Emalahleni Local Municipality 2013:36). These are the main functional divisions of the municipality that are responsible for the implementation of municipal programmes. There are other functional units located in the Office of the
Municipal Manager which are responsible for the execution of the municipal programmes namely the Integrated Development Planning Unit; Communications and Public Participation Unit; Local Economic Development Unit; Project Management Unit; Internal Audit Unit; Transversal Services Unit; and Youth Development Unit. A full organogram of the municipality is presented in Figure 6 below.

**Figure 6: Emalahleni Local Municipality organogram**

Source (Emalahleni Local Municipality 2013:37)

Interesting to note in Figure 6 above is that civil engineering is distinguished as a stand-alone department in the municipality. This puts emphasis on the importance of the engineering skills in the municipality. The HRM of the Emalahleni Local Municipality has identified some of its challenges as “shortage of staff, budget constraints, high rate of absenteeism, employee discipline, and lack of office space” (Emalahleni Local Municipality 2013:36). The shortage of staff is a challenge of high interest in this study. The Emalahleni Local Municipality Workplace Skills Plan has identified the areas of priority skills that need to be filled and as such developed the Recruitment Policy, Training and Development Policy, and Retention Policy as measures for responding to their challenges. The following sections investigate the
implementation and current discourses of these policies. This is done with the aim of understanding the HRM issues contributing to the challenge of the shortage of skills.

5.4. Case study three: Emalahleni Local Municipality internship programme

The Emalahleni Local Municipality accommodates all its interns under one programme known as the graduate internship programme. The programme runs on a contract basis for twelve months. Interns are contracted on specific terms and conditions (discussed later in this chapter) for the duration of the programme. There is no special provision for engineering interns. However, the Department of Civil Engineering in the municipality does employ interns in a normal internship programme like any other intern in the municipality. Distinction is only made between “graduate interns” and “student interns”. According to the Emalahleni Local Municipality [ca. 2012:2], the latter refers to an intern “who is enrolled at a tertiary education institution or Higher Education Institution for a SAQA-registered qualification and is required to obtain practical experience as part of their study programme”. These are normally interns in a technical field such as engineering which requires both theoretical and experiential training in order to graduate as discussed in Chapter 4 of this study. Graduate interns are interns in possession of a formal qualification from a tertiary education institution who need work experience. This description fits well within the working definition of interns as provided earlier in Chapter 1 of this study.

The Emalahleni Local Municipality internship agreement states the following as four primary objectives of the internship programme:

- to contribute in responding to South Africa’s pressing challenges that are impacting on the ability of the economy to expand and provide increased employment opportunities;
- to contribute in the creation of a skilled and capable workforce for an inclusive growth path;
- to promote workplace skills development and exposure to sustainable employment opportunities; and
• to foster skills transfer with bias [sic] to addressing the government’s transformational and developmental imperatives.

These objectives are generic to the skills needs of the country. They seek to address socio-economic challenges facing South Africa to ensure employment opportunities and development of the country. However, the objectives do not address specific skills challenges within the municipality. Nevertheless, these objectives remain relevant to the skills development discourse in this study.

The Emalahleni Local Municipality internship programme is a formal and structured component administered under the HRM. It consists of formal learning elements and the assignment of a supervisor or mentor which, according to the graduate internship agreement, should provide structured development plans for the intern(s). However, it is the responsibility of interns to optimise on the internship programme thereby “aligning theoretical knowledge and the skills acquired through workplace experiential learning; demonstrating willingness to grow and learn; undertaking assigned administrative work and recommended skills development courses” (Emalahleni Local Municipality [ca. 2012:4]). This depicts the internship programme as being flexible for interns, since they have the opportunity to direct their learning and development in the municipality.

5.4.1. Recruitment of interns

A request was sent to access documents outlining recruitment processes for interns in the Emalahleni Local Municipality, it was indicated that the municipality follows a normal recruitment process. In the context of this study, a normal recruitment process entails internal processes such as interviews, as well as external procedures like advertisements in the media and outreach programmes to tertiary education institutions. It remains unclear whether the Emalahleni Local Municipality does or does not undertake outreach recruitment projects, has an employment office at the designated area to target graduates or has any professional association with other institutions.
Recruitment is one of the steps of the holistic human resource management processes, which includes planning, job analysis, selection, placement and induction. In-depth discussion about these processes was presented in Chapter 3 of this study.

