DECISION SUPPORT SYSTEMS FOR THE LETSEMENG LOCAL MUNICIPALITY

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Declaration

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly or otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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Abstract

Municipalities in South Africa, especially rural ones, have been struggling to deliver services to communities to the extent that government placed those worse-off under Project Consolidate. The implementation of Project Consolidate indicate that the capability of municipalities to deliver services to their communities faced several challenges. Most challenges are attributed to skills, processes, procedures and resources. During the dawn of democracy municipalities were merged into manageable demarcated areas for efficiency, effectiveness and inclusive governance to improve service delivery. The study primarily looks into whether DSS are implemented in Letsemeng Local Municipality and what the benefits are for service delivery to the community.

The study was conducted in Letsemeng Local Municipality because it is representative of rural municipalities facing similar changes. It focuses on the administrative and political capability to transform Letsemeng Local Municipality into an effective service delivery vehicle. Administrative capability primarily concentrates on the ability of procedure, systems and management skills to manage a transformed municipal institution within the new democratic dispensation, while political capability concentrates on the role of politicians (councillors) on support and facilitation to meet the needs of the community. Taking these factors into consideration the role of DSS and IKM in successful service delivery was investigated through interviewing key managers (municipal, financial, technical and corporate managers) and analysing support documentation used by the municipality. It was discovered that the performance of Letsemeng Local Municipality is affected by the lack of DSS to support management and politicians, absence of appropriate IKM application for continuous service improvement, high turnover of staff leaving mostly unskilled and less experienced and to a lesser extent political interference. It was also concluded that the implementation of DSS and IKM cannot on its own improve service delivery, but improvement might be achieved if accompanied by Letsemeng Local Municipality BPR (Business Process Re-engineering).

Opsomming

Munisipaliteite in Suid-Afrika, veral dié in landelike gebiede, sukkel dermate om dienste aan gemeenskappe te lewer dat die regering dié wat die slegste gevaar het, moes plaas onder Projek Konsolideer. Die implementering van Projek Konsolideer is ‘n aanduiding dat munisipaliteite se vermoë om dienste te lewer voor verskillende uitdagings te staan kom. Die meeste van die uitdagings word toegeskryf aan vaardighede, prosesse en hulpbronne. Met die aanbreek van demokrasie is munisipaliteite saamgesmelt in beheerbare afgebakende gebiede met die oog op doeltreffendheid, doelmatigheid en inklusiewe bestuur wat gemik is op verbeterde dienslewering. Hierdie studie ondersoek primêr of beslissingsteunstelsels (DSS) geïmplementeer word by die Letsemeng Plaaslike Munisipaliteit en watter voordele dit vir die gemeenskap inhou insoverre dit dienslewering betref.

Die studie is in Letsemeng onderneem aangesien hierdie munisipaliteit verteenwoordigend is van munisipaliteite met soortgelyke uitdagings. Dit fokus op die administratiewe en politieke vermoë om die Letsemeng Plaaslike Munisipaliteit te omvorm in ‘n effektiewe instrument vir dienslewering. Administratiewe vermoë konsentreer primêr op die vermoë van prosedures, stelsels en bestuursvaardighede om ‘n getransformeerde munisipale instelling binne die nuwe demokratiese bestel te bestuur, terwyl politieke vermoë gerig is op die rol van politici (raadslede), ondersteuning en fasilitering om in die behoeftes van die gemeenskap te voldoen. Met inagneming van hierdie faktore is die rol van DSS en IKM (Inligting- en Kennisbestuur) in suksesvolle dienslewering ondersoek deur onderhoude te voer met sleutelbestuurders (munisipale-, finansiële-, tegniese- en bedryfsbestuurders) en deur ondersteunende dokumentasie wat deur die munisipaliteit gebruik word, na te gaan. Daar is bevind dat Letsemeng Plaaslike Munisipaliteit se werksverrigting geraak word deur ‘n gebrek aan DSS ter ondersteuning van bestuurslui en politici, die afwesigheid van toepaslike IKM-aanwending vir voortgesette verbetering in dienslewering, hoë personeelomset as gevolg van werknemers wat bedank en minder geskoolde en minder ervare werknemers agterlaat en, in ‘n mindere mate, inmenging deur politici. Daar is ook vasgestel dat die implementering van DSS en IKM nie op sigself dienslewering sal verbeter nie, maar dit kan verbetering meebring indien dit saamval met die Letsemeng Plaaslike Munisipaliteit se BPR (Herbouing van die Bedryfsproses).

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LIST OF ABBREVIATIONS

BPR:	Business Process Re-engineering
DSS:	Decision Support Systems
EIS:	Executive Information System
ICT:	Information and Communication Technology
IDP:	Integrated Development Plan
IKM:	Information and Knowledge Management
MFMA:	Municipal Finance Management Act
PIMS:	Project Initiation Management System
STRC:	Slack Time before a Crisis

Chapter 1

Introduction

1.1 Background

Documentary evidence provided by municipality managers from different sources as referenced pertaining to administration and legislation show that Letsemeng Local Municipality is one of the three local municipalities that form Xhariep District. It is situated in the South Western part of the Free State Province. Xhariep district's relationship with local municipalities shares executive and legislative authority. This implies that Letsemeng is managed by a delegation from the district. The municipality is formed by three towns:

- Koffiefontein (corporate office).
- Jacobsdal.
- Petrusburg.

Documented demographic information showed that the majority inhabitants of the municipality reside on farms. Jacobsdal and Petrusburg are managed as satellite offices, mainly for collection of municipal rates. The majority of staff stationed at the two towns is for administration purposes only, and those responsible for service delivery, are based at Koffiefontein. The municipality's total population is estimated at 42 979, with a density of 4,22[1] per square kilometre. The population is composed of 11 999 households with the employment rate at 41,5%[2]. The population is sparsely distributed over a large area of unarable land.

The municipal manager stated that Letsemeng Local Municipality is expected to have employees with competencies to address community needs in terms of section 18 (1) of the

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1 XHARIEP DISTRICT MUNICIPALITY PIMS CENTRE. 2006. Xhariep District Municipality Integrated Development Plan 2006 to 2011 (amended version). http://www.fs.gov.za/freestatedevplan/content/fsdp/district%20profiles/Xhariep/XHARIEPPROFILE.doc, (pp. 36)

2 Ibid 1, pp. 61

Local Government Structures Act[3] in addition to other administrative responsibilities for day to day operational management.

Letsemeng Local Municipality responsibilities are as follows:

- Solid waste management.
- Fire fighting services.
- Municipal public works.

The Xhariep District Municipality also has responsibilities to deliver and complement the following comprehensive services to the inhabitants of Letsemeng Municipality. The municipal manager explained that this interdependence is not effectively managed and impact negatively on their performance:

- Integrated development planning facilitation.
- Municipal roads including transport management system.
- Establishment of agricultural markets.
- Promotion of local tourism.
- Allocation and distribution of grants from national and provincial government.
- Imposition and collection of taxes.

Currently, the Letsemeng Local Municipality organisational structure is implemented as depicted in figure 1.1. The study was commissioned by the South African Human Research Sciences Council. According to the municipal manager the recommended structure is meant to address challenges of ensuring good administration.

[3] Ibid 1, pp. 41

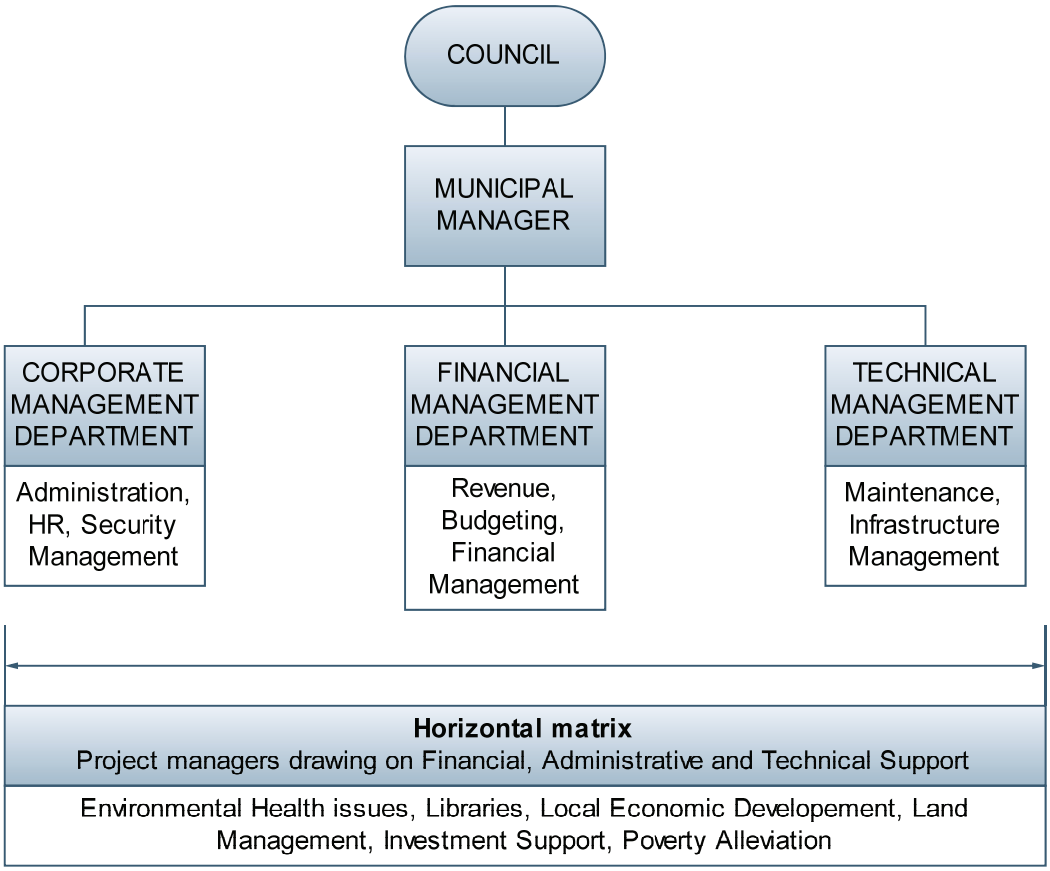

Figure 1.1: Municipal Administrative Restructuring in Non-metropolitan Areas
(Source: http://www.intranet.hrsc.ac.za/research/output/outputDocuments/2814-Atkinson_Municipaladminstrativerestructuring.pdf)

Management posts are currently filled by incumbents who have less than two years experience, except for the municipal manager. The numbers of support personnel for corporate, financial and technical units are not sufficient to allow the expected of level of administrative effectiveness and efficiency to be reached. According to the municipal manager the horizontal matrix in figure 1.1 is important to show expected support from Xhariep district. Support in these areas is expected to enable Letsemeng to deliver its mandates by offering both financial and technical support. Some of the financial support is from disbursement of provincial and national grants. A fully functional project management office at Xhariep district drives the support as indicated in figure 1.1. The office is expected to liaise with the different units at Letsemeng on a full-time basis to ensure that IDPs are implemented and offer needed resource support.

1.2 Research Problem

Major challenges facing municipalities in fulfilling service delivery mandates are largely attributed to lack of capacity and effective decision making and support[4]. Many local municipalities in the country have been placed under Project Consolidate due to ineffective service delivery and backlogs and lack of management capacity for effective and efficient resource management[5] despite the clear legal framework. Decision making capabilities of managers play a crucial role in making it possible to deal with complex challenges within this new environment. Municipalities operate in a complex environment where diverse needs of communities with different social and economic challenges have to be met equally and satisfactorily.

The new political dispensation came as a result of the democratic constitution that led to the establishment of new forms of municipalities. Good governance is the prerequisite in the new dispensation to meet both community needs and adhere to political mandates in a more efficient manner. It is characterised by a very high community participation process. Managers and support personnel are perceived to be lacking required skills for effective management and facilitating the process for implementing new demands. In most instances, municipal managers' decision making is based on a huge amount of data from different sources. Unfortunately, the absence of appropriate information management tools impacts on the decision making capabilities of these managers. The lack of experience in organisational strategic orientation, failure to adhere to legislative performance measurement and focusing on the wrong leverage points[6] to deliver value to community contributes largely to cognitive limitation[7] in meeting community needs.

1.3 Research question

To what extent will the implementation of decision support systems aligned with the context of the Letsemeng Local Municipality business of quality service delivery be appropriate?

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[4] DEPARTMENT OF PROVINCIAL AND LOCAL GOVERNMENT. 2005. *DPLG Bulletin.* April 2005. Government Printers. Pretoria. (pp. 5). Report outline challenges faced by municipalities inherited prior 1994 and further manifesting themselves due to lack of proper management tools thereby affecting service delivery.

[5] Ibid 4, pp. 9

[6] DOPPELT, B. 2003. *Leading Change towards Sustainability: A Change – Management Guide for Business, Government and Civil Society.* Greenleaf Publishing Limited, Sheffield.(pp. 78) and HARTZ-KARP, J. "Harmonising Divergent Voices: Sharing the Challenge of Decision Making" Public Administration. Today, Issue 2, Dec - Feb 2004, (pp. 14 – 19). Both authors explained levers at different levels of the organisation in a complex environment.

[7] MARAKAS, M.M. 1998. Decision Support Systems, in the 21st Century.(pp. 59)

1.4 Hypothesis

The integration of knowledge driven decision support systems (DSS) with the business model, value chain, structures and culture of the Letsemeng Local Government will have a significant effect on service delivery.

1.5 Research objectives

The research will evaluate the effectiveness of knowledge-based DSS in Letsemeng Local Municipality by:

- Identifying crucial leverage points necessary to facilitate community service delivery needs.
- Reviewing current effectiveness of the decision-making processes, in relation to applicable legislation.
- Reviewing the business model and business processes implemented by Letsemeng Local Municipality in relation to applicable legislation.

1.6 Literature study

Municipalities are mainly guided by the Constitution[8], in particular chapters 7 and 10, focusing on administration of public service. The Constitution is based on six primary principles (ethics, economic value, development agenda, accountability, transparency, and sound human resources) as pillars to successfully transforming public administration. Stemming from the basis of the Constitution, the Local Government Municipal Structures Act, Municipal Finance Management Act (MFMA), Local Government Municipal Systems Act and Local Government Municipal Planning and Performance Management Regulation came into being to ensure that these principles are met.

There are two important factors that play a crucial role in service delivery and sustainable development of local municipalities in South Africa according to legislative framework. Firstly, the quality of decisions that facilitate and sustain municipal performance as per delegated powers as required by the Constitution and applicable legislation plays a major

[8] THE REPUBLIC OF SOUTH AFRICA. 1996. *The Constitution of the Republic of South Africa, Act no: 108 of 1996. Pretoria: Office of the Presidency*. pp. 81 – 88. The Constitution serves as a basis for all public service transformation. Chapters 7 and 10 provide a framework for establishment of all forms of municipalities.

role. Secondly, staff capabilities and tools to be applied in the performance of their work for delivery of services are crucial.

An understanding of the municipality as a system and operating as such is important. The municipality is a system operating within a bigger system, contributing to the achievement of the whole. Any positive or negative change contributes to the transformation of the entire public service. It forms part of public administration, positioned at the lowest possible level closest to the community, as compared to national and provincial governments. It is a system which is dependent on several factors that must be addressed by developing internal coping mechanisms taking into consideration environmental challenges.

Doppelt[9], Senge and Skyrme[10] identify several factors affecting the organisation as a system. The effect might be positive or negative depending on the imbalance or balance brought by these factors. They are called leverage points, defined as parts in a system where a small shift will generate a rippling effect in the entire system. The factors are processes, people, information, measurement and space. Their impact within the system is very difficult to identify, requiring managers to possess skills and experience. Managers tend to focus on those that generate a negative effect within the system, not realising that all have to be in balance to ensure organisational stability. This leads to undesirable implications in the system[11] if left to continue. Municipalities in South Africa are instruments of public administration transformation to achieve sustainable development, a high standard of accountability, access to service, sound human resource development and value for money. Most researchers identified information as an important leverage point that have an impact on information gathered and shared, decisions made and enforced, and resources distributed[12]. However, municipal service delivery improvement can only be achieved when all leverage points are in balance.

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[9] Ibid 6, pp. 78

[10] MUNTEANU, I.; IONITA, V. 2005. The management of knowledge: Guidebook for Community of Practitioners. http://www.iln-best.org/uploaded/File/KM_handbook_eng.pdf (pp. 40). Senge and Skyrme also identified leverage points that could affect organisation as a system positively or negatively.

[11] Ibid 6, pp. 78

[12] Ibid 6, pp. 371

Drummond[13], in support of Doppelt, alludes to challenges with people's judgement errors in decision making. Their capabilities affect organisational success. They focus on wrong leverage points because of lack of understanding of how the system operates on one hand. On the other hand, elements identified by Drummond, such as state of personal emotions (anger, frustration and exhilaration), preferences and using more recent events for decisions, also have an impact. These elements affect judgement negatively because the individual is influenced by them, rather than by looking at data and information analysis.

March[14] encourages decision makers to find a balance between what Drummond alludes to and the application of decision intelligence within Vassilopoulou et al[15] e-business framework. The principles of e-business can be adapted to the public service environment as e-government, but with different outcomes specific to public service. E-government benefits the community in that service will be faster, more convenient, affordable, and by improving openness and ease of use[16]. It is a new technology that opens options to the organisation that it ensures organisational structure change, culture of information and knowledge sharing, implementation of different processes to align to the new organisational dispensation[17] .

March defines decision intelligence as a decision making process that guarantees that planned outcomes are attained. It contributes to decision making and organisational well-being in that it always ensures maintaining balance. March and Vassilopoulou et al support the implementation of DSS (Decision Support Systems), as outlined by Power[18] as a tool for implementing decision making intelligence. An effective decision making process is seen as a tool to steer organisations into the right strategic direction. Furthermore, sustainable development, at this level of public service, is the result of interaction between multiple

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[13] DRUMMOND, H. 2001. *The art of decision making: Mirrors of Imagination, Masks of Fate.* Chichester: John Wiley & Sons Ltd (pp. 1 – 239)

[14] MARCH, J. 1994. *A Primer on decision making: How decisions happen*. New York: The Free Press. (pp. 14)

[15] VASSILOPOULOU, K.; POULOUDI, A.; PATRONIDOU, S.; POULYMENAKOU, A. E-Business models: A Proposed Framework. http://eltrun.gr/papers/Efactors-Ework.pdf (pp. 1)

[16] LEE, K.J.; HONG, J-H. 2002. Development of E-government Service Model: A Business Model Approach. *International Review of Public Administration, vol. 7 no.2.* (pp. 112). Outlines benefits of public service business model implementation approach by integrating with existing e-business processes.

[17] BURKE, G.; PEPPARD.J. 1995. *Examining Business Processes. Re-engineering: Current Perspectives and Research Directions*. London: Kogan Page (pp. 3). Identified organisational parts and processes affected by business re-engineering.

[18]POWER, D.J. 2002. *Decision Support Systems: Concepts and Resources for Managers*. Westport: Quorum Books.(pp. 165)

initiatives. Leadership as an enabler[19] and important ingredient[20] in a system with competing leverage points, as outlined by Doppelt and Hartz-Karp, facilitate decision making. Under such conditions, Bui (in Kersten et al) identifies five pillars[21] for developing successful DSS[22]. To support management in decision making, four pillars are deemed appropriate for the implementation of support systems in municipalities:

- Information resource management and the design of information input and output results, should perform in a way that supports managers in decision making.
- Business model management is a tool that should be implemented. It will focus management's efforts to problem solution.
- Interactive problem solving should be user friendly and ensure that there is a constant flow of information to all intended users.
- Communication and teamwork between all individuals involved in decision making, allowing them to give feed-forward and feedback in supporting the decision maker.

The public service in general, including municipalities, is faced with challenges on two fronts. That is, meeting community demands on one hand, and on the other, the availability of DSS and knowledge-based systems[23]. Communities are expecting improved services and reduced bureaucracy. Such problems are expected to be addressed through the implementation of community friendly policies[24]. Skyrme (in Quin et al)[25] highlights the benefits of knowledge-based DSS in that they are key in supporting decision making. They enhance the quality of decisions and develop competitiveness over time as more organisational learning continues. Decisions are currently being made with no consideration to what Drummond and Power consider a key support decision making mechanism. At

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[19] Ibid 16, pp. 40

[20] KERSTEN, G.E.; MIKOLAJUK, Z.; YEH, A.C. 2000. *Decision Support Systems for Sustainable Development. A Resource Book of Methods and Applications.* Boston: Kluwer Academic Publishers (pp. 2) outlines the importance of decision making process as an important ingredient in sustainable development, in that it succeeds in the environment where leadership follow effective processes. Sustainable development is thus regarded as developing future and continuous renewable processes in economic, community and ecological development.

[21] Ibid 26, pp. 2-3

[22] Ibid 26, pp. 40

[23] QUIN, T.Y.; YUSOFF, M.; HAMDAN, A.R. 2005. Knowledge Management Readiness in Organisation: A Case of Public Sector in Malaysia. http://ickm.upmedu (pp. 1)

[24] Ibid 26, pp. 2

[25] Ibid 26, pp. 2-7

community level, where services are delivered, specific leverage points[26] exist that must be taken into consideration.

Community pressure for municipalities to deliver services in accordance to mandates and legislation is putting pressure to make decisions under difficult circumstances. This is similar to other government spheres where managers' limited experience for making decisions leads to human judgement errors as stated by Drummond. Identifying leverage points in the decision making process is very crucial, as outlined by Hartz-Karp and Vassilopoulou et al. The bottom line for making effective and sustainable decisions is ensuring that value proposition[27] is delivered.

The municipal environment is influenced by interference from various stakeholders such as the community, local politicians, national and provincial government. This complexity, uncertainty and huge data resources are some of the reasons that also affect decision making at both tactical and operational levels.

The current municipal arrangement is regarded as a product of business process re-engineering (BPR). To attain the mandate set-out in legislation, that called for change in the business model that ensures that technical, economical, social and individual concerns[28] are addressed. Timmers in Vassilopoulou et al[29] defines e-business as an architecture for service delivery and information flow. Conversely, e-government[30] is intended to improve efficiency within government, community satisfaction and empowerment of all stakeholders. This includes a description of the various stakeholders, community, staff and business and related functions.

Municipalities could fit very well into the e-business model, as recommended by Vassilopoulou et al and adapted into an e-government model. E-government models are intended not only to adopt new technologies but also to improve work practices and staff

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[26] HARTZ-KARP, J. "Harmonising Divergent Voices: Sharing the Challenge of Decision Making" *Public Administration. Today*, Issue 2, Dec - Feb 2004, (pp. 14 – 19). Leverage point at community engagement and consultation level.

[27] Ibid 18, pp. 1

[28] Ibid 18, pp. 1

[29] Ibid 18, pp.3

[30] Ibid 16, pp. 112

skills[31]. When the new municipal system was adopted in 2000, after the transitional arrangement since 1994, it was intended to re-organise and streamline processes aimed at achieving six Constitutional principles. They are *ethics*, *accountability*, *sound human resource management and development*, *transparency* and *economic value.*

The application of an E-government model could assist the municipality to streamline business processes in-line with the constitutional mandate. Vassilopoulou et al[32] identifies four e-factors of e-business applicable to public administration:

- An organisation that looks at the impact it brings to communities through the cycle of opportunity creation.
- A society that looks at comparison between the forms that existed prior to 2000 and the present. New business model requires new skills, capabilities, defining improved working methods and knowledge workers required, for such a complex environment. Legislation, policy and regulation are critical for facilitating successful implementation by ensuring harmonization of work practices and business effectiveness[33].
- Individual leverage points where critical issues impact on decision making that affects communities and employees in terms of utilising and accepting the new business model.
- Technology that deals with the implementation of new business models in decision making is called DSS. Sprague and Carlson (in Power[34]) define DSS as an interactive computer-based system, that assist managers and staff to utilize computer communications for data, documents, knowledge, and models to solve problems. Further that the intention of DSS is to improve and fast track the decision making process and communicating the decisions, thereby increasing organisational decision making efficiency.

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[31] Ibid 18, pp. 1

[32] Ibid 18, pp. 3 - 4

[33] Ibid 18, pp. 4

[34] Ibid 18, pp. 1

Budgetary restrictions, community demands[35] and lack of capacity regarding the processing of transactions are factors that need to be considered when designing efficient systems within the municipality. Capacity levels, demographics and operational requirements are also factors that could improve the implementation of DSS as a vehicle for a proper governance structure.

DSS implementation will assist managers in municipalities to effectively draw their attention to address public pressure for the delivery of services, improve performance measurement and resource allocation optimisation. Success is possible provided that the proper leverage point have been identified in the chain system.

The other link playing an important role in conjunction with the four pillars and deployed technology[36] is the information management culture. O'Neil, Beauvaris and Scholl emphasised the importance of organisational cultures and structure[37] in complementing each other in terms of ensuring that strategic goals are met. Strategic goal setting, largely dependent on information, play an important role in new organisational architecture as a central part of BPR. The expected business model should bring new ways of operational efficiency and empowerment of personnel. Issues affecting information processing for attainment of strategic goals should be taken into consideration when DSS are implemented.

When employees are dispersed, it becomes increasingly difficult to process data and information needed to support the business model for better integration. According to Weber, Burns and Stalker (in O'Neil et al)[38] Letsemeng Local Municipality is a bureaucracy that is controlled by legislation, policies, standards and operating procedures. Certain parts are dispersed (Luckhof, Jacobsdal and Petrusburg) from the central point (Koffiefontein) and this will influence what type of DSS should be implemented. Management decisions taken at the central point will affect the dispersed parts so it is important to ensure that information regarding implementation and expected outcomes are shared across organizational

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[35] NARASIMHAN, R., TALLURI, S., SARKIS, J. ROSS, A. 2004. Efficient Service Location Design in Government Service: A Decision Support System Framework. *Journal of Operationa Management* 23 (2005) (pp. 163), Shapiro and Haskett (1985) and Banker and Morey (1993)

[36] Ibid 6, pp. 101

[37] O'NEIL, J.W., BEAUVAIS, L.L., SCHOLL, R.W. 2001. The use of Organizational Culture and Structure to Guide Strategic Behavior: An Information Processing Perspective. *The Journal of Behavioural and Applied Management*, vol. 2 (2) (pp. 140, .2)

[38] Ibid 37, pp. 142-148

boundaries. Timely and effective communication will ensure that understanding shared between employees is reliable.

The type of decisions taken at municipal level can be described as *negotiation-based* decisions as it involves community participation. Callahan[39] identifies three decision making approaches, as public, autonomous, and modified autonomous, applied in the public service where community participation is crucial for final decision making. Negotiation-based decision making involves routine, clear, creative process to be followed especially in conflict[40] or misunderstanding by communities. Callahan[41] states that communities can be involved in two ways, either by direct democracy or collaborative participation for decision, consultation or gathering information. Decisions take place at both operational and tactical levels[42] aligned to leverage points to address community needs, as described by Hartz-Karp.

At operational level, day-to-day decisions are directed at deployed and deployable resources as opposed to tactical ones that are directed at maintaining resource capacities at operational level. DSS have the advantage to address complexity between the operational and tactical levels. They play a crucial role in supporting managers to address problems quickly and efficiently. Data storage for future referencing and retrieval becomes easy[43]. Steven Alter (in Power)[44] stated that a DSS assists the decision processes, decision making, response to the changing environment of decision makers and focus on the correct leverage points.

The application of DSS in Letsemeng Local Municipality aligned to proper identification leverage points are expected to yield more benefits than disadvantages. Alter and Turban, Udo and Guimaraes,[45] highlight the accrued DSS benefits identified in different research studies as:

- Improved quality of decisions and turnaround time in solving problems through application of impartial fact based information.

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[39] CALLAHAN, K. 2007. Elements of Effective Governance: Measurement, Accountability and Participation. *Public Administration and Policy* no: 126. (pp. 176).

[40] Ibid 39, pp. 62

[41] Ibid 39, pp. 154 - 163

[42] Ibid 16, pp. 99

[43] TURBAN, E.; ARONSON, J.E. 1998. *Decision Support System and Intelligent Systems*. 5th Edition. London: Prentice-Hall (pp. 9-10)

[44] Ibid 18, pp. 6

[45] Ibid 18, pp. 32-33

- Sharing of information amongst all users, thereby leading to improved organisation-wide communication and learning.
- Increased participation in the decision making process benefiting individual decision making capability.
- Culture of information sharing improved by organisational responsibility for analysis, interpretation and control. Organisation responsibility to monitor, retain and analyse data without any individual manipulation.

