THE ESTABLISHMENT, THROUGH ACTION RESEARCH, OF AN APPROPRIATE STRATEGIC ICT PLANNING PROCESS FOR THE SOUTH AFRICAN DEPARTMENT OF DEFENCE AS A DIVERSIFIED ORGANIZATION

1 CHAPTER 1: INTRODUCTION TO THIS RESEARCH

1.1 BACKGROUND AND CONTEXT

Considering the requirement for any organization to leverage the potential utility of ICT towards its competitive advantage, the ability to ensure that a comprehensive yet appropriate approach towards strategic ICT planning in diversified organizations can be sustained becomes imperative. As such the ability to institutionalise an appropriate strategic ICT planning process that is fully collaborative of all role players and stakeholders becomes important.

The ability to institutionalise a strategic ICT planning process, however, relates more to "how" strategic planning should be done and managed than the mere ability to define the process required to perform strategic ICT planning. This becomes apparent when considering current theory regarding the strategic ICT planning process. Authors such as Ward and Griffiths (1996:120-121)[1] indicate that attempts to develop corporate IS/ICT strategies as opposed to strategic business unit IS/ICT strategies, are not always successful. To this effect Ward and Griffiths (1996:121) specifically state that "*unless the corporation is essentially a single business unit company, the task is almost impossible*".

Fairly exhaustive research has already been done in the field of ICT with due consideration of the fact that Whitley (1984)[2] considered it to be a "*fragmented adhocracy*". This begins to illustrate the potential complexity of research into the ICT environment. This research focuses on the development and institutionalisation of an appropriate strategic ICT planning process for especially diversified organizations and contributes to the existing body of knowledge in this field. According to the researcher, one of the issues of the day in ICT management research is that these

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[1] Ward, J. & Griffiths, P. 1996. *Strategic Planning for Information Systems.* New York: John Wiley and Sons,

[2] Whitley, R., 1984. *The Intellectual and Social Organization of the Sciences*. Oxford: Clarendon Press.

respective sciences or disciplines have to be synthesised into a holistic approach to ensure that the strategic ICT planning process can be utilised and institutionalised within an organization. This opinion is supported by authors such as Boland and Hirschheim (1987)[3] and others such as Baskerville and Myers (2004)[4].

Given this situation the research undertaken contributes as a result of the critical action research undertaken in the South African Department of Defence as an instantiation of a diversified organization. Given the existing theory the ability to institutionalise an appropriate strategic ICT planning process in practice provided its own set of challenges and characteristics. As such the deviation experienced during this research serves to add to the existing theory and its previous generalised perspective.

1.2 APPROPRIATENESS OF THE DOD TO THIS RESEARCH AS A DIVERSIFIED ORGANIZATION

In general a diversified organization can be described with due consideration of authors such as Thompson and Strickland (2003:291)[5] as an organization that has multiple lines of business and is made up of more than one semi-autonomous business unit. This provides a complexity where management has to ensure that there is appropriate alignment from a corporate perspective without direct involvement in the daily execution of the line functions of such business units.

As an example of a diversified organization given the complexity of a defence function in general and especially the specific regulatory characteristics of the South African Department of Defence, it was considered an appropriate organization for this research. The establishment of a defence secretariat to provide strategic direction and policy for the whole defence function with strong emphasis on the enhancement of civil control as opposed to the management of military capability and capacity by the South African National Defence Force serves to demonstrate the structural complexity of the SA DOD. This, however, requires further elucidation.

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[3] Boland, R.J. & Hirschheim, R.A. 1987. *Critical Issues in Information Systems Research.* Chichester: John Wiley and Sons.
[4] Baskerville, R & Myers, M.D. 2004. Special Issue on Action Research in Information Systems: Making IS Relevant to Practice – *Foreword: MIS Quarterly,* September 2004, vol.28, no.3, p.329-335.
[5] Thompson, A.A. Jr. & Strickland, A.J. III. 2003. *Strategic Management Concepts and Cases*. 13th Ed. New York: McGraw-Hill.

Subsequent to the ending of apartheid and the creation of the new constitution of the RSA[6] the complexity of the South African Department of Defence was increased by the establishment of the Defence Secretariat (Def Sec) in addition to the new South African National Defence Force (SANDF). The primary function of the Defence Secretariat is to provide strategic direction for the defence function and to establish and sustain an appropriate policy framework that would guide the defence function in the Republic of South Africa (RSA). This can be collectively referred to as 'Governance for Defence'.