**5.4.2. Training and development of interns**

The training and development of employees in Emalahleni Local Municipality is considered a high priority and important function. The municipality’s training policy underlines two objectives for conducting its training:

- to develop appropriate capacity of skills for sustainable development of the municipality; and
- to ensure the optimum development and growth of individual employees in the municipality.

Line managers have the onus of implementing the Emalahleni Local Municipality Training Policy. The relevant line manager works together with the training staff to ensure the successful implementation and execution of the training programmes aimed at specific employees. Both the line manager and the training staff play different roles in the training of employees. Line managers play a hands-on role in the training of employees. They are responsible for identifying specific areas of development for employees, providing the necessary support and direction, and facilitating the training and development of employees. The training personnel play a supporting role in the training of employees. They are mainly responsible for the technical and capacity support of the training programme. Synergy and coordinated support between line managers and training staff are primary determinants of the successful implementation of this policy.

As indicated above, interns also carry the responsibility of ensuring that learning is realised. The line manager and the training staff create an enabling environment for interns to learn. It remains the responsibility of the trained intern to ensure that fruitful learning and development occurs. It can be determined through quarterly assessment of interns to establish whether there is progress in the learning of
interns. It is important to explore some of the enabling conditions for the employees of the municipality, to get an understanding of the environment in which the employees are working.

5.4.3. Interns employment conditions

Interns are introduced to employment conditions at an early stage of the internship programme application and upon acceptance of the internship offer. Some of the employment conditions are communicated in the advertised vacancies for qualifying candidates. The 2014 Emalahleni Local Municipality internship programme advertisement stipulates conditions of employment for the prospective interns. Some of the general conditions include affirmative action, employment equity, as well as organisational and health standards such as non-smoking (Emalahleni Local Municipality 2014). Specific conditions for this internship programme for the duration of the programme include meeting minimum qualification standards such as a three-year tertiary qualification, occupational competencies such as being computer literate and having good communication skills, and no guarantee of permanent employment after the programme. The latter is the point of interest in this study, as the internship programme does not give any assurance regarding the retention of the skill. However, it is essential to note that these are conditions applicants must meet for consideration of entering into the programme. There are other employment conditions such as performance that take precedence once an applicant has been employed in the municipality.

After successfully being selected into the graduate internship programme, interns need to abide by the following terms and conditions as per the graduate internship agreement (Emalahleni Local Municipality [ca. 2012:3]):

- abide by the employer’s terms and conditions and laws contained in the following legislation: Basic Conditions of Employment Act 75 of 1997; Labour Relations Act 66 of 1995 (as amended); Employment Equity Act 55 of 1998; Occupational Health and Safety Act 85 of 1993; Compensation for Occupational Injuries and Diseases Act 130 of 1993; and the National Skills Development Strategy (NSDS III, 2011 - 2016);
• interns should not expect absorption into formal or permanent employment within the municipality after the completion of the programme;
• interns must adhere to the municipality’s standards and requirements such as not less than 40 hours and not more than 45 hours of work per week (Monday to Friday); and
• interns should participate in the internship programme relevant to their academic qualifications.

The condition of not guaranteeing employment after the internship programme needs careful analysis. While it is safe for the municipality not to burden itself about absorption expectations from the interns, it may be demoralising for the interns to participate in a programme that will bring them back to unemployment after twelve months. According to the Maslow hierarchy of needs highlighted in Chapter 4 of this study, employees consider safety as one of the important needs to be satisfied. This entails their financial and job security among other things. This level of need is dominant in graduates seeking employment opportunities such as interns. It should be in the interest of the municipality to take this need into account when drafting terms and conditions of service.