In conclusion, literature and studies show that DSS play a very crucial role in the organisation by offering top management with appropriate tools to improve performance through effective decision making. DSS offer organisations such as municipalities appropriate tools to implement BPR, monitor and evaluate its change effects. Specific reference to Letsemeng Local Municipality DSS would greatly improve quality of decisions and outcomes.

Chapter 2

Research Methodology

2.1 Research design

This research followed a descriptive study[46] design because it offers an opportunity to the researcher to accurately portray conditions within the real situation and provide detailed explanations, and where possible recommendations or interventions could be deducted. The descriptive study[47] design offered an opportunity to the researcher to accurately portray the situation within Letsemeng Local Municipality with regard to the role of managers and councillors. It enhanced the researcher's ability to draw conclusions on data collected and provided skills to evaluate data and synthesized ideas.

The qualitative research method was applied to give the researcher an opportunity to evaluate the natural settings[48] as it appeared within Letsemeng Local Municipality, that could be qualified by means of secondary data. Qualitative methodology has several advantages that benefit the research, such as, the interviews which was conducted in natural settings while managers were busy with their operational activities. It holistically looked at social views and offered insight into complex interactional processes of Letsemeng Local Municipality. It gave the researcher the opportunity to describe the contributing factors that make municipal administration a complex domain. In addition it offered a better understanding and insight of respondents, which is non-biased[49] because some of the responses were observed. The qualitative method[50] enabled the production of detailed data from a small number of respondents as the population is viewed as individualistic.

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[46] SAUNDERS, M.; LEWIS, P.; THORNHILL, A. 2000. *Research Methods for Business Students*. 2nd Edition. Essex: Pearson Education Limited. (pp. 97 – 98)

[47] Ibid 163, pp. 97 - 98

[48] DENZIN, N.K.; LINCOLN, Y. 2000. *Introduction: The Discipline and Practice of Qualitative Research*. 2nd Edition. California: Sage Publishers. (pp. 3).

[49] NATIONAL INSTITUTE FOR HEALTH RESEARCH. 2000. *Choosing an appropriate method of research*. http://rdinfo.org.uk/flowchart/Choosing%20an%20appropriate%20method%20of%20research.doc.(pp. 2).

[50] LABUSCHAGNE, A. 2003. Qualitative Research – Airy Fairy or Fundamentals? *The Qualitative Report, vol.* 8 no. 1, March 2003. (pp. 1).

2.2 Study population

The research was conducted among top managers within Letsemeng Local Municipality. The research population consisted of four managers (municipal, finance, corporate and technical) who are regarded as top management tasked to make strategic decisions and support council. They also drive strategy in terms of ensuring that processes and procedures within the municipality are aligned to both provincial and national mandates. In addition the research of Marchand et al[51] shows that decision making about strategy is a central part of top management, and that top management will best reflect the overall view of an organization. Thus Letsemeng Local Municipality's top management qualified as a valid research population.

2.3 Sampling procedure

The small population size makes it possible to include all individuals as the sample.. Faced with such a very small population and the effect that might be brought by minor deviations, it was proper to include the entire population. Face-to-face interviews were conducted with the selected respondents.

In Saunders et al[52] Henry states that in the event where the population size is less than fifty, data should be collected from all subjects, as a single extreme case will have a major impact on the findings of the study. The population of four managers in Letsemeng Local Municipality represents the total population[53] as they were chosen subjects who are able to address the research questions because of their position within the municipality. Their responses gave the researcher qualitative insight, from which it was possible to draw conclusions about the entire organisation. The selection of the entire population will certainly avoid bias as it ensured that top management was not over or under represented. The four managers were selected as key informants because they are heads of the units at a strategic level and have in-depth understanding of how the organisation operates at all levels and therefore could provide secondary data.

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[51] MARCHAND, D.A.; KETTINGER, W.S.; ROLLINS, J.D. 2001. *Information Orientation: The link to Business Performance.* London: Oxford University Press.(pp. 50)

[52] Ibid 46, pp. 153

[53] MELLVILLE, S.; GODDARD, W. 1996. *Research Methodology: An Introduction for Science & Engineering Students*. Kenwyn: Juta & Co. Ltd. (pp. 30).

The sampling procedure chosen had to ensure that all data collected are able to address the research questions. The total population was chosen as it gave researcher insight on the different angles and interpretation of interacting forces within their responsibility and the broader organisation.

2.3 Data collection

Data was collected from individuals at different responsibility levels[54] (municipal manager and managers) by a questionnaire (see Annexure A) administered by the researcher. All responses were noted, and where possible supporting documents were supplied as secondary data. Permission to record all responses verbatim was requested and granted at the beginning of each session. Open-ended questions were developed for face-to-face interviews (see Annexure A). Data were recorded by note taking in its verbatim form so as to record the exact responses. The methodology is most feasible taking into consideration the sample size and the probability of getting detailed information.

Data was collected by means of face-to-face interviews that involved a cooperative communication process whereby the primary purpose was to obtain key information from managers[55]. Managers provided the researcher with supporting documentation to support their responses. The interviews offered advantages in that the researcher was able to get all data immediately, ask relevant, precise, unambiguous and understandable questions and give clear instructions[56]. It further facilitated cooperation by the research subjects and facilitated immediate follow-up for clarification, interpretation and omissions[57].

The interviews were conducted by using standardized open-ended questions. Sewell[58] refers to an open-ended questionnaire interview as qualitative research that is attempting to understand the environment from the respondent's point of view. This gave the researcher an opportunity to understand Letsemeng Local Municipality environmental processes and challenges.

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[54] Ibid 46, pp. 13

[55] LUES, L.; LATEGAN, L.O.K. 2006. *RE: search ABC.* Stellenbosch: Sun Press. (pp. 20).

[56] Ibid 169, pp. 43 - 44

[57] GREENFIELD, T. 2002. *Research Methods for Postgraduates*. 2nd Edition. New York: Oxford University Press Inc. (pp. 209).

[58] SEWELL, M. 1997. The Use of Qualitative Interviews Evaluation. http://ag.arizona.edu/fcs/cyfernet/cyfar/Intervu5.htm. (pp. 1).

The tool assisted the researcher to realise the advantages alluded to earlier. The general sequence that was followed to implement the research interviews[59] includes:

- Open-ended questions were asked (see Annexure A).
- Verbatim responses were recorded in a written form.
- Follow-up questions were asked for clarity and filling identified gaps.

The questions were predetermined as presented in annexure A and were asked to all four top managers in identical sequence. Identical sequence ensured that bias[60] is minimised. The responses were recorded (written) separately during the interview for each respondent, and accompanying secondary data were collected. The qualitative research interview assisted the researcher to capture and describe processes; to evaluate processes that are dynamic, and to understand the meaning of the processes[61].

2.4 Data analysis

The consolidated data were analysed by applying the content analysis[62] method. The technique enabled the researcher to categorise responses and present information in clear narrative form. It also assisted the researcher to present representative findings from different levels of responsibility.

Data analysis was treated in different stages in line with the qualitative analysis method[63]. The stages are:

- Data reduction.
- Interpretation of data
- Drawing conclusions.

The recorded verbatim responses gave the researcher concrete meanings as raw data. Data were self-explanatory rather than imposing any preconceived ideas[64].

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[59] Ibid 49, pp. 2

[60] Ibid 93, pp. 211

[61] Ibid 58, pp. 2

[62] JANKOWICZ, A.D. 2000. *Business Research Projects.* 3rd Edition. Business Press: Thomson Learning. Cornwall. (pp. 247)

[63] Ibid 93, pp. 215

2.4.1 Data reduction

Griffee[65] outlines the steps to attain successful data reduction that was applied in the study:

- After recording raw data during the interviews, the researcher familiarised himself with what has been said.
- Grouping of all responses to get themes clearly for all interviews according to the questions. However, the grouping was applied for the purpose of integrating responses.
- Summarising the grouped responses.
- Written interpretation.

2.4.2 Data interpretation

The recorded data by note-taking from verbal responses were grouped according to similar questions. All responses were compared and interpreted to give meaning. Accompanying documents that were used as secondary data were summarised and integrated into corresponding responses.

2.4.3 Drawing of conclusions

Conclusions were drawn based on the balance of converging interpretations and any deviations were highlighted. Managers provided the researcher with additional information that serve as supporting documentation for the responses provided. Supporting documentation mainly gave additional data that were used to close gaps in the responses.

2.5 Reliability

Reliability of the data collection technique and the data analysis method is very high as questions were tested and re-tested (see Annexure B). Content analysis offered the researcher the opportunity to employ reliability interpretation[66] that was used for consolidated data. Both the primary and secondary data used for research could be considered reliable because of the collection technique employed, in line with the subject under investigation. All

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[64] GRIFFEE, D. 2005. *Research Tips: Interview Data Collection.* Journal of Development Education, vol. 28, no. 3, Spring 2005.(pp. 36).

[65] Ibid 64, pp. 36 - 37

[66] Ibid 62, pp. 253-254

responses were recorded verbatim and the respondents confirmed the record of the interview as true.

To improve reliability the equilibrium form approach[67] was applied. This approach involved rephrasing all questions (see Annexure B) during the interview to ascertain whether the responses correlate to test for reliability. It was aimed at evaluating whether the respondents were answering at random without thinking carefully.

2.6 Validity

Content analysis was applied to validate the results. It ensured that the data set could be validated by analysing as much collected data as possible. There was sufficient coverage of both secondary and primary data[68] in support of the responses. Respondents could validate the verbatim responses.

Validity of the data collected was strengthened by the fact that the size of the sample was manageable and the sample represented the whole target population. In addition the data were triangulated[69]. Triangulation involves comparing sources of data from different methods to check for consistency and validity. Data collected from the secondary data sources were compared with the interview responses, which implies that two methods were employed. The methods were both qualitative and quantitative data collection using interviews and the review of documents.

2.7 Limitations

The research covered a rural municipality and not an urban or peri-urban local government. Data was collected from municipal top managers and not from staff at different levels.

2.8 Ethical considerations

Permission to conduct the research was obtained from the municipal manager. The communication seeking for permission included areas that will be considered to safeguard and protect the identity of the respondents:

- The research objectives and the description of how the data will be collected.

[67] Ibid 8, pp. 42
[68] Ibid 8, pp. 204
[69] Ibid 64, pp. 36 - 37

- The respondents will remain anonymous thereby protecting their personal identity.
- Other managers will not have access to or insight in their responses.

2.9 Conclusion

Chapters 3-5 will report on the literature study on municipal governance, DSS and business models. The findings of the empirical study of Letsemeng Local Municipality will be presented in Chapter 6, with the conclusions and recommendations following in Chapter 7.

Chapter 3

Literature Study on Local Municipality Governance

3.1 Legislative Framework

Municipalities in the Republic of South Africa are established in terms of chapter 7 of the Constitution of the country[70]. Chapter 7 paragraph 151 sections 1, 2, 3 and 4 of the Constitution, established municipalities as a legal government entity existing as an independent sphere of government, operating within the limits of national and provincial governments' guidance in governing affairs of the local communities. Chapter 10 of the Constitution[71] explicitly outlines a framework for municipalities to exist like any other public administration to ensure that principles of ethics, economic value, development agenda, accountability, transparency and sound human resource management are implemented. Within the framework of government, municipalities are established as a decentralised organ of state and are expected to provide democratic and accountable administration to local communities by ensuring delivery of services in a sustainable manner[72].

The Constitution categorises municipalities into three different groups, namely; categories A (metropolitan), B (local) and C (district)[73]. Local municipality shares executive and legislative authority with the district (category C). Before the new Constitution, municipalities were not integrated and serving communities within the boundaries of established and declared townships and towns. The legal framework at the time provided a separate organ of state to administer farming areas under what was called Regional Services Councils. The new Constitution eliminated these disparities and formed an integrated local government system.

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[70] Ibid 8. pp. 81 - 88

[71] Ibid 8, pp.107 - 108

[72] Ibid 8, pp. 81 paragraph 152 section 1 subsection 1 & 2

[73] Ibid 8, pp. 82 paragraph 155 section 1 subsection (a), (b) & (c)

The drive behind mergers is based on cost savings through economies of scale and simplification of government bureaucracies and service[74] delivery aimed at promotion of decentralised democracy as envisaged by the Constitution. In terms of the Constitution the two municipal categories, that is, B and C work closer by sharing executive powers and legislative authority. The executive of local municipality rest with district ensures the implementation of a plenary executive system with a ward participatory system[75]. Administratively, a local municipality is expected to achieve specific objectives within their scope, such as an annual review of community needs through the participatory system, prioritising mechanism of how those needs will be met, embarking on the process of community involvement.

Chapter 7 of the Constitution, dealing with municipalities, is operationalised in chapter 4 of the Local Government Municipal Systems Act that directs the administrative operation. Chapter 4 focuses specifically on the implementation of decentralised democracy by promoting community participation and involvement. The process is intended to foster the principle of citizen governance[76] and the culture of community development[77] in line with the mechanism, processes and procedures for community participation[78] in a decentralised democracy.

Community participation creates a link between managers and councillors and the community. It is primarily intended to ensure that managers and councillors open a dialogue so that they understand community needs and expectations and the value of the services delivered in fulfilling decentralised democracy requirements. It will also serve as platform to understand any underlying issues and offer clear ideas that could be incorporated into decisions even though they might be of a technical nature[79] .

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[74] RAUSCH, A. 2005. Municipal Mergers in Rural Japan: Easy on the Powerful, Severe on the Weak. http://www.japanesestudies.org.uk/discussionpapers/2005/Rausch.html (pp. 1). Outlined challenges and benefits comparing those municipalities than are economically sufficient and those that are struggling affecting integration.

[75] THE REPUBLIC OF SOUTH AFRICA. 1998. *Local Government: Municipal Structures' Act, no. 117 of 1998.* Pretoria: Office of the Presidency. Government Gazette(pp. 19 -20)

[76] Ibid 39, pp. 20

[77] Ibid 8, pp. 30 paragraph 16 (all)

[78] Ibid 8, pp. 30 paragraph 17 (all)

[79] CREIGHTON, J.L. 2005. *The Public Participation Handbook: Making better Decisions through Citizen Involvement.* San Francisco: Josset-Bass (pp. 17).

Beierle and Cayford (in Creighton)[80] made an analysis of community participation cases over thirty years, and their findings yielded five common lessons that can be replicated:

- Decisions integrate public values of accountability, economic value, transparency and ethics.
- Quality of decisions is substantially improved.
- Competing interests are resolved through a consensus building process when the majority makes its inputs.
- Community trust is improved due to the municipality sharing more information.
- Opportunity exist where the community is educated and informed on critical development within a knowledge management system.

The Local Government Municipal Systems Act further require local municipalities to develop Integrated Development Plans (IDP) as part of ensuring that the developmental agenda is achieved. The IDP is compiled through a process of community participation where the community is involved in setting service delivery priority areas within a particular five-year period in concert with the council's political term. On an annual basis, the council is expected to report to the community on achievements, challenges, strategies to address them, resource allocation, future plans and workings of the municipality going forward. The IDP format is contained in Local Government Planning and Performance Regulation[81] outlining specific deliverables and measurements. The regulation provides result-oriented guidelines with more emphasis on measurable inputs and outcomes. IDP document then becomes the municipal road map for resource allocation and effective management.

The Local Government Municipal Planning and Performance Management Regulation was established to ensure that a result-oriented approach in municipal administration is implemented. Experience from other countries like the United States is that managers in municipalities usually use their discretion in deciding on performance measurement and cannot even define outcomes and results[82] . The legislative mechanism is set to achieve outcomes and mandates by municipal managers within municipalities. In line with the Local Government Planning and Performance Management Regulation municipal managers are

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[80] Ibid 93, pp. 1

[81] THE REPUBLIC OF SOUTH AFRICA. 2001. *Local Government: Municipal Planning and Performance Management Regulation.* Pretoria; Office of the Presidency (pp. 9 – 13)

[82] Ibid 39, pp. 17

expected to develop measurement tools for the collection, storage and interpretation of data and information on municipal performance that is relevant, reliable objective and timeously.[83] Regulation forms the basis of implementation of a clearly defined reliable system for inputs, outputs, outcomes and efficiency measures[84] . It is aimed at encouraging municipal managers to come up with reliable and measurable indicators for delivery and monitoring provision of services[85] .

In addition the Local Government Municipal Planning and Performance Management Regulation is intended to assist municipalities to achieve six principles contained in the Constitution for public institutions, including municipalities. Hatry (in Callahan)[86] identified the importance of performance management as implemented in other public institutions similar to those outlined by the regulation:

- Accountability measure to politicians by managers to account for resources allocation aligned to community needs.
- Making decisions in line with available resources.
- Useful tool for strategic plan support.
- Results of the municipal performance should be communicated to the community, thereby improving trust.
- Assist municipality to continuously improve service delivery.

Performance measurement is closely linked to strategic plans[87] and will benefit public institutions like municipalities in several ways:

- Information provided is used as a baseline for setting future outcomes.
- Future strategies are set, taking into consideration expected environmental challenges.
- Alternative measures are undertaken to attain outcomes.
- Allow annual plan to be linked with resources and incorporated into revised IDP.

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[83] Ibid 39, pp. 23

[84] Ibid 39, pp. 49

[85] Ibid 39, pp. 24

[86] Ibid 39, pp. 26

[87] Ibid 39, pp. 28 – 29. Performance measure should be linked to the strategic plan so that an organisation can be able to evaluate whether it is progressing towards achieving goals.

Other legislation that is implemented to address resource management within municipalities in line with their constitutional mandates is the Municipal Finance Management Act[88] **.** It is aimed at improving the economic value of service rendered, promote and force accountability for resources deployed and ensure transparency through performance monitoring and evaluation by an outside agency. It also puts an additional burden on managers in that they are required to be economically savvy when dealing with resources.

The Intergovernmental Relations Framework Act[89] outlines how the different levels of government should work together towards ensuring transformation of public administration and promoting a spirit of common purpose across government. It directs the municipality to work closely with the national and provincial spheres to strengthen and harness opportunities that will enable achievement of principles contained in the Constitution.

All participatory requirements set by the Constitution and other accompanying legislation are meant to transform municipalities. The Constitution facilitates public service business process re-engineering or public service administration re-modelling to be able to transform the country. These changes affected the landscape of how public service at different levels should converge in a democratic society. These changes that gave rise to municipalities as democratic institutions were phased in during the years 1996 and 2000 respectively as part of the democratic processes.

It is important to understand the legislative environment that affects municipalities either positively or negatively in their effort to deliver service to communities. Understanding of how municipalities interact with other levels of government for making independent and interdependent decisions that impact service delivery is also essential. Legislation also plays an important role regarding sustainability and benefits of the decisions. The processes outlined in different legislations are aimed at ensuring that municipalities put systems in place that will assist in delivering satisfactory service to the community.

The next section will deal with municipal mandates, common practices and processes to be aligned with the legislative framework.

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[88] THE REPUBLIC OF SOUTH AFRICA. 2003. *Local Government: Municipal Finance Management Act, no: 56 of 2003.* Pretoria: Office of the Presidency (pp. 5).

[89] THE REPUBLIC OF SOUTH AFRICA. 2005. *Intergovernmental Relations Framework Act, no: 13 of 200.* Pretoria: Office of the Presidency (pp. 4).

3.2 Municipal Mandates, Common Practices and Processes

Municipalities in South Africa, irrespective of category, are established in terms of the Constitution that is operationalised in various pieces of legislation. Six principles (ethics, economic value, developmental agenda, accountability, transparency and sound human resource development) are the overarching guide for effective municipal administration, through a unique approach of active community participation forming a core of a decentralised democracy.

Research studies conducted worldwide to determine what the expected practices and processes within municipalities that could facilitate achievement of the notion of public accountability through community participation are, concluded that citizen governance implemented through various forms is the answer. Citizen governance[90] plays a central role in managing municipalities. It is implemented mainly through two processes, namely direct democracy and collaborative participation. The two processes have similar intentions in South Africa in dealing with community interaction at municipality level as a decentralised organ of state. In line with the legislative framework that established municipalities, community participation used to implement citizen governance is at the centre of an enabling responsive and developmental approach[91]. Direct democracy is when a community is given the opportunity to be involved in municipal decisions on service delivery issues. Conversely, collaborative participation is when the community has direct influence on municipal processes and outcomes on service delivery issues. In addition, collaborative participation is applied through involvement of other levels of public administration as outlined by the Intergovernmental Relations Framework Act in dealing with issues affecting the other levels of service delivery from politicians to administration. Both direct democracy and collaborative participation are in line with the Constitution and can be used as strategies to achieve decentralised democracy by meeting six principles. Collaborative participation will definitely have added benefit in ensuring that IDP is compiled in accordance with the Local Government Municipal Systems Act and Local Government Municipal Planning and Performance Regulation.

Municipalities are defined as complex adaptive governance systems because they are always in the process of change due to changing political directives from time to time.

[90] Ibid 39, pp. 200

[91] Ibid 39, pp. 154 – 163. Explain different approaches towards implementation of citizens' involvement.

Municipalities' direction is determined by the political ideology of a specified timeframe. Elements[92] of the system are:

- A large number of diverse elements in that municipality have to deal with the community, other interested parties and stakeholders.
- Conflicting elements dynamically held together and interacting within a system, for instance political and administrative management.
- At all times the elements are self-organising and their pattern stimulates changes within the entire system.
- Those that could be viewed differently from different perspectives due to different interpretation, such as performance in meeting the needs of the community.

These elements that are not unique to municipalities but common to public institutions have pushed governments all over the world to be in a continuous process of transforming municipalities as institutions in changing structures and procedures to achieve sustainable development[93] in delivering services. In 1994 South African municipalities were transformed from a town and race-based arrangement to transition when legislation was being finalised to align them to the Constitution. The period of transition continued until 2000 when the three categories of municipalities were newly implemented as a consolidation for different towns. This was aimed at taking advantage of economies of scale and decentralised democracy. Continuous municipal reforms implemented in South Africa and other parts of the world are aimed at[94]:

- Delegation of powers by national government to local decision-making (decentralised democracy).
- Improving government's essential services.
- Improving ease of access to government and community participation.

The reforms brought about quasi-autonomous municipal institutions currently existing in South Africa. They are quasi-autonomous in that they are not entirely dependent but still rely

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[92] MORCÖL, G. 2007. *Handbook of Decision Making.* Boca Raton: CRC Press. , (pp. 357)

[93] LAFFERTY, W.M. 2004. *Governance for Sustainable Development: The Challenge of Adopting Form of Function*. Cornwall: MPG Books Ltd. (pp. 4)

[94] HUMES IV, S. 1991. *Local Governance and National Power: A Worldwide Comparison of Tradition and Change in Local Government*. London: Harvester Wheatsheaf. (pp. 262 – 263)

on and are controlled by both national and provincial government. Transformation of municipalities to this form is in line with constitutional and legislative changes that bring additional responsibilities, such as direct decision-making and problem solutions aimed at promoting efficiency and effectiveness at local level.

Current local municipality arrangements mandate them to function largely through one of the two types of decentralisation or a mixture[95] as defined by Berg. This depends on the role municipalities are supposed to play, namely, de-concentration where national government disperses responsibility for certain services without accepting accountability (e.g. water and sanitation) and delegation where national government transfers authority for decision making and administration of public functions to local municipalities (all other functions except bulk water supply and electrification) and provide resources. In support Lafferty, Munshi and Abraham[96] state that decentralised democracy in the form of delegated responsibilities and functions is intended to improve efficiency, uphold democratic objectives, rights and promote community participation. The legislative framework provided is intended to create an enabling environment for both de-concentration and delegated powers.

Local municipalities in South Africa function largely under delegation because national government has taken into consideration their limited ability to generate income to fund community needs. Delegation therefore requires municipalities to adhere to strict controls set by national government either in a form of legislation or regulation. Therefore it is without doubt that appropriate systems should be developed to adhere to accountability requirements.

The mandate of local municipalities in South Africa is established by delegation of powers and functions by national and provincial government directions. According to Frates people view local municipalities as independent from national or provincial governments, but the reality is that they are subject to control of both national and provincial mandates, regulations and requirements for funding[97]. These requirements influence local municipalities substantially on what they are suppose to achieve in terms of the decision-making processes

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[95] BERG, S. 2004. Democratic decentralisation and local participation: a review of recent research. *Development in Practice, vol*. 14 (6), Nov. 2004, (pp. 781) Berg defined three types of decentralisation.

[96] MUNSHI, S.; ABRAHAM, B.P. 2004. *Good Governance, Democratic Societies and Globalisation.* New Delhi: SAGE Publications. (pp. 47).

[97] FRATES, S.B. 2004. Improving Government Efficiency and Effectiveness and Reinvigorating Citizens Involvement. *Perspectives on Political Science*. http://www.mcgill.ca/files/politicalscience/course05_poli328.pdf. (pp. 100)

and local policy direction. Collaborative participation in terms of other stakeholders is in line with Intergovernmental Relations Framework Act with national and provincial governments.

In implementing delegated powers and responsibilities municipal managers are faced with multiple and competing expectations that should be managed differently depending on the form of accountability they present[98] . Accountabilities are grouped into four types, namely: bureaucratic, legal, professional and political, defined as follows:

- *Bureaucratic accountability* deals with the conduct of the internal staff as required by legislation and rules.
- *Legal accountability* deals with the relationship between politicians and external oversight such as the auditor-general.
- *Political accountability* deals with compliance and responsiveness to politicians and external stakeholders for service delivery.
- *Professional accountability* deals with compliance to adherence to control bodies within a certain service delivery area.

Faced with these different forms of accountabilities that are sometimes competing, municipal managers' decision-making abilities are major determinants of success. This decision-making ability is sometimes the cause of unintended problems. Failure to identify where to intervene in fear of contravening accountability requirement for greater impact and community satisfaction, thereby leading to managers implementing similar solution patterns that worked in the past when tackling different and diverse challenges[99], because of the absence of appropriate knowledge management systems.

Identified accountabilities pose challenges in managing leverage points within municipal environment. These leverage points are not easily identified and understood where a planned organisational and delivery mechanism does not exist. Leverage points within public administration impact on the success of delivery of services. Skyrme (in Munteau and Ionita)[100] identifies five leverage points within public institutions. They determine successful implementation of objectives of decentralised democracy and achieving public

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[98] Ibid 39, pp. 114 – 116. Identified four accountable levels that affect municipalities as organ of state.

[99] GOLDSMITH, J.; GUNDERSON, G. 1973. *Comparative Local Politics – A Systems Function Approach.* Boston: Holbrook Press Inc.(pp. 205)

[100] Ibid 16, pp. 40

value. They are processes, people, measurement, information and space. Meadows defined leverage points as power points within a complex system. A small shift in one point can produce positive or negative changes big enough to influence the entire system[101]. Meadows stated that they can also be used as intervention points in a changing system to prevent negative effects when stabilizing the system. They may also contribute to improved effectiveness, intervene in a system when changes have occurred or address negative effects. Leverage points are important within the municipal system as they can be used to intervene in bringing the organisation to stability. Targeting appropriate leverage points within a system brings needed change that will ensure that the intended benefits are achieved.

Doppelt[102] identified information as playing a pivotal role in the municipal environment in terms of its gathering and sharing, decisions made and resources distributed. Information flows also play a very crucial part as it serves as a most appropriate intervention point in a system. It determines who has access to particular information[103], thereby affecting knowledge transfer. Meadow and Doppelt identify information as an important leverage point where others, such as people, processes, measurement and space, will fit in. When information is gathered, knowledge is extracted, empowering managers to adhere to accountabilities as outlined by Callahan. According to Skyrme, leadership is an enabler for accountability in the public service. Leadership includes organisational structures, organisational culture, policies and vision for knowledge management implementation. Information constructed from data, or purely collected as such, has an effect on processes, people, measurements and space. Determining new processes of doing things, for example, document management and workflow, managers depend exclusively on information available and needed to implement the new business model. Measurement cannot be set without information for determining the baseline and determining future targets and outcomes. People need to be trained, or possess capabilities, to conform to new information requirements in terms of collation, collection and use. Space is defined as the places where people operate. It affects how the information is collected and analysed in relation to the entire organisation. Depending on the organisational set-up space will affect sharing and use of information for decision making.