The other side of the 'defence coin' prescribes that the primary function of the SANDF is the management of an appropriate military capability and capacity to ensure the successful execution of military operations. The "common" national strategic objective and therefore collective mandate of both the Def Sec and the SANDF as taken from the Constitution of the RSA[7] is "*to defend and protect the Republic, its territorial integrity and its people in accordance with the Constitution and the principles of international law regulating the use of force*".

From an academic perspective the implication of this "common" objective is that it sets the overarching "common corporate objective" for the DOD as a whole as referenced from, for example, Thompson and Strickland (2003)[8] and Pearce and Robinson (2003)[9]. This objective that is 'shared' between the Secretary for Defence and the Chief of the SANDF (C SANDF) furthermore sets the scene for collaboration and participation as a strategic imperative for the establishment of inter alia an appropriate strategic ICT planning process for the organization as a whole. By implication it does not allow for strategic planning to be performed in separate 'stove-pipes', partially the nature of legacy solutions that have only the individual requirements of the respective services and divisions of the DOD as strategic objectives. Strategic planning should be driven by corporate objectives and not at 'business unit' level.

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[6] South Africa. Parliament. 1996. *Constitution of the RSA Act 108 of 1996, Section 200 (1)*. Cape Town: Parliament.
[7] South Africa. Parliament. 1996. *Constitution of the RSA Act 108 of 1996, Section 200 (2)* Cape Town: Parliament.
[8] Thompson, A.A. Jr. & Strickland, A.J. III. 2003. *Strategic Management Concepts and Cases*. 13th Ed. New York: McGraw-Hill.
[9] Pearce, J.A. & Robinson, R.B. 2003. *Strategic Management: Formulation, Implementation and Control Sited*. New York: McGraw-Hill.

The complexity that exists within the DOD can be demonstrated by the following figures that firstly indicate the corporate relationships within the DOD, with the latter indicating the structural and functional complexity of the DOD.
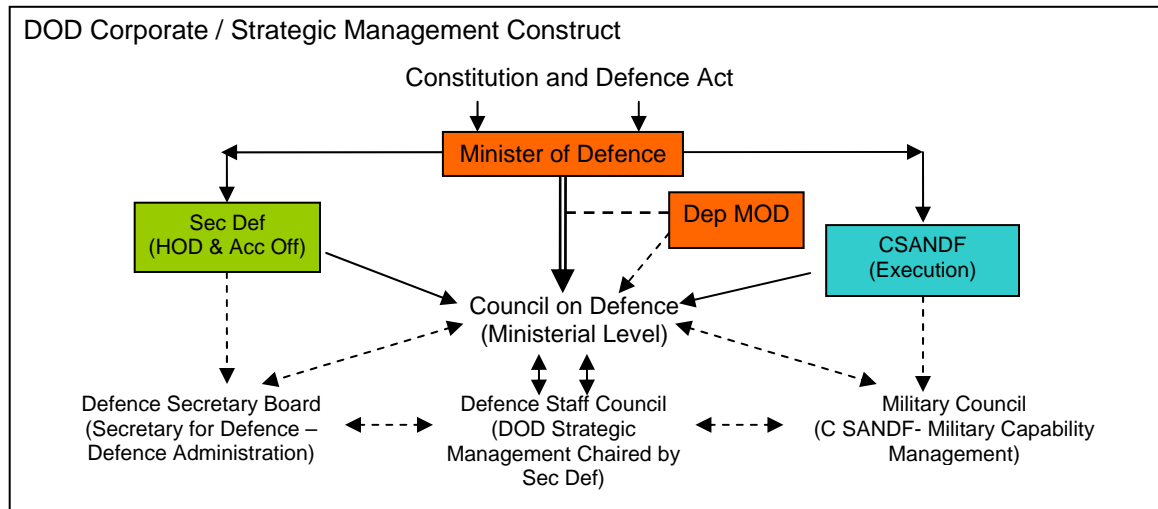

Figure 1.1: Strategic Management Construct from the RSA Constitution and Defence Act

The depiction above indicates the functional relationship between the Minister of Defence as the political executive for the national defence function and supported by the Deputy Minister of Defence (Dep MOD), the Secretary for Defence (Sec Def) as the Head of the Department of Defence and the C SANDF as the executing authority or Commander of the Military. The relationship indicated above is derived from the RSA Defence Act[10] with due consideration of the fact that the RSA Constitution establishes the Defence Secretariat and the National Defence Force. The complexity of the organization as a whole can be presented as follows, also indicating the matrix nature of the functions.