There are other terms and conditions that bind interns during the period of their employment in the municipality. These consist of the termination of their internship programme, safety and security measures, expected duties and responsibilities of interns, disciplinary procedures, general conduct, interns’ commitment to public service, conflict of interest, confidentiality of municipal information, sexual harassment, and training as a prerequisite to improve knowledge and experience. These conditions are not unique to the municipality’s internship programme; they are ordinary conditions that affect most, if not all, employees in the public sector. It is therefore essential that interns, as employees in a public institution, abide by these conditions of employment.
5.4.4. Remuneration of interns

Internship programmes in Emalahleni Local Municipality are funded by various SETAs. The stipend that the municipality pays to interns is determined by the funding received from the SETA. An example would be funding made available by the Local Government SETA (LGSETA), water and related services SETA, for the deployment of graduates from the Rand Water Academy to undertake an eighteen months internship in the municipality. From the funding provided by the LGSETA, the municipality will determine the stipend paid to each intern based on the number of interns deployed. The Emalahleni Local Municipality received sixteen process controllers and eight water quality generalists in February 2014 (Department of Water Affairs 2014). The municipality received the highest number of graduates compared to other four municipalities that also received graduates within this period. The stipends of these graduates were funded by the LGSETA.

The 2014 internship advertisement for the municipality offers a “fixed” stipend of R46 000 per annum (Emalahleni Local Municipality 2014). According to the DPSA Remuneration Schedule for Interns these interns are classified as Schedule A at salary level one, upper notch. Therefore, the interns will receive a salary payment of about R3 833 per month for the entire duration of the internship programme. The graduate internship agreement makes an assertion that payment of the stipend to each intern is made at the last working day of each calendar month for the duration of the programme. There are no other communicated monetary benefits other than the stipend in the internship programme. This according to the DPSA Remuneration Schedule for Interns, discussed in Chapter 3 of this study falls under Schedule A1. This category caters for interns with NQF Level 1; General Education and Training Certificate and Adult National Senior Certificate.

Interns are eligible for different types of work leave; annual leave of maximum of fifteen days with full payment of stipend, paid sick leave for every twenty-six days of work on the presentation of a medical certificate, four months unpaid maternity leave, three days paid family responsibility leave after four months of being in the programme (Emalahleni Local Municipality [ca. 2012:7]). Interns do not qualify for
fringe benefits and overtime work hours. The latter can be exempted in a case of a formal written agreement with the municipality.

5.4.5. Retention of interns

As highlighted throughout this chapter, the municipality does not offer any guarantee for interns’ retention after the internship programme. In fact, the graduate internship agreement makes an assertion that “the municipality is under no obligation to employ or consider the intern for any position in the establishment of the municipality after the completion of the internship programme” (Emalahleni Local Municipality [ca. 2012:5]). Exception is made when there is a vacant funded post. The normal HRM process takes precedence in a case of vacant post which would start by the post being advertised and various people have to compete for the post, including interns. This does not provide any advantage for the successful employment of interns, as fair recruitment procedures are followed.

Excepting the internship programme being terminated after the agreed period, which is twelve months, the programme can be terminated before it expires. There are circumstances that may lead the termination of the internship programme according to the Emalahleni Local Municipality [ca. 2012:5]:

- on the breach of code of the conduct or terms and conditions set by the municipality;
- on a unanimous decision between the municipality and the intern; or
- when an intern undertakes a litigation process against the municipality or when there is litigation against the municipality caused by the action of an intern;

Again, interns are subjected to the normal conditions of the public service in as far as termination is concerned. What is interesting to note is that there are no measures that prevent and protect the exodus of interns. More emphasis has been put on the ways which may result in internship programme being terminated, yet nothing is said about measures ensuring the preservation and retention of critical skills among the
interns. In this case, interns in the municipal Department of Civil Engineering can qualify as some of the critical skills which should be encouraged to stay after the successful completion of the internship programme.