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[101] MEADOWS, D. 1999. *Leverage Points. Places to Intervene in a System*. The Sustainability Institute. San Francisco: Hartland. (pp. 7)

[102] Ibid 6, pp. 78

[103] Ibid 101, pp. 8

Managers can clearly understand and identify levers if they grasp the concept of decentralised democracy outlined in the Municipal Systems Act. During intervention, managers should concentrate on leverage points for the maintenance of stability with minimum system turbulence. In addition, systems need to be developed to ensure organisational balance. It takes into consideration the interaction of organisational structure and culture.

To achieve constitutional and legislative mandates as depicted in figure 3.1[104] VanSant recommends an intervention process model that can be utilised by managers to deal with the challenges:

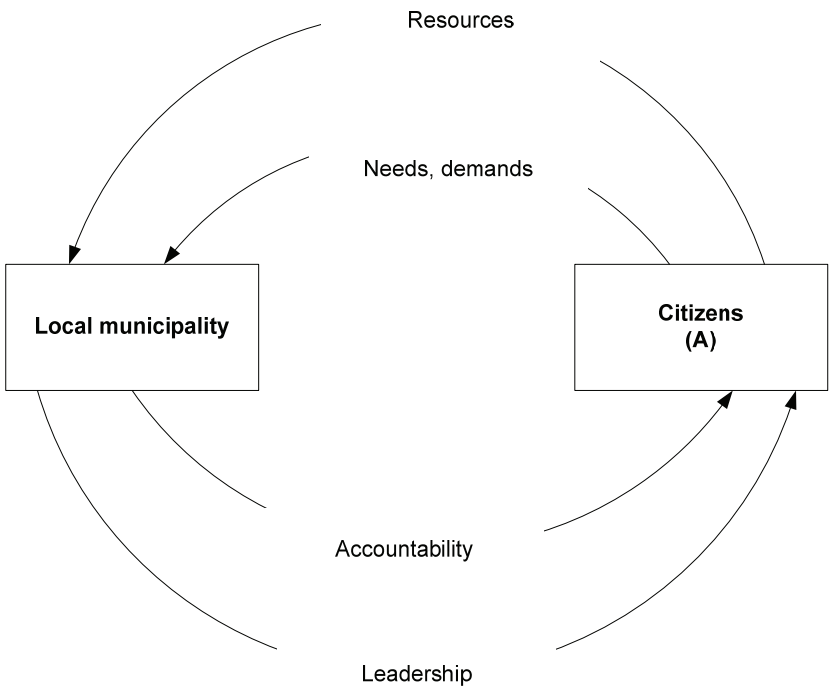

Figure 3.1: Building Good Governance Model
(Adapted from VanSant, 1997)

VanSant's model puts emphasis on the primary role of local municipalities in building good governance by addressing the immediate needs of communities and by matching the needs with available resources to realise democratic decentralization as envisaged by the Constitution. Leadership and accountability are important factors to harmonise the relationship between councillors, managers and the community. Harmonisation is necessary

[104] VANSANT, J. 1997. *Governance as Stewardship: Decentralization and Sustainable Human Development.* Research Triangle Institute. http://www.kas.de/dokumente/megacities/GovernanceasStewardship.pdf (pp. 2)

to ensure that processes in meeting community needs are in line with applicable accountabilities outlined by legislative requirements. Political and administrative leadership are essential ingredients in ensuring that service needs as collectively agreed are implemented, monitored and evaluated. Visible leadership, in both tactical and operational decision making for achieving organisational stability, is crucial. VanSant and Meadows concluded that there are two reinforcing factors, namely, information which is a key lever for strengthening channels of information and increasing community access, and influence for better citizen governance. In other words, when communities access information and councillors and managers ensure wide distribution, it gives them opportunity to influence development in the right direction.

The second biggest challenge facing management is the incorporation of information gathered through a participatory system in decision making for the improvement of service delivery. According to VanSant (figure 3.1), community satisfaction is largely influenced by critical resource availability, effective demands and needs management accountability and leadership. Information management in relation to data gathering and information sharing will affect decisions on key projects, affecting thereby resource allocation.

In support of VanSant and Meadows, Hartz-Karp's[105] figure 3.2 illustrates the process of managing the community engagement process to meet the objectives of the Constitution and promote good citizen governance. VanSant and Meadows's flow process confirm that information flows are an important leverage point for effective decision-making. The success of municipalities is largely determined by its capability to collect, manage and share information effectively and efficiently[106] across the entire organisation. The presence of leadership that facilitate cultural change in information sharing, putting in place appropriate structures and formulating policy for information and knowledge management is a priority.

Illustrated in figure 3.2, is Hartz-Karp's virtuous cycle. Data and information are gathered through the participatory process, analysed and structured by managers, and utilised for decision-making. There is a seamless integration product of Hartz-Karp at point B (figure 3.2), and VanSant's at point A (figure 3.1) as a complement for good governance. VanSant's

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[105] Ibid 26, pp. 14 - 19

[106] RASMUSSEN, G.; SZARMES, M.C. 2001. *Development of a Municipal Management Infrastructure at City of Calgary*. http://gis.esri.com/library/userconf/procol/professional/papers/pap697/697.htm (pp 1)

flow model addresses the process of interacting with the community, while Hartz-Karp outlines finer details of the process.

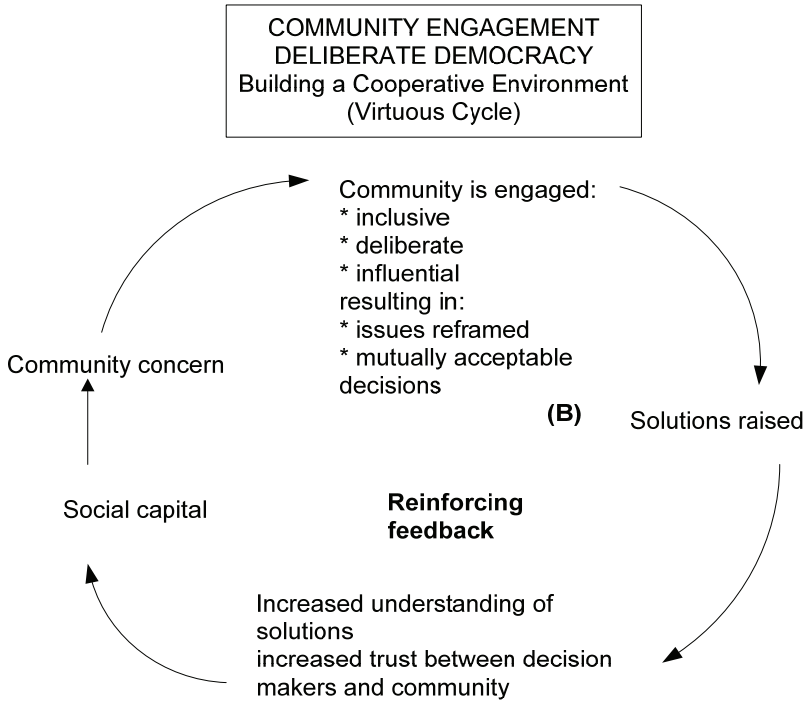

Figure 3.2: Community Engagement Model

(Adapted from Hartz-Karp, 2004)

The VanSant model puts community at the core of the municipal delivery system with community participation forming an integral part of citizen governance at A, which is the initial point of addressing gaps and challenges within municipal administration. VanSant emphasizes community participation as the initial point to start addressing issues of citizen governance and decentralised democracy. This forms a core of municipal administration for their existence and sustainability. Municipal existence and good reputation is the result of citizen governance. Decentralised democracy through a process of public participation to promote citizen governance at local level has benefits, such as, offering opportunities for the development of new knowledge within the community, thereby being able to articulate their demands and negotiate effectively (Canel)[107] . It also develops the community's capacity to work collectively and in return acquire knowledge of the complexity of municipal operations.

[107] CANEL, E. 2001. Municipal Decentralization and Participation Democracy: Building a New Mode of Politics in Montevideo? *European Review of Latin American and Caribbean Studies 71*. (pp. 32).

At B Hartz-Karp's community engagement model integrates with VanSant at A. The point of integration has been described by Canel as development of knowledge where politicians, managers and the community work collectively and acquire knowledge of the municipal's complex environment. Point B (figure 3.2) is where data collection and matching of needs, demands and allocation of resources are addressed. At point A (figure 3.1) the processes of accountability and leadership becomes essential for the completion of the cycle. According to figure 3.2, after the information has been collected through a participatory process of reinforcing feedback (common understanding of solutions, trust building between all stakeholders), addressing community concerns and moving more towards mutual understanding and collaborative autonomous decisions is made easy. The integration ensures that decentralised democracy in line with the Constitution is attained. Figure 3.1 (above) as represented at point A takes information gathered to the tactical level where processes for deciding on the delivery approach will be taken. The process of monitoring and evaluating on an annual and determined period will follow the same pattern.

Research undertaken by Poon and Wagner[108] supports VanSant's model by introducing three critical success factors (CSFs) that positively impact on the success of decentralised democracy in the form of municipalities. VanSant's flow chart strengthened by Poon and Wagner's three CSFs as expanding management leadership in terms of supporting processes, critical resources availability and link to business objectives in service delivery. Skyrme called them CSFs enablers, as they facilitate and support a successful transformation process within public institutions. Humes[109] also supports VanSant and Skyrme in that the transformation of municipalities require appropriate leadership that will implement the agenda interdependently with other stakeholders. The South African scenario where local municipalities deliver services in a shared executive and legislative plenary and intergovernmental arrangement with the districts could be best supported by Hume's analogy.

The three CSFs identified by Skyrme, Poon and Wagner depend on identified leverage points to yield a successful implementation of municipality mandates as per applicable delegations. Poon and Wagner concluded that in the presence of well managed CSFs, management improvement and service is possible. The CSFs will have a major impact on information

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[108] POON, P.; WAGNER, C. 2000. Critical success factors revisited: Success and failure cases of information system for senior executives. *Decision Support System* 30 (2001). (pp. 406)

[109] Ibid 90, pp. 273

flow because it influences the decision-making process and outcomes, ultimately impacting on how resources should be distributed. However, Skyrme[110] identified other sets of factors called *foundations* to complete the knowledge management puzzle. Foundations are hard and soft resources, such as, IT infrastructure and training of personnel.

Rasmussen and Szarmes point out that business units within municipalities must understand the information they manage and the interrelationship between data [111](figure 3.2). The two models offer the opportunity towards integration. Sharing of information between units within the municipality is critical as it allows other units to leverage against it from the source[112]. In an effort to manage challenges alluded to earlier, implementation of Hartz-Karp's virtuous cycle will be an effective tool for information gathering for better decision-making within municipalities. The process as recommended by Hartz-Karp is in line with chapter 4 of Local Government Municipal Systems Act on community participation.

De Villiers and Michael[113] further outlined two supporting perspectives that form two main pillars in service delivery within municipalities. The two pillars are provision of services and the process of attaining provision. Each pillar is supported by what De Villiers and Michael term perspectives. Provision of services is supported by demand and supply, while process of attaining provision is by planning and execution.

They stated that provision of services is largely determined by the demand perspective. This requires competent managers to separate the community's realistic demands and needs (application of VanSant and Hartz-Karp models) when responding to expectations and managing political promises. The supply perspective is the managers' creative ability to establish a support base to deliver needs as determined by strategy, political and policy directives and resource allocation. VanSant and Hartz-Karp's research demonstrated that more information can be collected through the community participatory engagement process, enabling managers to deal with demand and supply challenges. Application of two models will realistically assist politicians and managers to work within limitations of resources and legislation is offering valuable and sustainable services. Success of implementation of

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[110] Ibid 16, pp. 40

[111] Ibid 106, pp. 4

[112] Ibid 106, pp.6

[113] DE VILLIERS, A.; MICHAEL, P. 2006. Service Delivery at Local Government Level: Back to basics. *IMFO*, Winter, 2000(pp. 9)

models cannot be more emphasized in that CSFs are necessary to achieve most mandates. Marchand et al[114] deducted from research that collecting, organising and maintaining information carefully would assist the organisation to be proactive and project new information to meet any opportunity. In addition, continuous community engagement, according to VanSant and Hartz-Karp, would also assist the organisation to address shifts as a result of movement at leverage points.

The second pillar is planning that ensures managers have capabilities that allow holistic activities integrating, conceptualising formulation of plans and execution thereof; support the process in meeting the intended mandate. This stage is where issues pertaining to demand and supply are concretised. The pillars are essential because they offer decision-making ability to prevent a bureaucratic black hole where municipal services deteriorate without effective decisions. Competent execution of plans will ensure resources allocated are appropriate and in line with prioritisation during the participatory process. The process recommended by Hartz-Karp addresses the challenge of effective resource allocation through effective prioritisation. Marchand et al[115] note that if the organisation engages their clients in a two-way dialogue, it would offer opportunity to better understand how to promote cohesion and anticipate changing needs.

Hartz-Karp referred to social contribution as the community input not in terms of monetary and intellectual capital but working together as a collective to address needs and demands. This contribution could be made either through a dialogue or giving ideas in cost savings and increasing contribution. Municipalities are expected to engage in similar processes as outlined by legislative directives. The two-way dialogue is implemented in two different ways depending on the purpose of interaction, namely; direct democracy and collaborative participation[116] . Direct democracy is the process where the community is involved in the decision making process, while collaborative participation is where the community has a direct influence on the process and outcome. Callahan's dialogue processes fit very well within the VanSant and Hartz-Karp integrated models in which, at all stages of community engagement one or both are applied.

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[114] Ibid 51. (pp. 152 – 153).

[115] Ibid 51, pp. 223 & 237

[116] Ibid 39, pp. 154 - 163

Hallsmith[117], in support of Hartz-Karp, and in line with the Local Government Municipal Structures Act, outlines the role of the public in the decision making process, consisting of public information, public meetings, stakeholders' engagement, direct democracy and community initiatives that any one or a combination of are followed in municipalities. Callahan[118] identifies three decision making approaches within public institutions where community participation plays a major role in delivering services. They are public, autonomous and modified autonomous decision making approaches:

- *Public decision making* approach is where politicians and managers share identified challenges with the community and collectively agree on the solutions.
- *Autonomous decision making* approach is where politicians and managers decide without any community input or consultation.
- *Modified autonomous decision making* approach is where politicians and managers identify some segment of the community, not necessarily representing the community, that is consulted and ideas, recommendations and advice are sought.

Hallsmith[119] indicates that despite the community having different contact opportunities where they interact with each other, either to enhance capacity or to sustain progress into the future, managers and councillors should maintain those processes that they can control regardless.

Hallsmith[120] recommended two strategic actions to be implemented during the transformation of municipalities to a more community friendly system that will ensure a less difficult process of effectively utilising data and information collected from the participatory process. This is very important to ensure that data and information become useful for:

- Identifying the elements of a system likely to resist change through a community feedback mechanism that will deal with resistance, undertake a proper needs and system analysis.

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[117] HALLSMITH, G. 2003. *The Key to Sustainable Cities: Meeting Human Needs Transforming Community Systems*. New York: New Society Publishers. (pp. 142- 143).

[118] Ibid 39, pp. 176. Identified three decision approaches that could be adopted by democratic institutions.

[119] Ibid 117, pp. 7

[120] Ibid 117, pp. 141

- Providing openings to external influences that might facilitate change through public participation in order to test the plan for support and derive creativity and innovative ideas. Hallsmith's recommendations support both the Hartz-Karp and VanSant models as earlier explained.

Therefore, Hallsmith's strategic actions will assist managers to cope with challenges in meeting all mandates as outlines by Frates[121]:

- Being used as a vehicle to reappraise the institution in the light of decentralised democracy.
- Fitting within the changing political system.
- Being used as a mechanism for national government to allocate resources efficiently.

Vahidov and Kersten[122] point out that municipal transformation is not a unique process and is rather similar to any other organisation, either public or private. The transformation process includes broader issues ranging from interaction with clients and changing business processes to match new and desired situations. Interaction in line with democratic principles for a transforming public service has been detailed by Hartz-Karp and VanSant. Business processes are expected to change in line with the value proposition that must be achieved by transformation of public service. Transformation cannot be possible without measurements that are informed by data and information agreed upon and monitored. The ultimate results will inform managers whether they have attained what they planned.

The biggest question is how do management in municipalities deal with huge amounts of complex data collected from the participatory process? Safai-Amini[123] concluded that there is a need for municipalities to explore methods of assembling and distributing vast amounts of input from various sources especially when undergoing transformation.

Performance measurements need to be determined based on what to achieve to improve service delivery and implemented correctly as per legislation. Callahan[124] notes that when

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[121] Ibid 97, pp. 261 - 262

[122] VAHIDOV, R.; KERSTEN, E.E. 2003. Decision station: Situating decision Support System. *Decision Support System* 38 (2004) pp. 283

[123] SAFAI-AMINI, M. 1999. Information technologies: challenges and opportunities for local government. *Journal of Government Information* 27 (2000). (pp. 477)

[124] Ibid 39, pp. 19

measurements are implemented appropriately they improve performance that inspire management thinking and thereby improve decision-making. They focus the attention of managers on how well they deliver services to the communities[125] . As stated by Meadows, Doppelt, Poon and Wagner, in the absence of good and appropriate information success is remote.

Callahan[126] quotes Osborne and Gaebler's rationale in supporting the need to implement performance measurements where information is managed appropriately from their book Reinventing Government as:

- They assist managers to track both successes and failures.
- Assist managers in identifying and rewarding success.
- Assist the process of learning within the organisation.
- Offer clear results that can be shared with the community, thus winning and improving their support.

Municipalities operating within a similar democratic system of government such as South Africa are underpinned by common practices and processes that serve as information for sustainable decisions and provide opportunity for knowledge management. Mandates determine how processes and procedures are implemented within the limits of the legislation. Literature covers areas that have proved that if municipalities implement processes and procedures as identified, they will certainly achieve its planned performance targets. It also provides with different models (Hartz-Karp, VanSant and Vahidov) that have assisted municipalities in similar environments to successfully implement DSS.

The next section looks at municipal challenges in delivery services to the community within legislative environment and the mandates outlined earlier.

3.3 Municipal Challenges

Generally, the South African Constitution and other applicable legislation that govern municipal administration as a third tier of government, put a great deal of emphasis on the need to transform, for meeting a set agenda. Although the Constitution and accompanying

[125] Ibid 39, pp. 20
[126] Ibid 39, pp. 25

legislation have been in force for a few years, most municipalities are still struggling to implement the required changes. There are five reasons put forth by Callahan, Hallsmith, Kettl et al, Poon and Wagner why challenges still exist and how they could be addressed.

Firstly Callahan[127] recommends that a municipality can use an objective approach for accountability to benefit the community and still add value to public decisions. Government institutions, especially municipalities, have been going through a difficult time to account for results and outcomes. This is the result of trying to set targets after implementation[128], while they were supposed to be predetermined; the targets are usually poorly defined and not focused. The present democratic dispensation puts municipalities in a complex accountability responsibility, especially[129] because they must clearly prove and demonstrate achievements to communities. Therefore, there is a need to operate in a result-oriented way in order to positively impact on the life of the communities they are serving[130] . Municipal managers should be concerned with offering efficient services and expansion because whether issues are administrative or service delivery in nature they are, to some extent, political choices[131] . There are different accountabilities that managers should be integrating and managing effectively. Callahan[132] identify them as legal, professional and political, existing within public service.

Secondly, Hallsmith[133] states that municipalities' resources are not always sufficient, revenue is not guaranteed, and interference by politicians marred the possibilities of long-term investment in community development and service delivery sustainability. This also has a great effect on long-term problems, crisis management and solutions. Conditions posed by political interference impede objective root cause analysis, as it is often not based on facts but on feelings and appeasement. Competing unrealistic community needs, compounded by managers who make judgement errors by concentrating on one progressive area, while their ignorance of others causes irreparable damage to the municipal image. The worldwide trend

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[127] Ibid 39, pp. 5
[128] Ibid 39, pp. 6
[129] Ibid 39, pp. 8
[130] Ibid 39, pp. 9
[131] Ibid 107, pp. 26 - 27
[132] Ibid 39, pp. 114 - 116
[133] Ibid 117, pp. 2

showed that community dissatisfaction is on the rise with politicians[134] due to some of the identified challenges.

Thirdly, Kettl et al (in Callahan)[135] point out that all mandates given to managers at all levels of public institutions should make them manage effectively. However, challenges such as skills and enabling systems retard progress and success. Municipalities strive to improve services and empower citizens in political areas because of lack of understanding of councillors and managers about the required process. It is frustrated by managers who believe that their ideas are nobler than community input on their needs and demands. Municipal managers'[136] noble plans do not often enjoy community support as they fail to engage them in line with legislation. Implementation is doomed to fail when proper public participation processes are not followed due to divergent community views, politicians and administrative interference. The Hartz-Karp and VanSant models are designed to assist councillors and managers through a carefully planned process to prioritise community needs and demands and address them accordingly. They allow proper community engagement, avoiding conflict from all sides.

Hallsmith[137] also states that managing municipalities has become a great challenge because most managers do not have a clear understanding of the nature of complexity. Often managers' solutions lead to new problems due to the absence of DSS and appropriate tools. Skyrme[138] describes them as foundations on which leverage points are built to enable leadership. They are hard (IT infrastructure and intranet) and soft (skills and training), coupled with appropriate tools and techniques. Tools and techniques are inferred in DSS. Most municipalities are on the edge of chaos or already in chaos because within the complex environment a sudden change in a system leads to a major shift. If managers fail to maintain balance the organisation will be thrown into a black hole. Chaos is exacerbated by system failure to self-organise to a more stable state due to lack of decisive leadership as stated by Poon and Wagner and what Skyrme describes as an enabler. In addition failure to build compensating mechanisms within the organisation to counteract any moves away from a

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[134] MILNER, E.M. 2000. *Managing Information and Knowledge in Public Sector*. New York: Routledge. (pp. 12).

[135] Ibid 39, pp. 18

[136] Ibid 117, pp. 142

[137] Ibid 117, pp. 88

[138] Ibid 16, pp. 40

dominant position, in order to maintain organisational balance. During organisational turbulence it is important for all leverage points to respond towards moving organisations to a point of stability. In order to maintain balance and ensure that municipalities maintain a dominant position for service delivery, information is vital.

Current forms of municipalities emerged out of the chaos of previous forms through constitutional and legislative imperatives. Hallsmith[139] further states that failure to organise properly is attributed to absence of carefully crafted plans and implementation strategy. Chaos experienced in municipalities is caused by a lack of focal point designed to create and maintain stability for service delivery and optimal resource management. Municipal managers are required to respond to chaos and lead the organisation cohesively, so that a new organisational architecture is achieved[140].

A fourth challenge is that decision processes within municipalities are based on rational theory. Choices are based largely on cost and community satisfaction. Known values, preferences, cost and any missing information will affect the decision outcome[141], and this is often disregarded. Currently the three decision making approaches put forth by Callahan (public, autonomous and modified autonomous) are lacking.

The fifth challenge is where public service managers fail to perform and achieve promises, a result-oriented approach is necessary[142]. Lack of measurements to monitor progress within the municipality remains a challenge. In their absence, managers will disregard any mandate and implement what they think is in the best interest of the community.

Understanding the challenges faced by municipalities and how they were addressed internationally, gives a clear idea about what is expected from Letsemeng Local Municipality to address the identified challenges. The literature offers different approaches on how to deal with commonly identified challenges. In order to evaluate the situation in Letsemeng after data collection it is important to understand what challenges are expected.

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[139] LEACH, S.; STEWARD, J.; WALSH, K. 1994. *The Changing Organisation and Management of Local Government.* London: The MacMillan Press Ltd. (pp. 83).

[140] Ibid 117, pp. 84

[141] Ibid 92, pp. 349

[142] Ibid 39, pp. 17

Within the midst of challenges the next section looks at municipalities as a transforming public institution.

3.4 Municipality as a Transforming Public Institution

Osborne and Gaebler (in Callahan)[143] state that successful transformation of public institutions requires that managers should be accustomed to community needs and operate within minimised bureaucracy by being more flexible, innovative and result-oriented. Leach et al[144] state that a municipality going through a transformation process must ensure that it maintains or reaches a point of organisational balance. This is when organisations build internal coping mechanisms to deal with crisis, chaos and increased demands for keeping the expected balance. Skyrme, Doppelt and Meadows identify a combination of five leverage points that should accompany any transformation as they determine outcome in any change. Leadership and accountability are enablers for successful transformation.

During periods of transformation, organisations go through structural change as depicted in figure 3.3 by Evernden and Evernden. Figure 3.3 is regarded as the bigger picture because transformation cannot be successful if the business model does not consider the six issues. During the process, turbulence might occur where organisation is expected to identify a point of equilibrium as a dominant orientation and strive to maintain it. Dominant orientation is possible provided managers are able to identify leverage points causing instability. Evernden and Evernden[145] in figure 3.3, depicts the core as architecture to change the organisation through gains in the change process, knowledge management, information technology, strategic planning and process improvement. Municipalities will be able to identify appropriate leverage points as compensatory mechanisms for reaching equilibrium while implementing change.

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[143] Ibid 39, pp. 10

[144] Ibid 139, pp. 257 - 259

[145] EVERNDEN, R.; EVERNDEN, E. 2003. *Information First: Integrated Knowledge and Information Architecture for Business Advantage.* London: Biddles Ltd. (pp. 214).

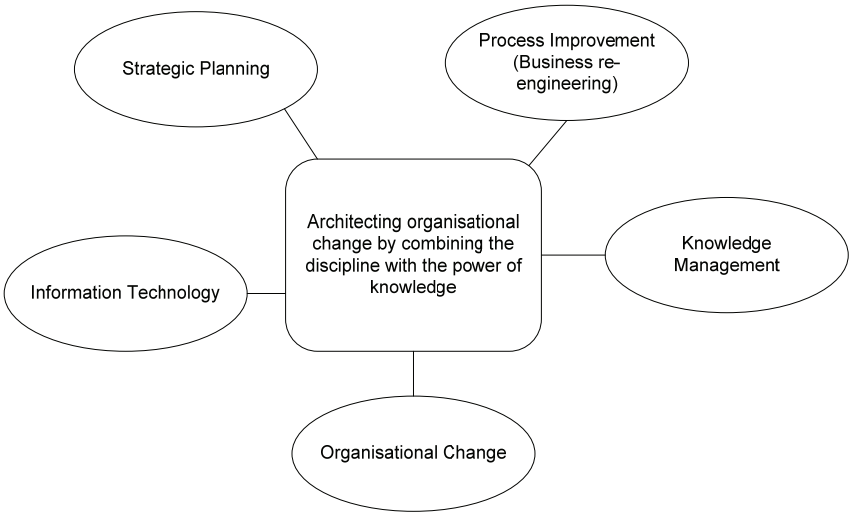

Figure 3.3: Seeing the big picture
(Adapted from Evernden and Evernden)

Evernden and Evernden state that in the process of transformation, strategic choices should be maintained to ensure that planned goals are achieved. The other factor in the new architecture is information management through the use of appropriate information technology. Skyrme identifies technology as a foundation for implementing information and knowledge management. In summary, organisational transformation is led by a carefully crafted strategic plan that outlines the expected process improvement that will be facilitated by appropriate information technology for specific organisational structure and culture change and implementation of appropriate knowledge management systems. Information management plays a key role in assisting organisations to achieve expected changes provided[146] that:

- The information is adequate.
- The diversity of information sources is linked to organisational strategy.
- The services are based on the information.
- Collection of data and information usage takes place speedily.
- The availability of technology is adequate.
- The quality of information in terms of accuracy, precision, simplicity and validity is guaranteed.

Information is a critical leverage point, identified by Skyrme, Doppelt and Meadows, as it determines the success of any organisation in meeting their strategic goals. The municipality

[146] Ibid 145, pp. 15

as a transforming organisation could be successful if information is managed effectively to feed into the other five leverage points.

