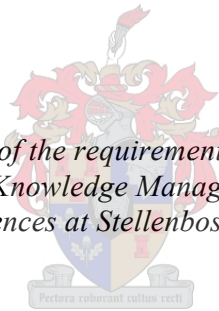


Information Orientation of a public organisation: a qualitative case study of the Information Orientation in the Department of International Relations and Cooperation

by
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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 and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

March 2013

Abstract

In the New Information Economy, government institutions must reorganise themselves to leverage their resources for sustainable growth and to compete in the global market place. According to some authors, successful organisations tend to be those that rely on their ability to innovate, use information constructively and leverage employee competencies to create sustainable growth rather than focusing on buildings and machines. In this research, the effective use of an Information Orientation Strategy for the improvement of service delivery in the South African government departments and in the Department of International Relations and Cooperation in particular, will be investigated.

Some private organisations and a few public organisations have learned to use information effectively to achieve higher business performance. However, a sizeable number of public organisations are still operating within the paradigm of the old economy. The latter organisations, through their leadership, must learn to ensure that information is used to compete effectively throughout the organisation. They must start to collect information about the activities of their: competitors, clients and alliance partners in order to improve services, grow partnerships, and to respond to clients and customers in a more intelligent and speedier manner. The change in the effective use of information in an organisation starts at the top - that is, with the mindset and attitude of senior management. They need to start viewing information as a valuable resource which through interaction with information capabilities, form an information orientation (IO), which can predict and improve business performance. In order to attain a mature IO, an organisation must concurrently improve all the dimensions of the IO paradigm, namely: *information management practices*, *information technology practices* and *information behaviours and values*.

The drive to a mature IO must be people-centred, to ensure that such people are predisposed to a culture of proactive use of information and sharing. This requires leadership to: develop corporate information values and behavioural norms; demonstrate such information behaviours in conducting their duties; provide

competency training for improving skills and knowledge and link the two to performance management; introduce incentives and monetary and non-monetary rewards to reinforce the new values. This, in turn, will pave the way for the implementation of good information management practices and the use of information technology to support new initiatives. An organisation, by following this path, will be able to attain a higher IO and from this, an improved level of business performance such as: a superior organisational image and reputation, better service innovation, superior financial performance and greater business/service growth.

The transition to the IO paradigm must commence with leadership providing an overarching information strategy to map out how the organisation intends to create value from its information-based assets. In the process of developing an information strategy, senior management must, amongst other aspects, evaluate the organisation's strategic and capability mix, review the relationships between the strategic priorities and information capabilities, and determine how they will replace some of the traditional/outdated organisation capabilities and to implement an *information-capabilities maximisation effect*. Most importantly, it must set the agenda for action and ensure its implementation and renewal. Information, as an important resource for an organisation, requires a strategy of its own. It is no longer feasible in the New Information Economy to manage successfully without a fully integrated information strategy on how an organisation will generate value from its information assets.

Opsomming

In die Nuwe Informasie Ekonomie word daar van organisasies verwag om hulself te herorganiseer om sodoende die hefboom effek van hul hulpbronne in die globale mark omgewing optimaal te benut vir 'n kompeterende voordeel. Volgens sommige skrywers, word suksesvolle organisasies gekenmerk as diesulkes wat voortdurend staatmaak op hul vermoëns om te innoveer, om informasie konstruktief te gebruik en om hul werknemer bevoeghede te hefboom om volhoubare groei te bewerkstellig eerder as om staat te maak op geboue en masjinerie. Sommige private sektor organisasies en 'n klein aantal publieke sektor organisasies het al geleer om beter besigheidsprestasie te bereik deur informasie effektief te gebruik. Daar is egter nog 'n groot aantal publieke sektor organisasies wat nog steeds hul besigheid bedryf binne die paradigma van die ou ekonomie.

Laasgenoemde organisasies moet deur beter leierskap leer om informasie regdeur die organisasie vlakke te gebruik om effektief te kan meeding. Hulle moet begin deur informasie te versamel oor die aktiwiteite van hulle konkurente, kliënte en alliansie vennote om sodoende beter dienslewering te verseker en om vennootskappe met kliente te groei vir die ontwikkeling van slimmer en vinniger metodes. Die verandering na 'n fokus op die effektiewe gebruik van informasie in 'n organisasie begin bo, m.a.w. die houding en ingesteldheid van senior bestuur t.o.v. informasie gebruik. Dit is nodig dat hierdie sektor, toenemend informasie as 'n waardevolle hulpbron, waardeur interaksie met informasie vermoëns, 'n informasie oriëntasie (IO), wat prestasie kan voorspel en verbeter, gevestig kan word. Vir 'n organisasie om 'n volwasse IO te bereik, moet so 'n organisasie gelykmatig aan al die dimensies van die IO paradigma, naamlik, *goeie informasie bestuurs praktyk*, *goeie informasie tegnologie praktyk* en *goeie gedrag en waardes t.o.v. informasie*, voldoen. Die strewe na IO volwassenheid moet egter mens-gesentreerd wees, om te verseker dat werknemers van 'n organisasie voortdurend bedag sal wees op 'n pro-aktiewe kultuur t.o.v. die gebruik en verdeling van informasie. Om dit te kan vermag sal leierskap benodig word wat, ko-operatiewe informasie waardes en gedrag in die uitvoering van pligte beklemtoon; wat bevoegdheidsopleiding vir die verbetering van bedrewenheid

en kennis sal voorsien; wat koppeling met prestasie van voorafgaande sal instel en wat insentiewe en vergoeding, beide finansiële en nie-finansiële, vir die uitleef van die nuwe waardes sal aanbied. Op sy beurt sal dit die weg baan vir die implementering van goeie informasie bestuurspraktyk en die gebruik van goeie informasie tegnologie om steun te gee aan die nuwe inisiatiewe, bewerkstellig. 'n Organisasie wat hierdie strategie volg om 'n beter IO en 'n beter besigheidsprestasie te behaal sal dan daadwerklik ook 'n superieure organisasie beeld en reputasie, beter dienslewering, innovasie en beter besigheids groei demonstreer.

Die oorgang na die IO paradigma moet by leierskap begin; leierskap wat 'n oorhoofse informasie strategie, wat aandui hoe die organisasie van plan is om hierdie waarde uit sy informasie-gebaseerde bates te kan skep, daar sal stel. Gedurende die informasie strategie ontwikkelings proses moet senior bestuur onder andere die organisasie se strategiese vermoëns mengsel evalueer en die verwantskappe tussen die strategiese prioriteite en die informasie bevoegdheid evalueer en dan bepaal hoe hulle van die tradisionele/uitgediende vermoëns gaan vervang om 'n *informasie vermoëns-maksimaliserings effek* te verkry. Baie belangrik is die daarstelling van 'n agenda vir aksie en om die implementering vir hernuwing daarvan te verseker. Kortliks gestel, *informasie* as 'n belangrike hulpbron en bate vir die organisasie verdien 'n strategie van sy eie. Dit is nie meer moontlik om in die era van die Nuwe Ekonomie suksesvol te bestuur sonder om 'n geïntegreerde strategie van hoe die organisasie waarde uit sy informasie bates wil genereer daar te stel nie.

In hierdie navorsing word die effektiewe gebruik van 'n *informasie oriëntasie strategie* vir die *verbetering van dienslewering* in die Suid Afrikaanse publieke sektor in die algemeen en in die *Department of International Relations and Cooperation*, meer spesifiek, ondersoek.

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List of Abbreviations

AIIM	Association for Information and Image Management
CM	Content Management
DIRCO	Department of International Relations and Cooperation
DTRD	Diplomatic Training Research and Development Academy
IA	Information Architecture
IBV	Information and Behaviours and Values
ICs	Information Capabilities
ICT	Information and Communication Technology
IE	Information Ecology
IM	Information Management
IMP	Information Management Practices
IO	Information Orientation
IS	Information Systems
I-Space	Information Space
IT	Information Technology
ITP	Information Technology Practices
KM	Knowledge Management
NARSA	National Archives and Records Service of South Africa
RM	Records Management
SLC	Social Learning Cycle
VoIP	Voice over Internet Protocol

Chapter 1

Introduction

1. Introduction

The futurists and business scholars have been writing about the critical role of information and knowledge in the New Information Economy for more than three decades now, namely: Morton Meltzer¹ in 1981; Punset and Sweeney² in 1989; Cronin and Davenport³ in 1991; Peter Drucker⁴ in 1994; Peter Senge⁵ in 1993; Thomas Stewart⁶ in 1997; Thomas Davenport & Laurence Prusak⁷ in 1997; Boisot⁸ in 1999; Marchand⁹ in 2000; Tony Murphy¹⁰ in 2002; Roger Evernden and Elaine Evernden¹¹ in 2003; Marchand et al¹² in 2001; Marchand et al¹³ in 2003 and Skyrme¹⁴ in 1999 wrote about knowledge as an "important contributor to performance, value and future prosperity of an organisation" while Stephen Mutula¹⁵ in 2010 wrote "about information and knowledge as key ingredients in the modern economy". Rosell¹⁶ defines New Information Economy as "an economic and social transformation driven by a more richly interconnected complex and turbulent world, the vast increase in information availability and the comprehension in both space and time".

According to Wigg¹⁷ "there is increased understanding and agreement that a major driving force in this new environment is knowledge that is, both personal and structural knowledge and other forms of intellectual capital assets". The challenge, however, according to Moon¹⁸, is that "to date, few organisations have truly integrated information into their strategies and planning processes in a substantive way". But

¹ Meltzer M.F. 1981.

² Punset E. and Sweeney G. 1989

³ Cronin B. and Davenport E. 1991

⁴ Drucker P. 1994

⁵ Senge P. 1993

⁶ Stewart T.A. 1997

⁷ Davenport T.H and Prusak L. 1997

⁸ Boisot M.H. 1999

⁹ Marchand D.A. 2002

¹⁰ Murphy T. 2002.

¹¹ Evernden and Evernden, 2003.

¹² Marchand et al, 2001

¹³ Marchand et al, 2003

¹⁴ Skyrme D.J. 1999,05

¹⁵ Mutula S.M. 2010, 323

¹⁶ Rosell, 1992, 11.

¹⁷ Wigg K.M. 2004, xxiii

¹⁸ Moon, 2000, on effective use of information and intelligence. [Http://www.sla.org](http://www.sla.org)

according to Marchand et al¹⁹, “...some companies have indeed learned to use information effectively to achieve superior business performance. These managers understand how to leverage information, people and information technology to systematically improve business performance.”

Information and knowledge are critical resources for an organisation that is required to effectively and efficiently conduct its operations such as: conducting foreign affairs; better problem solving and decision making; improving processes and services; investigation of new devices (innovations); making sense of the past; planning the future with a certain degree of confidence; enabling them to successfully compete in the international arena; an increase in organisational productivity; safeguarding national security; improving profits and reducing costs²⁰. This may include gaining better customer satisfaction and loyalty, and having happier and more comfortable staff and customers²¹.