5.5. SYNTHESIS AND GENERALISATIONS

The case studies presented above aimed at providing a comparative analysis of two government institutions with scarce skills demand, so as to determine the extent to which administrative capacity affects the retention of scarce skills. In pursuit of its objective, subject studies were presented, the National Treasury and Emalahleni Local Municipality, with three distinct internship or graduate programmes presented as case studies. The main difference between the two subjects studied is structural arrangements of the internship programmes, which is the basis for capacity. The structural arrangement of any human resource function determines the ability of the function to perform tasks and produce outputs. This is what was defined as ‘capacity’ in the third chapter of this study. While the National Treasury splits its graduate programme into two, to cater for the specific scarce accounting and financial management skills, the Emalahleni Local Municipality does not make provision for the specific scarce engineering skills. The split of the programme in the National Treasury plays an important role in strengthening the human resource management to effectively administer and manage the programme. This is because resources are better allocated and there is more transparency and accountability. The main reason for coordinating the programme under one component in Emalahleni Local Municipality is reported to be lack of financial capacity as indicated in the case study.

The National Treasury has partnered with SAICA in training CA graduates through its internship programme. This has had a positive impact on the administration of the CAA trainee programme, since its learning component and certification is accredited by SAICA. There is no record shown of the formal partnership between the Emalahleni Local Municipality and other stakeholders such as the LGSETA and Rand Water Academy with specific focus to developing engineering interns. This structural arrangement indicates that professional association with relevant private
institutions would boost the skills capacity in government institutions, since there would be financial and human capital support from private institutions.

The research presented in the case studies shows that high quality graduates are recruited through robust recruitment strategies such as outreach to education tertiary institutions targeting a specific skill. As shown in the study, the National Treasury devotes more energy in the initial stages of recruitment. It furthermore properly and formally plans for the recruitment of interns each year. There is no record of evidence outlining the planning and recruitment of the Emalahleni Local Municipality. Interns are recruited through conventional advertisement methods on the availability of funds provided by the SETA. This suggests that the municipality has the potential to attract the best skills, especially engineering graduates.

Consistent with earlier arguments raised in Chapter 4 of this study that remuneration plays a critical part in employees’ motivation, there is a strong correlation between remuneration and job satisfaction. Institutions such as the National Treasury have heeded these findings. Their high rate of graduate attraction and interns’ retention as recorded in the case study can be attributed to their remuneration strategy among other strategies. Remuneration remains an important part of extrinsic motivation for employees. It is therefore essential that government institutions leverage on this important aspect of human capital.

There are other intrinsic benefits that most government institutions offer as tabled in Chapter 1 of this study such as the non-contractual intangible benefit of job security. The internship programmes in both these institutions do not guarantee the retention of interns after successfully completing the programme. The length of the programme could be a possible intrinsic benefit that offers minimal job security due to the experience an intern would have acquired over the duration of the programme. A twenty-four months internship programme period in the National Treasury, compared to a twelve months in the Emalahleni Local Municipality, is a possible factor that enhances the employability of interns after the programme has successfully ended. Intrinsic and extrinsic motivations are probable causes for the retention of interns.
The case studies presented in this study illustrate that internship programmes are considered as one of the important components of human resources. Even though the research indicates an unequal attention given to internship programmes from both the subject studies, it is clear that both these institutions are committed towards the development of interns through learning and training. The case of enrolling interns in a formal development course, allocation of mentors and assessment of performance exemplifies that there is an exerted effort toward the development of interns. This has a potential of ensuring the employability of an intern after the programme.

5.6. CONCLUSION

This chapter began by justifying the selection of the National Treasury as a subject study for this research. The basis from which the National Treasury was selected was on the supposition that the institution requires the services of people in possession of the scarce accounting and financial management skills. Furthermore, the impression that the National Treasury is located in a competitive environment in as far as scarce accounting and financial management skills are concerned provided an appropriate comparable analysis with the demographical location of the Emalahleni Local Municipality.

The chapter also revealed some of the guiding questions used to seek information from the subject studies. This approach complied with the research method approach outlined in Chapter 2 of this study. A consistent format was adopted when discussing all the three case studies. This served as guiding instrument that ensured consistent analysis of the information received from both the subject studies. It is worth emphasising that not all the required information as outlined by the questions was received from both subject studies. In cases where there were no official documents, but the officials in the institution had the information that could assist in the research, an e-mail response was received from them. Also, both published and unpublished information was made available by the HRM officials in these subject studies to answer some of the questions outlined.
After a careful analysis of the three case studies, it was discovered that administratively these two government institutions vary in the manner they deal with internship programmes. Such differences are attributed to many factors such as professional association with the private sector, financial capacity and structural arrangements of the organisations. However, the policy administration of internship policies was almost similar. In both cases, interns are expected to comply with ordinary laws such as the Basic Conditions of Employment Act 75 of 1997 and Labour Relations Act 66 of 1995.
CHAPTER 6: RECOMMENDATIONS AND CONCLUSION