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[10] South Africa. Department of Defence. 2002. *SA Defence Act, Act 42 of 2002, Sect 8 and 14 respectively as indicating the functions of the Secretary for Defence and the Chief of the SANDF*. Pretoria: Government Printers.

The SA DOD Organisational Construct as a Diversified Organisation

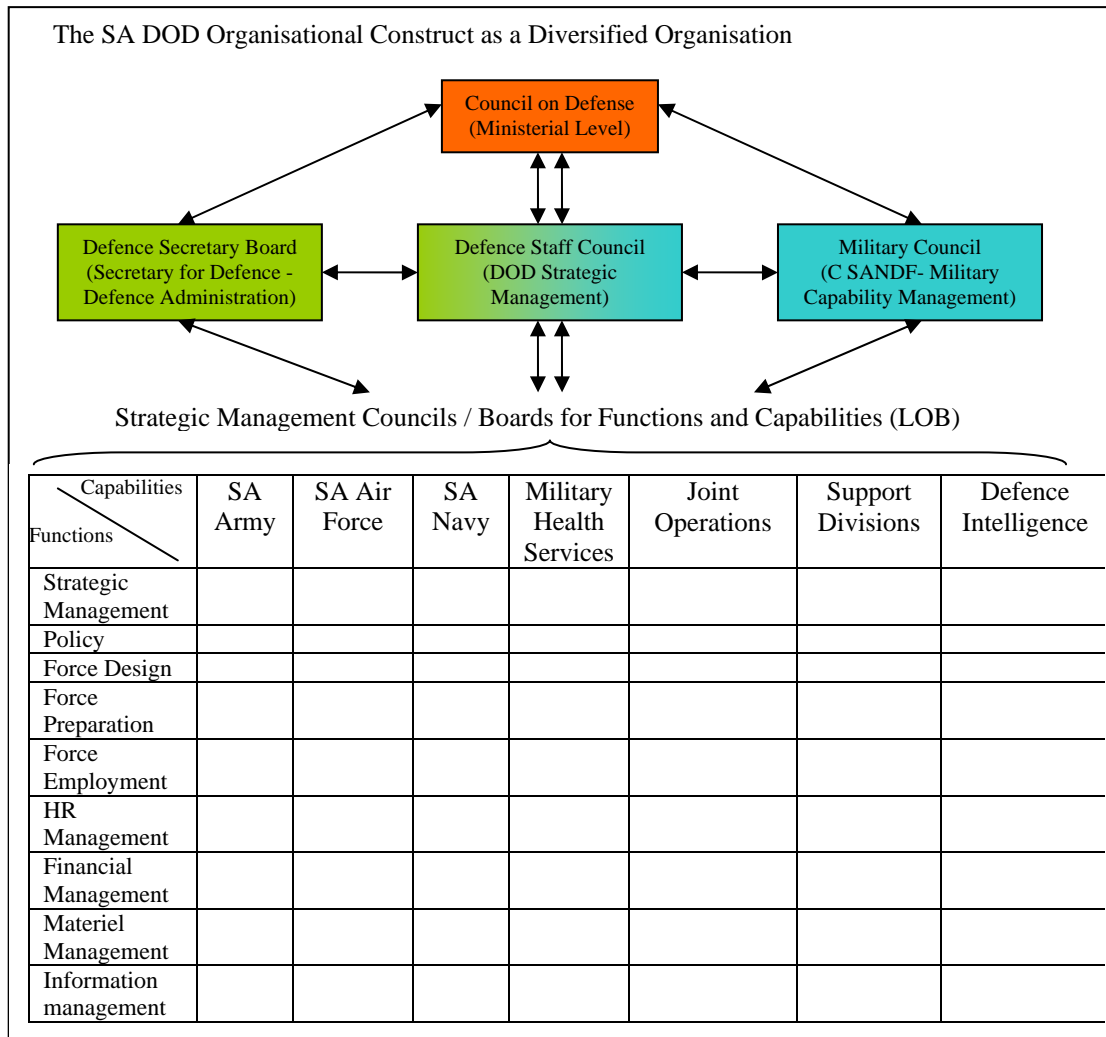| Functions \ Capabilities	SA Army	SA Air Force	SA Navy	Military Health Services	Joint Operations	Support Divisions	Defence Intelligence
Strategic Management							
Policy							
Force Design							
Force Preparation							
Force Employment							
HR Management							
Financial Management							
Materiel Management							
Information management							