These factors affirm that it is no longer an option but a necessity to adapt to the new economic environment. Business must therefore be reinvented to build new value-creating paradigms, processes, products, and services in order to remain competitive in future²². It is imperative that organisations manage both information and knowledge in order to achieve and sustain competitive organisational advantage in the Information Economy.

Marchand et al²³, in forecasting on the future of business in the new economy, summed up their thoughts in this manner: “we think that companies that will succeed in the new era will seek out, process and use business information faster, smarter than their competitors in pursuing their strategies and building business capabilities”. This suggests that organisations must adapt to take advantage of information as sources of sustainable growth by learning to effectively exploit tacit knowledge residing in their people and to create organisational value through using information on products, customers and services more effectively than their competitors and to deploy

¹⁹Marchand et al. 2001, 01

²⁰Meltzer M.F. 1981, 44,66,67

²¹Evernden R and Evernden E 2003, xiii

²²Wigg K.M. 2004, xxiii

²³Marchand D.A. 2000, 4

Information Technology (IT) and e-business capabilities to enable the passing of relevant information with stakeholders across the global village.²⁴

Subsequent to the above, the challenge is: if scholars, practitioners and senior managers agree on the capacity of information, its content and use in the organisation for creating significant business value and better products or services in the new economy, then why are some public organisations not focusing on pursuing strategies and nurturing capabilities to manage and exploit information?²⁵ Boisot may be correct in hinting that “managers and policy-makers are vaguely aware that know-how and formal knowledge are a good thing, but they find it difficult to evolve a coherent orientation towards what remains for them a highly elusive phenomenon”²⁶ or it is simply that “...the way that the possession of a knowledge asset translates into competitive advantage remains ill-understood”²⁷. From all this, it could be deduced that senior management should understand all the necessary dimensions for creating a higher Information Orientation (IO) but might have difficulty in translating their thoughts into a coherent information strategy.

The path of moving an institution from a low IO to a higher IO, requires a meaningful organisational change from traditional organisation to a knowledge intensive-organisation which is very cumbersome. It requires time and effort and most importantly, a strategy. A strategy provides “a clear overarching framework or structure that provides the vision, encourages coordination and collaboration, and helps to direct initiative and change²⁸”. Organisations try to formulate information strategies in three ways²⁹:

- A technology based programme puts its faith in information technology and procures solutions after another such as data mining, data warehousing, customer relation management, and enterprise integration, Supply Chain Management (SCM) or Enterprise Resource Management (ERM).

²⁴Marchand D.A. 2000, 5

²⁵Marchand D.A. 2000, 5

²⁶Boisot M.H. 1999, 3

²⁷Boisot M.H. 1999, 3

²⁸Evernden and Evernden, 2003,xi

²⁹Evernden and Evernden, 2003,xi

- Knowledge-based-programmes foster the community of practice and knowledge networks to build a fuzzy, big picture.
- Technology and knowledge based (information architecture) - a combination of the above two - is used to create a big picture through a healthy balance of technology and knowledge.

Marchand et al³⁰ provide an alternative approach to the above which they refer to as IO - an integrated approach, which brings people, information and technology together. It is a holistic approach to improve information capabilities for an organisation in order to develop a competitive advantage and sustainable higher business performance.

The focus of this thesis will be centred on IO. According to Moon³¹, “the integration of information management into strategy and execution should also be valued as a core competence of the organisation”.

The underlying assumptions deduced from literature of the study encompasses inter alia:

- That information is a critical resource.³²
- That human and organisational aspect must be given the same amount of care and priority in the technical design if the potential benefits are to be realised³³.
- That strategic change needs momentum from the top of the organisation³⁴.
- Knowledge workers need leadership and role models to help guide their behaviours³⁵.

1.1 Background to the Department of International Relations and Cooperation (DIRCO).

DIRCO is the government department of the Republic of South Africa that coordinates and leads the South African Foreign Policy with the rest of the world. In terms of its mandate, DIRCO provides services such as: assisting foreign residents and visitors in

³⁰Marchand et al 2001, 01

³¹Moon. 2000, on effective use of information and intelligence. [Http://www.sla.org](http://www.sla.org)

³²Meltzer M.F. 1981,18

³³Otway H.J and Peltu M. 1983:17

³⁴Otway H.J and Peltu M. 1983:17

³⁵Wigg K.M. 2004, xxiii

the country; assisting distressed South African citizens abroad; assisting other National Departments by facilitating their participation at international events and management of their properties and assets abroad; acquisition and management of properties abroad to be used as international relations and cooperation offices (embassies); to represent the Republic in International Events; monitoring developments in the international arena; briefing the minister and president on strategic issues in the international sphere and to develop strategy and policy options that the country may pursue.

- **Vision, mission and values**

The DIRCO's vision is an African continent which is prosperous, peaceful, democratic, non-racial, non-sexist and united and which contributes to a world that is just and equitable while its mission is that DIRCO is committed to promoting: South Africa's national interests and values; the African Renaissance and the creation of a better world for all. The organisation adheres to the following values: patriotism, loyalty, dedication, Ubuntu, equity, integrity and Batho Pele³⁶.

- **The guideline principles for DIRCO**

The Department has set itself the following principles to serve as guidelines in the conduct of its International Relations: a commitment to the promotion of human rights; a commitment to the promotion of democracy; a commitment to justice and international law in the conduct of relations between nations; a commitment to international peace and to internationally agreed upon mechanisms for the resolution of conflicts; a commitment to the promotion of the African agenda in world affairs; and commitment to economic development through regional and international co-operation in an interdependent world.

- **The legislative Framework**

The environment in which the DIRCO operates is governed largely in terms of international laws and agreements. They entail amongst others,³⁷

³⁶DIRCO strategic plan 2012-2017, 8

³⁷DIRCO strategic plan 2012-2017, 9

The Foreign States Immunities Act, 1981 (Act No. 87 of 1981). The Act regulates the extent of immunity that foreign states have from the jurisdiction of the courts of the Republic and other related matters.

The Diplomatic Immunities Act and Privileges Act, 2001 (Act No. 37 of 2001). It regulates the immunities and privileges assigned to diplomatic missions and consular posts and their members, heads of states, special envoys and certain representatives of the United Nations and its specialised agencies, and other international organisations and of certain other persons. The privileges and immunities are also extended to international conferences and meetings.

The African Renaissance and International Cooperation fund Act, 2001 (Act No 1 of 2001) establishes funds to enhance cooperation between South Africa and other countries in aspects such as: the promotion of democracy; good governance; the prevention and resolution of conflict; socio-economic development and integration; humanitarian assistance and human resource development.

International Agreements (Multilateral and Bilateral). These are agreements that South Africa signs with other states to promote its national interests in the spheres of: politics, commerce, culture, peace and security, agriculture and others at bilateral and multilateral levels.

- **DIRCO Strategic Priorities**

The organisation, to fulfil their mandate of promoting South African interests in the international community, has identified five strategic priorities. This is vital in order to understand the information that should be collected to realise their objectives and the information capabilities that they should build in order to leverage the use of information-based assets. The strategic priorities for the government of South African foreign policy as reflected in the draft white paper are³⁸:

- **The Consolidation of the African Agenda.**

South Africa seeks to play a pivotal role in advancing an African agenda through active participation in bodies such as the African Union (AU), the Pan African Parliament (PAP), the African Peer Review Mechanism (APRM), the New African Partnership for

³⁸White Paper on Foreign Policy, version 20100916, 34-46

African Development (NEPAD), the Economic, Social and Cultural Council of the African Union (ECOSOCC) and to garner support for Africa through other international organisations and forums such as the United Nations (UN), G8 and India-Brazil-South Africa (IBSA), and Brazil, Russia, India, China and South Africa (BRICS). South Africa is in favour of an incremental approach towards the realisation of a vision of the United States of Africa through the rationalisation and streamlining of Regional Economic Co-operations as building blocks towards the African Union Government such as the Common Market for East and Southern Africa (COMESA), the Southern African Development Community (SADC), and the East African Community (EAC).

- **Strengthening of South-South Dialogue**

South Africa views South-South cooperation as an essential vehicle for the increase in market access, overall trade and investment benefits, the achievement of the Millennium Development Goals (MDGs), as well as the reform of the international political and economic system. As a result, it belongs to organisations of the South such as BRICS, IBSA, the India-Africa Forum, Indian Ocean RIM Association for Regional Cooperation (IOR-ARC), the Non-aligned Movement (NAM), G77 and China, New Africa Asia Strategic Partnership (NAASP), Forum for Africa China Partnership (FOCAC) and other South–South forums.

- **Strengthening of North-South Cooperation**

South Africa views cooperation with both the North and South as critical in resolving socio-economic challenges and reforming of the UN and other institutions of global governance. In this way, cooperation with developed countries is intended to bring about peace, security and development in the South in general and in Africa in particular. Furthermore, it strives to lobby for: increased debt relief; development assistance; improved market access, and financial and technical support; the achievement of the Millennium Development Goals; the adaption to and mitigation against the effects of climate change, environmental degradation, and other socio-economic challenges. South Africa will continue to pursue strategic partnerships with the North, bilaterally and multilaterally, to mobilise support for Africa's development

through the G8 outreach countries as well as the EU-Africa strategic partnership and other development initiatives.

- **Participation in the Global System of Governance**

South Africa's foreign policy regards multilateralism rather than individualism as the best approach for the resolution of 21st century global dilemmas as the challenges are more complex and global in nature. The challenges include those such as climate change, disarmament and the non-proliferation of nuclear weapons and realisation of the Millennium Development Goals (MDG). South Africa strongly advocates a rules-based international system that is governed by international law and which is under the auspices of the UN and other related forums. High on the agenda is to pursue the ideal of reforming the architecture of global governance, including the UN system and the Breton Woods Institutions.

- **Strengthening of Political and Economic Relations.**

South Africa is determined to use bilateral economic and political systems as important strategic platforms for addressing its domestic priorities in order to encourage growth in investment in South African Private Businesses in Africa and to use its strategic partnerships with key countries in both the South and North as catalysts for the socio-economic development of the continent.

All in all, South Africa seeks to be a primary player in bringing about a change in the international political system and to pursue multilateralism driven by values rather than individual-interests. According to Jackson and Sorensen³⁹, the major international challenges of our times include, amongst others, the following: “international terrorism as a threat to state and society; contestation of identity and religion; environmental degradation and armed conflict in the form of civil war”. South Africa in order to advance the African agenda; attract foreign investment; form trade agreements, development initiatives and other mutual interests through bilateral and multilateral engagements, will require superior information strategies. However, “according to Burchill et al⁴⁰, the challenge is that even when states have a common interest, “often they lack sufficient information to know that they even have common interests with

³⁹Jackson and Sorensen, 2010, 274

⁴⁰Burchill et al, 2009, 215

other states". In this context, the ability of the department to realise these objectives depends greatly on: the quality of information for monitoring events in the global arena; understanding the interest and value of other role players; identifying common political, economic and environmental interests; selecting strategic partners; concluding trade agreements and cooperation that have a great potential for serving national interests and putting in place mechanisms to attain value from such, through continuous monitoring and evaluation of each cooperation and agreement; and the ability to package, coordinate and sell the country to potential foreign investors. Furthermore, the skills of diplomats will play a major role in processing such information and converting it into some form of tangible benefit for the country.