6.1. INTRODUCTION

Almost a decade since the scarce engineering skills challenge was diagnosed in Emalahleni Local Municipality, the challenge of shortage of engineering skills has not been remedied. Understanding the challenges of the Emalahleni Local Municipality with regard to retention of scarce and competitive engineering skills has been the core interest of this study. The chapter discusses five primary challenges contributing to the inability to retain scarce engineering skills. The findings presented in this chapter provide a complete understanding on some of the related factors to the lack of administrative capacity and strategies to retain scarce engineering skills in Emalahleni Local Municipality. Overall, the findings indicate that the Emalahleni Local Municipality is lacking the administrative capacity and strategies to attract and retain scarce engineering skills. Furthermore, the research reveals that there is no specific focus to engineers in the Emalahleni Local Municipality internship programme. All interns are treated equally under the same graduate internship programme. Following this introduction is a summary of the previous five chapters of this study, and then a list and description of diagnosed challenges alongside their recommended solutions. The subsequent section provides a theoretical context and implications of these findings including the empirical insight to the recommendations in the form of a conclusion.

6.2. SYNOPSIS OF PREVIOUS CHAPTERS

Chapter 1 introduced the study and gave a brief outline about the sections discussed in the chapter. As the centre of focus, the Emalahleni Local Municipality geographic location was identified. It was evident from the terrestrial discussion that the municipality is located in a heavily competitive area insofar as the engineering skills are concerned. Building upon previous studies, the chapter presented related literature in the field of internship programmes, skills shortage and skills retention in the public sector with specific reference to municipalities. This was done with the aim of identifying the void in the literature and contributing to an on-going discourse on
human resource management and skills retention. It was discovered that thus far there is no empirical research about internship programmes and skills retention in municipalities conducted, let alone in the Emalahleni Local Municipality. The need for the continuation of this research was proven beyond reasonable doubt in the third section of the chapter as the motivation for research was unpacked. The problem statement was introduced as the matter under investigation. This entailed a proclamation that there is a serious lack of technical and engineering skills in the Highveld region of Mpumalanga province, with specific reference to Emalahleni Local Municipality.

The chapter posed research questions which sought to investigate the availability of the administrative capacity and strategies to retain officials with scarce skills in the Emalahleni Local Municipality. The four main objectives outlined in the chapter were to:

- determine the role of human resource management in attracting and retaining scarce skills;
- explore the importance of engineering in municipal service delivery;
- describe procedures used in attracting and retaining scarce skills in the public sector;
- investigate the relationship between internship programmes and skills retention; and
- to propose recommendations for the Emalahleni Local Municipality to address the challenge of engineering skills shortage.

Some of the working concepts for this study were defined later in the chapter, followed by closing sections on the preview of the framework of this study and the conclusion of the chapter. The extent of significance of the research and limitations and shortcomings of the study were also discussed in the chapter.

Chapter 2 aimed at describing the research methodology the study adopted in conducting research. To achieve this, the chapter discussed the research design, which indicated the approach the research undertook in collecting and organising data. A discussion which compared quantitative and qualitative research methods
contributed in the final selection the qualitative research method as the research method adopted in this study. The multiple-case approach was deemed most appropriate in order for this study to achieve its research objectives. A case study approach through the analysis of documents as an instrument of data collection was also discussed in the chapter.

The central objective of the third chapter was to understand human resource management in public administration; its origins, development and relevance in modern society. This necessitated a comprehensive discussion about theories of public administration and the distinction between Public Administration and public administration. The discussion brought to the fore three opposing perspectives of human resource management in ancient public administration; the gentlemen, spoils, and merit theories. A comparison of human resource management in America long ago and modern public administration was discussed. The discussion was later contextualised into the South African perspective.