Municipal infrastructure management, service planning, design and operation are becoming increasingly complex activities because of continuing community pressure that demands good quality at lowest possible cost[147] or subsidized basic services, such as water and electricity. Specific challenges in infrastructure are restoration of a quality environment, management of large and complex systems, preventative maintenance and rehabilitation of existing infrastructure forming the core of service delivery.

What brings about crisis and need for change in municipalities[148]?

- Magnitude of specialisation in new institutional forms in terms of communities demanding involvement and participation.
- Fiscal crisis exposing municipality to failure to implement decision making processes and coordination.

Transformation of municipalities borders around five legs, with organisational architecture forming a core, as stated by Evernden & Evernden (figure 3.3). The success of managing change and ensuring cost and community satisfaction depend on managers taking full responsibility of information management to inform the new organisational architecture. Information plays a crucial role, as a leverage point for the maintenance of sustainable municipal capacity for service delivery. The five legs are meant to achieve new architecture and could make a greater impact to the core, provided effective information management is in place, as stated by Marchand et al.

Municipalities need to integrate their delivery strategy around community needs as identified during the community participation process (Hartz-Karp and VanSant) in order to refocus the information management process and systems[149] . Good information management entails governance (controlling and usage), leadership (protecting information), infrastructure (enabling support for usage) and usage (effective and efficient use). Information

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[147] QUINTERO, A.; PIERRE, S. 2002. A knowledge-based approach for managing urban infrastructure. *Knowledge-Based Systems* 15 (2002). (pp. 449)

[148] Ibid 94, pp. 272

[149] Ibid 104, pp. 13

management will automatically inform knowledge management initiatives. Knowledge management goals aligned to transformation agenda of any institution are aimed at improving effectiveness and sustainability for service delivery[150] . It must be aligned to strategic objectives as depicted in figure 3.3. Process improvement benefit administration by effective and efficient resource management in dealing with unexpected challenges during the process of transformation or unexpected turbulence i.e.:

- Create a stable, orderly and secure society.
- Create and maintain an acceptable level of quality of life.
- Develop competent knowledge workers and competitive institutions.

Research conducted by Vahidov and Kersten showed that transformation would not be possible without a change in the business environment, as stated by Evernden and Evernden and accompanied by an appropriate model for application[151], streamlined to meet the constitutional mandates. Public value can be derived by adapting the process and key administrative systems[152], as interpreted by Evernden and Evernden:

- Establishing authority, responsibility and accountability domains.
- Aligning strategic planning systems to address key identified transformation process.
- Defining primary policies and procedures.
- Recruiting, selecting, retaining employees in line with transformation agenda.
- Implementing good information management systems.

In line with Evernden and Evernden (figure 3.3), other transformation issues are organisational change incorporating flattening of organisational structure and growing employee empowerment, increasing the need for fast response, especially in a dynamic environment, better informed and empowered citizens in support of organisational change and overall positive cultural change. Transformation brings a higher degree of environmental complexity and a number of challenges faced by decision-makers that centre around changes and striving to achieve organisational balance.

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[150] WIIG, K.M. 2000. Application of knowledge management in Public Administration. http://irap-pari.nrc-cnrc.gc.ca/success/km.pdf (pp. 2).

[151] Ibid 145, pp. 1

[152] MOORE, M.H. 1997. *Creating Public Value: Strategic Management in Government.* London: Harvard University Press. (pp. 226).

De Villiers and Michael[153], note the complexity of managing organisational change within municipalities. It requires managers who have technical competence and who are friendly towards community, as well as speedy implementation to ensure efficiency and effectiveness. Municipalities have the responsibility to deliver the services and maintain irrespective of any shortcomings. Difficult choices have to be made to deliver required services optimally within available resources.

In line with forms of accountabilities that are dictated by legislation and other arrangements, decision making approaches in municipalities, like in any other public institution, takes three forms, namely; public decisions, autonomous decisions and modified decisions[154] . These are new processes in line with the democratic dispensation in transforming public institutions, especially in a decentralised democracy. The public decision making approach is in line with direct democracy in that the challenges are shared with the community, and collective solutions are taken. The autonomous decision making approach is where councillors and managers make decisions without community consultation or involvement. The modified autonomous decision making approach involves selective consultation where a community segment is consulted and makes recommendations that are considered when decisions are made.

In addition to Callahan's decision making approaches, Creighton[155] states that the process of public decision can be enriched by collaborative problem solving. It involves the process whereby issues are explained to the community, and when a common understanding has been reached, an agreement to take action forward is set. This is in line with Hartz-Karp's community engagement model. Bleiker and Bleiker (in Creighton) consider it as informed consent because irrespective of minor disagreements the process is taken forward. The process gives politicians and managers a consensus to proceed with decisions. It also gives them an opportunity to redefine the problem if necessary and come up with additional alternatives. The process of consensus building is very crucial as long as the majority of stakeholders are involved in the process of reaching agreement.

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[153] Ibid 113, pp. 8 – 11
[154] Ibid 39, pp. 176
[155] Ibid 97, pp. 10

The recommendations in decision making approaches by Callahan, as outlined by Moore[156], when implemented could be of value to municipalities:

- Increasing reach in service delivery per resource allocated.
- Improving service levels without increasing costs.
- Earlier identification and response to community needs.
- Increasing innovation and capacity to sustain service delivery.

Transformation of organisations differs according to area of speciality thus it is necessary to understand how municipalities experience the process. This includes the processes of how municipalities that are regarded as decentralised forms of democracy, are incorporated into acceptable management activities. The theories outlined are applicable to different forms of municipalities in dealing with challenges and ensuring sustainable service delivery.

The next chapter covers a literature study on decision support systems that will provide a clear insight on relevant systems for the municipal environment.

[156] Ibid 104, pp. 211

Chapter 4

Literature Study on Decision Support Systems

4.1 Municipal Management Decision Making

It is expected that managers in public institutions fulfil mandates effectively and efficiently because they posses relevant expertise, such as, administrative competence in organisational realignment[157] . They are expected to be responsive and dynamic so that they can create value through innovation. Callahan[158] states that because of the prevailing lack of clear mechanisms and poor administrative arrangements in most municipalities around the world, managers suffer from accountability overloads and deficits in meeting the expectations as stated by Moore. Municipal managers irrespective of form of decentralisation are faced with challenges in dealing with forms of accountabilities as stated by Callahan. These challenges are categorised into four groups, namely; holistic public administration, information management, application of information and decision making capabilities.

First is the understanding of a municipality as a system within a holistic public administration. It is also characteristic of an organisation. Malhorta[159] defines an organisation as a system which is made of different parts exhibiting different characters, namely: emergence, coherence, chaos and complexity. The different parts become dominant in a situation where information overload prevails similar to municipalities. These competing characteristics always lead to diverse results, especially in the presence of strong leverage points (information, processes, people, measurement and space), when responding to minor changes in a system. In this type of environment, new systems and procedures are essential in dealing with dynamics to direct deliberate strategies. Managers must be able to understand interaction between different factors as outlined by Evernden and Evernden in figure 3.3. Interrelationship must be understood from the angle of each to have equal impact on transformation.

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[157] Ibid 104, pp. 17 - 18

[158] Ibid 39, pp. 141

[159] MALHORTA, G. 2001. *Knowledge Management and Business Model Innovation*. London: Idea Group Publishing. (pp. 82).

Malhorta[160] also identified four other challenges that should be understood within an organisation, namely, complexity, uncertainty, ambiguity and equivocality, in the midst of managing abundant information similar to the municipal environment. Each of them requires a certain level of skill to be able to resolve the prevailing challenges. All challenges outlined by Malhorta bring doubt to whether the human mental capability can successfully eliminate subjectivity in decision making.

Secondly is effective data collection and information management. In complex situations data and information must be simplified, usually by applying experiential knowledge and an appropriate level of variety to deconstruct the situation into simpler parts. Currently most public institutions still rely on the limited memory and initiative of managers to recall how they addressed situations when the application of experience is urgently needed. Most situations within public service that are are similar could therefore be addressed using similar solutions that are kept as knowledge assets for sharing within the organisation. The process outlined by Hartz-Karp and VanSant is done annually and can build on knowledge continuously.

During uncertainty facts need to be certified. This requires existing situational knowledge to predict and understand missing information to some level of reliability, utilise resources and apply information buffers. Information buffers assist managers to exclude unwanted data and set acceptable parameters. Ambiguity is as a result of inadequate knowledge, which can be reframed to get meaning, thus providing rich and interactive information. Lastly, equivocality needs unifying multiple interpretations of a situation, by providing meaning and common understanding. Also these situations can be addressed by implementing knowledge management that is responsive to the needs of the managers that will automatically provide the needed information.

Hallsmith[161] states that in order to deal with the characteristics mentioned by Malhorta, a self-organising system is necessary. A self-organising system capable of developing capacity and building core competencies is deemed to be an appropriate scenario for municipalities. Skyrme concludes that a knowledge management system that addresses foundations, leverage points and enablers will be critical to offer municipalities the needed support.

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[160] Ibid 159, pp. 18 - 24

[161] Ibid 117, pp. 141

Thirdly, managers' skills in the application of data and information in decision making are a concern. Taking these challenges into consideration, many researchers have documented evidence of the weakness of solely relying on the capability of managers to make effective and sustainable decisions. Kuo's[162] research revealed that in most organisations, more reliance is put on experience of managers to apply intuition effectively in decision-making. However, when intuition dominates decision-making, it leaves gaps in adequately addressing challenges, as stated by Malhorta. He highlights several dangers of relying on a manager's intuition to solve problems, namely:

- They only consider plausible solutions and ignore multiple others that could be improved over time.
- They base their solutions on the perception of context.
- They try to integrate intuition and analytic thinking and by so doing render the process difficult and time consuming.
- Intuition is always overshadowed by personal values, intentions, goals, stress, fatigue and emotions during the decision making process.
- A condition called cognitive lock-up and cognitive miser are the cause of systematic biases and errors, largely because of the individual's limited memory resources for recalling most past experiences.

Drummond[163] mentions several reasons why and how decisions go wrong in support of Kuo's literature research. Managers and decision makers often base their decisions on information that is not properly considered for adequacy and accuracy, and not interpreted[164], thus, being unable to understand its meaning. In the process they rather use surrogate information or instances that seem to be similar to derive meaning, thus creating ambiguity. Most information is taken without inference or reading between the lines. In addition, more information does not necessarily mean that they understand the situation, thus leading to equivocality. Drummond emphasized that managers, like all individuals have limited memory, in that the more they are overwhelmed by information, the more they become confused. Managers also have the tendency to refine information and in the process loose its

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[162] KUO, F. 1998. Managerial intuition and the development of executive support system. Decision Support Systems no: 24 (1998). (pp. 90 – 91).

[163] Ibid 16, pp. 1

[164] Ibid 16, pp. 77 – 91

real meaning. Over-refinement of information looses reality because people want it to be obvious and cannot assist to resolve challenges.

Fourthly, the challenge amongst managers is to implement decision making capabilities and skills in dealing with data and information. In most situations in managing organisations, decisions to address problems are based on managers' past experiences thus leading them to ignore the future[165]. Drummond identifies five types of prejudices, namely, *frequency bias, anchoring adjustment, vividness effect, reverting to the past* and *effect of emotional status.* Frequency bias relates to the individual recalling frequent and recent events and solutions, making decisions based on them exclusively. Anchoring adjustment occurs where people's decisions are affected by past events. The vividness effect is when individuals see situations as more probable than they are in reality. Individuals have a tendency to revert to historical solutions that might have worked in the past as the answer to current problems. Lastly, Drummond and Kuo identify the state of an individual's emotions affecting the individuals' decision-making ability.

An additional factor affecting decisions is people's interest rather than the problem at hand[166]. This will certainly lead to wrong decisions being taken. Issues at play might be protecting their own interest (e.g. jobs and advancement or even being unpopular), leading to a bunker mentality. Managers also overestimate their capability for effective decision-making, and risk taking on unpopular decisions[167], evaluating inappropriate information for making decisions. The more they experience success the more they become complacent because they believe that they are in control.

In any organisation, failure to make timely decisions create future problems[168], because by the time the problem is given attention it has changed its complexity. It is common knowledge that every time one hesitates to take a decision, risks increase[169], as a result any solutions pursued can never be successful. It is also managers' inclination to maintain consistency in addressing problems even in different situations, resulting into making decisions that change the impact. They also tend to force success at all costs, with

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[165] Ibid 13, pp. 92 – 105
[166] Ibid 16, pp. 106 – 126
[167] Ibid 16, pp. 127 – 147
[168] Ibid 16, pp. 148 – 171
[169] Ibid 16, pp 172 -196

devastating consequences thus forgetting that the future cannot be predicted and problems do not have ready-made solutions.

Chen and Lee[170] also comment on the mistakes managers make when relying on intuition, especially when they are faced with complex situations. This can often lead to:

- Addressing management issues rather than resource problems.
- Creating decision situations rather than reacting to them.
- Implementing decisions rather than making them.

In research conducted by Kuo and Drummond, it was found that decision making by managers is messy, full of gaps, non-quantitative to make sense[171] and unstructured. Taking into consideration issues raised by Drummond, Malhorta and Hallsmith, managers should be supported by information systems[172] that will allow effective information management, decision making and knowledge management processes.

Managing uncertainty of decisions made by managers, knowledge management coupled with DSS in one form or the other will be able to address these challenges as alluded to earlier. DSS mainly concentrate on[173]:

- Assisting in enriching the decision maker's mental models to be able to look at alternative solutions to a problem
- Supporting the decision maker's backward and forward thinking; thus avoiding recall frequency, vividness, anchoring adjustment, bunker mentality, availability, prior hypothesis bias and reasoning by analogy.
- Mitigating the individual's judgement errors and biases due to their limited information recall capabilities.

How municipal managers are able to establish systems that assist them in decision making is a core of the research. Literature supports the importance of managers to implement or have

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[170] CHEN, J.Q.; LEE, S.M. 2002. *An explanatory cognitive DSS for strategic decision making.* Decision Support Systems 36 (2003). (pp 149).

[171] Ibid 162, pp. 79

[172] HASAN, H., GOULD, E. 2001. Support for the sense-making activity of managers. *Decision Support Systems* 31 (2001). (pp. 71 -84).

[173] Ibid 172, pp. 146

access to decision support systems rather than rely on their capabilities alone. The type of decision support management decide to implement largely depends on their ability to make decisions independently.

The next section will look at Executive Information Systems (EIS), knowledge-driven DSS and information management tools that will assist municipal management to make sustainable decisions.

4.2 EIS, Knowledge-driven DSS and Information Management Tools

According to Milner[174], a knowledge management system will be able address most challenges faced by municipalities during transformation and the period of attaining stability. It will also assist in extracting data to measure value, transform it into information and use it to generate knowledge and decision making.

The public service is regarded as a knowledge work served by knowledge workers because most of the work is classified as special expertise and knowledge[175]. Max Weber in Zhao and Jin called public service "Dienstwissen", which simply means service knowledge. Weber reiterated that the municipality as a public institution must be managed as a knowledge organisation. Weber identifies four domain areas in public service:

- Knowledge about past policies.
- Knowledge about work already undertaken.
- Knowledge about the legislative framework and accompanying prescripts.
- Knowledge about the level of expertise of knowledge workers.

It implies that the public service has always been a knowledge domain. They give the following reasons why public institutions deploy technology for knowledge management[176] :

- It eliminates barriers between public service and community, so that information could be obtained regarding service delivery.

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[174] Ibid 170, pp. 2

[175] ZHAO, J.; JIN, P. 2006. *E-knowledge for Public Management.* http://iec.cugb.edu.cn/Worldcomp2006/IKE4432.pdf (pp. 3).

[176] Ibid 170, pp. 1

- It opens other avenues for the public service to communicate effectively to stakeholders.
- Business processes that would not be possible in the absence of knowledge management can be implemented.

Studies conducted in Canada and Malaysia on the knowledge and information initiatives of public institutions showed that they are inherently political and impacts differently on personnel, stakeholders and the community[177]. However, if participation of politicians features dominantly in the process as outlined by Hartz-Karp and VanSant, political interference will be minimal. Milner[178] outlined reasons why information and knowledge are important in public institutions:

- Data captured is used to extract value especially for the attainment of priority areas.
- Data transformation into information is essential for effective management.
- Information is central to knowledge generation and the decision-making process.

Information and knowledge management in the public service largely depends on political processes as all government mandates are political[179]. In their absence, opportunities to tap into formal and informal knowledge networks might be limited or non-existing. Despite all prevailing resource challenges, transformation issues and community pressure on the local municipality, service delivery should continue unabated[180]. Unfortunately, transformation of municipalities continues while service delivery is also expected to continue. In the public service it is very difficult to stop or pause and start again later when transformation issues have been resolved. This poses a major challenge for managers to ensure that normal administrative functions continue while implementing new processes.

The complex environment in which municipalities operate, raises a need to explore new methods for assembling and distributing vast amount of inputs from different sources[181] for knowledge management and decision making support. VanSant and Hartz-Karp outline how

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[177] SYED-IKHSAN, S.O.S.; ROWLAND, F. 2004. Knowledge management in Public Organization: A study on relationship between organizational elements and performance of knowledge transfer. *Journal of knowledge Management, vol*. 8, no: 2. (pp. 97).

[178] Ibid 170, pp. 2

[179] Ibid 170, pp. 11

[180] Ibid 35, pp. 163

[181] Ibid 123, pp. 472

data and information collected can be managed through the process for decision making (figure 3.2). Evernden and Evernden depicted clearly in figure 3.3 areas of priority in architecting organisational change.

There is a great need for the implementation of a computer-based information system that will handle processes and retrieve information to alert municipal managers[182] on any shift in the system to implement intervention to maintain organisational balance. The system is necessary to ensure that information is treated as a distinct resource for organisational survival and placing a great value[183] on service delivery. Information is a crucial leverage point for the adaptation of organisations to the changing environment, providing[184] that:

- Management of information is in the context of understanding the environment and making decisions within the environmental context.
- Operational information fully describes an environment in which an organisation manages clients, services and transactions.
- Detailed information exist about technologies in terms of infrastructure, support and management.

Quintero's description of the role of information is applicable to municipalities. Internationally, municipalities are facing several challenges[185], due to the absence of information management and suitable DSS. They therefore fail to:

- Adapt to changing community needs.
- Reduce costs and continue to preserve essential services.
- Improve services.
- Link the past, present and future systems in managing new business operations.

These challenges alluded to, could be addressed by system integration[186] of new technologies that encompass tools and innovative business processes[187]. It is composed of seamless,

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[182] ENGLAND, J.R.; HUDSON, K.I.; POWEL, K.S.; SHORTRIDGE, J.D. 1985. *Information Systems for Policy Planning in Local Government.* Essex: Longman Group Ltd., (pp. 13).

[183] Ibid 145, pp. 8 -9

[184] Ibid 145, pp. 57

[185] KELLER, R. 2003. Six Top Trends in Information Management for State and Local Government. http://www.filemaker.com/downloads/pdf/article-top-trends.pdf . (pp. 1 -3).

interwoven data fusion, data filtering into manageable information flows that encompass information-rich, situational awareness for optimal decision making applicable to the municipal environment. An integrated system serves as a tool for effective decision making and a foundation for information management. It also brings new solutions to both infrastructure and services management for sustainability. To cope with the rapidly changing environment, system robustness[188] offers managers the ability to deal with inconsistencies identified in the process of transformation and management.

Knowledge DSS have been identified as useful tools for the municipal environment, supported by executive information systems (EIS) and other information tools. Marchand et al[189] concluded from their research, that if an organisation deploys appropriate information systems, it would ensure conventional results. Malhorta[190] defines knowledge management as a tool to assist an organisation to address critical issues, improve adaptation, survival and in-house competence in the face of continuous environmental change, addressing the requirement outlined by Marchand et al. It capacitates organisations to synergise data, information processing, capacity and creative, innovative capacity of people.

The next subsections will look in detail at identified tools relevant to municipalities.

4.2.1 EIS

In order to improve information management within a municipality certain key issues with regard to information quality should be addressed[191] :

- Quantity of information, flow within the organisation and purpose of collection.
- Ease of access, taking into consideration security measures.
- Efficiency of information gathering systems and sharing methodologies.
- Enforcing consistency in overall quality.
- Compatibility of information systems technology.

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[186] VÉRONNEAU, S.; CIMON, Y. 2005. Maintaining robust decision capabilities: An integrated human-system approach. *Decision Support System* 43 (2007). (pp. 129).

[187] Ibid 147, pp. 449

[188] Ibid 123, pp. 130

[189] Ibid 51, pp. 186

[190] Ibid 51, pp. 9

[191] Ibid 170, pp. 25 - 26

- Policy and measures addressing parameters.

Elam and Ledner[192] define EIS as computer-based systems that are designed to provide higher management with access to information related to their respective activities. EIS[193] serve the needs of all managers within the organisation by identifying problems and opportunities as they arise or before they occur. It can also be used as a monitoring system, especially within a municipality where performance management is legislated. This will improve timeous decision making, planning and control[194], environmental scanning and communication tools. It provides environmental scanning of community information, demographic trends and political developments, especially where managers have limited source references[195] relevant to their municipality.

EIS is also applicable to organisations where there is great need to improve information acquisition and distribution for supporting decision-making. Its application will improve problem identification because it is a source of timely data[196]. It assists management to recognise the value of efficient and effective information in managing organisations[197].

According to Singh[198] EIS will assist municipalities to gain access to real-time, accurate, reliable and easily accessible data. This will allow for more effective decision making. It can also be used to collect and consolidate plans, programmes and ideas from organisational members[199] to implement in a knowledge-driven DSS. Specifically, it is a useful tool for the IDP process. It remains stable and unaffected despite organisational strategy changes as a result of changing shifts which is peculiar in municipalities. Singh states that it offers support to organisational objectives, making it more responsive to the changing environment and planned architecture. EIS address the transformation agenda as outlined by Evernden and Evernden in figure 3.3 above.

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[192] ELAM, J.E.; LEDNER, D.G. 1995. EIS adoption, use and impact: the executive perspective. *Decision Support Systems* 14 (1995). (pp. 89).

[193] Ibid 43, pp. 85

[194] Ibid 192, pp. 90

[195] SINGH, S.K.; WATSON, H.J.; WATSON, R.T. 2001. EIS support for the strategic management process. *Decision Support Systems* 33. (pp. 73).

[196] Ibid 192, pp. 98

[197] Ibid 192, pp. 99

[198] Ibid 195, pp. 71

[199] Ibid 195, pp. 72

Poon and Wagner put emphasis on EIS as appropriate supporting knowledge-driven DSS[200], as it provides management with information on organisational critical success factors timeously and with ease[201]. Poon and Wagner's literature research yielded five evaluation criteria for successful implementation of EIS[202]:

- Ease of access in that the system is available to targeted users.
- Ease of use by all users.
- Continue user satisfaction.
- A positive impact as a result of managers' ability to apply mental models for improved decision-making.
- Acceptable to users and non-users as a result of its benefit offering.

Poon and Wagner emphasize that the success of EIS as an information collection tool is in linking business goals into corresponding information needs[203]. It can also improve efficiency and effectiveness for management by providing information as depicted by Evernden and Evernden in figure 3.3 (seeing the big picture). Marchand et al[204] conclude that success in business process improvement is due to effective management of information; therefore, EIS could be a recommended tool appropriate for decision making in municipalities.

The next subsection looks at information management and knowledge DSS tools and how they complement EIS in assisting management.

4.2.1 Information Management and Knowledge DSS tools

Public service needs knowledge management technology because previous decisions and information valuable to solve similar future cases are often lost and cannot be recovered[205]. Most public institutions have static websites and office automation processes that are not integrated with knowledge management. Therefore, they cannot support or promote a knowledge culture. This has led to an array of problems faced by managers in public service:

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[200] Ibid 192, pp. 393
[201] Ibid152, pp. 147
[202] Ibid 152, pp. 394 - 395
[203] Ibid 152, pp. 407
[204] Ibid 152, pp. 163
[205] Ibid 175, pp. 1

- Relying on decision makers to store or file their experiences in their minds or documented on hard copies opening public institutions to factors outlined by Drummond, Kuo, Chen and Lee.
- Unable to share decision information within the institution due to limited documentation or failure to recall, leading to failure to share and transfer knowledge.
- The information burden for the managers makes it difficult to rely on them to organise and utilise previous decision knowledge due to factors identified by Drummond, Kuo, Chen and Lee.

There are five key requirements for successful implementation of knowledge management in the public service[206]:

- Identification and representation of knowledge.
- Knowledge storage.
- Knowledge reasoning.
- Knowledge customerisation.
- Knowledge transfer.

Therefore, the objective of knowledge-based DSS is aimed at addressing these challenges in order to empower managers to make the best decisions possible. Implementation of technology to address knowledge management challenges becomes more complex in public service because of its peculiar circumstances:

- Knowledge structure in a more complex manner.
- Complex information flow in processing knowledge.
- Consists of multi-level administration and needs adjustment.
- Interactions between different agencies make knowledge management more complex.

Taking into consideration challenges faced by public institutions such as municipalities implementing technology to address knowledge management will certainly improve information. EIS is recommended tools designed to feed data and information into knowledge management system to provide managers with mentals for quick decision making.

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[206] Ibid 175, pp. 3

In a reengineered organisation like a municipality it is important to review information roles and responsibilities, quality measures, flow of information, structural arrangement and information requirement for change[207]. Measuring performance through collection of data and information does not always accomplish the results and outcomes if it is not utilised for decision-making[208] that is why DSS form an integral part of the system. Good information practice needs to form a core of the information management strategy to ensure that knowledge management evolve[209].

Part of implementing knowledge management is a growing need for municipalities to design, develop or adapt decision support tools to provide immediate solutions[210]. Vèronneau and Cimon recommend a decision matrix applicable to situations similar to municipalities' operating environment. The decision matrix categorizes challenges into four quadrants to allow management to deal with critical needs first and demands of the highest priorities later[211] as depicted in figure 4.1. The matrix's priorities are based on slack time remaining before crisis (STRC). It is defined as time taken before the crisis could occur and the criticality of the result in terms of affecting the organisation. The effective implementation of the matrix is dependent on the skills and expertise of the managers when they are applying the evaluation for decision making. Data and information that are put into the matrix is extracted from EIS.

[207] Ibid 172, pp. 49
[208] Ibid 39, pp. 26
[209] Ibid 172, pp. 9
[210] Ibid 51, pp. 472
[211] Ibid 186, pp. 137

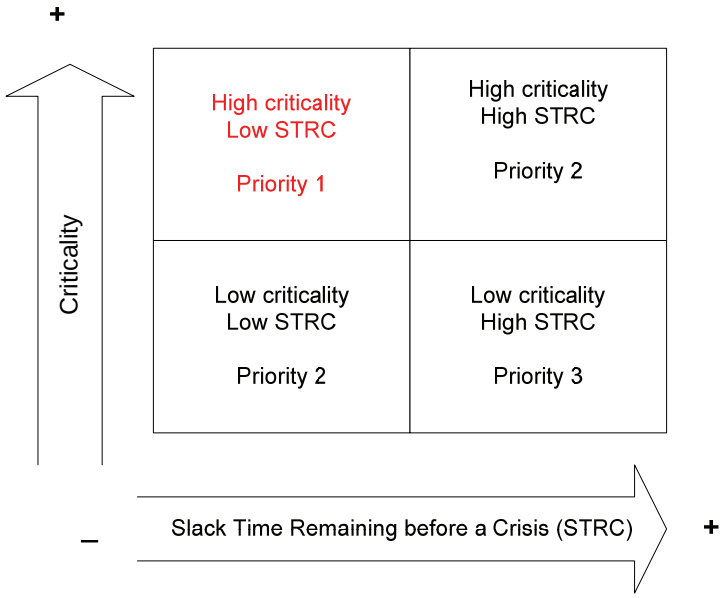

Figure 4.1: Decision Matrix
(Source: Vèronneau & Cimon, 2005)

Application of the decision matrix as a DSS tool will benefit unstructured decisions by:

- Increasing managerial effectiveness[212] and improving managers' efficiency.
- Expediting problem solving.
- Facilitating interpersonal communication by promoting culture of sharing.
- Promoting learning.
- Increasing organisational control.

The implementation of the decision matrix will improve strategic capabilities of the organisation and managers by responding timely to challenges[213] as guided. An EIS is a unique tool that support DSS[214] designed to facilitate in the analysis of information to the overall operation of an organisation, forming the integral part of a knowledge-driven DSS. It also provides an arsenal of tools that can support the strategic decision-making processes by management.