• **Organisational structure**

The operations of the department are spread geographically across the world. In this regard, DIRCO is a truly global organisation. The office structure is comprised of Head Office in Pretoria and 125 missions (regional offices) in 107 countries abroad. There are currently more than 160 countries and organisational residents in South Africa with which DIRCO conducts business. DIRCO is virtually a dynamic organisation due to its staff rotating every four years from Head Offices to missions and vice versa, as well as from mission to mission⁴¹. In this regard, good information management and knowledge practices are essential for consistent and effective service delivery, knowledge sharing, and business continuity in the organisation and for competitive advantage at home and in the international arena. The high-level organisational structure of DIRCO is presented as Figure 1.1. The missions report directly to their specific branches, for example all mission in Asia and the Middle East report to Branch Asia and the Middle East while missions dealing with multilateral issues report to the Multilateral Branch.

The synopsis of the service indicated above suggests that information plays a very critical role in realising the strategic objectives of the department. In essence, the department is an information-intensive/knowledge-based organisation and its success in future (like many other information-intensive organisations) will be determined by its ability to manage and exploit information and knowledge efficiently and effectively.

⁴¹DIRCO strategic plan 2012-2017, 13

It is therefore imperative to determine the status of the department *vis-a-vis* the effective and efficient use of information and knowledge so that a clear recommendation for the establishment and the optimal use of information in the department can be developed.

The department has been investing substantially in Information and Communication Technology (ICT) and has thus far developed a fairly good ICT infrastructure in order to ensure ease of exchange of information and communication at Head Office and the regional offices across the world.

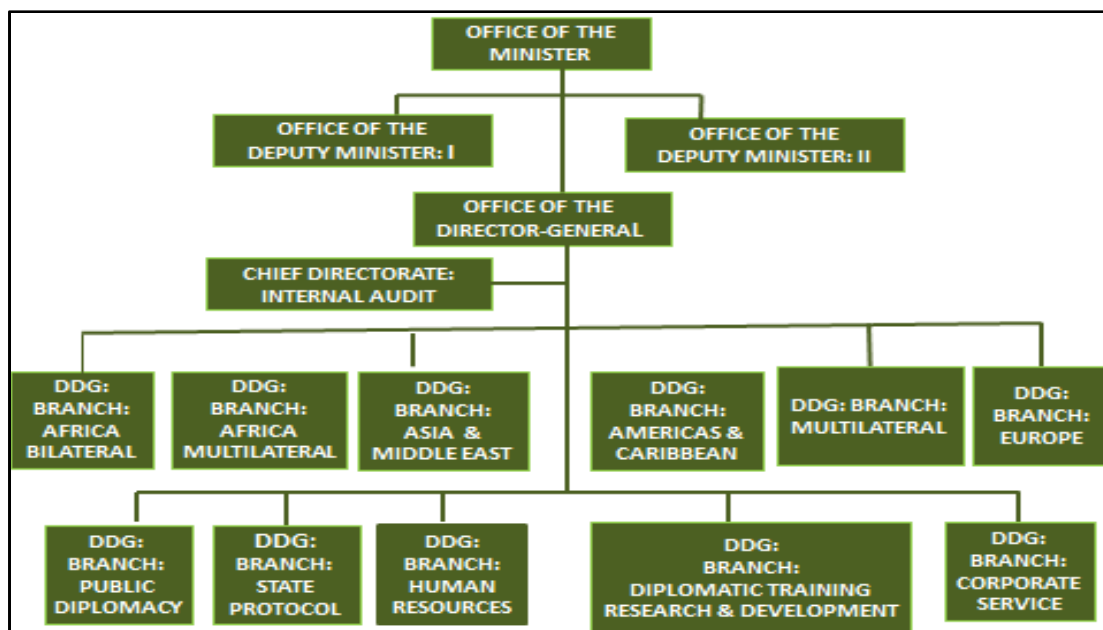


Figure 1.1: The High-level organisational structure of DIRCO

Source: DIRCO Annual Report 2011-2012

The investment was made mainly out of competitive necessity rather than to create an organisational competitive advantage. However, other information related disciplines such as Records Management (RM), Knowledge Management (KM), Libraries and Content Management (CM) have not been enjoying the same support. The ICT has so far been able to build a state of the art ICT infrastructure and rolled out Voice over Internet Protocol (VoIP) solutions from Head Office to missions. This has enabled the department to share information instantly with most of its regional offices (missions and chanceries) across the globe. DIRCO has a number of isolated KM initiatives ranging from the Diplomatic Training Research and Development Academy (DTRD), ex-ambassadors project for capturing their experiences as ambassadors in respective

countries, departmental intranet and extranets, external service providers to supply a news breaking service, a library, access to commercial electronic information databases and it has all the necessary information functions required for managing and using information effectively and efficiently.

1.2 Research Problem

The motivation for pursuing the research came about as a result of the realisation that government departments (public sector organisations) in general do not focus on all three areas of good information orientation, i.e. good IT practices, good IM practices and good practice of information behaviour and values, at all times, and if they do, they could at least influence service delivery positively and thereby improve their public images. Some departments may be good at one or two of the areas covered by Marchand et al's research, but they are rarely good at all three. The problem is that it is not part of departmental policy, strategy and/or operational execution and therefore not addressed specifically as an integrated approach and orientation. In addition, there is over reliance on technology in addressing information challenges at the expense of information and people factors and the investment in this domain has so far, in many areas, not been able to provide desirable outputs and outcomes. It is imperative that factors hindering an effective use of information are properly investigated in order to determine an appropriate programme of action to improve the situation. The overall research question could be phrased as follows:

What are the factors that impede an integrated approach towards effective information use in government departments such as DIRCO?

The study will determine the factors inhibiting the implementation of IO processes using the model based on the empirical research of Marchand et al in an organisation and recommend solutions to improve the effective use of information. In terms of the proven IO empirical evidence, an organisation must achieve competence and synergy in three vital dimensions of effective information use such as: effective information technology practices (ITP), effective information management practices (IMP), and effective information behaviours and values (IBV) in order to achieve superior

business performance and a competitive advantage. See figure 1.2 for the illustration of dimensions of effective information use.

1.3 DIRCO's Business Problem

The researcher has selected DIRCO because he has observed that despite all the success the department obtained, it is currently not able to utilise information to create a competitive advantage. There is also a great concern from both senior management and staff that despite all the investments and improvement in ICT, the department has not yet been able to optimally exploit the available ICT and to improve the effective use of information.

The department follows a federal political model with the office of the DG at the centre and Branches as Decentralised Wings. However, The Branch: Cooperative Service and Branch: Human Resources have also decentralised some of their functions to other branches for practical reasons. The records management is one of the decentralised functions with the centralised unit within corporate service and decentralised records centres. The Centralised Records Management in every Branch is responsible for: policy making, planning and monitoring and decentralised centres in each and every entity in the high-level structure as reflected in Figure 1.1 to provide operational service in their respective areas of jurisdiction. There are four Branches which share the same records centres: Branch Europe shares a registry with Branch Americas and Branch Public Diplomacy shares with Asia and the Middle East. The Corporate Service as the largest Branch has seven records centres. The total number of records centres in the department is twenty. There are a few other business units that are also exempt from using records centres due to the nature of their records and others that are still to be provided with records centres. The department also has records centres in each of the 126 missions abroad. Each mission reports directly to the Branch controlling the region in which it is located. The environment in which the department operates compels the organisation to be security conscious due to information activities of foreign agencies. The information often flows in hierarchical form across the different branches and impedes easy exchange of information amongst the officials in various Branches.

As in any decentralised model, the department experiences a great deal of duplication of material between the centralised and decentralised functions; however, each records centre is intended to specialise in different kinds of information. Some common information required across the organisation is published on the intranet; however, much more information is sitting in either centralised or decentralised records or with exempted business units where it can be accessible only on a need-to-know basis. But since there is no information directory, officials do not always know where to find specific types of information across the organisation.

The functions which are responsible for records, information supply, and knowledge sharing: Information and Communication and Technology are located in different Branches without explicit mechanisms to coordinate their activities at strategic or operational level. As a result, there is no proper coordination of the information activities.

The organisation is also experiencing information overload due to emails distributed to all the staff instead of targeting a specific audience. The information normally flows from Head Office to Mission and vice versa and a centralised unit to be decentralised within the Branches. All physical mails are routed through a centralised mail processing unit to a specific decentralised registry and vice versa.

The challenge is that they have not yet begun to work in concert with each other in order to capitalise on synergies from all the various disparate functions, to ultimately reap the maximum benefits. Furthermore, the department has procured Share Point 2010 and is currently piloting it in some Business Units. Microsoft is the service provider helping with the implementation of this project.

Other challenges entail the following:

- The lack of a measure as to how effective the organisation is in using information to create business value with customers, innovate with new products and services, manage risks or be efficient in operating business processes.

- Investment in one information capability, ITP in the hope that it will generally improve the dissemination and effective use of information at the expense of IMP and IBV.
- Information behaviours and values that support the effective use of information and sharing of knowledge is not formalised and subsequently the information differs from one business unit to the other.
- Business processes are not continuously monitored in order to improve business performance and to adapt to changing business requirements.
- There is a lack of proper integration of the business performance strategies and organisational capabilities.
- Information required to support strategic, tactical and operational needs is not explicitly identified.
- The organisation does not manage the use of information effectively over its life cycle. The information management capability in respect to sensing, collecting, organising, processing and maintaining information is not systematically carried out and
- Electronic records are not adequately managed.

Superior performance is dependent on excellent Information Organisation that manages all the three information capabilities (IC): (IMP, ITP and IBV) and concurrently improves their business performance. Improving one or two ICs does not lead to business performance since IO relies on the interaction effect between dimensions of the three ICs. The diagram on figure 1.2 denotes how the three ICs form an effective information use known as Information Orientation (IO) and how it predicts Business Performance. According to this model, high IO of an organisation, will enhance high performance and low IO, lower performance.

Information is a key enabler in DIRCO and day-to-day organisational activities revolve around sensing, collecting, organising, processing and maintaining information about: financial activities, clients' demands, services; monitoring economic, social, political, technological changes and business opportunities; disaster and conflicts; and multinational issues so that we stay abreast of development and play our part appropriately and act from a well-informed perspective.