As the administration of internships may differ in the private and public sector, the discussion on the public sector internship was provided in Chapter 3. A brief history of South African municipalities was discussed in this chapter. The purpose of this historical discussion was to bring forth an understanding about the genesis of modern municipal structures as it relates to human resource management. The subject of capacity development was introduced in this chapter with the aim of clarifying the concept of capacity development in municipalities. The causes and effects of skills shortage in municipalities were also explored in this chapter.

Chapter 4 introduced the engineering discipline dating back to the early twentieth century and during the French Revolution. The chapter investigated the importance and relevance of engineering in local municipal service delivery. This was followed by the examination of the demand for engineers in South Africa. To enhance a better understanding on the engineering profession in South Africa, legal requirements were introduced. This provided a smooth transition to an extensive discussion about the impact of engineering skills in municipalities and the need to retain such skills.
The current state of engineers in South African municipalities received attention in the final part of the chapter before the conclusion.

The purpose of Chapter 5 was to unearth the HRM administrative capacity and strategies of the Emalahleni Local Municipality in superintending its internship programmes. It was also the aim of the chapter to determine if there is a correlation between internship programmes and skills retention in the public sector. To achieve these objectives, two government institutions were compared as case studies. These were a careful selection of internship programmes in the National Treasury and the Emalahleni Local Municipality as they are both in need of scarce skills to effectively function. The chapter provided an integrated and synthesised summation of the case studies with the intention of reaching a comprehensive analytical conclusion and generalisation about the problem under investigation. This section was of utmost importance in laying a foundation for the findings and recommendations discussed in the following section.

The aim of this chapter is to highlight the findings made in the previous chapter and propose possible solutions. There is no order of importance in these findings. All the findings made in this chapter are of paramount importance in contributing towards resolving scarce engineering skills challenge in the Emalahleni Local Municipality. Each finding is accompanied by a specific recommendation. The recommendations provided herewith are by no means exhaustive; rather they serve as a stepping stone towards the ultimate resolution of the engineering skills crisis in the municipality. The application of these recommendations should be done carefully juxtaposed with the content of case studies provided in the previous chapter and other chapters in this study.

6.3. FINDINGS AND RECOMMENDATIONS

This section draws from case study synthesis and generalisations made in the previous chapter. The underlying supposition from the case study analysis is that the Emalahleni Local Municipality has the potential of enhancing its administrative capacity and strategies to be able to retain scarce and critical engineering skills
utilising its internship programme. This supposition is informed by the comparison made with the National Treasury as a successful case to retain scarce skills through its internship programme.

**Finding 1**

The study proved that there is a lack of administrative and financial commitment to develop and retain engineers in the Emalahleni Local Municipality. The little attention that has been given to engineers within the municipality raises serious concerns about the municipality’s commitment to develop engineering skills. The municipality’s internship programme structure treats the engineering skill as an ordinary skill like other skills. As indicated in Chapter 4 of this study, technical professionals such as engineers appreciate being valued. The inclusion of such skills under one umbrella internship programme might diminish the interest, commitment and productivity of engineers. It further appears from the case studies that the municipality does not have a budget for its internship programme. The programme is solely funded by SETAs. This has a negative impact on the skills development within the municipality, because in the absence of funds the municipality will not have an internship programme. This is an indicator that there is no financial commitment to develop skills, engineers to be precise, in the municipality.

**Recommendation**

The Emalahleni Local Municipality must split its internship programme into two: traditional graduate internship and internship programme linked to professional development, as advocated for by the DPSA. The municipality should have a specific internship programme that caters specifically for the development of engineers. Much like the National Treasury’s CAA programme, the engineering internship programme in Emalahleni Local Municipality should be administered under a distinct programme in the municipality’s HRM. This will allow the municipality to have a specific focus on the development of intern engineers. It will further give engineers more exposure as more attention will be given to them and possibly more specialised development programmes to be customised for them. Furthermore,
primary sites such as local *parastatals* or partner municipalities should be identified and engineering graduates placed or rotated in these municipalities for more practical exposure. This will have the potential to increase the engineering skills capacity of the municipality as engineering graduates will be exposed to more challenging work and flexibility.