The next subsection looks at knowledge-driven DSS that also complement other systems.

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[212] Ibid 18, pp. 38
[213] Ibid 186, pp 285
[214] Ibid 16, pp. 185

4.2.2 Knowledge-driven DSS

Skyrme (in Munteau and Ionita)[215] identified three main components and success factors in implementing knowledge management, namely; enablers, leverage points and foundations. Hard and soft ICT resources, such as, infrastructure, skills and training coupled with tools and techniques form the foundations, while leverage points, such as, processes, people, measurement, information and space and enablers , such as, leadership (structures, cultures, policies and vision) are necessary to promote superior management of organisations. All these, when integrated, are essential ingredients of knowledge-driven DSS.

The following are reasons why municipalities as public institutions need to adopt knowledge management[216]:

- There is an increasing pressure for change that could be possible through innovation and creativity.
- Strengthen the decision-making process.
- Enhancing the public participation process in contributing decision-making.
- Building societal intellectual capabilities.
- Improving the relationship with the community through building sustainable and competitive service delivery.
- Developing knowledge management personnel.
- Continuous investment in personnel to support internal processes and management over diverse sites.
- Appropriate information is essential for managing delivery of services and resources.

Technology plays a central role in managing knowledge especially as a means for capturing, storing, transforming and disseminating information[217]. Although technology is not a total solution to successful implementation of knowledge management, it allows employees to create and share knowledge effectively thus contributing to knowledge transfer. Training is

[215] Ibid 16, pp. 40
[216] Ibid 170, pp. 49 and Ibid 191, pp. 97
[217] Ibid 195, pp. 108

important to ensure that technology is used appropriately for effective knowledge transfer and creation of knowledge assets. Technology also facilitates access, sharing and transfer of organisational information. System integration on information management, decision support and knowledge management results into knowledge-driven DSS.

Data collected need to be interpreted, managed and translated into information with a meaning and application[218]. The transformation of data should be guided by parameters and procedures that are understood within the organisation. Performance reviews using data as determined by regulation within municipalities could be used to maximise development of knowledge-driven DSS[219]. Its tools will ensure that decision investments are focused on organisational development especially during the periods of transformation process and reengineering[220]. Adoption of knowledge-driven DSS strategies will facilitate transformation processes, refocus organisational structures and work practices for improved service delivery[221] .

Grönlund[222] in his paper, "DSS in Local Government Context – How to Support Decisions Nobody Wants to Make?" notes that DSS applications need to be well designed and implemented smartly because of the highly charged political environment within municipalities. The basic objective of DSS technology is used to assess the magnitude of problems, evaluate proposed solutions and assist in selecting and implanting particular courses[223]. Negative political interference can be avoided by encouraging politicians to be involved from the initiation of the entire process. Narasimhan et al[224] stated that it is beneficial for government to adopt a DSS framework because of the positive following it has on service improvement. According to Duffy and Assad[225], DSS are primarily intended to

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[218] Ibid 170, pp. 7

[219] Ibid 170, pp. 102

[220] Ibid 170, pp. 104

[221] Ibid 170, pp. 145

[222] WIMMER, A.M.; TRAUMMÜLLER, R.; GRÖNLUND, Ä.; ANDERSON, K.V. 2005. Electronic Government, 4th International Conference, EGOV2005. Copenhagen, Denmark, 22 – 26 August 2005 Proceedings. Springer, Berlin. (pp. 69).

[223] Ibid 43, pp. 85

[224] NARASIMHAN, R.; TALLURI, S.; ROSS, A. 2004. Efficient Service Location Design in Government Service: A Decision Support System Framework. *Journal of Operations Management*, pp.177

[225] DUFFY, N.M., ASSAD, M.G. 1989. *Information Management: Strategy formulation and implementation.* London: Oxford Press, pp. 36

provide easy access to decision models and information for added support in decision-making.

DSS provide solutions that facilitate service and system integration, despite the environmental and political complexity within municipalities[226&227]. They also create unprecedented opportunities for managers to access data and transform raw data into information, and perform intricate analyses so as to create knowledge for problem solving and decision making[228]. They are intended to assist management to speed up the process of decision making, implement decisions and communicate appropriately[229]. It implies that feed-forward and feedback can be communicated to the community as outlined in Hartz-Karp's community engagement model. This will go a long way in meeting the principles of the Constitution such as accountability, transparency and sound human resource management.

A specific knowledge-driven DSS is designed in such a way that it recommends actions to managers by applying business rules and knowledge bases[230] for quality decisions[231]. Owens and Phillipakis[232] state that a DSS is applied to formulate better problem solving processes, improving decision quality and refining business processes. It is a computer-based system designed to support decision making in addition to the managers' experience[233]. It[234] holds representations of descriptive, procedural and reasoning knowledge meeting the needs of establishing knowledge in public service. It is a recommended model for municipal infrastructure and services planning, operation and maintenance[235] in that it is able to empower management to make sustainable decisions. A successful knowledge management system depends primarily on integration of decision making and action across the

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[226] Ibid 186, pp. 472

[227] Ibid 186, pp. 471

[228] Ibid 123, pp. 472

[229] Ibid 18, pp. 8 - 9

[230] Ibid 18, pp. 13

[231] Ibid 26, pp. 2-7

[232] OWENS, H.D.; PHILLIPAKIS, A.S. 1995. Inductive consistency in knowledge-based decision support systems. *Decision Support Systems* 13 (1995) (pp. 167).

[233] Ibid 172, pp. 71

[234] HOLSAPPLE, C.W.; JOSHI, K.D. 2001. Organizational knowledge resource. *Decision Support Systems* 31 (2001). (pp. 39).

[235] Ibid 147, pp. 462

organisation[236], which is provided by a knowledge-driven DSS. Accuracy of information will determine effectiveness of integrated information flows. The benefits provided by knowledge-driven DSS address problems associated with managers' capabilities, competence and skills, appropriate systems in dealing with administrative problems facing the municipality during transformation and shifts in leverage points, information management and sustainable decision making and implementation.

The application of a knowledge-driven DSS will support managers to collectively determine what data needs to be used for appropriate EIS and examine the environment for over-abundant data sources[237]. It is also crucial in adding value by providing sophisticated analyses of useful alternatives[238]. It mediates an executive-mind support system[239] that establishes a symbiosis of people's minds and computer interaction, thus addressing the shortcomings of intuition.

There are several reasons why DSS[240] and supporting systems, such as, EIS, knowledge management and decision matrix are the responsibility of management:

- Managers are able to measure organisational performance of the organisation and their respective autonomous units.
- Develop the manager's ability to have broader span of control.
- Develop the manager's future orientation and strategic focus.
- The manager is able to be responsible for establishing policies.
- The manager is able to represent the organisation and interact with the external environment.
- The manager acts in a way that has considerable financial, human and organisational consequences.

Marakas[241] notes the benefits of a DSS as follows:

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[236] KUMAR, S.; THONDIKULAM, G. 2005. Knowledge management in a collaborative business framework. *Information Knowledge Systems Management* 5 (2005/2006).(pp. 184).

[237] COURTNEY, J.F. 2001. Decision making and knowledge management in inquiring organisations: toward a new decision-making paradigm for DSS. *Decision Support System* 31 (2001)(pp. 17).

[238] Ibid 18, pp. 38

[239] Ibid 170, pp. 147

[240] Ibid 16, pp. 188

- It extends the decision makers' ability to process information.
- It tackles large scale, time-consuming and complex problems.
- Facilitates the speed of making decisions.
- Improves reliability of the decision outcome.
- Encourages exploration and discovery by the decision maker.
- Reveals new approaches to thinking about a decision context.
- Generates new evidence in support of a decision.

The limitations of DSS are largely attributed to the lack of expertise and experience of the decision maker. It is appropriate for organisations operating in critical environment, such as municipalities, where failure will lead to crisis[242].

Wiig (in Syed-Ikhsan and Rowland)[243] studied areas that are positively impacted by knowledge management in terms of knowledge transfer and knowledge assets. Wiig concentrated on five areas namely; organisational structure, technology, people and political directives that determine how knowledge is transferred that is explained in detail below:

- Organisational culture that promotes culture of sharing while is is not compromising individualism.
- Organisational structure that allows communication flow but still protects confidential information.
- Technology implementation with specific reference to ICT infrastructure and tools.
- People management in terms of appropriate posting, training and turnover.
- Political directives from politicians at all levels of government.

Organisational culture is determined by two main factors, that is, a sharing culture and individualism. Culture plays a central role as it determines the type of technology and how it should be managed for successful knowledge management. It borders around values, beliefs and people's practices that impact on the direction of knowledge management within the organisation. Sharing can be easily achieved if the rationale is fully promoted internally.

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[241] Ibid 16, pp. 5
[242] Ibid 186, pp. 127
[243] Ibid 195, pp. 97

Individualism in terms of the attitudes of people largely determines the readiness of information sharing amongst all staff in bringing planned change. Research conducted in most public institutions showed that managers hoard information for various reasons, such as, guaranteed continued employment and power base. Managers should make efforts to encourage and motivate people to share information for knowledge management to be successful.

Organisational structure influences communication flow, proper documentation of policies, procedures and regulations in creating and transferring knowledge. The level of documentation confidentiality affects the flow of knowledge within the organisation unless there are clear guidelines on sharing content information. Any obstruction of communication flow on information and decisions will significantly affect organisational knowledge management.

Management of people affect the way they interact and contribute towards organisational knowledge. People and an information culture are the main drivers that determine the extent of knowledge management initiatives. The right posting of people will reciprocate in facilitating the knowledge creation process. Training is important to ensure that knowledge acquired is transferred to others. It will enable them to gain knowledge, create it and transfer it internally and externally. It is important within municipalities that staff, especially managers are able to transfer knowledge to communities. Zakaria et al and Smith in Syed-Ikhsan and Rowland[244] came to the conclusion that adequate training enable people to translate their knowledge from tacit to explicit. This supports the notion that training impacts positively on knowledge assets.

A very high staff turnover has a negative impact on the organisation as people with knowledge and experience leave before tacit knowledge is made explicit. Therefore, organisations must have a procedure to counteract the effects of lost knowledge by implementing procedures of managing information and keeping knowledge internally. There is a strong relationship between staff turnover and knowledge transfer in that retaining staff would retain knowledge internally[245]. Lim and Klobas, and Bogdanowicz and Bailey in Syed-Ikhsan and Rowland emphasized that although staff retention play an important role,

[244] Ibid 195, pp. 108 - 109

[245] Ibid 195, pp. 109

tacit knowledge will be lost unless transferred into organisational knowledge where it will be shared and transferred.

The political directives in public institutions affect the creation of knowledge greatly as it affects effective knowledge transfer. The directives given by politicians may not always be in line with the agreed knowledge management processes.

Another important basic application and implementation of knowledge-driven DSS is to ensure knowledge generation and sharing[246]. Investing in technology in a municipal environment with resource constraints will benefit a knowledge creation and sharing culture in the long-run[247] . However, training of managers and other personnel to ensure that a knowledge sharing culture is built is crucial[248]. This culture can be successful, provided champions are identified and developed. The champions should be at a service level where they will be able to drive change. Changes will be possible, provided they take responsibility of driving IKM strategy and providing leadership by maximising tangible changes in information and knowledge attitudes and behaviours[249] as part of knowledge-driven DSS.

IKM application will ensure social inclusion in that the municipality will be able develop a strategy that will ensure that all sectors of the community are included. It will also give a better understanding of the information and knowledge assets needed to interact with various stakeholders by highlighting challenges in the service delivery mechanism[250]. IKM will also assist politicians to accomplish their role by providing the necessary leadership in achieving the required reforms. Politicians will be able to give input in service delivery improvement because the information and knowledge management will provide them with an opportunity to reflect on complexities within their municipality[251]. It will provide them with a great opportunity to provide commitment and support in achieving needed change within the municipality[252]. It will create cultures and climates conducive to implementing change for

[246] Ibid 170, pp. 9
[247] Ibid 170, pp. 80
[248] Ibid 170, pp. 81
[249] Ibid 170, pp. 95
[250] Ibid 170, pp. 146
[251] Ibid 170, pp. 165 - 167
[252] Ibid 170, pp. 168

both personnel and the community in aligning their needs[253] to broader government programmes.

The implementation of knowledge-based DSS will create knowledge assets, defined by Boisot[254] as stocks of knowledge from service flow within a period of time. Municipal information in the form of documentation, policies, procedures and regulations are crucial to the benefit of knowledge assets. It will provide managers with at least two alternatives of possible action that have a high possibility of achieving agreed results[255]. It will assist managers to move away from a non-rotational problem solving approach to a more holistic one.

Knowledge assets and knowledge transfer are dependent variables based on certain factors[256]. Success of knowledge transfer largely depends on:

- the speed at which information is transferred;
- the accuracy of transferred information;
- the reliability of transferred information.

To ensure that these conditions are met, EIS have the ability to provide information that fits into the knowledge-driven DSS structure. Knowledge assets are built internally as knowledge is embedded in the organisational processes, procedures, routines and structures. However it is the responsibility of management to identify where knowledge resides and to protect the source. Knowledge transfer depends on the availability of knowledge assets and accessibility.

Other factors that determine knowledge management within the organisation are independent variables, namely: organisational culture, organisational structure, people and political directives as outlined by Wiig[257].

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[253] Ibid 170, pp. 231

[254] BOISOT, M.H. 1999. *Knowledge Assets: Competitive Advantage in the Information Economy.* Norfolk: Oxford University Press.(pp. 3).

[255] FLOOD, R.L.; CARSON, E.R. 1988. *Dealing with complexity: An Introduction to the Theory of Systems Science.* London: Plenum Press. pp. 106 - 107

[256] Ibid 195, pp. 99 - 100

[257] Ibid 150, pp. 100 - 104

Evidence for successful implementation of knowledge management could be proven by actions taken to address organisational shortcomings[258] in that municipalities start addressing community needs through a proper alignment process as outlined by Evernden and Evernden. This is visible in knowledge transfer processes characterised by planning, acquiring, distribution and finding new solutions. Planning for overall control of the knowledge life-cycle, acquiring information and knowledge from efficient sources, distributing current information quickly and finding and locating knowledge resources within the organisation is a continuous process. Knowledge transfer should be proactive, well planned and controlled in a way it assists in delivering and identifying knowledge resources and sources.

There are critical factors that determine successful knowledge transfer, based on four pillars, namely:

- Supporting stakeholders through collaboration and communication that will enable them to have essential information[259] through a client or customer support portal as a knowledge centre. The portal will assist authorised users access to information that enables business or interaction with the organisation.
- Supporting employees by continuously delivering up-to-date job performance knowledge[260]. Automated technology enabled systems will assist in knowledge transfer as most documentation on-line is accessed through a web-browser for users, irrespective of their location. Access to documentation is tailored to specific users and updated continuously without any problem. Documentation on best practices and lessons learned is combined and continuously collaborated by the users of the portal. Each user is able to optimise the portal to access the knowledge collection in the performance of their jobs.
- Supporting the organisational mission by ensuring knowledge is accessed through improved workflow and security management to prevent unauthorised entry and access to confidential documents[261]. Effective reporting and control on mission related content is structured to be a core knowledge management practice in public

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[258] BURGER, P. 2004. Critical Success Factors for Knowledge Management in Government Enterprises: A Case Study Successes at the Department of Commerce. http://www.systalex.com/Downloads/CSFKMGov.pdf (pp. 2)

[259] Ibid 258, pp. 3

[260] Ibid 258, pp. 5 - 6

[261] Ibid 258, pp. 7

institutions. Web-based reporting and distribution of knowledge related information through a portal has been regarded as effective in knowledge transfer and building knowledge assets. Effective workflow management forms an integral part of knowledge distribution and transfer. It also enables content approval for all those who access the portal before it is available for a wider community of practitioners. This type of knowledge transfer architecture enables automatic capturing, storing and distribution of reports and documentation from and to any point. A full-house of knowledge transfer tools, policies and procedures will benefit delivery and access to knowledge by knowledge workers[262].

- Controlling costs by ensuring that knowledge delivery is affordable and cost-effective[263]. Knowledge management benefits both tangible (cost, schedules and performance) and intangible (employee job satisfaction, employee convenience and fast and effective decision-making process) factors that are visible if recommended guidelines are strictly adhered to.

Munteau and Ionita[264] identify six types of knowledge transfer:

- Transfer within external structures improves organisational image and service delivery quality, for an example, a client portal.
- Transfer from individuals to external structures improves stakeholders' learning from the organisation.
- Transfer from external structure to individuals impacts on maintenance of good relationship between personnel and stakeholders.
- Transfer between individuals improves internal knowledge asset building.
- Transfer from individuals to the internal structures also improves building of knowledge assets.
- Transfer from internal structures to individuals impacts on accessing knowledge assets.

A study done on a municipal internet portal implemented in Chile, Philippines, China and Vietnam[265] showed that great benefits were derived from a knowledge depository in that it

[262] Ibid 258, pp. 9
[263] Ibid 258, pp. 9
[264] Ibid 16, pp. 36 - 37

provided officials with access to just-in-time knowledge. Municipal officials were able to find the right solutions quickly and improved management and service delivery by addressing both political and administrative matters.

Nam-Joon[266] studied knowledge-based administration in a public service linked administrative process and came to conclusion that success is based on three factors:

- Administrative processes are based on knowledge.
- Focused on policy and service quality improvement.
- Linked to goals and organisational operations.

The implementation and success of knowledge-driven DSS in public service are summarised in figure 4.2 by Nam-Joon depicting processes leading to measurable benefits.

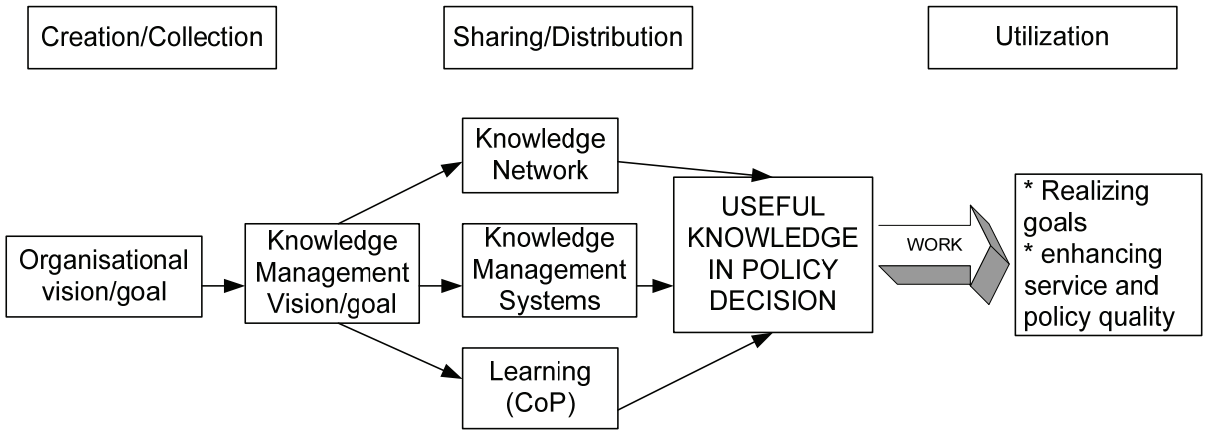

Figure 4.2: Conceptual Framework of Knowledge-based Administration
(Source: Nam-Joon, 2007)

Tools implemented to achieve the required level of performance, especially in municipalities as democratic and transforming public institutions. According to the literature they have benefited similar institutions when properly implemented. The intention is to evaluate them if they exist or recommend the implementation.

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[265] INFOCITY. 2004. City-to-city knowledge sharing. Connecting Cities to Global Knowledge & Resources. http://siteresources.worldbank/KFDLR/Resources/461197-1148594717965/2586681-1149180172217/InfoCity.pdf (pp. 1).

[266] NAM-JOON, C. 2007. Achievements in Knowledge-based Administration and future of Korea. http://unpanl.un.org/intradoc/groups/public/documents/UNPAN/UNPAN025965.pdf (pp. 2).

The next chapter discusses a literature study on business models and the value chain within municipalities.

Chapter 5

Literature Study on Business Models and the Value Chain

5.1 Introduction

All over the world public service is under pressure to improve performance and deliver results by both politicians and the community[267]. Most pressures are as a result of scarce resources and increased community expectations. Transformation of municipalities is exacerbated by public service reforms, driven by the South African Constitution bringing delegation of authority, service provision flexibility, service standards and performance management, and the freedom of choice for communities brought added challenges to management[268] . These reforms brought dilemmas to management and politicians dealing with freedom of choice, flexibility and diversity. In all the initiatives management choose to implement, the community must experience value from service rendered.

The next section will explore business models and the value chain in more detail and will highlight how they could be applied within municipalities.

5.2 Business Models

Business models and the value chain in any organisation cannot be separated, as one leads to fulfilment of the other. It implies that value is realised through the implementation of a business model appropriate to operations. In particular, with reference to municipalities as depicted in figure 3.3 above (Evernden and Evernden), it follows what is known as business process reengineering (BPR).

Public service follows different models for implementing business and value chains; however, the principles are similar to those applied in the private business environment. The

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[267] PARSTON, G. 2007. Unlocking Public Value. Managing High Performance in Government organizations. http://www.issa.int/wssff07.pdf (pp. 1 – 6). Outlined factors affecting performance in public institutions and how to bring about improvement.

[268] Ibid 267, pp. 2

municipality as a transforming public institution will in no doubt bring changes in organisational structure, processes, culture and people's expertise. Leavitt (in Burke, Peppard and Langer) call it Business Process Reengineering (BPR). It brings a change in the value proposition for the beneficiaries. This value delivered in public service is called public value as opposed to customer value in private. New business models have a predetermined public value in order to be successful.

BPR is a process of redesigning existing applications[269] that will enable successful implementation of new processes. In figure 3.3 above, BPR has been identified as one of the contributing factors to the new organisational architecture (transformation) to implement the process in line with new democratic principles. It is implemented separately from other processes such as information system support, because it is intended to align and improve internal processes to address external stakeholders. It also allows the organisation to evaluate its legacy systems against a planned improvement, so that it might be replaced and integrated into one system.

Malhorta[270] defined e-business strategy as a paradigm shift to address strategy that deals with the anticipation of surprise, technology for divergence, management for self-control, knowledge for creation and renewal of intangible assets for the organisation preparedness and edge of chaos. E-business is needed in the application of DSS technology and the supporting systems.

The business model is defined along three dimensions[271,272], namely;

- Value chain propositions that deals with how value is created to benefit external stakeholders and organisations and to improve overall performance i.e., brand, reputation, and financial performance.

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[269] LANGER, A.M. 1997. *Analyses and Design of Information Systems.* 2nd Edition. New York: Springer-Verlag New York Inc. (pp. 227).

[270] Ibid 195, pp. 10

[271] SCHWEIZER, L. 2005. Concept and evolution of business models. *Journal of General Management, vol.* 31 (2), Winter 2005. (pp. 38 – 39).

[272] LOWRY, P.B.; CHERRINGTON, J.O.; WATSON, R.R. 2002. *The E-Business Handbook.* London: St. Lucie Press. (pp. 3).

- How organisations can create sustainable advantage (capabilities[273]) in people, organisational culture, competitive dynamics, and infrastructure and management models.
- Architecture of service and information flows[274] and their relationships[275] for improvement strategy, competitive dynamics and strategic options for performance.

Based on the principles used for e-business in the private sector, the public service is a slightly different in that it deals with government mandates. The principles of e-business are adapted for e-government to improve efficiency, community development and empowerment[276]. Rayport, Jaworski, Chesbrough and Rosenblom[277] identify four choices that form the base of e-government:

- Value proposition.
- Market space offering for services and information.
- Unique defendable resource system.
- Affordable and sustainable model.
- Value networking position.

E-government models are the key business platforms because its implementation enables new approaches required by public service implementation. It allows universal access, improved speed, infinite virtual capacity and networking via the internet.

On the other hand the value chain model should answer two questions:

- What activities should be performed in traditional business settings?
- How is value added?

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[273] BAGCHI, S.; TULSKIE, B. 2000. E-Business models: Integrating Learning from Strategy Development Experiences and Empirical Research. *Presentation at the 20th Annual International Conference of Strategic Management Society*, Vancouver, 15 – 18 October 2000. http://www.research.ibm.com/strategy/pub/ebbb.pdf

(pp. 3).

[274] Ibid 18, pp. 2

[275] Ibid 272, pp. 3.

[276] Ibid 16, pp. 112

[277] Ibid 16, pp. 110u

The other view expressed by Dubosson-Torby et al[278] is that business modelling assist organisations to develop vision, new strategies, redesign organisational structure, and align business operations and share knowledge in order to ensure that decisions are accepted with full commitment. The new business model gives rise to BPR that is implemented in public service through e-government. It implies that e-government as a new business model in municipalities will affect major processes needing to be realigned. The e-government service process is based on three areas, namely: publication, interaction and transaction. Publication includes information dissemination in different forms on a portal for public and personalised use. Interaction includes monitoring of policy implementation, information gathering and feedback and information sharing. Transactions include community participation and collaboration work flow processes, transactions of intangibles and tangibles.

E-government, like e-business[279], will lead to adoption of new technologies and changes in work practices, customer relationship, and the way services are delivered with changes in staff skills needed to support it. The changes signify new opportunities for business operation re-organisation to realise the intended value. Factors such as organisational structure, culture and staff are closely linked to each other to the extent that changes have to follow to preserve stability or a dominant state[280].

DSS and associated tools (collecting, organising and maintaining information)[281] will invariably help the organisation to proactively sense new information for meeting change in business needs and opportunities and to react appropriately to attain organisational balance.

The next section will explore the value chain as a result of the implementation of a particular business model.

5.3 Value Chain

The application of the DSS models will ensure that the organisation meets the value proposition as promised to all stakeholders. Laudon and Traver define value proposition as

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[278] DUBOSSON-TORBY, M.; OSTERWALDER, A.; PIGNEUR, Y. 2001. E-Business Model Design, Classification and Measurement. *Thunderbird International Business Review*, January 2002, vol. 44 (1). (pp. 6 -7).

[279] Ibid 18, pp. 1

[280] Ibid 26, pp. 258

[281] Ibid51, pp. 186

the manner in which services are organised to fulfil the needs of the clients[282]. Value proposition is closely related to service organisations in business models.

Municipalities in Western countries have implemented the public sector value chain model successfully as recommended by Heintzman & Marson[283]. The value chain is defined as the sequential set of primary and supporting activities that an organisation perform to convert inputs into value-added outputs for external clients[284] while public value focuses on outcomes (delivery of improved results)[285]. Heintzman & Marson identify the value chain model (figure 5.1) with two critical elements namely, citizen's trust and confidence. The two elements are as the results of improved business processes leading to improved outcomes as set out for public institutions. Vassilopoulou et al[286] state that business models and the value chain are dependent on each other in such a way that if their implementation is well crafted delivery of services will be improved. Implementation of the value chain on business models will ensure that the virtuous cycle recommended by Hartz-Karp is successfully completed.

Hartz-Karp's model deals with how municipal managers and politicians could be enabled to document inputs for knowledge generation by using the community platform for decision making in line with democratic principles and applicable accountabilities. On the other hand, Evernden and Evernden's model deals with how data and information is internalised for prioritization, resource allocation and accountability. The two models feed very well into implementation of knowledge-driven DSS that will put municipalities in a position to attain the required mandates. Heintzman and Marson propose a public sector service value chain model that delineates how a municipality can implement internal mechanisms to attain public value.

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[282] LAUDON, K.; TRAVER, C. 2001. *e-Commerce Business, Technology, Society*. Boston: Pearson Education, (pp. 57).

[283] HEINTZMAN, R.; MARSON, B. 2005. People, Service, Trust: is there a public sector value chain? *International Review of Administrative Sciences* 71 (2005). (pp. 549).

[284] ZACHMAN, J. 19897. Interoperability Clearinghouse Glossary of Terms. http://www.ichnet.org/glossary.htm. (pp. 3).