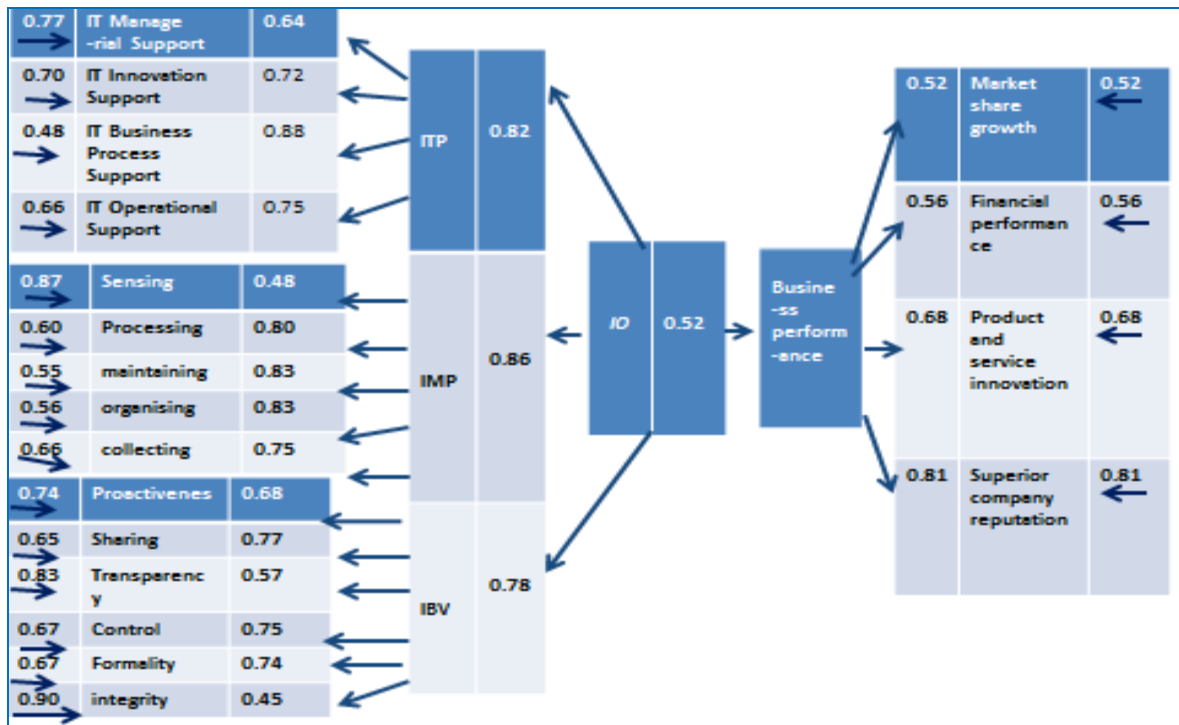


Figure 1.2: Example of Co-alignment Model: Information Orientation Predicting Business Performance

Source: Marchand et al, 2002. p276

Figure 1.2 denotes how effective information use leads to improved business performance. The criteria to measure the effective use of information is through the combined use of three existing practices which are: ITP (comprised of IT Operational support, IT Business Process Support, IT support innovation and IT managerial Support), IMP (comprised of sensing, processing, maintaining, organising and collecting) and IBV comprised of integrity, control, formality, transparency, sharing and proactiveness). The existence and maintenance of each dimension at a high level boosts each practice and strengthens the interaction between the three practices known as IO and can be used to predict business performance. None of the three practices on its own can lead to business performance. Actually, all three practices achieved a lower loading score on the direct link to performance: IMP is 0.20, IMP-0.03 and IBV 0.40. This indicates that the link between effective information and business information is through the coalignment of three practices and a comprehensive measure of IO. The link between IO and performance is significant at 0.52. The results suggest that companies that have advanced IT practices, IM practices and information behaviours and values can leverage the use of information which establishes the core of

information orientation and contributes to high business performance. The scores reflected above are a part of the research by Marchand et al.

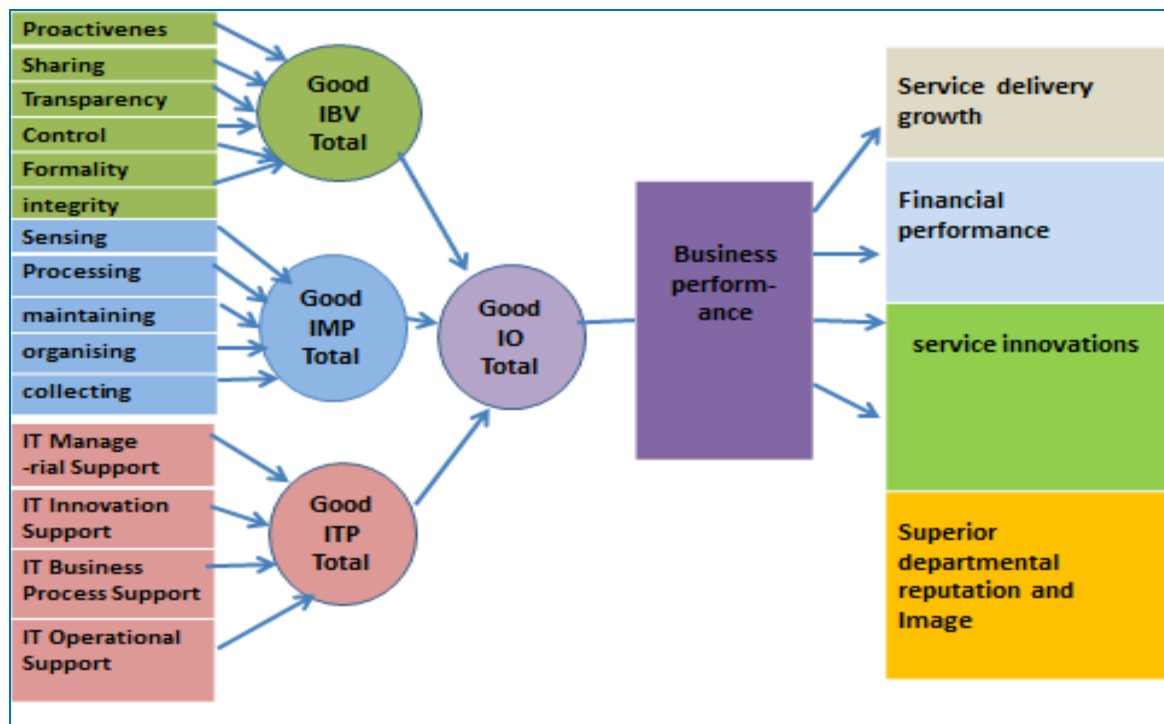


Figure 1.3: Adapted Coalignment Model: Information Orientation Predicting Business Performance

Source: Marchand et al, 2002 p276

The above diagram Figure 1.3 is an adapted Coalignment Model: IO that DIRCO can use to measure its performance as government departments. Figure 1.2 is more suited to private organisations. The measures for business performance according to this adapted model are: service delivery growth, financial performance, service innovations and superior departmental reputation and image.

The researcher’s assessment of the DIRCO situation in terms of the Marchand IO model is outlined below. The department is low in information management practices. It is not actively managing all five dimensions of IMP (sensing, collecting, organising, processing and maintaining) and that triggers the recursive spiral of inadequate information management. Consequently, the organisation experiences information overload, loss of critical information, information inaccessibility, keeping information which is outdated or no longer relevant, the absence of relevant information, difficulty

in sharing information including information acquired by the frontline desk officials about clients and suppliers. Information is not collected and shared with relevant parties. There is limited reuse of existing information and a lack of common classification categories and indexes. Information requirements are not identified and there is a loss of corporate memory due to the lack of systematic knowledge management programmes.

The ITP is good as far as competitive necessity is concerned but it does not focus on creating any competitive advantage. It focuses on the ITP for operational support which is generic across the government and enables communication across most of the missions in the world but with challenges in certain parts of Africa. IT, for business process support, appears here and there and other dimensions are still to be implemented.

The IBV is low, it is based on individual managers and is Branch-based rather than being based on an organisational perspective. DIRCO, as a federal type of organisation with global reach, has diverse information behaviours. There is no focus on the behaviours in order to promote the effective use of information. People denote various responses to the six dimensions of IBV behaviours depending on the situation at hand and familiarity with individuals with whom they are dealing.

The IO purports the concurrent development of three capabilities of information orientation and their respective dimensions in order to develop mature IO. However, in this case, the organisation has not yet been able to balance its act to create good IO. As a result, the business performance is satisfactory for Service Delivery Growth and Financial Performance; however, service innovation is not satisfactory and good in terms of superior department reputation and image.

1.4 Research Postulation

According to Booth, et al⁴², “a research problem should have two parts, namely a *condition* and a *cost*”. Based on the discussion thus far, the *condition* for the research problem for this thesis can be formulated as follows:

⁴² Booth et al, 1995. p53

- **How will the implementation of a comprehensive strategy towards an integrated approach to the use of information affect DIRCO?**

The *cost* component could then be formulated as follows:

- **Will such a strategy improve the factors of service and innovation growth, financial performance and departmental image and reputation?**

Therefore the *postulation* for this thesis is stated as follows:

- **If DIRCO's senior management follows or implements a strategy that emphasizes the importance of a comprehensive holistic approach to information usage, then the factors of service and innovation growth, financial performance and departmental image and reputation will improve.**

1.5 Objectives of the Research

The objectives set for this research are as follows:

- To explore strategies which could be formulated by senior managers to improve effective use of information across the organisation;
- To demonstrate that a human-centred approach for the effective use of information is of primary importance.

1.6 Importance of Research

Many public sector organisations have not yet developed a coherent strategy for managing information resources in their respective organisations to guide their investments and clearly set out the benefits envisaged in this endeavour. Ultimately, organisations are not able to monitor their projects to determine if they are getting value from their investments. This culminates in an over reliance on technology to manage and use information effectively in order to improve service delivery.

DIRCO has been selected since it is seeking mechanisms to improve IT governance, to attain value from IT projects, and is currently piloting an Enterprise Content Management System: the Share Point 2010. It is imperative that factors hindering the effective use of information and knowledge endeavours are identified and addressed prior to the roll-out of the Share Point across the organisation.

1.7 Research Design

This section describes methods which the researcher has used to collect data for this research. The researcher utilised a triangulation method to gather data. The researcher commenced with a review of selected literature to study the contributions of other researchers and writers in the area of the effective use of information. This was followed by the writing of a research proposal and submission for approval. A further comprehensive review of literature covering topics such as: theories and models for the effective use of information; information as a valuable organisational resource; understanding the relationship between data, information and knowledge; the distinction between Information Management, Knowledge Management and Information Technology was conducted. Organisational capabilities to leverage the use of information and a change management method for information management were investigated. The review assisted with discerning conceptual frameworks that were used to organise components of the research question, collect empirical data, and conduct its interpretation and analysis. Research questions were reviewed by the research supervisor and by two peers. Approval was acquired from the executive officer of the organisation to conduct the research.