Sufficient budget should be allocated towards skills development in the local municipality every financial year. A need analysis should be done in each business unit to determine the number of skills needed. The municipality should therefore allocate the budget based on the skills need submissions.

**Finding 2**

It was established through the case studies that the Emalahleni Local Municipality does not have any professional association with stakeholders in the engineering field. This weakens the municipality’s internship programme in as far as intern engineers are concerned, as there is no formal recognition from relevant authority. Professional institutions bring with them expert understanding of the particular field; in this case engineering. Therefore, they are highly likely to set minimum standards of compliance that will ensure the optimum development of engineers in the municipality, and ultimately their retention.

**Recommendation**

The municipality should establish formal associations with engineering authorities such as SAICE, ECSA, SACPE, IMESA or SAACE. This will boost the municipality’s administrative capacity and strengthen the engineering internship programme as more resources and recognition will be provided by these institutions. Such partnership will also boost the reputation of the municipality’s internship programme, thus making it attractive to engineering graduates. Moreover, not only will such professional associations promote the development of a strong learning curriculum, but the associations will also boost the credibility of the engineering internship programme offered by the municipality.
Finding 3

The study has revealed that there is lack of recruitment initiatives to attract high quality skills with an intention to develop and retain those skills in Emalahleni Local Municipality. There is no any mention of proactive recruitment strategies to boost the skills capacity of the municipality. The recruitment of interns is limited to the normal recruitment procedures. It is evident from the case study that the municipality only applies print media and internet marketing in its recruitment strategies. This is limiting because the municipality is competing with coal mining industries, power stations and steel mill industries to attract engineering skills. It will even be more difficult to retain these skills if the high quality skill was not attracted in the first place.

Recommendation

The Emalahleni Local Municipality needs to expand its recruitment drives to areas such as tertiary institutions and advertise with other professional associations in the field of engineering. This will help the municipality in attracting a large pool of engineering graduate applicants, thus giving the municipality options to select the best from the pool of applicants. The following model similar to the National Treasury’s graduate programme is recommended for the Emalahleni Local Municipality:

- visit to local tertiary education institutions during open days to advertise the internship programme;
- attendance at local tertiary education institutions fairs and exhibitions;
- scheduled presentations to final-year engineering students at local tertiary education institutions; and
- to request a list of recommended graduates from partner professional engineering association(s).

This model will play a pivotal role in strengthening the municipality’s administrative ability to attract and select high quality engineering graduates for its internship programme. The municipality’s Department of Civil Engineering, with the coordinated
assistance of the HRM, should play an instrumental role in the planning and execution of these recruitment strategies. Their role will be important because they have an in-depth understanding of the municipality’s engineering environment and needs. The department will therefore easily relate with engineering graduates in targeted tertiary education institutions.

Another proactive strategy that the municipality should adopt is the offering of study bursaries to engineering students in tertiary education institutions. A condition should be attached to the bursary to make it mandatory for the students to serve at least two years in a municipality’s internship programme after successfully completing the first qualification. This is a proactive recruitment strategy that can have a positive impact in attracting and retaining engineering graduates to the municipality internship programme.

**Finding 4**

The remuneration level has an impact in the low motivation of interns in Emalahleni Local Municipality. It is indicated in Chapter 1 of this study that one of the reasons for the engineering skills exodus in Emalahleni Local Municipality is the lack of motivation due to low remuneration. The municipality’s current R46 000 per annum remuneration is far too little compared to the private sector. It is also far too low compared to other departments in the public sector. It is evident that the municipality pays its interns about 18 per cent of the minimum remuneration of CAA trainees in the National Treasury as per 1 April 2008 DPSA remuneration policy. The benchmarking with the CAA programme is because both engineers and CAs fall within the category of scarce and critical skills. Hence, scarce and specialised skills such as engineers should be remunerated reasonably higher than other available skills.

**Recommendation**

Association with relevant professional institution will likely boost the financial capacity of the programme, so as to be able to appropriately remunerate engineering
interns. As the municipality is already receiving funding from SETAs for its internship programme, it should use a similar model to encourage professional engineering associations to fund its engineering internship programme. The funds received from these institutions should be merged with the allocated municipal budget and be distributed through stipends to engineering interns.