Figure 1.2: SA DOD organization construct from a functional perspective to indicate complexity as relevant to the existing matrix relationship between process and capability

Figure 1.2 provides an overview of the structural relationships between the core business of the DOD as relevant to the Services and the Divisions and the relevant functions and resources that enable them to operate within an appropriate system of governance. Prior to the initial transformation initiative of the DOD that commenced in 1996 and concluded in 1998, the management of ICT had largely been decentralised to the services and divisions of the DOD that in turn led to a situation where stove-pipe solutions and all its challenges prevailed.

The initial transformation objective for the ICT management function within the DOD was to establish a centralised organization that could be charged with the responsibility to manage defence information, the defence information and communication system as well as the utilisation of ICT in support of the defence function.

The DOD transformation initiative furthermore included the transformation of the ICT management function to ensure that it can contribute towards the realisation of departmental and national imperatives. One of the national imperatives as taken from the Constitution of the RSA[11] and relevant to the National Defence Force states that:

> *'the defence force must be structured and managed as a disciplined military force'*

This has the implication that meticulous attention had to be paid to the development of structures and mechanisms that contribute to the integrity of the South African National Defence Force (SANDF) and the Defence Secretariat. The RSA Constitution *op. cit.* also states that:

> *'the primary object of the defence force is to defend and protect the republic, its territorial integrity and its people in accordance with the constitution and the principles of international law regulating the use of force'[.]*

The overarching implication is that a multitude of core and supporting capabilities should be harnessed to 'defend and protect' and as such should be continuously improved towards this end. The transformation of the ICT management function within the wider transformation of the DOD was therefore approached with the requirement to ensure that it would be scientifically sound and practically executable. This requirement was part of the original transformation charter that included the ICT management function as confirmed in the final report[12].

The improvement and realignment imperative was especially appropriate given the decentralised approach towards ICT management that was in evidence in the DOD prior to transformation. This decentralised approach resulted in non-standardised practice and in addition to the "stove-pipe" solutions as already mentioned within the DOD. Thus the imperative to ensure that ICT system management was performed within the context of an integrated and coordinated DOD where strong emphasis was placed on "jointness" and integration.

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[11] South Africa. Parliament. 1996. *Constitution of the RSA, Act 108 of 1996, Section 200 (1)*. Cape Town: Parliament.

[12] South Africa. Department of Defence. 1998. *Department of Defence Transformation Design and Migration Plan with reference MOD/R/502/9/1 dated 9 February 1998*. Pretoria: The Department.

The migration from managing ICT at business unit level as opposed to from an enterprise or corporate perspective became the driver for the new approach towards ICT management in the DOD. This required full participation and collaboration between corporate management and business unit management.

It was furthermore expected that the better the management of the ICT became, the bigger the improvement in the nature of the ICT solutions would become. These improvements would in combination have a positive improvement on the overall maturity of the organization to ensure conformance to defence requirements and commitments. This added complexity to the initiative and the research given the fact that the DOD is a going concern with national and international obligations through its implications for continuous alignment.

These defence obligations required sustainment of the existing capacities and capabilities that included ICT solutions and services. In addition to this the requirements for ICT solutions had to be managed and integrated in such a manner that it reflected a Defence Enterprise Information Systems (DEIS) rather than the plethora of non-standardised and functionally duplicated and obsolete systems that made up the ICT inventory of the DOD.

1.3   PROBLEM STATEMENT AND MOTIVATION FOR THE STUDY

Prior to the transformation of the DOD the management of ICT was decentralised to each Service and Division. Strategic ICT management was therefore performed without consideration of the specific requirements of the organization in its holistic complexity.

The organizational maturity as well as the ability of the organization to manage information from an enterprise perspective within the context of the larger public sector, was not coordinated either. This extended to the point where corporate direction was not necessarily aligned with national governance. Corporate direction that served to guide the utilisation of ICT within the DOD was therefore not optimised and coordinated from a government wide perspective.