The researcher also used a case study method to collect data about the organisation under study which included policy, procedures, annual reports and strategic plans. Another method used was focus group discussions which were conducted based on semi-structured questions to obtain rich data from the participants. Individual interviews were also conducted using the same questionnaire that was used for the focus groups to supplement the focus group data. The participants were selected from a functional list of the organisation because of their rank and responsibilities which fell within the area under study. They were contacted first by telephone or approached in their offices and emails were later sent. The pilot focus group was conducted with four

middle managers. The actual focus group was conducted with five senior managers. This was supplemented by individual interviews with seven senior managers. The focus group discussions and individual interviews were recorded on tape and transcribed verbatim. The researcher, as an employee in the organisation and manager in the field under study, also gathered information through the observation of information practices in the organisation and interaction with the subjects of the study.

1.8 Delimitation of Research

The study is limited to the effective use of information. All knowledge related areas were referred to for the purpose of providing clarity on concepts, data, information and knowledge but do not form a core part of this study. Lastly, the study focuses on government organisations with specific reference to DIRCO and private organisations are only mentioned as a point of reference but do not fall within the scope of this research. The research is confined to IO at the Head Office of the DIRCO. The missions and other offices across the world are excluded. The study considers various models of effective information but the interpretation and analysis is focused mainly on IO by Marchand et al and Boisot's I-Space.

1.9 Definition of Concepts

The key concepts and terminologies used in the research are explained hereunder in order to provide the reader with the appropriate context in which they are used:

Capability – a strategic in the application and integration of competences⁴³.

Competence – the organisational and technical skills involved in achieving a certain level of performance in the production of such effects⁴⁴.

Core competence – an interrelated set of processes or technologies that are operated and integrated in such a way as to yield a higher level of performance than competitors might achieve with the same means⁴⁵.

Corporate culture - comprises the distinctive characteristics of the patterns of information processing shared by the members of the organisations⁴⁶.

⁴³ Boisot, 1999, 5

⁴⁴ Boisot, 1999, 5

⁴⁵ Boisot, 1999, 238

⁴⁶ Punset and Sweeney, 1989, 39

Information asymmetric - exist whenever a company leverages information about customers, competitors, and operations that is unusable or unavailable to its competitors⁴⁷.

Information capabilities - the capabilities of a company to effectively manage information technology (IT) applications and infrastructure to support: operations, business processes, managerial decision making and innovation to manage information effectively over the life cycle of information use⁴⁸.

Information culture - the distinctive characteristics of the patterns of information processing shared by the members of the organisation that express an organisation's orientation towards information (behaviours and value-capability).

Information Management (IM) is the ability of the organisation to manage information throughout the information life cycle regardless of the source of format (data, paper documents, electronic documents, audio, video, etc.) for the delivery through multiple channels that may include cell phones and web interfaces. The focus of information management is the ability of the organisation to capture, manage, preserve, store and deliver the right information to the right people at the right time⁴⁹.

Information Orientation - a relevant context orientation that each business organisation must define as to how it will continuously convert human knowledge and learning into creative ideas and information of value to achieve organisational success⁵⁰.

Information Orientation Dashboard - is a diagnostic tool to measure and evaluate each of the three capabilities of IO: information behaviours and values, information management practices and IT practices and their relationships to business performance⁵¹.

Tacit knowledge - a combination of skills, experiences, perceptions and expertise that are hard to articulate and codify and it mostly resides in people's heads⁵².

1.10 Research Report Layout

An overview of the six chapters of the thesis is provided as follows:

⁴⁷ Marchand et al, 2002, 2

⁴⁸ Marchand et al, 2002, 2

⁴⁹ AIIM. [Http://aim.org](http://aim.org). what is information management

⁵⁰ Marchand et al, 2002, 1

⁵¹ Marchand et al, 2002, 4

⁵² Du Plessis, 2006, 63

- **Chapter 1: Introduction to Research**

It provides general background on the research problem, problem statement, the purpose and the objectives of the study, hypothesis, envisaged outputs and outcomes, delimitation of the research, research methodology and layout of chapters.

- **Chapter 2: Literature Study**

The chapter focuses on literature research pertaining to the topic of: a knowledge based organisation; information and knowledge as a valuable resource; Information Management (IM); Knowledge Management (KM) and Information Technology; and an understanding of the relationship between data, information and knowledge. The theories for the effective use of information and organisational capabilities will be explored in detail. Other concepts to be covered include: Integrated Information Strategy, Information Orientation and Organisational Culture.

- **Chapter 3: Research Methodology**

Chapter 3 focuses on the research methodology and highlights the process followed in undertaking research in order to solve the problem. Emphasis has been put on identifying the specifics in terms of the research focus area, population or target groups being researched, research population size, data collection, as well as research instruments being used.

- **Chapter 4: Mandate in Terms of the effective use of Information**

It provides a comprehensive legal and institutional framework and standards for the implementation of effective management of information within the milieu of the Republic of South Africa. The performance of DIRCO vis-à-vis the respective legislations and standards is also reflected under each legislation or standard.

- **Chapter 5: Findings of the Research**

Chapter five provides a report of the findings as per perceptions of senior managers derived from the focus group discussion, individual interviews and data from observation by the researcher. In addition, the researcher also provided discussions and arguments with regards to the findings.

- **Chapter 6: Analysis and Interpretations of Findings**

Chapter six deals with the analysis and interpretation of data and provides a report of the findings reflected in Chapter 5. Implications of the research results in terms of the analysis provided will also be specified. It will further provide conclusions and recommendations to address the challenges in order for the organisation to improve the effective use of information and create conditions for the successful implementation of the IO.

- **Chapter 7: Conclusion and recommendations**

Chapter seven assesses whether the objectives of the study have been realised and provide the conclusions and recommendations to DIRCO on how to go about addressing the challenges identified in the research. It also provides recommendation for future research.

Chapter 2

Research Methodology

2. Introduction

This chapter focuses on the research methodology and the process pursued to undertake the research as a whole. It provides clarity on the following aspects: the purpose of the literature research and case study, rationale for the research approach, description of the research population and sample, summary of the information needed, overview of the research design, methods of data collection, analysis and synthesis of data, ethical considerations, and issues of trustworthiness and the limitation of the study.

2.1 The Purpose of the Literature Research

The purpose of the literature research was to familiarise the researcher with the debates and arguments pertaining to the effective use of information in an organisation. This enabled the researcher to gain insight into the subject and to select key issues that needed to be explored and to narrow down the research. In addition, the researcher was able to identify key resources on this topic, the challenges, the empirical evidence, the significance of the research and gaps in the field. These ultimately prepared the researcher to join the conversation in order to contribute to the already accumulated knowledge in the field with a case study of a government department which is the least explored pertaining to the effective and efficient use of information.

According to Pierce as cited in Hamersley⁵³, he portrays scientific inquiry as marked by three phases. The first phase, following the identification of a genuine problem or doubt, is the generation of hypothetical explanations for the problematic phenomena. This he calls 'abduction'. The next phase is deduction, the logical derivation of empirical implications from hypothesis. The final stage is induction, the testing of these implications through the collection of data about new cases. In this form he advocates what has come to be called the 'hypothetico-deductive method'. The researcher, as practitioner in the field of information and records management for over ten years, has

⁵³Hamersley, M. 1990, 49

doubts as to whether government departments are actually utilising information in an effective manner, hence the research and analysis of data was conducted in order to take the matter to its logical conclusion.

2.2 The purpose of the Case study

The purpose of this case study is to discern the perception of senior managers in DIRCO with regard to the IO of their department. The objectives of the study are:

- To explore, describe and analyse senior managers' perceptions in respect to the effective use of information.
- To develop and describe the recommendations to improve the IO of the department.

2.3 Research design

A research design is a plan of how one intends to pursue the research in its entirety. According to Terre Blanche⁵⁴, "it is a strategic framework for action that serves as a bridge between research questions and the execution or the implementation of research". Qualitative study involves *designs that are open, fluid and are not rigid as in natural sciences*⁵⁵. The design also clarifies how data will be collected and analysed to ensure that at the end, the final report answers the initial research question. The researcher is the primary means of data collection. Data collection occurs concurrently with data analysis. There is always a cyclical movement between data and ideas. As a result, qualitative research requires the research design to be flexible⁵⁶. The research design is illustrated in a flowchart as shown in Figure 2.1. The Flowchart of Research Design illustrates linear stages of the research design but in which data collection and analysis follows a cyclical process.

2.3.1 Population under study and sampling

A population may refer to a body of people or to any other collection of items under consideration for research purposes⁵⁷. The population for this study is senior managers

⁵⁴Terre Blanche, M. et al 2007, 34

⁵⁵Terre Blanche, M. et al 2007,36

⁵⁶Terre Blanche, M. et al 2007, 34-35

⁵⁷Hussey, J. & Hussey, R.1997, 144

at DIRCO. According to Maree⁵⁸ “qualitative studies generally are based on non-probability and purposive sampling rather than probability and random sampling and therefore sampling is often purposive in the sense that one is always looking for a particular type of participant, according to what one already knows about the field, so as to include a range of perspective”.