Through the application of the OSD strategy as advocated for by the DPSA, the municipality must increase the remuneration level of engineering interns to meet the market remuneration standards. More funds could be sourced from the National Treasury through skills and infrastructure development programmes such as Siyenza Manje and MIG.

Finding 5

Another important finding that possibly contributes to the lack of motivation is the lack of retention measures or strategies for interns who have successfully completed the internship programme. For example, both the National Treasury and the Emalahleni Local Municipality do not guarantee a permanent appointment after the internship programme. As much as it is important for both these institutions not to bind themselves by promising permanent appointments, exception should be made for top performing interns in the scarce and critical skills category. There is a great lack of retention measures or strategies because the municipality does not have adequate administrative capacity such as resources, skills development plans, motivation of intern employees and cooperation with other role players. And yet the non-retention of interns has the potential of costing the municipality more than if the skills were retained. As seen in the framework for measuring capacity development diagram, this may result in societal challenges such as civil unrest due to poor service delivery.

Recommendation

Interns who have successfully satisfied all the key performance indicators and demonstrated willingness to continue working for the municipality should be
recommended for absorption after the programme. Alternatively, they should be
given preference when a vacant post occurs within their work unit. This will not only
motivate interns to participate in the programme, but it will also save costs for the
municipality. This is because of, as indicated in Chapter 3 of this study, the high
initial start-up costs to hire new employees, and resources spent on recruiting and
training new employees among other factors.

6.4. SUMMARY AND CONCLUSION

The chapter provided five fundamental findings drawn from the case studies
presented in the previous chapter. This study acknowledges that these are not all the
challenges facing the Emalahleni Local Municipality in its administration of the
internship programme. There are possibly more underlying issues that the study
could not discover due to various factors as indicated in the section of limitations
discussed in Chapter 1 of this study. However, the study has agreeably addressed
its objectives, and most importantly its research question. Therefore, the study has
successfully investigated the retention strategies for engineering interns relevant to
the Emalahleni Local Municipality. The findings of the investigation pointed to various
factors that contribute to the municipality’s lack of strategies to retain scarce skills.

The lack of clear focus to the development of scarce engineering skills in Emalahleni
Local Municipality makes the challenge of scarce engineering skills a complex issue.
This is because while the municipality is continuing to experience infrastructure and
skills turnover problems, the municipality’s internship programme does not address
the attraction, development and retention of such skills. It is for such reasons that the
municipality should prioritise their infrastructure development to deal with the
alarming challenge of out-dated and poorly maintained water delivery systems. The
recommendation for Finding 1 deals with this complexity by proposing that
development of scarce skills such as engineering must be given special attention. A
few practical measures that the municipality could adopt are also highlighted in this
recommendation. It is in the interest of this study that administrative capacity needs
to be developed in order to attract and retain scarce skills. The recommendations for
Finding 2 and 3 deliberated on the need for the municipality to establish relations
with other stakeholders by providing a sense of some of the tactics and strategies the Emalahleni Local Municipality HRM could consider in enhancing its administrative capacity.

It is important to note that these findings also impact heavily at the municipality’s ability to meet its constitutional mandate of service delivery such as building and maintenance of road infrastructure, provision of water and sanitation, and refuse and waste management. Through sound skills attraction, development and retention strategies outlined in the recommendations above, the municipality can boost its human resource management and administrative capacity to attract and retain scarce and critical skills necessary to deliver public services. Most, if not all, of these recommendations are instrumental to ensuring an internship programme that is able to attract and retain scarce skills. It is also of utmost importance to note from the findings provided in this chapter that there is a strong relationship between internship programmes and skills development and retention in local municipalities.

Another important finding worthy of future research endeavours is that there is no guarantee of permanent employment after successfully completing the internship programme. This poses a question regarding the absence of clearly outlined measures government institutions take to retain interns despite the fact that sufficient progress would have been made by the intern throughout the internship programme. This could be linked with the question of how government institutions could develop organisational capacity to create permanent employment opportunities for graduates.
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