From a strategic ICT management, and therefore strategic ICT planning process perspective, the problem of decentralised ICT planning became apparent because of

the fact that general approaches to strategic information systems planning and ICT planning, as currently presented by various models, are largely based on the premise that the organization has a single or simple line (or lines) of business when referencing, for instance, the work of Ward and Griffiths (1996) *op. cit*. This is how it was in fact managed in the DOD as "stove-pipe" responsibilities that resulted in "stove-pipe" systems and solutions.

In addition to this the general process of strategic ICT planning that was practiced did not necessarily acknowledge structural and organizational imperatives required to ensure that the strategic ICT planning process can be progressively taken to its logical conclusion and focus. This was reflected in the nature and functioning of the management arrangements and mechanisms employed when considering for instance the implications of the adage that 'structure follows strategy' as coined by Chandler (1962)[13].

Authors such as Stair and Reynolds (1999)[14] as well as Cross (1999)[15] indicate that the focus of ICT planning should be on realising the potential utility of ICT for the organization. As such it can be generally contended that ICT should enhance the continuous improvement of the organization's competitive advantage. The underlying understanding was also that ICT planning as presented by for instance Ward and Griffiths (1996)[16] must be applied in concert with the general strategic management process as defined by for example Thompson and Strickland (2003)[17], Pearce and Robinson (2003)[18] and especially Luftman (1996)[19]. It was further contended by for instance Ward and Griffiths (1996) *op. cit*. that the strategic ICT planning process was to be simply repeated for each focus area or semi-autonomous business unit such as

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[13] Chandler, A.D., Jr. 1962. *Strategy and Structure: Chapters in the History of Industrial Enterprise*. Cambridge, Massachusetts: MIT Press.

[14] Stair, R.M. & Reynolds, G.W. 1999. *Principles of Information Systems*. 4th Ed. Cambridge, MA: International Thompson Publishing.

[15] Cross, J. 1999. IT Outsourcing: British Petroleum's Competitive Approach. *Harvard Business Review: On the Business Value of IT*, 1999.

[16] Ward, J. & Griffiths, P. 1996. *Strategic Planning for Information Systems*. New York: John Wiley and Sons.

[17] Thompson, A.A. Jr. & Strickland, A.J. III. 2003. *Strategic Management Concepts and Cases*. 13th Ed. New York: McGraw-Hill.

[18] Pearce, J.A. & Robinson, R.B. 2003. *Strategic Management: Formulation, Implementation and Control Sited*. New York: McGraw-Hill.

[19] Luftman, J.N. 1996. *Competing in the Information Age: Strategic Alignment in Practice*. New York: Oxford University Press.

the Services and Divisions of the DOD. The resultant strategic ICT plans were then to be combined into a single integrated strategic ICT plan for the enterprise.

The above is indicated by Ward and Griffiths (1996:65) *op. cit*. when posing the questions whether the organization "*should be broken down into smaller, discrete parts where it might be easier to apply tools and techniques, and develop coherent strategies and plans?*" The simple statement that Ward and Griffiths (1999:65) *op. cit.* make in response to this dilemma is that "*[t]his can be reconciled by considering the enterprise strategy as a combination of achievement of corporate objectives via the contribution of SBU's*". Such a bottom-up approach of aggregating strategic ICT planning from business unit level as opposed strategically managing ICT from a corporately driven top-down approach is advocated in spite of the fact that appropriate acknowledgement is given to the complexities and characteristics of complex or diversified organizations. Forthcoming from such an approach the requirement for alignment is clearly an issue as an enterprise (corporate) responsibility as per the opinions of Luftman (1996)[20] and others.

Even though the complexity of the organization is acknowledged by many authors such as those indicated above it was not necessarily comprehensively related to specific organizational structural approaches or models such as for the DOD. As a complex organization the DOD, with functional differentiation inherent to the enterprise and its specific structural arrangements between the Secretary for Defence as Head of the Department and Head of the Defence Secretariat and the Chief of the National Defence Force (CSANDF) as the Military Commander, provided an appropriate research environment. This is due to the fact that there is a distinct separation of function within a single organization with a common objective. This relationship in itself is somewhat unique due to the nature of the separation of functions, as will be explained in Chapter 2.