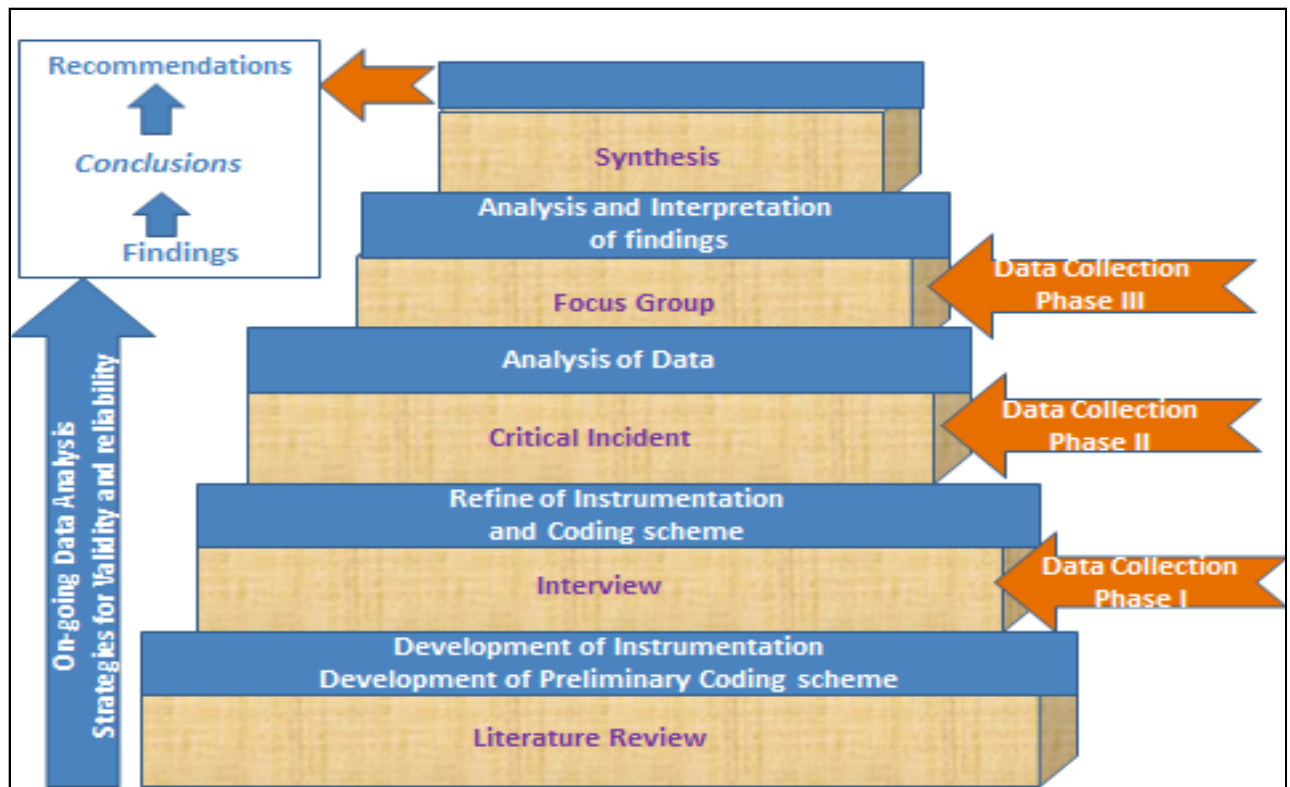


Figure 2.1: Flowchart of Research Design

Source: Bloomberg and Volpe. 2008. P. 194

The sampling also involves issues such as: selection of setting, incidents, events and activities to be included from the data collection⁵⁹. The sample sizes are also small compared to that of quantitative studies. The significance of purposeful sampling lies in *selecting information-rich cases, with the objective of yielding insight and understanding the phenomena under investigation*⁶⁰.

A purposeful sampling procedure was followed to select the sample for this study. The researcher employed stratified strategies which selected cases from different sub-groups in order to attain a balanced perspective and representation on the subject as

⁵⁸Maree, K. (Ed). 2008, 79

⁵⁹Maree, K. (Ed). 2008, 79

⁶⁰Bloomberg, L.D. and Volpe, M. 2008, 69

well as the inclusion of the senior managers assigned the responsibility to provide leadership on various disciplines under study. The following criteria for selection of participation were used:

- All participants were to be senior managers with at least two years in the department (DIRCO).
- All participants were to have had at least two years' experience at senior management level.

A two year minimum period was decided on in order to ensure that only those who had sufficient exposure at the senior management level and adequate knowledge about the customs and rituals of the organisation were able to participate. The research sample was comprised of 8 senior managers from all functional areas in the department relating to the discipline in which the study was framed. The demographic information of the participants was collected to delineate matters that might have underlined an individual's perceptions and to explain the divergence of views amongst the participants⁶¹. The demographic characteristics applied to this study were: years with the organisation, gender, and occupation to match the profile of the organisation.

2.3.2 Qualitative research design

The research approach was informed by the research problem and purpose. In essence, there must be a direct link between the problem, the purpose and approach in order to provide the best mechanism to address the questions. Qualitative research is located within a Social Constructivism paradigm which purports that reality is socially constructed, that individuals develop subject to their own personal experience, and this gives way to multiple meanings. It seeks to promote deep understanding about the social setting as viewed from the perspective of the participants and as a result it focuses on exploration, discovery and description of the phenomena under study⁶².

The study seeks to understand the IO of the organisation from senior manager perspectives. According to Thomas in Hamersley⁶³, who made a study of both objective and subjective aspects of social reality, "it is essential to learn to see the world from the perspectives of those under study, but at the same time this subjective

⁶¹Bloomberg, L.D. and Volpe, M. 2008, 70

⁶²Bloomberg, L.D. and Volpe, M. 2008, 8

⁶³Hamersley, M. 1990, 69

point of view must be located within an objective scientific account of the world". The study therefore is best suited to Social Constructivism which states that reality is socially constructed rather than post Positivism that advocates scientific inquiry and objectivity of data.

2.3.3 Case study research

The qualitative paradigm is comprised of five main traditions: case study, ethnography, phenomenology, grounded theory and narrative search. This research was suited to the case study tradition. Hamersley⁶⁴ refers to the case study as "the collection and presentation of detailed, relatively unstructured information from a range of sources about a particular individual, group, or institution, usually including the accounts of the subjects themselves".

Case studies provide an extensive examination of single instances of phenomenon of interest such as organisations or groups of employees. This description fits well into this research because the focus of research is only on a single organisation, the IO of DIRCO as its own unit of analysis. Furthermore, according to Burgess in Hamersley⁶⁵ "...some other more sympathetic and discerning method is necessary to probe beneath the surface and to depict and analyse the inner life of the person and ...understanding human activity requires that we look at its development overtime and at its environment, at the configuration of social factors that make up to the situation which it occurs, and the way in which these factors interact".

The key strengths of the case study entails the following: consideration of multiple perspective from participants and the interaction between them; the use of multiple sources and techniques in the data gathering techniques; the ability of the researcher to determine in advance what evidence to gather and what analysis techniques to use with the data to answer a research question, to assist the researcher in gaining a deeper understanding of the phenomena, flexibility in allowing new ideas and hypotheses to emerge from careful and detailed observation⁶⁶. In addition, "...such studies produced much more detailed information about a case than that available about each instance in

⁶⁴Hamersley, M. 1990, 93

⁶⁵Hamersley, M. 1990, 93 and 94

⁶⁶Maree, K. 2008,75-76

a statistical aggregate”⁶⁷. The case study method is appropriate for the study of the IO so detailed information can be collected about the topic using a variety of methods and DIRCO offered a perfect environment as a global reach information intensive department.

The case study method also has limitations ranging from: problems with the validity of information, causal links are difficult to test and generalisations cannot be made from single case studies. However, case studies often generate hypotheses that may be more rigorously tested by other research methods and can generate data in the form of video and audio-tapes that can be re-viewed by other researchers⁶⁸.

Hamersley⁶⁹, citing Dewey, stated that this method: “places before others a map of the road that has been travelled; they may accordingly, if they will, re-travel the road to inspect the landscape for themselves. Thus the findings of one may be rectified and extended by the findings of others with as much assurance as humanly possible of confirmation, extension and rectification. The adoption of an empirical or denotative method would thus procure for the philosophic reflection something of that cooperative tendency toward consensus which marks inquiry in the natural sciences”. This implies that the case study assists in charting the way that others may be able to emulate as they endeavour to find answers to similar challenges, as well as confirming common factors and to make unique additions of their own. The study about DIRCO can be crucial to other governments in understanding their own information challenges and to address them.

2.3.4 Data collection techniques

Data refers to “known facts or things used as a basis for inference or reckoning”. Qualitative research techniques collect data in the form of written or spoken language, or in the form of observations that are recorded in a language, and through analysing the data by identifying and categorising the themes. The main data collection methods

⁶⁷Hamersley, M. 1990, 93

⁶⁸Terre Blanche, M. et al 2007, 461

⁶⁹Hamersley, M. et al, 1990,55

include amongst others: critical incident techniques, diaries, focus groups, interviews, observation, protocol analysis and questionnaires⁷⁰.

According to Denzin and Lincoln⁷¹, “traditional research has relied on triangulation, including the use of multiple methods, as a method of validation”. They then describe triangulation as “the use of different approaches, methods and techniques in the same study”. It is useful in improving the validity and reliability of research from possible vulnerabilities of a single-method approach such as bias and sterility⁷². However, Maree⁷³ argues that crystallisation is more appropriate to qualitative study than triangulation. In crystallisation, the researcher makes visible an emerging reality from various data gathering techniques and data analysis which the researcher used in interpreting his understanding of the phenomena under study. The crystallised reality becomes credible if other individuals reading the same data and analysis are able to see the same emerging patterns and that enhances the trustworthiness of the research. The researcher in this study has used a combination of data-collection methods: written documents, focus groups, critical incident technique and observation.

Booth et al⁷⁴ offered three types of resources:

- **Primary Sources** provide the raw data a researcher used first to test his working hypothesis and then as evidence to support his claim. The author collected data about the perspective of senior managers to gain deeper understanding of the IO of the organisation.
- **Secondary Sources** are research reports that use primary data to solve research problems, written for scholarly and professional audiences. The researcher used secondary sources to acquaint himself with existing knowledge in the area under study.
- **Tertiary sources** are books and articles that synthesize for general readers such as text books, articles in encyclopaedia and mass circulation publications. These types of sources were used to get a general overview of the field under study.

⁷⁰Hussey, J. & Hussey, R.1997, 140 and 149

⁷¹Denzin and Lincoln. 2008.406

⁷²Hussey, J. & Hussey, R.1997, 74

⁷³Maree, K. 2008,181

⁷⁴Booth, W.C. et al. 2008, 68

The collection methods for this research were comprised of analysing existing official documents and reports about organisational strategy, organograms, annual reports and surveys on the organisational culture, performance management and reward systems. The primary and secondary literature in respect to the information environment of an organisation was used to find out about work that has already been done and the gaps that exist in this field of study.

The focus group technique has also been used to understand the collective description of the IO of the organisation from the perspective of senior managers. Focus groups can be defined as: “typically a group who share similar types of experience, but a group that is not naturally constituted into an existing social group”. Focus groups are often selective so as to reflect a heterogeneous cross-section of interests and attitudes within the parameters of whatever main criteria qualifies them for membership. In addition, the focus group combines interviewing and observation and is used to gather data relating to the feelings and opinions of a group of people who are involved in common situation⁷⁵.

The individual interview method was used to supplement information acquired through the focus group discussion and to clarify some issues that came up from the focus group discussion.

The advantage of focus groups according to Denzin and Lincoln⁷⁶ are as follows:

- They create large quantities of material from relatively large numbers of people in a relatively short time.
- They can be used strategically to cultivate new kinds of interactional dynamics and thus provide access to the new kinds of information.
- They are invaluable in the exploration of collective memories and a shared stock of knowledge that may seem to be insignificant to an individual.
- They are invaluable for promoting among participants synergy that often leads to unearthing that is seldom easy to reach in an individual memory.
- They promote multiple meanings and perspectives between and amongst the groups.

⁷⁵Hussey and Hussey, 1997, 149 and 155

⁷⁶Denzin and Lincoln, 2008, 356-358

- It facilitates understanding that interpretation of individuals and the norms and rule of groups are inherently situated, provisional, contingent, unstable and changeable
- It facilitates the democratisation of the research process by allowing participants to interact and form a collective opinion and
- It has allowed scholars to move away from the dyad of the clinical interview and explore group characteristics and dynamics as relevant constituent forces in the construction of meaning and the practice of social life.