[285] Ibid 267, pp. 6

[286] Ibid 18, pp. 1

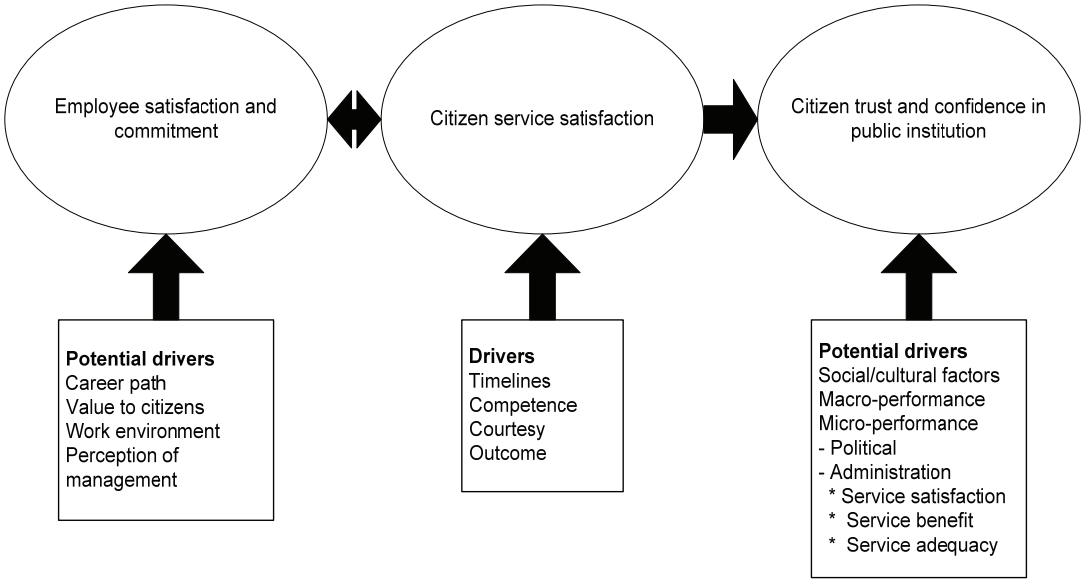

Figure 5.1: Public Sector Service Value Chain
(Source: Heintzman & Marson, 2003)

Value propositions are statements of promised benefits delivered to internal and external customers[287] and specific to e-government services benefits and accrued by digitization to all users and stakeholders[288]. Users include government agencies, business entities, interest groups, staff and community. It is generated by a set of internal capabilities that are defined as the ability to perform functions geared to plan outcomes. Capabilities largely depend on organisational resources[289] in that personnel and resource allocation for service delivery are driven by it. System capabilities are largely attributed to faster service, convenience, affordability, ease of use and openness[290].

The value chain can be addressed by a knowledge-driven DSS as it addresses problem areas identified and reported by the researcher in this thesis. The ingredients of success for achieving set goals is based on employee satisfaction and commitment that is dependent on appropriate posting, work culture and environment.

The Constitution, as operationalised by the Local Government Municipal Systems Act, puts the citizen's trust and confidence at the core of service delivery to realise decentralised democracy. The six Constitutional principles (ethics, economic value, developmental

[287] Ibid 273, pp. 3
[288] Ibid 16, pp. 112
[289] Ibid 273, pp. 4
[290] Ibid 16, pp. 112

agenda, transparency and sound human resource development) are included in the benefits derived from knowledge-driven DSS, and as such in the value chain through new business model implementation. The value chain model emphasizes a strong interaction between confidence in public institutions and citizens' trust. High public confidence and trust is an indication that the institution has achieved its democratic mission[291] and vice versa. The model is in line with chapter 5 of the Local Government Municipal System Act that sets a guide on how municipalities should be developmentally oriented[292] in regard to service delivery.

The model puts employee satisfaction and client service satisfaction as mirroring each other. It implies that they are extricably linked as any change in one affects the other. Several studies conducted in both the private sector and the public service have proven that there is a direct and strong correlation[293] between the two perspectives. All employees, including managers, need skills and capabilities to realise the intended organisational business model, in that if properly empowered the planned outcomes will be achieved. As training and development play an important role in knowledge-driven DSS it is equally required for attaining public value.

The public sector service model (figure 5.1) puts CSFs drivers, such as timeliness and competence, as playing an important role in determining the final outcome, for instance, if managers use an EIS as one of the tools it will provide them with good problem classification. Service and confidence are closely related and knowledge-driven DSS will build in mechanisms for timeous solutions. Delivering organisational value by employees is measured by service quality, reputation, benefit and adequacy[294] as experienced by the community.

Hadwen[295] identifies three additional areas within public institutions where value can be isolated as achieved. Firstly the characteristics of public institutions can be identified as:

- The implementation of political will.

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[291] Ibid 79, pp. 553

[292] Ibid 8, pp. 32 paragraph 23 (all)

[293] Ibid 186, pp. 555

[294] Ibid 186, pp 556 – 558

[295] HADWEN, T. 2001. Recognizing the value of Public Service. http://www.opseu.org./notices/valueofthepublicservice.pdf (pp. 2).

- The participation of managers to assist politicians to make appropriate decisions.
- The efficient use of resources.

Secondly, the internal culture and behaviour of public institutions can be indentified as:

- Response to the politicians.
- Strive to deliver public good at all times.
- Managers always maintaining organisational stability.

Thirdly, strengths associated with public institutions were identified as:

- Community accessing information.
- Managers and politicians accountable to the community.
- Community participation in decision making.
- Better value for money in all initiatives.
- High standards of service.
- Building of knowledge assets and knowledge transfer.

Marchand et al[296] support a people-centric perspective because of its strong interrelationship between service and satisfaction (figure 5.1), which is influenced by effective information use (application of EIS and decision matrix). The tasks that staff at municipalities must execute to achieve the organisation's purpose is closely linked to their empowerment in dealing with information, thereby influencing the value of services to the community.

In conclusion, it is important to note that sustainable service delivery should not be technical choices, but rather value choices based on community priorities, cost considerations, benefits and risk associated[297].

Any institution whether commercial or for the public good goes through a form of BPR that must be well understood by managers and more importantly by politicians who support it. It is affected by many factors within and outside the municipality that must be taken into consideration.

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[296] Ibid 51, pp. 151

[297] Ibid 93, pp. 165

The next chapter will discuss the research findings.

Chapter 6

Research Findings

6.1 Data Presentation

6.1.1 Interview Procedure

Municipal, financial, corporate and technical managers were interviewed. All interviews were face-to-face at Letsemeng offices in Koffiefontein, and due to time constraints they were conducted over a period of three months because of the availability of managers. All questions were administered in their original form and restructured to ensure that respondents did not just answer without thinking properly. The researcher was granted permission by the respondents to note all verbatim responses, which were later consolidated into one summarized paragraph for each question.

The next two subsections will look into interview data consolidation and experience in using the knowledge management system.

6.1.2 Interview Data Consolidation

The management, composed of municipal, corporate, financial and technical managers at Letsemeng Local Municipality, was interviewed and results were as follows:

6.1.2.1 How is the decision taken on service delivery issues?

Municipal and financial managers mentioned that decisions made by councillors are through council resolutions, after consultation with the mayoral committee. The corporate services manager in his response divided decisions into three categories, namely those pertaining to large projects, IDP aligned and others outside the two categories. Both large projects and IDP aligned service delivery issues follow a process as outlined in terms of Local Government Systems Act. The municipality prepares a five year Integrated Development Plan (IDP), facilitated by Xhariep district in terms of funding and technical support based on the community needs collected, collated and consolidated during a consultation process through ward community participation, as outlined in the Local Government Systems Act. After approval by the council, priorities are transformed into specific business plans by managers within

their respective roles and responsibilities. The plans are evaluated by the municipal manager in terms of their alignment to the IDP. After careful consideration the municipal manager will then decide which projects to include; it is then presented to the council for approval and resolution.

After the IDP has been finalised, the corporate and technical services managers develop implementation plans that are evaluated against the community needs using information collected during the situation analysis. Decisions on the implementation of each project are delegated to the municipal manager by council, provided it is in line with approved projects and funding. This is a process familiar to all managers.

From the data collected Figure 6.1 was constructed. It outlines the IDP Reporting Structure and the process to be followed in ensuring that community needs are addressed:

- Phase 1 is the pre-planning stage which pertains to the stage when managers and councillors inform the community about the processes and framework to be followed.
- Phase 2 is the situation analysis stage when different sources are accessed for data and information relating to the municipality. At this stage ward meetings chaired by councillors and supported by managers are held. Community needs and resource allocation are discussed. At this stage all parties get the opportunity to be informed as data and information becomes available.
- Phase 3 is the visioning stage. It is the stage where councillors and managers align needs and demands collected during the situation analysis (phase 2), taking into consideration other government priorities, strategies, district and local vision, mission, values and objectives. During this stage integration between programmes, sector plans and financial and budget alignment are finalised. Also specific implementation plans, project management system and key priority projects based on phase 2 findings are finalised and the monitoring framework is integrated.
- Phase 4 is the approval and adoption that is open for public comment through written and verbal submissions. After considering submissions council will

ensure that inputs are in line with phase 3 and make the necessary adjustments before final adoption and approval.

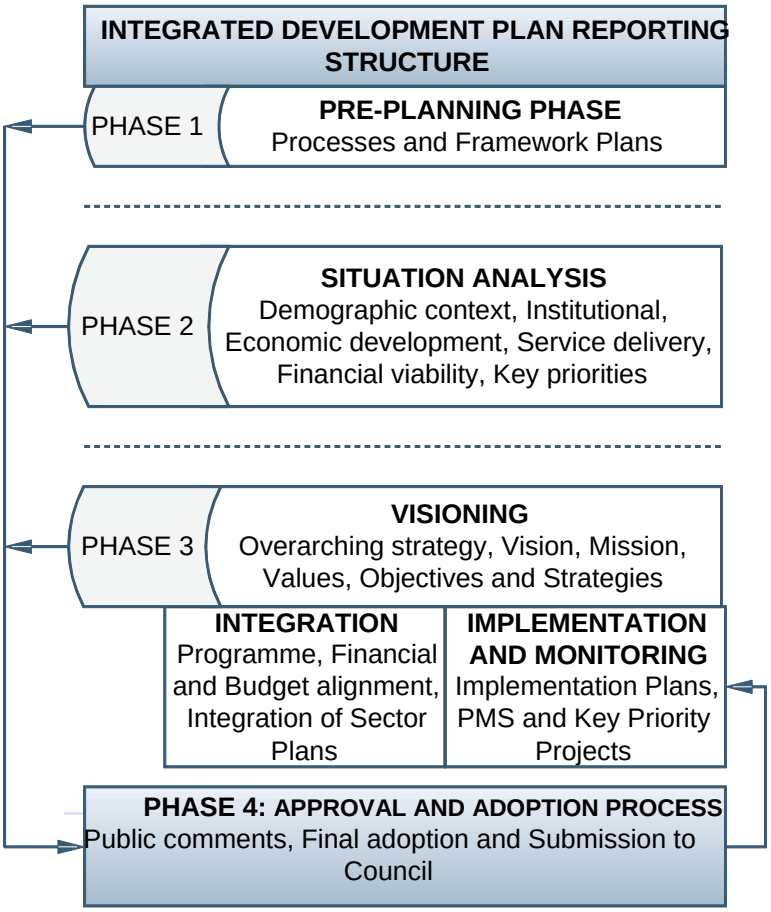

Figure 6.1: Integrated Development Plan Reporting Structure

The overall final implementation and monitoring stages in phase 3 where councillors and managers ensure that the IDP is operationalised by developing plans with targets, so that they can be monitored. The municipal manager is expected to lead the other managers by ensuring that their performance plans include identified priorities.

The technical services manager alluded to the fact that in the case where emergency community needs are identified, a special motivation is forwarded to the municipal manager, who in turn presents it to council for approval. Day to day decisions about challenges that affect the top management at service levels are made through a

council resolution that meets at least eight times a year. The decisions are presented at the council and are supported largely by the information from other agencies. It depends largely on the community perception of needs, for example, addressing electricity provision or water provision. Currently, information systems are not in place for the effective collection of information from administrative systems. Information used to support a funding request more often is not aligned to current needs, as some of the agencies do not frequently collect and consolidate data and information, except if they are mandated to implement a project. Some agencies update their information annually and others once in three years, largely driven by the measurements that they monitor.

6.1.2.2 As a member of management, do you use any system or technologies that aid you in decision making?

Municipal managers alluded to the fact that there is no technology or system implemented within Letsemeng Local Municipality that assist in the decision making process. The municipality depends on outside agencies for information. They further explained that the only system that is used by infrastructure IDP project monitoring and evaluation is **Per-former®**. The financial manager concurred with the municipal manager in that there are no decision making systems or technology.

The corporate services manager outlined the process based on IDP that is aimed at addressing community needs. The decision making process related to service delivery issues are taken at the beginning of the planning cycle, as depicted in figure 6.1. A cycle starts at the beginning of the political term until the end, lasting five years, but reviewed annually, and if necessary appropriate adjustments are done. Apart from the process, there is no specific system in place. There are strategic and operational decisions that are short, medium and long-term. Strategic decisions are taken at the beginning of councillors' five year term, guided by national and provincial political direction either for short, medium or long-term. The decisions in this regard are converted into the final IDP. Operational decisions such as employment of employees are still the responsibility of council, irrespective of the post level. The municipal manager can only take limited decisions, provided council has given a go ahead and outlined the limitations. Decisions are primarily based on the endorsement of the provincial and national directives without evaluating the local needs as there is

a fear that necessary funding might be lost. The municipality is expected to have some form of data and information to support decisions but due to the nature of the environment, in terms of human skills and capital to implement required systems, it has not been successful.

The technical services manager referred to a similar process of compiling the IDP documents.

6.1.2.3 How does the system operate and assist you in relation to the types of decisions you make? Elaborate on existing arrangement.

The Municipal manager gave an explanation regarding **Per-former**® in that it serves as a reporting tool for the management of IDP projects funded by a municipal infrastructure grant from the provincial and national governments. The Financial manager also referred to **Per-former**® as a technology that tracks financial expenditure. The Corporate services manager explained how the system is implemented in line with the IDP guideline. At the level of management no decisions are made except an established process of IDP that primarily collect data and information. The decision process is based on the IDP for most administrative functions. Community needs are identified through a stakeholder process as stipulated in the IDP guidelines (figure 6.1):

- Elected councillors call stakeholder meetings, where needs are collected in no priority order.
- After the process top management prioritises the needs based on political mandates.
- The final recommendations are presented to the council after investigation. Any available data from external sources is taken into consideration.

After the approval of the IDP, a steering committee is established to monitor progress. The committee is composed of councillors, community members and officials within the municipality. If there is any adjustment to the plan, it must be re-tabled for decision.

When changes occur, the process fails, or the political mandate did not prioritise the service challenges, it will only be addressed in the next political period, irrespective of community pleas.

The major service delivery decisions within the control of Letsemeng are:

- Spatial development.
- Economic growth for municipal viability.
- Water supply.
- Sanitation.
- Infrastructure.

The Technical services manager response was in line with the corporate manager as outlined in the IDP guideline.

6.1.2.4 How do you collect, collate, categorise data and package information that support the decision making process?

According to the municipal manager Letsemeng Local Municipality does not have any means of collecting, collating, categorising and packaging data, but rather relies on external agencies to support their resource needs. The financial manager alluded to the fact that within financial management only expenditure reports are collated and not linked to any data.

The corporate services manager explained the process of collecting, collating, categorising and packaging information and data according to the Municipal Performance Regulation. Managers consolidate reports from their respective departments based on the activities in their business and implementation plans. Generally these are ordinary reports lacking detailed technical information. Data and information is analysed and a report is generated. Analysis is done manually and the outcome largely depends on the competence of a manager.

Chapter 13 of the Local Municipal Planning and Performance Management Regulation[298] require that the municipality provides data for the management of their activities. Four sections (9, 10, 11, 12 & 13) in the regulation are data and information driven for reporting and play a crucial part in decision making and future planning.

Firstly, section 9 of the regulation requires municipalities to set key input, output and outcome indicators for each identified priority during the IDP process and objectives of approved and formalised mandates at any level. Regulation requires mandatory inclusion to include three priorities:

- Community participation.
- Administrative effectiveness.
- All forms of partnerships.

Secondly, section 10 sets out general performance indicators in terms of what national government expects municipalities to deliver. They are linked to measures of municipal stability:

- A certain % of households with access to basic services (intended to quantify backlog of service delivery)
- A certain % of indigent households (quantify the efforts needed to improve the economical status of the community and revenue collection ability)
- A certain % of capital budget expenditure (measures the resource allocation and effective deployment in critical areas)
- Municipal financial viability (measures the extent of economic viability within municipalities' own resources against what external funding is needed)
- Number of jobs created as a result of local economic development.

Thirdly, section 11 requires the municipality to implement an annual performance review process on all indicators. It is also expected to implement mechanisms by which all key performance areas can be measured, evaluated and reported on at the

[298] REPUBLIC OF SOUTH AFRICA. 2001. *Local Government: Municipal Planning and Performance Management Regulations.* Regulation Gazette, no: 7146, vol. 434. pp. 9 -13

end of each financial year. This allows planning for any gaps and challenges that might impede successful development.

Fourthly, section 12 requires municipalities to set up performance indicators and accompanying targets on an annual basis. In order to be able to achieve the necessary strategic capabilities and competencies as required. These indicators must conform to the following guidelines:

- Practical and realistic.
- Measure efficiency, effectiveness, quality and impact on citizens.
- Commensurate with available resources.
- Consistent with development priorities and objectives.

Lastly, section 13 requires municipalities to develop and implement mechanisms, systems and processes for the monitoring, measuring and reviewing of performance.

According to the technical services manager **Per-former®** is used to collect, collate and package project information. It is specific to physical progress and expenditure registered.

6.1.2.5 How does political leadership influence the decision making process?

The municipal manager stated that all decisions are taken by councillors and this affects service delivery either positively or negatively. The financial manager's response was in line with the municipal manager who raised concern on the decisions that are taken by councillors as there is a thin line between subjectivity and objectivity, irrespective of obvious benefits or risks.

The corporate services manager gave an outline of how political leadership affects decisions within the municipality. Political leadership has major influences on policy issues that affect the decision making process in that mandates are enforced irrespective of prevailing environmental challenges, especially those by councillors. Some of the influences are good intentions, but it depends on the experience and expertise of the implementers to attain success, for example, the national programme on the eradication of the bucket system.

Within the municipality there could be a decision taken by the council that adversely affect the delivery of services. Once a resolution is passed by a council and later it is realised that it does not meet the community needs, it has to be reversed by another decision. The process has a lot of red tape that at times affects the pace of implementation. Political oversight is important as it serves as a watchdog for the administrative process to ensure implementation of the mandates set by provincial and national government. There is no clear procedure or guidelines that outline the role of politicians on how they should exercise their powers and responsibilities.

The technical services manager responded that sometimes political pressure diverts needed funds away from crucial projects to unplanned ones.

6.1.2.6 How does the current business model differ from the one implemented prior to 1994?

The municipal manager alluded to the fact that the legislation that brought the new municipal dispensation affected the way things must be rearranged administratively. The new business model brought challenges for the existing administrative arrangement in that processes and systems had to change. The municipal manager also mentioned challenges identified in Project Initiation Management Support (PIMS) report that affect the implementation of new business models. Lack of functional political and administrative structures, effective management systems, human resource capability and availability are some of the challenges.

The Financial manager alluded to the fact that much has changed, especially in implementation of municipal financial controls by implementing new procedures in resource allocation from national government. The corporate services manager stated that a municipality is a highly regulated environment. The new dispensation requires both administrators and politicians to be highly skilled to deliver and facilitate service demands with increased accountability.

The PIMS report outline challenges that are an obstacle to the implementation of a new business model. The business model has changed drastically as the result of new legislation and regulations at both provincial and national levels. However,

challenges still exist in achieving satisfactory implementation of appropriate processes:

- Establishment of functioning political structures could not be achieved because of the following challenges:
  - Failure to implement council resolutions in time affecting delivery targets.
  - Mayoral committees are not effective due to lack of capacity in IT and project management leading to non-performance.
  - Absence of appropriate rules moderating functions of mayoral committees.
- Establishment of functioning administrative structures intended to support the political process and service delivery faced lack of capacity because:
  - Planned organisational structures are not yet implemented due to lack of funding and scarce skills to improve administration.
  - Roles and responsibilities are not clarified for each level to improve municipality administration necessary for different individuals to understand their contribution. There are still remnants of the old structure that are not aligned to new municipal agenda, for example, other towns' staff are still managed under the previous rules. Some of the towns still have not aligned their processes with the corporate office.
  - A high turnover of managers due to the rural nature of the municipality because there is limited resources to implement initiatives. On average managers stay for two years.
- The state of management systems:
  - Although IT systems in terms of hardware (computers) are in place, technology based performance management systems are still not in place. There are standalone computers not connected to any network.
  - Filing and record keeping systems are still not effective due to the failure

to design a common system in the entire municipality.

- ♦ Absence of a common system where all sections can input data that could later be analysed into information, has led to the municipality squarely relying on outside agencies to provide data when reporting on performance.
- ♦ The lack of a system that monitor progress across the municipality in terms of human capabilities and resources management. Value to the community and compliance to mandates have not been effectively managed.

➢ Other challenges.

- ♦ The organisational structure is unable to fully respond to assigned powers and responsibilities.
- ♦ There is no optimal utilization of human resources due to the lack of funding.
- ♦ Lack of empowerment for newly elected councillors to function optimally as part of mayoral committees pose a challenge for them to understand the procedures. Provision of training will ensure that their inputs are relevant for building a formidable municipality.
- ♦ Limited capacity to implement a performance management system.

The technical services manager believes that drastic changes due to legislation, especially in infrastructure, has changed how the business model is configured to effect expected changes.

6.1.2.7 Is there any means of measuring value to your clients or community?

According to the municipal, technical and financial managers no value is measured for service delivered at any level. The corporate services manager outlined the process of the IDP review and the performance management system used to measure progress and used as a surrogate for value. Monitoring and evaluation of progress within the municipality is in line with the IDP as depicted in figure 6.1 above. All targets outlined in the regulations are implemented and monitored accordingly. There is no system currently in place; however, key and general performance indicators outlined

in the performance management systems and targets have been determined. They are delivered in the normal course of the municipal operations by implementing the IDP. The delivery of the services is interpreted as value delivered without a real measure that would otherwise assist in measuring quality and the intangible effects that the service has brought. Complaints are used as a yard-stick for community satisfaction and value delivered. What is contained in the IDP is what Letsemeng promised to deliver to the community. Complaints on service delivery cost recovery, quality and targets are increasing.

6.1.2.8 How do you ensure that you have a competitive edge on sustained and improved service delivery?

The municipal and financial managers stated that resource limitations, due to the lower revenue base, prevent the municipality to be on the competitive edge in delivering services. The corporate services manager commented that to achieve competitiveness requires resources that will be able to match the needs, however, Letsemeng Local Municipality finds itself in the situation where needs outstrip available resources. The municipality can only remain competitive as compared with other municipalities of similar size and demographics, provided it can secure funding to meet current and future needs. Its competitiveness with regard to how it serves its community remains a challenge because of factors such as:

- Political and administrative leadership.
- Existing staff's skills able to deliver valued services.
- Inability for municipality to capacitate its staff.

6.1.2.9 How do the current systems facilitate the implementation of constitutional mandates within the municipality as decentralised democratic governance?

The municipal and financial managers stated that Letsemeng Local Municipality is striving to make this a reality and not much has been achieved due to resource constraints. The Corporate services and the Technical services managers allude to the fact that the IDP is a system that drives the municipality to implement processes in line with applicable legislation. He further explained that the new dispensation promotes decentralised democracy. The notion of decentralised democracy is not well

understood by councillors and managers. On the other hand the community increasingly understands their role in community participation. Managers and councillors need to learn from community interaction that their role is advisory and informative.

The Local Government Municipal Systems Act places community involvement at the core of service delivery by ensuring that councillors and managers listen and plan in accordance to the IDP process. Governance is about integrating needs and mobilising resources and manages them efficiently for the achievement of decentralised democracy.

The greatest challenge of operating or managing a rural municipality is that their inhabitants are very poor, and most rely on government grants. This poses a challenge where services are delivered but they cannot afford minimum payment, thus being classified as indigent in terms of the applicable guidelines. Therefore, within this resources constraint environment meeting the needs becomes a mammoth task.

For the municipality to be successful, it needs managers who have the capability and competence to juggle competing challenges and maintain balance. Decentralised democracy deals with how the municipality responds to community needs in such a way that they will feel part of the collective.

6.1.3 Experience on using a Knowledge Management System

Only the technical services manager has insight on **Per-former®** and all other managers have no insight. According to the municipal manager Letsemeng Local Municipality participates in using portal based **Per-former®** intended to monitor infrastructure projects.

Basic functionality of the portal is depicted by figures 6.2; 6.3 and 6.4, and outlined below:

- A municipality registers IDP infrastructure projects in terms of budget allocation and funded grants.
- Project information is shared between municipalities, national departments and donors.
- Provincial projects are integrated.

The technical services manager explained that Letsemeng participated by registering infrastructure projects as identified in the IDP funded by grants. The portal was intended to provide provincial and national governments and grant funders with progress on projects with detailed data and information. It was used to track project progress and expenditure with full functionality that provided room to explain deviations. The municipalities input challenges and interventions to be accessed by all to improve their projects.

Although Letsemeng Local Municipality derives benefit from **Per-former®**, the technical services manager noted that it does not address the decision making process but once the decision has been taken the projects are registered with its milestones rather than operate as an information and knowledge repository. The technical services manager further explained that this knowledge-based system is accessed by all municipalities but access is limited to technical and project managers involved in projects.

The technical services manager alluded to the functionality of **Per-former®** in Programme Management Reporting, as it deals with:

- Project lists, progress and status of projects and budgets.
- Reporting to external stakeholders on outputs of performance indicators and deliverables.
- Management reporting on progress with projects and programs.
- Exception reporting based on milestones and reports.
- Financial reports and budget management.

The system is limited to the IDP manager with the following benefits:

- Monitoring projects' performance.
- It has a built in IDP management system that is fully integrated with the Performance Reporting System on capital projects only.
- Managing contracts.