Given the perspective provided by Ward and Griffiths (1996:121) on the ability to do strategic ICT planning for a 'complex' or 'diversified' organization when stating that "*Unless the corporation is essentially a single business unit company the task is almost impossible*" the problem was expected to revolve around 'how it should be

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[20] Luftman, J.N. 1996. *Competing in the Information Age: Strategic Alignment in Practice*. New York: Oxford University Press.

done' rather than about 'what should be done'. This was confirmed as this research progressed given the specific and somewhat unique nature of the organization as a type of diversified organization.

This research therefore intends to expand on the implications and complications of the strategic information systems (ICT) planning function in functionally and/or geographically diversified organizations as based on and taken from the DOD. The results of this research is expected to benefit both the organization and its practices and to scientific knowledge.

Complex organizations typically have several lines of business, each of which has its own respective issues and drivers influencing its ICT solutions due to its particular set of circumstances. The strategic ICT planning process should therefore not only address these specific issues, but must also incorporate a number of disciplines related to, as well as arrangement for, strategic ICT planning as a single congruent process within an organization that does not necessarily conform to the standard or generic model as generally described in literature.

The following considerations in the opinion of the author (researcher) were found to be relevant to this research as part of the process of continuous improvement that characterises the implementation of the strategic ICT planning process in the DOD:

➢ Existing theory regarding strategic information management and strategic information systems management was insufficiently developed / enhanced to guide the strategic management of information and information systems in a diversified organization such as the DOD. This resulted in an inability to simplistically implement the strategic ICT planning approach as presented by for instance Ward and Griffiths in the DOD. As indicated in this research a number of issues should to be addressed to facilitate such institutionalisation.

➢ Work done during the normal process of continuous improvement and alignment within the DOD with due consideration of its specific, yet ever-changing environment, should be based on theory that generally applies to the industry. This required understanding of the specific nature and issues of the DOD to ensure that optimised institutionalisation can in turn maximally contribute towards its strategic imperatives.

➢ Participation by ICT specialist functionaries in the strategic management processes of an organization should contribute towards the optimal utilisation of information as a primary resource. Specialists should therefore not necessarily focus more on the technology as opposed to the systems which it supports, given the emphasis on information as a primary resource. This in turn results in a requirement for alignment of the ICT systems to support the information strategy and therefore enhances its contribution towards adding a competitive advantage to an organization.

➢ A process of change does not necessarily dynamically work towards implementing the objectives of a true learning organization. This has to be done through the innovative utilisation of knowledge and experience. The focus of learning is usually on external perceptions as well as expectations and influences, and is not necessarily focused on the expectations of the specific organization where it requires the practical implementation of theory.

➢ The process of realising strategic objectives is not necessarily taken to its logical conclusion, since the social acceptance or institutionalisation as part of organizational culture of the change objectives as supportive of strategic objectives, are not realised. This is particularly applicable to the information management responsibility and its participation at all levels of activity and responsibility in the organization. Such non-participation causes extensive problems which need to be resolved regarding services and information systems delivery and support.

➢ Uncertainty and conflict are usually experienced with institutionalisation of the 'transformed' approach towards information and information systems management in an organization, and IT as an enabler. Institutionalisation as such should be done in such a manner that it *'eliminates'* uncertainty and conflict.

➢ Conflict often occurs with the definition, acceptance and execution of the roles and responsibilities of the users and the solution providers for information and information systems in a diversified organization. To resolve this issue clarity

of roles and responsibilities becomes an imperative for the diversified organization.

In terms of these considerations the problem encountered in the DOD prior to its transformation initiative revolved around the fact that there was no appropriate strategic ICT management process that included the strategic ICT planning process given the nature of the organization. In addition the management arrangements and mechanisms were still orientated towards decentralised ICT management with each business unit (Service and Division) functioning predominantly independently. Obviously the ability to institutionalise strategic ICT planning within the DOD as a complex organization was therefore problematic. This complexity will be explained in the next chapter (Chapter 2) to provide some relevant contextual definition of the DOD as an organization.

With due consideration of the structural arrangements as presented in Figures 1.1 and 1.2 the following issues influenced the context within which the strategic ICT planning function had to be performed when considering the Constitution of the RSA[21] and the SA Defence Act[22].

➢ There is a dialectic relationship between the Secretary for Defence, being the "Head of the DOD" and the Chief of the SANDF (C SANDF), being the "Commander of the Force". This relationship stems from the constitutional imperative to deliberately create a situation of "*tension*" between the Secretary for Defence and the C SANDF as the military commander. The Secretary for Defence has a specific duty to "enhance civil control" over the Military.