The weakness of the focus group method entails: some individual participants may be reluctant to provide the truth in the presence of others, some participants may be influenced by others and feel compelled to be agreeable with the dominant view and it is difficult to guarantee confidentiality in a group situation. The advantages and weaknesses of focus groups were taken into account by the researcher. The researcher has also used other methods to mitigate the disadvantages of focus groups such as individual interviews and sending emails to all panel members of the focus group to request them to feel free to forward any information that they need to add.

An observation technique was also used to collect data for this study. The researcher had to rely on his first-hand information as he observed and interacted with the targeted group in meetings and workshops. According to Brynard and Hanekom⁷⁷ citing de Wet, “observational techniques are used to determine how individuals or groups of persons react under specific circumstances, either natural or artificially”. The focus group technique combines both questioning and observation. The researcher, as a participant observer in the focus group, used an audio-recording for recording the discussion and took notes for recording gestures of the participants. The noting of gesture was reliable since the participants were relaxed and did not consider their reactions as important but rather focused on their verbal responses. The notes were used to supplement the audio-recording to provide rich data for analysis

Hamersley citing James Parker⁷⁸ “...emphasized the importance of familiarity with processes being observed”. The researcher is deemed to be well conversed with the

⁷⁷Brynard and Hanekom, 1997, 39

⁷⁸Hamersley, M. et al, 1990, 76

subject and is an informed participant. He has to draw data from his wide experience in the public service. The researcher is part of the middle management of DIRCO and serves as manager for Information and Records Management of the organisation. He has been working in archives and the information field for more than a decade in the public service in a variety of positions as Principal Archivist, Assistant Director: Records Administration, Records Manager and Provincial Archivist. The researcher has, during this period, worked for four different Provincial Departments and two National Departments. The researcher also drew from his experience that he gathered over a decade as a practitioner in this field and he is in his third year with the department as Records Manager. The researcher is also a member of the Knowledge Management Committee. As a member of the organisation, he was able to observe and capture data and took part in discussions at meetings and workshops.

The advantage of the observation technique is that real-life behaviour can be perceived, studied and verified while the disadvantage is that the target group may feel that an outsider is interrupting them in their work and they may become uncomfortable⁷⁹.

2.4 Qualitative data analysis

Bloomberg and Volpe⁸⁰ describe qualitative data analysis in qualitative research as “the process of bringing order, structure and meaning to the masses of data collected”. There is no one single approach of analysing qualitative material. However, the analytic procedures entail various sequential stages: organising the data, generating categories, identifying patterns and themes and coding the data. The stage processes, although logical, lead to the next - they are not linear but iterative and may include cyclical movement.

Hussey and Hussey⁸¹ citing Lindlof, identifies what he regards as the four elements of analysis of qualitative data in which he cites methods which can be controlled and managed:

- *A process* where the analysis of data takes place continuously throughout the study.

⁷⁹Brynard and Hanekom, 1997, 39

⁸⁰Bloomberg, L.D. and Volpe, M. 2008, 98

⁸¹Hussey, J. & Hussey, R. 1997, 77 and 86

- *Reduction in data* involves sorting, categorising, prioritising and interrelating data (physical reduction) and devising a conceptual structure which can be communicated to others (conceptual reduction).
- *Explaining* involves an understanding of the coherence of meaning and action in the case study(s) under study.
- *Theory* is the context in which the analysis of qualitative data offers explanations.

2.5 Trustworthiness (reliability)

In quantitative research, standards that are used to determine good and convincing research are *validity* and *reliability* while qualitative researchers prefer *credibility* and *dependability*.

• **Credibility**

Credibility concentrates on establishing whether the findings of the research are accurate and credible from the vantage point of the researcher, participants and the readers. The research is credible if it adequately reflects the views and actions of the participants.

• **Dependability**

Dependability in natural sciences refers to the extent which the results can be replicated by other research. However, in qualitative studies it is concerned with whether the processes and procedures used to collect and interpret the data can be tracked. Dependability is attained by providing in-depth descriptions on how data was collected and analysed; by demonstrating that coding and categories were used consistently; by providing a chronicle of the evolution of the researcher thinking as well as the rationale for all choices and decisions during the research process⁸².

• **Conformability**

Conformability is congruent to the principle of objectivity in quantitative research which seeks to determine when one has satisfied the objective standards of scientific scholarly work. In qualitative studies, a researcher is a passionate participant and cannot be expected to distance himself completely from the findings. However, the

⁸²Bloomberg, L.D. and Volpe, M. 2008, 86

researcher can account for personal subjectivity by providing an audit trail of how data has been collected, analysed and interpreted under a Sub-heading for dependability.

- **Transferability**

It refers to the extent to which findings can be applicable to other contexts than the one under study. The qualitative study, unlike quantitative research, does not purport the generalisation of findings to other settings but the lesson learnt in one setting may be applicable in another setting. Transferability in qualitative study therefore “refers to the fit or match between the research context and other contexts as judged by the reader⁸³”. By providing detailed information on the research procedures used in qualitative research projects helps to establish the extent to which findings can be generalised to other settings⁸⁴. The researcher has provided detailed research processes followed in conducting this research, the description of the study, the organisational context so that other researchers or readers can trace: “resemblance of shared experiences” and adopt similar processes in their own settings and different organisations.

2.6 Ethical Considerations

According to Wassenaar in Terre Blanche⁸⁵, “the essential purpose of research ethics is to protect the welfare of research participants and extends into areas of such as scientific misconduct and plagiarism”. He further emphasised that research ethics should be a fundamental concern of all social science researchers in planning, designing, implementing and reporting research with all human participants. The primary informants were senior management and specialists in respective disciplines who were either at the level of senior management or middle management. The researcher has ensured that the study abides with all potential ethical challenges pertaining to the study through the following measures:

- the provision of clear, detailed and factual information about the study, its methods, risks and benefits;
- assurance of the voluntary nature of the investigation and freedom to withdraw after the study has begun;
- acquiring formal consent in writing;

⁸³Bloomberg, L.D. and Volpe, M. 2008, 78

⁸⁴Terre Blanche, M. et al 2007, 304

⁸⁵Wassenaar in Terre Blanche, 2007:61 and 37

- making the research report available to participants in the appropriate format;
- respecting the individual's confidentiality through the use of an anonymous questionnaire and ensuring that the individual's input is not identifiable.

2.7 Limitations of the study

Limitations refer to any known restrictions that may impact negatively on the results of the study. The limitation types may range “from restricted sample size, sample selection, reliance on certain techniques for gathering data”. A researcher can control limitations by acknowledging them up front and providing possible remedial action to mitigate the situation⁸⁶. Here are a few limitations that are inherent in the qualitative research and are applicable to this study: the researcher's subjectivity stemming from his own bias, the intention of the research and perceptions thereof; the researcher provides the agenda for conducting research and his assumptions from the onset; the researcher has divulged his position in the organisation and other roles that he performs in the organisation in order for peers and readers to understand the potential circumstances which might influence the feedback from participants providing responses that they think may be helpful to the researcher; the researcher used open questions and has explained the question in general terms and was less involved in the discussion unless where a question has not been answered.

The other potential limitation could arise when participants may withhold their personal opinions and support the dominant view. Participants were given the opportunity to present personal opinions at the beginning and unopposed. To reduce the limitation of potential bias during data analysis, the researcher removed all participants' names and coded all interview scripts randomly so as not to associate any material or data with any particular individual.

A further potential limitation of this study was that the research was a case study, which means the result of this study cannot be generalised to other organisations and situations. However, the researcher provided a detailed description of the process for the collection, analysis and interpretation of data as well as the context and the background of the study provided adequate information for other researchers and

⁸⁶Bloomberg, L.D. and Volpe, M. 2008, 78-9

similar organisations to assess its relevancy and apply it appropriately in their context. The study concentrated on the effective use of information and all other areas related to knowledge management were excluded. However, knowledge management has been referred to where necessary as there is always interaction between information and knowledge and as Boisot and many authors explained, the two concepts cannot be easily separated in theory and practice.

2.8 Conclusion

This chapter provided a detailed description of this study's research methodology. In conducting this study, the researcher has reviewed the literature in areas such as: the conceptualisation of data, information and knowledge, information; the distinction between information disciplines such as information management, records management, content management and knowledge management; the theories of the effective of information use: Information Orientation and Information Space in Particular; the model for the Mobilisation of Information Assets, Information Flows and Benefits realised from information systems and IT projects. In addition, the concept of Information Ecology was explored and utilised to design categories for research as the book provides environments both suitable for organisations with Low Information Orientation. Finally, the research methodology literature was consulted to determine the appropriate approach for the research and necessary steps to complete the study.

The study follows a qualitative design and case study as the two are more appropriate to explore, collect, describe and analyse perceptions in respect to the effective use of information in government organisations. DIRCO Senior managers are the key informants for the study since previous studies reveal that their perceptions are a reliable measure of performance.

A number of research instruments were used to collect empirical data such as: focus groups, face-to-face interviews and researcher experience as a participant observer. The focus group questionnaire is based on six information capabilities (information strategy, information politics, Information behaviours and values, information staff, information processes and information architecture). The questions in each category

were adapted from the review questions at the end of each information capability chapters of IE by Davenport and Prusak. Participants were asked to describe situations in their own organisation. The questionnaire was piloted with a group consisting of four Middle Managers and the actual focus group was initially planned for eight senior managers. Twelve senior managers were invited and only five finally arrived although they confirmed attendance on the day of the discussion. Individual interviews were conducted with seven senior managers to supplement the focus group data. The researcher used the focus group questionnaire (Annexure A.) to facilitate discussion. The discussion was recorded on an audio tape, transcribed, coded, analysed and interpreted. Recommendations were provided on how to address the challenges.

CHAPTER 3

LITERATURE RESEARCH

3. Introduction

This chapter addresses: the conceptualisation of data, information and knowledge; the concept of information as a resource and the function that deals with the information sector of an organisation such as Information Management, Content Management, Records Management, Libraries and Knowledge Management. The research further explores the theories and models that underline the effective use of information and knowledge (intangible assets): Information Orientation and Information Space; and the organisational capabilities that are instrumental in creating an orientation or environment for the effective use of information in an organisation: Information Strategy, Information Politics, Information Behaviour and Culture, Information Staff, Information Management Processes and Information Architecture. There is limited empirical research that explains how an organisation can create and nurture an environment conducive to the effective use of information that is fundamental for success in the information economy.

3.1 Conceptualization of data, information and knowledge

Information is a very complex word to define accurately as it goes through a variety of stages (data, information, knowledge and intelligence) and differs from one context to another. Some authors choose to provide a distinction between: 'data', 'information' and 'knowledge'. Davenport and Prusak⁸⁷ argue that this approach tends to yield imprecise "information" because information is used as an umbrella term for the three and also for the connection between raw data and knowledge. In the past, people referred to data as 'information'; presently, they use high-minded knowledge to discuss information which has culminated in the current boom in knowledge management. It is therefore appropriate to elucidate their meanings and interconnectedness through these diverse stages as illustrated in Figure 3.1.