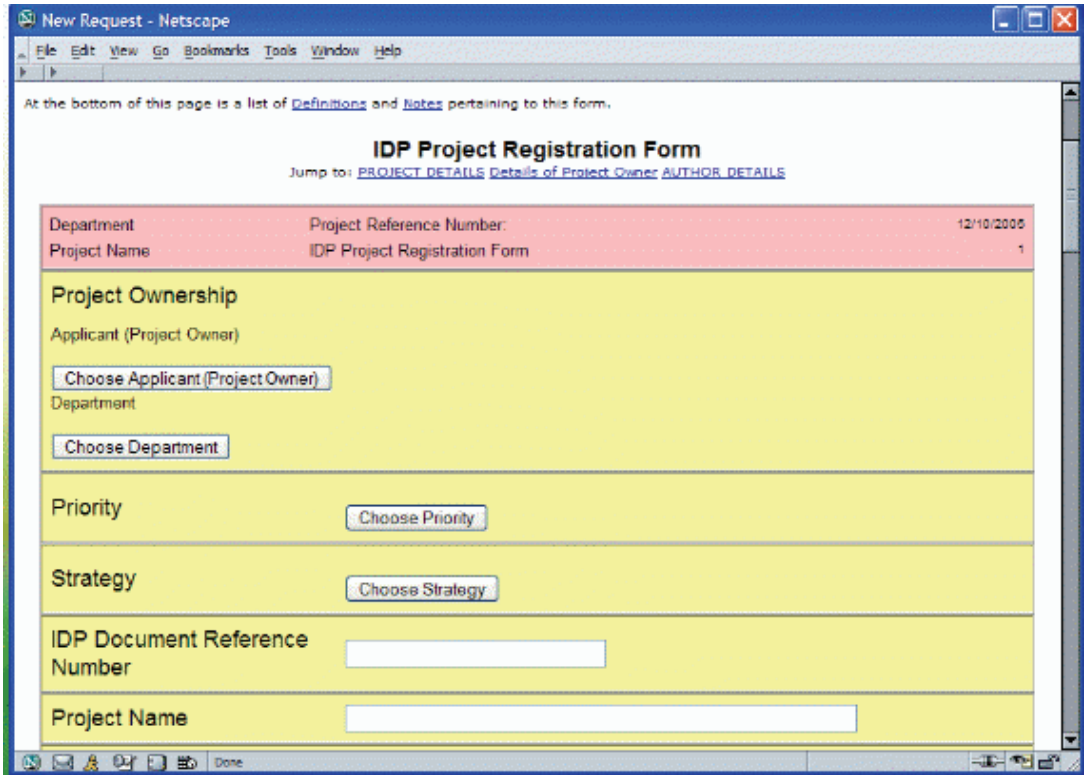

Figure 6.2: Screenshot of Per-former project registration page
(Source: http://www.in-forms.co.za/presentations/ProgrammeManagement/img4.html)

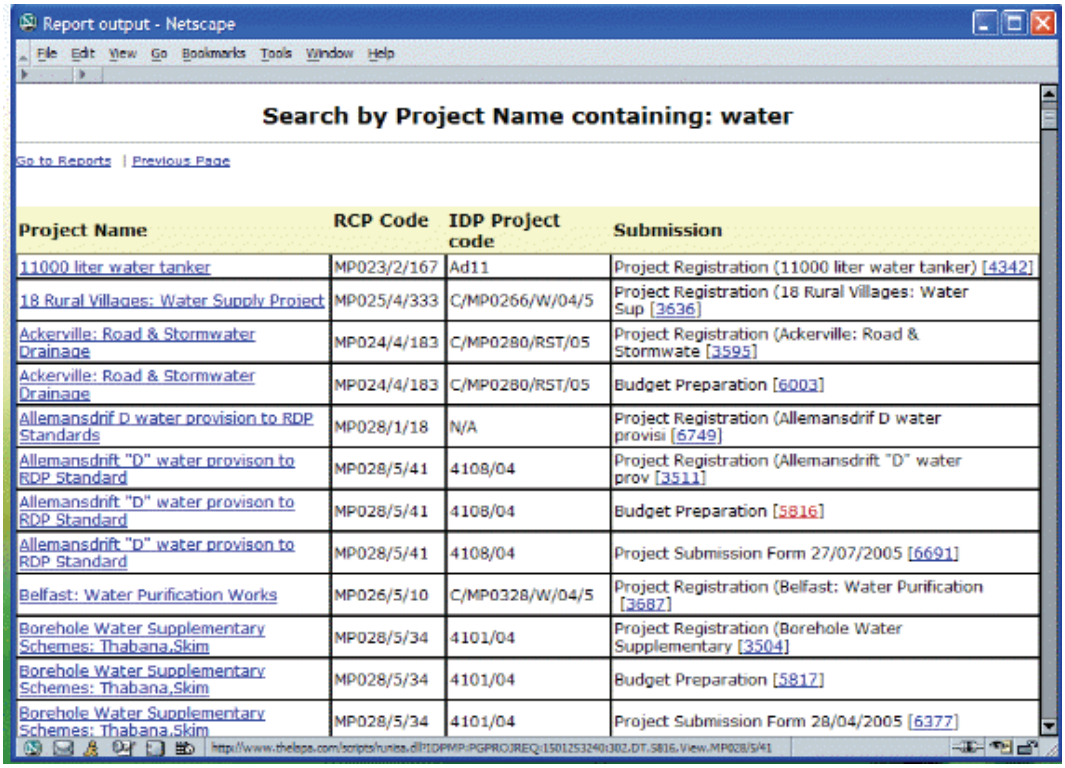

Figure 6.3: Screenshot of Per-former project search page
(Source: http://www.in-forms.co.za/presentations/ProgrammeManagement/img4.html)

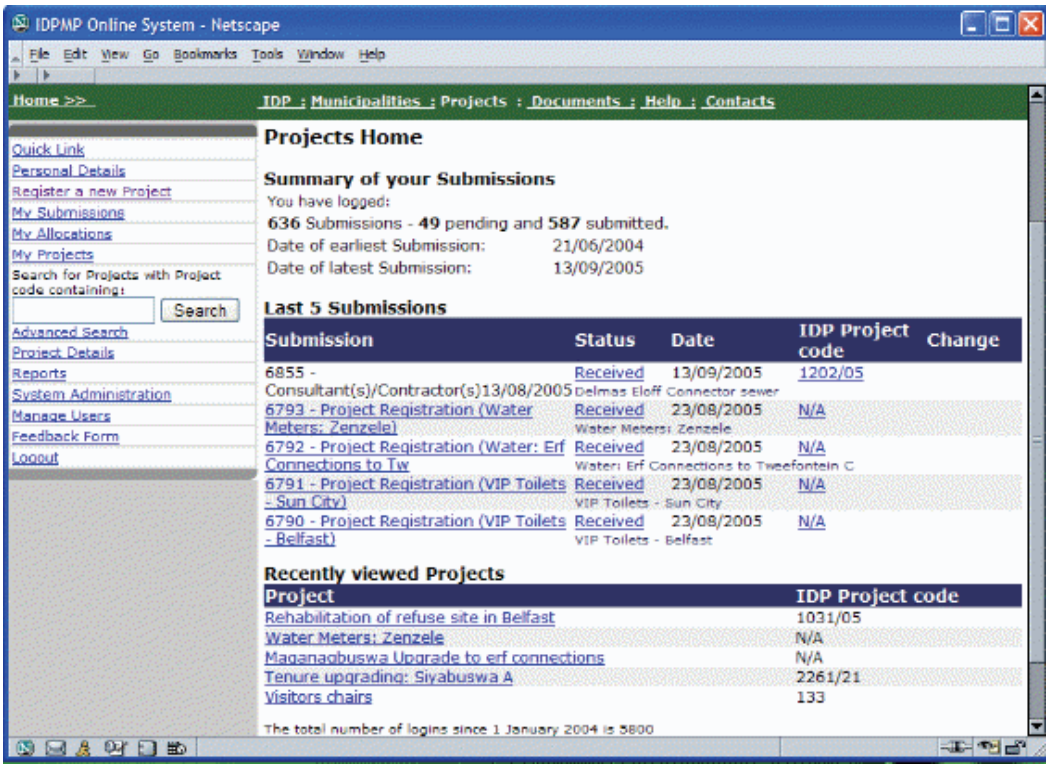

Figure 6.4: Screenshot of Per-former project summary page
(Source: http://www.in-forms.co.za/presentations/ProgrammeManagement/img4.html)

The next section will discuss the findings in detail.

6.2 Discussion of findings

6.2.1 Legislative Arrangements

The political transformation of South Africa, through the adoption of a democratic Constitution, has brought about sweeping changes in municipalities as a form of decentralised democracy. The Constitution forms the basis on which enabling legislation for transforming municipalities in line with with democratic principles is based. Specific enabling laws applicable to municipalities are the Local Government Municipal Systems and Local Government Municipal Structures Acts with accompanying regulations. The Municipal Finance Management Act promotes efficient resource management and accountability while the Local Government Municipal Planning and Performance Management Regulation ensure performance monitoring and evaluation. The application of these varies, depending on the category of municipality, and some are shared executive powers between local and district. Even though legislative controls were implemented a few years ago, Letsemeng still struggle to meet them due to resource constraints.

Letsemeng is classified as a category B municipality where it shares executives with Xhariep district municipality as category C. This arrangement allows sharing of resources and political management between the two municipalities. The Mayor at the district municipality has executive powers that allow sweeping control in enforcing decisions across local municipalities, hence called Executive Mayor.

Political influence on the management of Letsemeng is very high as stated by all managers because most decisions, irrespective of their impact, are taken by council resolutions. The resolutions are not always supported by credible information due to lack of information management and an approved system of information collection, except at a lesser level by the technical services manager. They are run primarily by mayoral committees that have been set up to manage and ensure that delegated powers in terms of Local Government Municipal Systems Act are implemented. These committees are monitored by moderating structures but failure to design and implement rules in line with applicable legislation has affected effective implementation. Lack of progress is attributed to the absence of required competence and ability from both politicians and administration, as stated in the PIMS report of the corporate manager.

The Local Government Municipal Systems Act gives responsibility and accountability to councillors for planning, initiation and consolidation of community needs through the IDP process, as outlined by the corporate services manager. Their influence on the direction of development within Letsemeng Local Municipality from this point of view is great because they determine what is finally approved for funding. However, their planning and community engagement skills are noticeably lacking as stated by the corporate services manager. The IDP process is very complex from planning, approval, and implementation and continued monitoring, needing skilled facilitators. Councillors do not follow guidelines, as outlined in figure 6.1, for the implementation of the IDP process as expected. It was found that they short-circuit the process by making the final approval based on their perceptions of needs, thereby leaving room for community dissatisfaction. The Financial manager stated that some of the decisions are promoted by individual interest and not community needs.

There is a need for skills development of councillors and their support staff in processes and frameworks, plans, and situation analysis techniques, providing strategic vision for individual wards and collating data and information into an integrated Letsemeng plan and understanding the purpose of the IDP.

As stated by the municipal, financial and corporate services managers, council decisions on financial and administrative matters are primarily reached by political consensus except approved projects funded by provincial or national funded spheres. The practice is in conflict with the Municipal Finance Management Act that puts the resource management responsibility on the municipal manager. Issues are presented to the council for approval and decisions supported by information from the administration headed by the municipal manager. Therefore in the event of administrative support not effectively playing its role there is a possibility that most decisions will be driven by political interests.

The Management of Letsemeng is highly based on political decisions, and administrative decisions continue to pose challenges in meeting the targets for different services in terms of the Local Government Municipal Planning and Performance Management Regulation. Challenges identified by the study:

- Resolutions not taken in time thereby leading to delay in service implementation and resolving problems.
- Lack of requisite skills among mayoral committee members in several areas affects service delivery.
- Operating rules at political level found to be lacking in guiding councillors in the execution of their legislative accountability.

The Constitutional mandates for Letsemeng are largely to implement decentralised democracy that seeks to involve community participation so that their needs and demands are reasonably met. According to the PIMS report managers and councillors seem not to fully understand the role community participation should play. The interaction must be able to set a tone for Letsemeng planning, however it is very minimal. All managers stated that skills to collate and integrate data and information into service delivery improvement that will benefit community needs are lacking.

6.2.2 Letsemeng Local Municipality Status

Letsemeng is a local municipality established in line with the Constitution in terms of the Local Government Municipal Systems Act. The community is mostly rural consisting of farms and small towns/villages where employment and economic activities largely depend on farming. Letsemeng organisational management is dispersed over four towns where staff

operates to serve as an extension of the municipality, thus ensuring identical service provision.

The municipality's status mandates delivery of services such as waste management, fire fighting and municipal public works to the immediate community. Through legislative interdependence with the Xhariep district, support in the form of skills and funding on certain areas is to enable Letsemeng to meet its mandates. Facilitation of the IDP process, transport management and local economic development support and funding processes will allow Letsemeng to address unemployment and probably sustainable development formed by improvement in economic activities. Therefore Xhariep plays an important facilitative and supportive role for Letsemeng to deliver value service to the community. However, specific functions delegated to Letsemeng can still be implemented using innovative initiatives.

There is a very complicated organisational structural arrangement between Letsemeng and Xhariep as depicted in figure 1.1 above. The Project Office established at Xhariep supports Letsemeng's three units to deliver specific services. The challenge is that delivery plans are approved by Letsemeng Council and later sent to Xhariep for integration into all other municipalities. The project management office at Xhariep is faced with a challenge to ensure that all plans are well integrated in line with different directives.

6.2.3 Organisational Structure and Management

The new organizational structure has been designed to address control and accountability issues through a flat structure as depicted in figure 1.1 above. Management consist of the municipal manager supported by three managers responsible for technical, corporate and finance, who are responsible for the efficient administrative operation of their respective units. Legislative reforms are intended to improve services and bring public institutions closer to the community. It has changed from the era when municipalities were restricted within individual towns, to where towns and farming areas are grouped into one integrated, administrative unit to take advantage of economies of scale and improved delivery. The Constitution, operationalised through the Local Government Municipal Systems Act, the Local Government Municipal Structures Act, the Municipal Finance Management Act and the Local Government Municipal Planning and Performance Management Regulation intended to bring municipal administration in line with democratic principles to respond to community needs. Their objective is also to integrate systems and get rid of stand-alone

legacy ones used by fragmented municipalities prior to 1994.

Letsemeng Local Municipality historically had four different towns without any links. Each of these four towns, namely, Koffiefontein, Jacobsdal, Luckhof and Petrusburg created their own culture and managed resources in isolation. Management objectives were diverse and confined to their small areas not being forced to share resources. The new dispensation has changed the arrangement by joining four towns to be managed together. It brought together diverse and dispersed demographics to be managed into a complex arrangement. These changes across all towns demand a management transformation approach to achieve the intended efficiencies. It affected organisational structure, complementary skills, systems, responsibilities and resource allocation, as observed in Letsemeng. Management transformation has not been implemented to ensure one integrated Letsemeng administration.

The process of amalgamating unitary municipalities from four towns could not be implemented because the municipality first had to consolidate available resources and services into one manageable unit. The four towns each had its own operating procedures, processes and guidelines that were not complementary, making it difficult to achieve seamless integration.

Although there is a will from management to speed-up transformation, funding to implement the new management processes aligned to legislative requirements remains a challenge. Funding from both national and provincial level is mainly geared to infrastructural projects, and not organisational transformation that facilitate the necessary change management. Appropriate measures to collect sufficient revenue are lacking because of the high unemployment rate. Revenue is needed to fund other initiatives such as training of staff to acquire administrative skills. Resource constraints have negatively affected Letsemeng in implementing appropriate organisational structures and recruiting appropriately skilled personnel who fully understand management processes and their responsibilities. Appropriate management processes that are essential for the newly transformed municipality have not been fully developed, and internal processes have not completely adapted to the new legislation.

The Letsemeng planning process is supposed to be based on the Local Government Municipal Systems Act and Local Government Municipal Planning and Performance Management Regulation, ensuring that community needs are integrated through the IDP

hearings for projects, but lack of facilitation skills by councillors and administrative support pose a challenge in successful implementation. The intention is to build equity from historical disparities among the four towns through a process that will ensure equitable development over years.

6.2.4 Political Interference

It is evident that political interference plays a major role in administrative matters. There is a mixed perception about the role of political interference among all managers, i.e. on the one hand it makes things happen while on the other hand it affects administrative management in that councillors make decisions that are supposed to be the responsibility of managers. Interference affects decision turnaround time and quality.

Despite a clear legislative framework, political interference by councillors and national government hampers efficient planning. Corporate services and financial managers noted that political interference either compromise or improve and strengthen planning and delivery of services, however, managers are unable to evaluate whether there is an impact due to lack of requisite skills. Normally identification of projects is informed by data and information based on the baseline instead of political decision.

It is clear from the evidence collected from managers that systems to regulate information have not fully developed to enable effective information management due to political interference. The lack of appropriate requisite skills of personnel and information management meant to guide councillors in prioritising and implementing community needs based on IDP process has opened-up room for political interference. Compounding these challenges is a lack of understanding by councillors of their roles and responsibilities due to the absence of moderating rules. Empowerment of both councillors and administrative staff as contained in the PIMS report for corporate services management is still a big challenge as resources are limited. This is one of the factors that contribute to political interference because managers are failing to take responsibility, such as giving strategic leadership to Letsemeng in all administrative matters. It could not be confirmed through key indicators and targets set out in the Local Government Municipal Planning and Performance Management Regulations that such plan is available as the corporate services manager did not know whether it exists.

6.2.5 Performance and Information Management, Processes and Systems

Managers are responsible for data and information collection, collation and analysis on their specific management area. Based on their analysis they inform the municipal manager in case there is a need for intervention as reported by managers. Data and information that are supposed to be fed into the Local Government Municipal Planning and Performance Regulation System, on which targets and outcomes are based, could not be found. Regulation is at the strategic level as it outlines performance areas enabling Letsemeng to measure service delivery. Data and information are expected to be provided in a form to address sections 9, 10, 11, 12 and 13. It is evident that Letsemeng does not have an integrated system that will provide a global view on performance as stated in the PIMS report and by the corporate services manager.

With reference to the Local Government Municipal Planning and Performance Regulation Letsemeng is expected to develop indicators and targets in line with performance management by information collected during community engagement processes as a baseline. They should be monitored and evaluated to determine the progress made in the delivering of services. It could not be confirmed whether measures outlined in the regulation have been set and monitored.

The municipal manager indicated that data and information to support and monitor performance are not collected, but Letsemeng depends primarily on outside agencies such as the Centre for Scientific and Industrial Research (CSIR) to provide such data. In the absence of data and information managers are not in the position to monitor both the indicators and the targets. Reports cannot be reliable or verified internally because of the inability to implement the data and information collection tool.

The corporate manager stated that Letsemeng proved to lack appropriate processes and resources for a functioning administration and political structure to implement procedures and tools necessary for the transformation agenda issues due to lack of supporting information. The lack of clarification on roles and responsibilities has an impact on the implementation of decisions guiding activities and needed programmes aimed at addressing the community.

The Letsemeng administration lacks the capacity and proper processes to adequately solve problems and make sustainable decisions particularly day to day decisions because most

decisions are taken by council resolution. Management fail to take advantage of the Municipal Financial Management Act that empowers municipal managers' commitment to resource efficiency and allocation. The Municipality seem to adhere to budget processes without fail, in fear of loosing funding.

From the interview data gathered from all managers, it is evident that management tools are not in place:

- No decision support system to offer alternatives.
- No proper information management.
- No system to measure output.
- Absence of a system to manage available resources.
- Absence of a system to facilitate and consolidate implementation of new processes.

The PIMS report and the corporate services manager responses showed that municipal administration has been compromised in building an effective management system and knowledge management system because of:

- Failure to fill critical posts with skilled personnel to support and implement transformation processes.
- Lack of roles and responsibilities clarification between administration and political levels, sometimes leading to confusion and political interference.
- Performance management system not adequately implemented to be able to monitor and evaluate service improvement.
- Ineffective record keeping systems and skilled personnel to implement a credible record system.

Failure to plan, implement, monitor and evaluate projects aimed at improving service delivery is attributed to:

- Lack of organised decision making process documentation at administrative level.
- Absence of methods, techniques or processes of measuring value to the community.
- Absence of coordinated continuous quality procedures to collect, collate, categorise

data and package information for the decision making process in support of councillors' resolutions.

- Lack of capacity of Xhariep District to implement its mandate that complements Letsemeng, for instance, Letsemeng cannot ensure economic growth and financial viability if roads and infrastructure are not well maintained.
- Appropriate funding for transformation of internal processes.

6.2.6 Decision Making Process

There are two types of decisions within Letsemeng, namely; strategic long-term and operational short to medium term. Long-term strategic decisions take a view of the political mandate for a specific five year term stemming from national and provincial government directives and in line with Letsemeng's vision, mission and a predetermined iterative form as depicted in figure 6.1 above. The corporate services manager stated that the Local Government Municipal Systems Act gives guidance on the process of community participation. Decisions are mainly driven by availability of resources from provincial and national funding sources.

Second, decision areas that have an effect on short-term strategy are at operational level. This level includes managers and supervisors at different levels excluding the municipal manager who works closely with the council. For an example, decisions to implement certain internal programmes or appointment of staff at lower levels for agreed projects. These types of decisions are made by council as presented by the municipal manager, using information available. The municipal and corporate managers stated that the process takes a long time because it is dependent on the availability of council members or mayoral committees to meet and pass resolutions. Time lag also affects the implementation of decisions.

The decision making process within Letsemeng Local Municipality has been found to experience challenges:

- Not all decisions are backed by data and information. Where the data and information is used it cannot be verified as it is sourced externally. Continued use of external sources has impacted negatively on resource management in that no baseline is available to monitor.
- Decision processes are not followed up and most are based on political interest and

incomplete information due to the absence of support systems.

- There are no internal processes designed for decision support, for example, a knowledge management system.
- Most decisions on addressing the community needs are taken by council as resolutions and are not backed by scientific or reliable data and information from other sources and managers.
- Document management is very poor due to poorly skilled administrative personnel that are to ensure availability of information in the form of documents to support the decision process and contribute to building knowledge assets.

Decision making depends on the experience of managers that was found lacking in Letsemeng. There is no particular support system to assist managers in making sustainable decisions. Decisions are largely based on third party data and information that cannot be verified. The decisions are not technology or system driven; rather the IDP approval process serves as strategic decision making. It was indicated that due to the complex environment within which Letsemeng operates it is difficult to get appropriate support technology.

6.2.7 Skills Deployment

All managers agreed that skills deployment for administration and councillors is very crucial to the success of service delivery. Letsemeng has a weak administration in terms of required skills to deliver on all mandates as outlined by the corporate services manager. Failure to recruit and retain relevant personnel in key positions has affected proper performance management. Managers are unable to implement mandates independently due to a lack of leadership skills. This has been demonstrated by their failure to implement data and information management systems that would allow them to manage resources. The inability for the municipality to implement a proper filing system required for document management flow poses a challenge by failing to ensure that management support systems are in place.

6.2.8 Technology deployment

Only a few individuals have experience and access to **Per-former®** which is used as knowledge repository for infrastructure project management and sharing lessons. It provided users with an opportunity to understand information sharing, monitoring and evaluation at the lowest level. It is a performance management system that is applicable to both internal and

external stakeholders in that reports are available. Reports are generated at different levels depending on the purpose and details required. Specific outputs and deliverables are monitored throughout the life cycle of the project, and where necessary, intervention is instituted earlier to prevent delay and failure. **Per-former®** also offered a complete benchmarking capability whereby similar projects can be used to draw lessons on both successes and failures.

The municipality of Letsemeng has not implemented any technology system to manage its operation other than participating in a nationally initiated **Per-former®** system for the registering and recording progress of the IDP infrastructural projects. Although the system might be useful for municipalities to share experiences in managing milestones, it does not offer a full knowledge management system, but acts as information and knowledge repository for projects. Computer hardware is available for most users to allow implementation of any technology based system. However, all the computers are stand alone, i.e. are not part of any network. Three managers, i.e. the financial, municipal and corporate services managers indicated that no technology exist that could be used to manage effectively.

6.2.9 Value Management

All managers stated that the municipality in its day to day operations management is concerned with delivering services and less about value or customer satisfaction. According to the financial manager the value of service rendered to community is not measured, rather the concern is about rands and cents in terms of what has been spent on a particular project or service delivered to the specific community. The corporate services manager stated that the interpretation of value delivered is different depending on the individuals' perception because it is not aligned to specific key targets and outcomes as determined by performance management.

6.2.10 Business Model

All managers confirmed that there is a big shift from forms of municipality before 1999 as compared to 2000's new arrangement. They confirmed that change of policies, guidelines and processes for implementation of new legislation after 1999 called for a need to change the business model of the way the municipality delivers services. It is evident that the new form of business model failed to be implemented successfully in Letsemeng because of non-functional mayoral committees, administrative support structures, management systems and

appropriate organisation structure as outlined by the corporate services manager. Measures to recruit and retain skilled staff at all levels to be able to understand and implement the new business model are a challenge according to the PIMS report.

The new business model implementation is dependent on several success factors. As outlined by the corporate services manager appropriate administrative and political structures and management systems complemented by people with skills and capability who will be able to perform roles and responsibilities are important building blocks of the new business model. Apart from the absence of appropriate IT systems, basic record keeping, uniform administrative management systems, value management initiatives and techniques are not well developed and implemented. Training of both councillors and personnel to properly exercise and understand their assigned powers and responsibilities is still a challenge. The performance management system is not aligned to the new business model.

6.2.11 Competitive Edge

Competitiveness is necessary for Letsemeng to be able to deliver services at the promised level and sustain momentum. All managers indicated that factors affecting Letsemeng's non-competitiveness are attributed to the failure to secure adequate funding to fund service delivery especially where the majority cannot afford to pay. The corporate services manager added that it is also dependent on political and administrative leadership, skilled personnel and continued training and that empowerment is lacking.

The next chapter on conclusion will attempt to extrapolate research findings into meaningful information.

Chapter 7

Conclusions

7.1 Implementation of Legislation

The legislative framework guiding different categories of municipalities to establish effective administration should provide a valuable guide for Letsemeng. Furthermore, chapters 7 and 10 of the Constitution, operationalised in the Local Government Municipal Systems Act, Local Government Municipal Structures Act, Municipal Finance Management Act and Local Government Municipal Planning and Performance Management Regulation are tools for efficient administration. This legislation is intended to promote democratic principles, such as ethics, economic value, a development agenda, accountability, transparency and sound human resource development.

Implementation of legislation cannot produce positive results if the enabling environment is not conducive. A conducive environment is determined by available critical resources such as people placed appropriately where they function better and are continuously empowered, funding availability and understanding of different roles and responsibilities. Letsemeng is a typical rural municipality that is faced with problems peculiar to most public institutions to be able to implement the required transformational changes. A strict resource constraint environment in both human resources and capital has a negative impact on meeting the required standards. Changes in legislation undoubtedly called for the need to employ and position personnel with appropriate skills to implement the new administration model. Personnel who understand and possess technical capabilities to come up with strategies and operationalised plans that are in line with the community participation framework to promote decentralised democracy are needed for Letsemeng. Capital requirements to implement enabling systems to empower Letsemeng to be able to meet mandates as per applicable regulation are the major deciding factor.

The first stumbling block in the implementation of required changes according to legislation is support from Xhariep district, as it shares executive powers. The sharing of executive powers result in Xhariep playing a vital role by supporting Letsemeng to implement its responsibilities by benefiting from technical and financial support. Legislation requires

Xhariep to establish a technical office that supports Letsemeng in environmental affairs, libraries, IDP facilitation, local economic development and public transport management.

The other biggest stumbling block for effective implementation of legislative requirements is the interaction between councillors and managers. Legislation clearly differentiates the roles of councillors and managers, but the Letsemeng management's roles and responsibilities are not clearly specified. Councillors are seen to play a greater role in management of resources beyond what the Local Government Municipal Systems Act requires, where their greater role is in interacting with communities and ensuring that service needs are delivered within municipal resources. Despite the Municipal Finance Management Act that seeks to empower the municipal manager and the support manager to manage resources effectively and efficiently, councillors still determine how resources should be allocated and controlled.

The Local Government Municipal Planning and Performance Management Regulations brought about result-oriented administration by requiring the municipality to quantify and put in place measurable outcomes for service delivery. It is therefore expected that resources such as skilled personnel and systems are built to ensure that this transformation becomes possible. Regulations primarily address different areas, namely: key outcome indicators around community needs and administrative effectiveness, general indicators on nationally funded projects, annual performance review, developing strategic capabilities for setting up performance indicators, developing systems for monitoring and evaluation. This regulatory compliance, which would assist in ensuring improved service delivery, is not met by Letsemeng.

7.2 Service Identification and Provision

A municipality is a complex, adaptive public governance system as defined by Morcöl, because it is in a political environment that continues to change from time to time. There are specific community consultation processes outlined in the Local Government Municipal Systems Act that must be adhered to without exemption. The type of interaction establishes a new form of governance that requires the municipality to be able to adjust to this highly contested territory for efficient and effective service delivery. Failure to consult on service delivery matters through a well defined community process renders the IDP illegitimate and might lead to community dissatisfaction. Although the Local Government Municipal Systems Act clearly defines the community consultation process (figure 6.1, IDP Reporting

Structure), councillors and managers in Letsemeng have continued to decide what is in the best interest of the community within a specific five year term.

The Municipality of Letsemeng's inability to follow established legislative processes in identifying and providing service is due to the absence of an appropriate organisational structure and skilled staff. A flat structure has been recommended mainly to ensure efficiency in implementing decisions. The flat structure assists in that decisions flow is shorter and implementation is swift. This is more crucial in a dispersed organisation like Letsemeng. A more political environment opens it to more tensions if community needs and demands are not met. The structure is also intended to reduce bureaucracy in that feed-forward and feedback time lag.

The two models outlined by Hartz-Karp on community engagement and VanSant on building good governance offer a guideline in implementing legislation effectively, especially on community participation in the process of IDP consolidation. Letsemeng rural nature poses major challenges in making it possible to acquire sufficient resources so that delegated services can be implemented (waste management, emergency services and infrastructural management), thereby being unable to meet realistic community needs. The two models offer a platform for Letsemeng to follow the IDP process that will without doubt be a product of community service needs and demands.