➢ The Secretary for Defence (Sec Def) is the primary "Defence Policy Advisor" to the Minister of Defence, whilst the Chief of the SANDF (C SANDF) is the "Primary Military Advisor" to the Minister of Defence in his capacity as the executive authority for the defence function in Cabinet. This creates a situation where the defence function can be balanced with appropriate military capacity and capabilities.

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[21] South Africa. Parliament. 1996. *Constitution of the RSA (Act 108 of 1996), Section 198 to 204*. Cape Town: Parliament.
[22] South Africa. Parliament. 2002. *SA Defence Act of the Republic of South Africa (Act 42 of 2002)*. Cape Town: Parliament.

➢ As indicated above the Secretary for Defence is charged with the responsibility to contribute towards "enhancing civil control" over the SANDF, whilst the CSANDF in his capacity of Commander of the SANDF ensures "appropriate command and control over the military capability".

➢ The objective for the management of the ICT function is to ensure that there will be appropriately centralised or corporate strategic direction to guide the utilisation of ICT in support of the defence requirements for information systems to address the information requirements of the organization.

➢ There was no standardised process for strategic ICT planning in the DOD given the acknowledged complexity of the organization.

➢ Due to the previously decentralised nature of the ICT management function the ICT regulatory framework and specifically the policy related to strategic ICT planning was not aligned with the approach to strategic ICT planning. This informed the decision for the transformation of the ICT function to also include the development and institutionalisation of an appropriate strategic ICT planning approach.

➢ ICT management arrangements and mechanisms were still decentralised to a very large degree, resulting in ineffective and inefficient ICT solutions and bad alignment with organizational objectives.

1.4   MOTIVATION FOR THIS STUDY

The fact that the primary focus within the DOD was to realise and institutionalise an appropriate strategic ICT planning process for the DOD had to be soundly based on accepted theory has already been indicated. Given the complex nature of the DOD and therefore the complexity of establishing an appropriate planning process the expectation was that this specific research will contribute towards the existing body of knowledge regarding this topic. From the research undertaken this was found to be the case.

With this implication in mind this study in its progression by necessity also focused on the establishment of an appropriate functional authority to ensure corporate governance for the management of the ICT function in the DOD as a diversified

organization. The appointment of such a functional authority was then to be augmented by the establishment of an appropriate process for strategic ICT management. For the purpose of this research the strategic ICT planning process taking place in the DOD with appropriate structural arrangements to sustain the management of the ICT function within the DOD became a prerequisite objective for institutionalisation.

In the case of the DOD the institutionalisation of the ICT planning process required appropriate policy that stemmed from the requirement for appropriate corporate governance consisting of strategic direction and policy. This was with due consideration of the transformation condition that the function had to be managed in a collaborative manner to enhance the "executability" and acceptance of the strategic governance within the relevant regulatory framework as an imperative.

1.5   RESEARCH QUESTIONS AND OBJECTIVES

In view of the above this research was driven by the requirement to understand the issues, characteristics and considerations that need to be consciously addressed as part of the intention to apply a generic strategic ICT planning process appropriately in the DOD. The questions that are considered to underpin these issues and therefore related objectives are the following:

➢   What is the nature of the organizational complexity as appropriate to a diversified organization that will drive the institutionalisation of the strategic ICT planning process? This is with due consideration of the fact that there are environmental issues due to product or market differentiation that necessitate specific attention in the formulation of a strategic ICT plan with the focus on function within the context of total systems management and total life cycle management. These can relate to issues of governance that can influence the regulatory framework for strategic ICT planning in diversified organizations.

➢   Would a distinct process have to be followed to ensure that strategic ICT planning and therefore the resultant strategic ICT plan is aligned with the strategic intent of the DOD as a diversified organization functioning within a holistic environment? It was therefore considered appropriate that very specific management arrangements would be required to ensure not only participation

and collaboration between the respective levels of the diversified organization, but also between business management and ICT management to ensure alignment of solutions in support of business requirements. This should be performed with due consideration of the internal and external environment and its influences on the DOD and the strategic ICT planning process.

➢ Would specific structural arrangements and mechanisms facilitate the institutionalisation of such a strategic ICT planning process, given the requirements for governance? To this end there could be specific considerations that are forthcoming from the nature of the core business and its relationship with management practices and supporting functions that have a direct implication for the nature of the ICT solutions. These are issues such as organizational function, structure and culture as well as the nature of the lines-of-business themselves.

➢ Is there a correlation between the existing theory and the strategic ICT planning process as appropriate to the DOD, and which lessons should be learnt to ensure that value can be added to strategic ICT planning in the DOD and to the body of knowledge regarding strategic ICT planning as a scientific discipline?

➢ Are there specific ICT planning process requirements appropriate to strategic planning in diversified organizations that will ensure that performance and compliance indicators for systems management over their total life cycle with due considerations of the ever-changing business environment can be managed effectively through effective alignment?

1.6   RESEARCH CONTRIBUTIONS

The existing body of knowledge provides a firm theoretical and practical baseline for the management of the respective disciplines involved with strategic ICT planning. The findings of this research as a longitudinal study contribute to the expansion of the existing body of knowledge regarding the enhanced process of strategic ICT planning in diversified organizations.

The contribution made by this research relates mainly to the ability to integrate and synthesise relevant planning aspects and characteristics of the strategic ICT planning

process in complex organizations. This is as a result of the improved understanding of the dynamically iterative relationship between the process and its enabling structural arrangements in a complex organization such as the DOD. This was confirmed by the actual implementation and institutionalisation of an appropriate strategic ICT planning process in the DOD and realising the related transformation objectives for an appropriately centralised corporate strategic ICT management function.

To this end the contribution of this research is presented in terms of 'how' it was actually achieved. The ability to implement the actual findings of the research initiative within the DOD confirms this. As such the results will be directly appropriate and executable in the DOD, and the findings can serve to establish an improved understanding of the nature of strategic ICT planning, especially in complex organizations. The requirement and endeavour to generalise will be further explained as part of the literature study and applied during the formalisation of the research findings. In essence the findings of this research will be presented as an instance of critically applying existing theory to a specific set of circumstances in accordance with the conclusions reached by Lee and Baskerville (2003)[23]. The further generalisation to establish a generic framework could be the focus of further study and is not covered in this research.

1.7   RESEARCH APPROACH

This research was undertaken as a case study over a period of approximately 8 years. The complex nature of the research given the complexity of the research environment necessitated structure in the research approach and methodology. Such structure given the nature of the research undertaken was provided by utilising an action research approach and methodology. The ability to critically analyse both existing theory and practice to ensure alignment between theory and practice through a process of dialogical reasoning by relevant role players and stakeholders enhanced the research undertaken.

The ability to ensure alignment between the strategic (business) management process and the strategic ICT planning process necessitated a synthesis of related theory. The implementation of an appropriate strategic ICT planning process therefore also has to

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[23] Lee, A.S. & Baskerville, R.L. 2003. Generalizing Generalizability in Information Systems Research. *Information Systems Research*, vol.14, no.3, September 2003.

address general management requirements as relevant to appropriate structural arrangements and mechanisms. Addressing such arrangements was found to enhance the ability to institutionalise the strategic ICT planning process within the overall DOD management construct as opposed to merely defining the process.

The ability to do this contributed towards the internalisation and institutionalisation of the result and the understanding of continuous learning to support the principle of continuous improvement of both scientific theory and of practice. As such the emphasis of this research resides in the ability to align theory and practice and to provide insight into what it takes to actually institutionalise the process of strategic ICT planning in an organization such as the Department of Defence.

1.8   THESIS FRAMEWORK

From the research undertaken this thesis will report on the following:

➢   Chapter 2:   A Contextual understanding of the DOD and its implications for ICT Management

➢   Chapter 3:   Applying an appropriate theoretical framework to the case study

➢   Chapter 4:   The research approach and methodology

➢   Chapter 5:   Presentation of the case study and it results

➢   Chapter 6:   Evaluation of research methodology, recommendations and conclusions

1.9   CONCLUSION

Concluding this chapter, it can be reiterated that the intention was to ensure that an appropriate strategic ICT planning process was developed and institutionalised in the DOD. In addition to this, the requirement of the DOD for scientific integrity provided an ideal opportunity to ensure that the lessons learnt could be incorporated into the existing body of scientific knowledge regarding strategic ICT planning. The nature of the DOD initiative and the intended research approach towards resolving the problems

and challenges made a critical analysis and interpretation of existing theory and an intensive understanding of the organizational issues of the DOD an imperative.

The following chapter provides insight into and an understanding of the DOD as an organization with specific focus on ICT management.