Furthermore, Callahan recommends two processes that could be implemented to strengthen community consultation and participation. The two processes, namely; direct democracy and collaborative participation, assist in seeking community support and sharing information on specific issues affecting their life. Callahan's process offers an approach to implementing the Hartz-Karp and VanSant models. Depending on the purpose of consultation, Letsemeng could choose an appropriate approach that will yield predetermined outcomes. Hartz-Karp and VanSant offer a platform to collect data and information through community participation process irrespective of purpose. Both models can be implemented on any size of the target population as long as iterative processes are followed.

Application of the complete process of community participation in Letsemeng has not been followed in accordance to the legislative framework. Instead, a short-circuit approach where only one consultation is held with the community to have a false legitimacy, was followed. Callahan's two processes will assist in that the municipality could choose which one will be

used depending on the urgency and mandate to be sought from the community. In addition, the two processes will support different forms of decision areas. The main purpose of community participation in Letsemeng is to maximise community involvement in decision making for delivering valued service. However, involvement in decision making is not unlimited to all areas but certain areas are used as advisory to prevailing choices. Callahan identified decision areas as public, autonomous and modified autonomous. Letsemeng has not being able to follow a defined process differentiating its purpose for consultation using available processes to support a decision area where benefits are ascertained. Community participation in Letsemeng is not guided by any procedure in order to assist councillors and managers to classify interactions based on a predetermined purpose. VanSant outlines effective interaction that could be adapted and implemented between Letsemeng and its community in terms of resource allocation for services delivery.

The IDP process as explained earlier can be strengthened through the implementation of the Hartz-Karp model. It encourages genuine community participation and involvement. The IDP committee responsible for the final recommendation could follow the model, as it encourages dialogue between decision makers, politicians and the community. It was identified that in Letsemeng the IDP process is largely driven by councillors who lack the requisite facilitation skills and are tasked with the responsibility to collect and collate inputs from communities for implementation over the five years of a political term. The Hartz-Karp model of community engagement is positioned to promote community participation that will also have the following added benefits for Letsemeng:

- Promotes information exchange where the community and decision makers should reach an understanding on service delivery issues, thus increasing trust on all sides.
- Offers the community a platform for frank discussions but also builds a sustainable partnership for service delivery.
- Empowers both councillors and administrative personnel in building an enabling environment through continuous engagement.
- Assists councillors by providing a guide in inclusive, deliberate and influential processes that will result into solutions.

The initial process of compiling a ward based IDP is led by councillors and supported by data and information that is refined by managers, ensuring alignment. The model provides the process of addressing community concerns within the entire process holistically. Through application of the VanSant model Letsemeng could build the needed capacity through the process of comprehensive engagement for all stakeholders. The Municipality of Letsemeng will be able to address conflicts and misunderstanding for service delivery by augmenting the Callahan processes. The VanSant model primarily addresses governance on community participation issues of service delivery.

The conflicts that occur between councillors, managers and provincial politicians on backlogs to service delivery need to be resolved by regular meetings of all concerned. These conflicts have been identified to be caused by a lack of expertise and defined role clarification at council and administrative level to reconcile all stakeholders. Integrating the VanSant and Hartz-Karp models could lead to improved delivery of services as they address skills in collecting supporting data and information for decision makers, while on the other hand reconciling community needs.

The VanSant and Hartz-Karp models complement each other in that needs and demands of the community are matched with resources. Governance issues as put forth by VanSant will ensure that councillors and managers are skilled to deliver services (accountability and leadership). According to VanSant, achieving community satisfaction in service delivery involves resource availability and effective management.

Frates states that municipalities are not immune from provincial and national influences as some may think, but control of these spheres is very strong. For instance, Letsemeng's status as a category B municipality is highly influenced and controlled in other areas by Xhariep district as they share executive powers. The executive powers reside with Xhariep district, with limited delegations to Letsemeng. Lafferty calls the type of arrangement between Letsemeng and Xhariep *quasi-autonomous* in that Letsemeng is not totally independent. Sharing executive power impacts either negatively or positively on Letsemeng's service delivery progress. Responsibilities such as provision of roads, public transport management and economic development are vested on Xhariep district, and if not implemented accordingly, as is currently the case, it negatively affects Letsemeng's ability to deliver. These are core support functions to Letsemeng to deliver services as they form a platform to deliver water provision, sanitation and related infrastructure. The complexity of the

arrangement impacts on the ability of the Letsemeng Local Municipality to deliver services. A point in case is that Letsemeng has not succeeded in the delivery of some services although it has not led to community upheavals.

The type of interaction determines how successful Letsemeng can be supported by Xhariep. Understanding the integration of the two models, i.e. Hartz-Karp and VanSant, could manage complex interactions to deliver delegated services. They allow all stakeholders to play an equal role in defining and agreeing on the strategy to address community needs; therefore, managers and councillors will be able to play more efficient roles at the appropriate level. Understanding the complex interaction between Xhariep district and Letsemeng will benefit successful implementation of legislation, thereby leading to effective service identification and delivery. More service related data and information is collected, collated, interpreted and analysed at Letsemeng, however some of the identified service needs and demands are addressed by Xhariep district in accordance to legislation. Letsemeng is closer to the community and therefore understand challenges better than Xhariep district management. The two models offer Letsemeng the opportunity to put community needs into better perspective to be understood by all stakeholders.

According to De Villiers and Michael, improved service delivery rests on two pillars, which are demand and supply, and planning and execution. Hartz-Karp and VanSant's models address these pillars for service delivery. Demand is addressed by Hartz-Karp in that the community is engaged in collecting data and information through an open-dialogue where all stakeholders benefit from the interaction. Data and information on service demands collected through application of the Hartz-Karp model is fed into the VanSant model where planning and execution of supply will be concluded. Supply will be matched with available resources in terms of deployed and deployability of resources. De Villiers and Michael emphasized that success of a municipality is in understanding the demand and supply, and planning and execution. The Letsemeng Local Municipality will be able to efficiently manage service delivery by understanding the relationship between the pillars and their perspectives. The perspectives are meant to assist managers to manage competing demands and needs through engaging communities for building effective management and delivery. Additional research undertaken by Marchand et al, Hallsmith, Vahidov and Kersten and Rasmussen and Szarmes, concluded that where an organisation engages its clients in a two-way dialogue, it offers an opportunity to all stakeholders to understand changing needs and promote cohesion and

common purpose. Hence it will be appropriate for Xhariep district and the provincial government to take part in the process.

Hallsmith raised a concern about political interference and minimal resource allocation common in municipal administration that can possibly be minimised by implementing an alternative approach that will guarantee effectiveness. Implementation of Hartz-Karp and VanSant's models will certainly address the concerns raised by Hallsmith, and probably minimise the political interference observed in Letsemeng. Vahidov and Kersten stated that the process of interaction with the community will assist in aligning business processes to match their needs. Similarly, Rasmussen and Szarmes further state that sharing information is a crucial leverage against any resistance. The two pillars identified by De Villiers and Michael are also an integral part of both the Hartz-Karp and VanSant models.

The challenges faced by Letsemeng is similar to what other municipalities face, namely: insufficient resources, revenue not granted to the level matching community needs to guaranteed service improvement and sustainability. Evidence collected showed that Letsemeng has not been very successful in meeting most community needs because of the high number of indigent community members who cannot afford to pay for services. In order to close the gap between the revenue collected and real needs cost, the IDP must be inclusive to be able to secure additional funding from Xhariep, the provincial and national government. An effective IDP follows a process that will put Letsemeng at a competitive position for delivering services to the impoverished community.

Additional contributing factors leading to failure to address community needs are based on the evidence collected from managers in Letsemeng Local Municipality. These factors are attributed to judgement errors due to the lack of skills and competencies in making service provision decisions. The VanSant model centres around appropriate accountabilities and leadership to be able deliver service of an acceptable standard and quality. These factors are the result of skilled managers and councillors' inability to take quality and sustainable decisions. Their actions often lead to large scale community dissatisfaction and protests against the municipality. There are no internal coping mechanisms to keep the Letsemeng administration floating, especially when the community confronts managers and councillors on service issues. Coping mechanisms such as the implementation of alternative arrangements are not available, while addressing community dissatisfaction, thus allowing normal administrative functioning. Letsemeng Local Municipality would not be able to

deliver services of value or address the needs of the community as long as there is a lack of information management tools (DSS & EIS) and capacity to determine the extent of the challenges. Although Letsemeng Local Municipality has not been exposed to public protest on delivery of services, community complaints continue to increase, thus calling for change.

7.3 Information Management

Absence of information management systems greatly affect resource allocation, setting of targets, outcomes and performance management. Problems faced by Letsemeng are failure to adequately secure resources that is partly attributed to a lack of supporting information to concretise the identified needs. The Hartz-Karp community engagement model is meant to collect data and information that will assist Letsemeng to allocate and lobby for additional resources, the management thereof and future planning. Failure to provide information in support of needed resources to address service improvement and backlogs such as water and electricity provision has affected the ability of Letsemeng to meet its mandate. The management of resources such as personnel allocation to address community needs has not been possible as additional funds could not be secured. Future planning has not been done as the finalisation depends on the availability of skills. It implies that data and information are unreliable because managers who should provide it are not appointed or lack requisite skills.

Elam and Singh state that managers require information management systems that would assist in identifying opportunities and problems before they arise. In support of Elam and Singh, Safai-Amini concludes that methods for assembling and distributing vast amounts of information are necessary as they will enable managers to take appropriate actions. Methods should possess elements of good information management, namely control and appropriate use, protection, infrastructure for effective and efficient use.

The Municipality of Letsemeng's organisational structure consists of three distinct units, namely: corporate services, financial and infrastructural management. All three units manually collect and analyse their own service data and information without integrating that into one municipal source that reflect the status of service delivery. Thus, information at Letsemeng is not managed in line with the strategy proposed by Elam, Singh and Safai-Amini, which is aimed at facilitating improvement.

Hallsmith, Marchand et al and Meadows and Doppelt emphasize the importance of better information management in ensuring municipal service delivery success. Letsemeng fail to

address most of its service related problems. According to Marchand et al, collecting, organizing and maintaining information will assist in sensing any change in a system, thus managers will be able to implement coping mechanisms to attain the necessary change. Coping mechanisms are best build around available information as it is based on future projections.

Meadows, Doppelt and Skyrme identified information as a key leverage point for planning, monitoring and performance management. Good information management practices will undoubtedly assist Letsemeng in demand and supply planning and execution during the IDP process by setting realistic targets and outcomes, monitor and undertake performance review in line with the Local Government Municipal Planning and Performance Management Regulation.

At present Letsemeng Local Municipality does not have integrated organisation-wide information management systems to address service delivery issues. Service delivery decisions are handled through a political process without credible information support. According to Meadows, Letsemeng needs to be proactive and build capacity in this complex environment to prevent community upheavals and dissatisfaction. An information management system that supports the decision making process will be necessary. Application of the Hartz-Karp and VanSant models is successful in an organised integrated organisation-wide information management system as the process guarantees data and information collection across Letsemeng irrespective of service. During the consultation process the community sees Letsemeng as an integral system rather that separate units as it appears on the organisational structure and currently implemented. Integration will allow one source of reliable information.

As identified from data collected from managers, Letsemeng Local Municipality lacks what Doppelt calls a triangle of municipal environmental leverage in information management. It is composed of information gathered and shared during the community participation process. Information collected will be used in the decision making process and link resources to identified community needs. It will also assist Letsemeng to successfully implement and achieve a decentralized democracy as intended by legislation. Improved information management will also play an important role in achieving the new organisational architecture that came as a result of changing legislation. Information plays a central role in informing sustainable decisions and resource distribution.

Lack of information management as identified from the data collected proves that Letsemeng has challenges in data collection, collation and packaging to extract and analyse vital information. Failure to understand the relationship, as stated by Doppelt, will negatively affect the empowerment of Letsemeng to be able to intervene especially at leverage points. Appropriate intervention at leverage points will effect positive changes within Letsemeng as a system of governance.

Since there is no integrated organisation-wide system to collect, collate and package data, EIS will assist in understanding the environment especially in the midst of overabundant data sources that are of questionable quality and verification. EIS as a technology based system will provide managers in Letsemeng with quick access to information that will enable identification of problems and opportunities and for monitoring progress on projects. It could be successfully implemented in Letsemeng, but currently there is no such system; this should be acquired in order to distribute information in support of decision making or knowledge-driven DSS. It has the benefit of remaining stable during any changes in strategy and the environment common to public service.

EIS can be used as a tool to project a future state that will be integrated into plans. It will also assist in scanning the environment from time to time in order to be able to plan appropriately, especially when conditions change drastically. Managers will develop a culture of valuing good information management. Singh states that information provided by EIS will support legislative objectives, alignment of architecture and address current issues of transformation. Poon and Wagner believed that if EIS is properly implemented it will support knowledge-driven DSS. It will therefore also improve information diffusion within Letsemeng.

4.4 The Decision Making Process and Support

The decision making process and support system is important to ensure that decisions lead to sustainable interventions and are supported fully by the community. Levels of complexity where most decisions must be inclusive necessitate processes and systems that recognise the vital role played by community participation within the framework of decentralised democracy. Callahan states two distinct principles that support the form of participation as direct democracy and collaborative participation. The two are meant to support three types of decision making processes, namely; public, autonomous and modified autonomous decisions.

The IDP process and other forms of community participation are not only information sharing and collection but also decision making. Citizen governance involves the community making valuable input for management and consultative decision making.

Vèronneau and Cimon recommended a decision matrix that could assist the Letsemeng Municipality in categorising decision areas in terms of their priority. The application of the Vèronneau and Cimon matrix will help managers in categorising issues on which decisions have to be taken using the STRC. Managers will feed information from the EIS into the matrix. The EIS will derive more benefits in that information is speedily extracted with positive impact decisions.

Currently, the decision making process at Letsemeng is haphazard and is not guided by any organised system. Implementation of the recommended approach will put Letsemeng in a position to deal with community problems by prioritising accordingly and acquire supporting resources. Data collected, collated and transformed into information from community interaction, will be plotted on the matrix and dealt with programmatically. After this categorization, information can be fed into the knowledge-driven DSS to offer options to deal with the challenges. Hallsmith states that decision support systems and appropriate tools will assist Letsemeng to prevent chaos and maintain balance. The implementation of the decision support system will also ensure that Letsemeng has a well designed strategy and plan.

Evidence collected from managers indicate that the establishment of functional administrative structures is negatively impacted by high turnover of managers and their limited capacity to implement a decision support system. Decision making power rests with councillors who manage issues rather than resources. Failure to establish functional administrative structures and a proper document management flow mechanism has led to the inability to build support for decision makers. In such situations, documentation may play a critical role in decision making support as they offer a wealth of knowledge and learning on similar issues.

Challenges facing managers alluded to by Malhorta, namely, complexity, ambiguity and equivocality, are very apparent within Letsemeng thus influencing the decision making outcome. The question that still remains is how will managers who are not skilled in decision making be able to operate in this complex environment? Appropriate training and development on the implementation of a decision support system for managers will take Letsemeng a long way in achieving its legislative mandate. Information management in

accordance with good practices as recommended by Elam, Singh, Safai-Amini, Hallsmith and Marchand et al is a precursor to the implementation and support of applicable decision making support and systems. A mentorship approach that is integrated with Letsemeng's overall management system will empower all staff in developing them into skilled decision makers. It was observed that the most difficult decision area is an unstructured one that forms a major part of managing the organisation. Priority must be given to train and mentor managers in making both structured and unstructured decisions key to the complex environment of public service.

The state of Letsemeng, though not desperate concerning community upheavals, is still deficient on overall service delivery improvement. This state is caused by a combination of factors, such as a high poverty and employment rate that affect revenue collection, availability of a decision support system for managers who meet the profile for effective decision making, outlined by Kuo. Unfortunately, Letsemeng relies on the intuition of managers despite the identified shortcomings. Decision making within Letsemeng Local Municipality is mainly subject to managers' intuition, bringing undesirable results. Therefore, it is in no doubt that in Letsemeng decision making is open to all the disadvantages outlined by Drummond. A decision support system will assist Letsemeng on various issues such as the following:

- Assisting in enriching managers' and councillors' mental models.
- Linking the past, present and future for managers to be able to enhance their backward and forward thinking in addressing community needs.
- Minimising individual's errors and biases.
- Contributing to the value chain.
- Improving managerial efficiency and control of resources.

7.5 Strategic Focus

Strategic focus is important in aligning the administrative model to implement business processes in line with legislative changes as part of the municipal transformation agenda. It will be dedicated by the vision Letsemeng decided to follow in meeting the needs and demands of the community. Skyrme identifies five leverage points that will affect strategic implementation, namely people, processes, measurement, information and space. Meadows and Doppelt identify information as a key leverage point that will greatly affect strategy.

Apart from the IDP process implemented as part of the municipal transformation agenda facilitated by Xhariep district municipality in accordance to the Local Government Municipal Systems Act, Letsemeng lacks strategic focus on envisaged architecture as outlined by Evernden and Evernden. The two authors define *new organisational architecture* as including process engineering, knowledge management, information technology, strategic planning and process improvement. Taking into consideration the changes brought about by legislation, it is certain that Letsemeng will need to go through changes in what is referred to by Evernden and Evernden as new architecture. Factors contributing to the new architecture have been identified as crucial in transforming Letsemeng to respond to community needs and demands.

Complete strategic focus is the integration of all five areas outlined by Evernden and Evernden. Information management is the core of the new organisational architecture. Ensuring strategic focus will assist Letsemeng to be able to respond quickly in delivering services. Strategic refocusing or repositioning is closely linked to information management in that change in strategy is determined by what has been achieved or has to be achieved in the foreseeable future. Strategic goals and objectives in line with the Local Government Municipal Planning and Performance Management Regulation will be set accordingly.

Data collected showed that Letsemeng does not have a clear architectural design as the transformed organisation, rather than consolidated services from different towns and later implemented management structure on top of existing processes. It would have been expected that a detailed strategic repositioning have been done to ensure alignment with legislative mandate. Aligning previous processes, changing culture and improving services will certainly not work where definite strategic focusing is not done.

However, Letsemeng was successful in implementing a flat structure but it was not accompanied by staff training for broader community empowerment. Successful implementation of the new architecture in line with strategic repositioning depends on the alignment of all transformation agenda processes to the strategic vision of Letsemeng. Strategy informs the new architecture in terms of information technology, knowledge management, organisational change, business improvement of the existing arrangements and information technology to attain the planned outcome. These strategy issues are unfortunately lacking in Letsemeng.

7.6 The Business Model

It is expected that changes in political directives will affect public policy, thereby affecting public administration. Changes in the South African Constitution that leans more to the promotion of democratic principles automatically called for major changes in public institutions. One of the changes that have ramifications is decentralised democracy. This new form of municipality is aimed at a more inclusive and efficient government. These fundamental principles were translated into different pieces of legislation to allow effective creation of processes and monitoring mechanisms. This is interpreted as BPR for public institutions.

Letsemeng was expected to automatically implement BPR just as any other municipality undergoing a change process. The new legislative requirements call for changes in organisational structure, strategy, processes and procedures that are aligned to deliver a new mandate. Letsemeng Local Municipality is expected to have undergone a change of organisational structure accompanied by new processes and procedures to improve internal processes in order to position it to address community needs. Vahidov and Kersten showed in their research that transformation is not possible without change in the business model and support by appropriate technology. A new business model as a result of the BPR will certainly improve the transformation agenda, such as involvement of the community and engineering customer friendly services.

Letsemeng consists of four towns that are managed as units contributing to the municipal collective and governed by the same processes with the same inputs and expected outcomes. By virtue of this form Weber, Burns & Stalker classify Letsemeng Local Municipality as a dispersed bureaucracy. A technology based business model will ensure that Letsemeng align and integrate policies, procedures, standards and operating procedures from the central point in Koffiefontein. Also align vision, strategies, redesign, align business operations and share knowledge as widely as possible. This type of technologically inclined business model stated by Lee and Hong is defined as *e-government*. Its benefit is attributed to improved efficiency within Letsemeng by connecting stakeholders; staff and councillors thereby likely to improve community satisfaction on account of information derived and empowered users.

E-government in Letsemeng will introduce technology that will replace the old way of doing things, fast-track implementation of new technologies, changes in new work practices, improve staff skills in IT and improve customer service.

It will also prepare Letsemeng Local Municipality for strategy alignment issues, building internal competence to deal with community complaints, new technology and processes and creating a wealth of knowledge for dealing with future challenges. E-government will highly benefit knowledge-driven DSS in the entire organisation.

Staff will be able to access the same information, systems and procedures in real time across the municipality. It will also provide an opportunity for Letsemeng Local Municipality to be integrated into one controllable system. Letsemeng will without doubt be successful in implementing a new paradigm through BPR that will empower its staff with needed skills and build knowledge assets to continue transformation. Successful implementation of the business model will certainly lead to value being delivered as it provides an avenue for knowledge transfer and sharing that will in the long-run improve sustainable service provision.

7.7 Value Chain for Public Value

Public value is determined by two major factors, namely; efficiency and community satisfaction. These can be achieved by the management of the pillars mentioned by De Villiers and Michael through implementation of the Hartz-Karp and VanSant models. Demand and supply can be successfully managed in the presence of data and information from the community engagement process. Planning and execution are possible in the presence of leadership and accountability. The factors are dependent on internal processes, such as, employee satisfaction and commitment. Employee satisfaction and commitment as stated by Heintzman, Marson, Syed-Ikhsan and Rowland are determined by organisational culture, people posting, training, political directives, career paths and a work environment that are leadership driven.

The value chain in public service is also referred to as public good because it is aimed at delivering service of good value to the community. The Heintzman and Marson public sector value chain outlines the inputs to the public value as employee satisfaction that have an influence on community satisfaction and ultimately leading to community trust and confidence as outcome. Although there are no upheavals in Letsemeng, complaints are

increasing due to unsatisfactory service that does not meet the expected standards. People in the right position with the right skills will improve trust and confidence. Letsemeng should strive to build skills across the organisation to be able to change its current community perception and trust rating.

However, the question is how Letsemeng can implement the value chain model when it is operating in a constraint resource environment where it cannot be able raise sufficient revenue. The Hartz-Karp and VanSant models will assist Letsemeng to be able to integrate processes with the business model so that it can contribute value to what it delivers.

7.8 Achieving Organisational Balance

Organisational balance is necessary for Letsemeng to prevent it from deterioration and, thereby, failing to deliver services. It is necessary to maintain balance despite changes in the political and administrative environment because the community will continuously demand service. This is in order for Letsemeng to be in the position to maintain its equilibrium after the transformation process has stabilised in that services should still be delivered despite challenges or breaks in the system. Evernden and Evernden state that implementation of information technology that will guarantee sufficient information flow from diverse sources for service delivery, and that is deemed accurate, precise and simple, is the right move towards achieving balance. It implies a balancing act, such as depicted by Evernden and Evernden in figure 3.3 above, to be able to manage complexities that exist in Letsemeng. Achieving organisational balance in line with the legislative framework depends on balancing organisational change, knowledge management, IT, strategic planning and BPR. Knowledge-driven DSS have been identified to be able to address these shortcomings.

In managing information accordingly, Letsemeng will be able to deliver services such as water provision, electricity and infrastructure. Capacity building will assist managers with technical ability, soft skills and urgency in the implementation of decisions. Letsemeng should build an in-house mechanism for self-organisation by ensuring that the managers employed possess core competencies and technical skills to deal with any pressure and be able to take unstructured decisions. The decisions that are taken infrequently or are not business as usual do not fit within the organisational decision making process.

7.9 Knowledge-driven DSS

Knowledge-driven DSS have been identified by Holsapple, Joshi, Flood and Carson as integrated systems that encompass DSS applications as also defined by Grönlund, Duffy and Assad. Such a system delivers the benefits of DSS as outlined by Marakas by offering the IKM solutions stated by Milner and information management systems referred to by Marchand et al. If implemented with an information management system (for example DSS & EIS) Letsemeng will empower managers to adapt quickly to community needs and deliver and preserve services. It will provide managers with the competence needed for managing demand and supply and planning and execution aimed at attaining public value.

Most challenges emanating from evidence collected from Letsemeng are service provision, strategic focus and decision making ability and support will be addressed by implementing a knowledge-driven DSS. It will be able to assist managers in Letsemeng in addressing challenges attributed to political interference and other competing issues. It will provide inexperienced managers and their support staff with solutions to facilitate and integrate services within Letsemeng local and Xhariep district municipalities. As Grönlund puts it, a knowledge-driven DSS will assist top managers to tackle problems by providing them with decision models to apply for present and future planning. All benefits alluded to by Grönlund will come to fruition, provided training, development and mentoring are implemented to build sustainable capacity.

Capacity building assists managers to make those decisions that they will normally not be prepared and unable to make. With specific reference to DSS, Assad stated that it will provide managers with access to decision models that they will normally not be able to access and information for a decision support system. The decision models are applicable to all environmental settings including political complexity. They will benefit managers in that they will acquire skills to build future orientation and strategic focus, set policies and effective management of the financial, human and organisational divisions. It will also provide managers with packaged information that is currently not available in Letsemeng.

Another integral component of a knowledge-driven DSS for Letsemeng is information that is crucial to its success. Challenges with information management identified in Letsemeng that affect knowledge management, will be able to be addressed in that it provides managers with access to data, information extracted from data, analysis as to create knowledge for problem

solution and decision making. It is crucial for creating knowledge as the current new form of the municipality can be enriched by learning through doing.

It will also facilitate sustainable decisions within Letsemeng on which projects are based to address resource constraints. The extent of a managers' ability to process information to tackle complex problems in terms of size and time, facilitate speed in decision making, improve decision outcomes reliability. The processes outlined by VanSant's building good governance and Hartz-Karp's community engagement models; Vèronneau & Cimon's decision matrix and Heintzman & Marson's public sector value chain will not be successful in the absence of a knowledge-driven DSS as a basis of administration in Letsemeng. It forms the glue between all processes for managers to chart a successful path for Letsemeng in implementing the new business model to attain public value.

In conclusion the new business model that came about as the result of the new architecture aligned to the Constitution and applicable legislation and value chain appropriate for public service will be achieved in the presence of a knowledge-drive DSS. It will also assist the Letsemeng Local Municipality to integrate services in its state of dispersed organisation.

Letsemeng will be able to deliver its Constitutional mandates provided that an information management system is implemented. This will then provide information for the knowledge-driven DSS and associated tools and empower managers and organisations to deliver value choices to communities within a resource constraint environment. Literature studies indicated that, worldwide, municipalities have successfully implemented the recommended Hartz-Karp and VanSant models as a result of knowledge-driven DSS to manage complex competing demands.

7.10 Further research recommendations

The research primarily concentrated on DSS and IKM, therefore the following areas still need further research:

- Similar research at urban municipalities to find out whether the findings are similar and applicable.
- Further research to include all levels of staff in order to get more information about the decision process in Letsemeng Local Municipality.

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Annexure A

1. How is the decision taken on service delivery issues?
2. As a member of top management, do you use any system or technologies that aid you in decision making? Elaborate on existing arrangements.
3. If yes, how does the system operate and assist you in relation to the types of decisions you make?
4. How do you collect, collate, categorise and package data that supports the decision making process?
5. How does political leadership influence the decision making process?
6. How does the current business model differ from the one implemented prior to 1994?
7. Is there any means of measuring value to your clients/community?
8. How do you ensure that you have competitive edge on sustained and improved service delivery?
9. How do the available systems facilitate the implementation of constitutional mandates within municipalities as decentralised democratic governance?

Annexure B

1. If top management has to make a decision, what support systems or technology are available at your disposal?
2. Is decision making within Letsemeng Local Municipality follow a prescribed format or do you apply any system or technology for better decisions?
3. If you have a particular system or technology how do you apply it to decision making process?
4. All decisions need to be supported by some form of information and data. How do you ensure that needed information and data is available in the form that is usable?
5. How does involvement by councillors affect decisions delegated to top management?
6. How do current municipal operations differ from those prior 1994?
7. When service has been delivered to the community, how do you measure benefits for both municipality and targeted community?
8. When the service has been successfully been delivered, how do you ensure sustainability is upheld?
9. What systems do you use to ensure that constitutional mandates are met by municipality as an organ of state?