⁸⁷Davenport, T.H. &Prusak, L. 1997,8

Knowledge resides in an agent and is generated from information derived from data. The three terms are difficult to separate in practice and are often intertwined and confused.

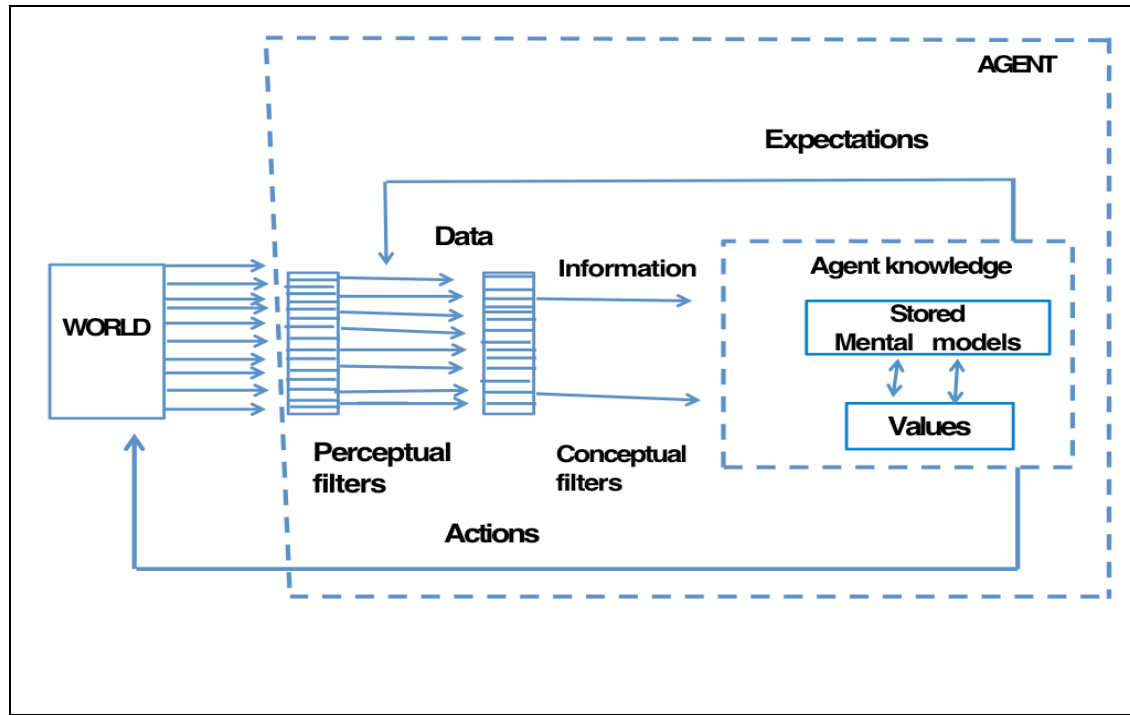


Figure 3.1: The Agent-in the world

Source: Boisot and Canals, M.H.2004, 9

The diagram indicates that the agent has two filters to convert incoming stimuli into information: firstly, perceptual filters orientate the senses to certain stimuli that operate within a given physical range. Stimuli passing through this filter are registered as data. Secondly, the conceptual filters extract information bearing data from what has been registered. Boisot, citing Clark, indicates that both “types of filters get tuned by the agent’s cognitive and affective expectations, which are shaped as these by prior knowledge, to act selectively on both stimuli and data”. Information can be defined as “an extraction from data that, by modifying the relevant probability distributions, has a capacity to perform useful work on an agent’s knowledge base”. The schema illustrated in Figure 3.1 permit us to see data, information and knowledge as economic goods with a specific type of utility. Data can carry information about the physical world, information can modify an expectation or state of knowledge and knowledge allows an

agent to act in adaptive ways in and upon the physical world⁸⁸. It is through knowledge that human beings can resolve complex problem in the organisational environment⁸⁹.

Knowledge is information with the greatest value and is consequently the most difficult to manage. Human beings turn data into information by providing the information context, assigning a particular interpretation. Somebody has reflected on the knowledge, added their own wisdom to it and considers its larger implications. The tacit state of knowledge, compounded by the dilemma of ownership, makes it most difficult to manage. In addition, the sheer volume and variety of information, the multiple purposes to which it is put and the rapid changes that take place overwhelm any rigorous attempt at central planning, design, or control⁹⁰.

3.2 Information as a resource

Information is an important resource that can create a competitive advantage for both commercial companies and non-profit organisations. In all types of organisations, there are constant demands for timely, accurate information to fulfil their obligations such as to assess past programme performance, current organisational functions, and future opportunities and options, minimize risks, make decisions, and to deal with all sorts of uncertainties of the modern world. In fact, every country, company and individual depends increasingly on knowledge-patents, processes, skills, technologies, information about customer and suppliers, and old-fashioned experience for survival and success⁹¹.

Failure to manage information or mismanaging it has far-reaching consequences such as loss of competency, increasing operating expenses, duplication of effort, decisions based on outdated or erroneous information, decreased productivity and loss of information, loss of knowledge, wasted effort and opportunities. The question is why information is not treated as a critical resource such as capital and labour. Some organisations have begun to explore how the information and knowledge flows and have already put in place measures to manage and derive value from the two but others

⁸⁸Boisot, M.H and Canal, A. 2004, 9

⁸⁹Boisot, M.H.1999,11

⁹⁰Davenport, T.H. &Prusak, L. 1997,8-9

⁹¹Meltzer, M.F. 1981,12

must still develop plans to manage information and knowledge in a holistic manner. It is imperative that information orientation should be superimposed on the management of public organisations. All organisations require a high level of understanding and recognition that information is not only a support function but an economic resource. Meltzer⁹² summed it up by saying: “given the economic realities of today's business environment, you must adopt a holistic view of the need and uses for information if you are to compete, prosper and grow”. It is therefore essential that an organisation must dedicate a team to manage information and knowledge in an effective manner and to train employees in the use of information in order to create a competitive advantage.

3.3 FUNCTIONS THAT DEAL WITH INFORMATION IN AN ORGANISATION

The field of information is very broad and is in fact comprised of inter-disciplinary fields such as: archival science, cognitive science, commerce, communications, law, library science, management, mathematics, philosophy, public policy and social science⁹³. In an organisation, the role of managing information is performed by different sections and each institution chooses to organise and name them differently. The sections may range from: Information Management, Knowledge Management, Records Management, Libraries, Information Technology, Data Management and Web Management. In many organisations, all these functionaries work individually with minimum or no contact at all as if they contribute independently to the strategic objective of the organisation; however, their functions overlap at various levels. As a result, there is confusion as to the scope of the mandates of these functions in many organisations that often leads to a scramble for resources and jostling for influence, which culminates in all components working in silos as well as causing confusion on the boundaries of each discipline as their functions are intertwined and thereby depriving their organisations of deriving optimal value from the disparate information sectors. It is within this context that any mechanism to use and manage information effectively should be based on collaboration and integration of the activities of various functions within the department. Below follows a detailed description of the diverse information functions in an organisation.

⁹²Meltzer, M.F. 1981, 156

⁹³http://en.wikipedia.org/wiki/Information_science Viewed on 05/12/2009

3.3.1 Information Management

Information management (IM) “is the collection and management of information from one or more sources and the distribution of that information to one or more audiences. It involves planning, organising, directing, controlling, evaluating and reporting of information activities in order to meet client objectives and to enable corporate functions”⁹⁴. IM, as a corporate function, is an umbrella term that integrates all facets of information management such as records management, access to information privacy, library services, research services, standards, education, training and so on and so forth. The focus of IM is to capture, manage, preserve, store and deliver the right information to the right people at the right time in order that they may make the right decisions. Information activities entail that people: “find, create, receive, acquire, monitor, classify (for records management), classify (for index management), safeguard, organize, use, publish, collaborate, disseminate, archive, dispose, and transfer”⁹⁵. The scope of IM encompasses both electronic and physical information. This means that organisations must be able to manage all forms of information (records) throughout the life cycle. The most important challenge confronting information managers entails: determining information requirements; capturing information; distributing information and using information⁹⁶. There are seven steps for information management:⁹⁷

- Requirements management: matching users needing information with supplies of information; obtaining the information requirements of the people who need the information and getting mutual commitments from suppliers and users.
- Information asset plan: classifying the information up front according to security level, how long it should be retained, and how it should be protected.
- Information system plan (optional). Planning for storage and dissemination of information (electronically or on paper).
- Acquisition: getting the information.
- Analysis: analysing the content of the information to establish confidence level, reality and quality.
- Dissemination: distributing information to those who need it.

⁹⁴http://imbok.blogspot.Com/2005/12/in-nutshell-integrated-information_14.html viewed on 2012/07/08

⁹⁵http://imbok.blogspot.com/2005/12/in-nutshell-integrated-information_14.html viewed on 2012/07/08

⁹⁶Davenport, T.H. & Prusak, L. 1997,136

⁹⁷Davenport, T.H. & Prusak, L. 1997,136

- Feedback: Asking receivers, via surveys, if the proper information was received and distributed in a timely fashion, and whether enough training was given to use the information.

3.3.2 Records Management

The National Archives and Record Services of South Africa (NARSA)⁹⁸ defines records as recorded information regardless of form (paper, for instance, is used in the form of correspondence files, maps, plans, registers, etc.) or medium (for instance paper, microfilm or electronic media). The International Standard Organisation (ISO) 15489-1⁹⁹ described it “as information that is created, received and maintained as evidence by an organisation or person in pursuance of legal obligations or in the process of business transactions”. According to Mutula¹⁰⁰, citing The International Records Management Trust (IRMT), the term electronic-record refers to “recorded information, documents or data that provide evidence of the policies, transactions and activities carried out in e-government and e-commerce environments”. E-records can be categorized as follows¹⁰¹:

- Text files (file producing word processing programmes or other software);
- Data file (computer files that store numeric and sometime textual information as qualitative);
- Analogue audio and visual records (sound documents and images that are replayed at a later time);
- Disaggregated data (information collected through remote sensing systems; databases; structured collection of interrelated data).
- Machine instruction sets (records created through the action of intelligent machines);
- Image files (record containing computer images that generally exists in hard copy format before being converted into images) and
- Digital documents (files consisting of numeric data, images, or sound recorded digitally in one uniform structure.

⁹⁸NARSSA, Managing Electronic records, 2006, 9

⁹⁹ISO 18489-1, 2001, 3

¹⁰⁰Mutula, S.M.2010, 219

¹⁰¹ Mutula, S.M.2010, 219

Records management helps an organisation to ensure that it is creating and maintaining an adequate documentary record of its functions, policies, decisions, procedures and essential transactions. It then helps the organisation to decide which records to keep and which records to destroy, and how best to organise them all. The responsibility of Records Management entails¹⁰²:

- Creating, approving, and enforcing records policies, including classification systems and a records retention policy;
- Developing a records storage plan, such as the short and long-term housing of physical records and digital information;
- Identifying existing and newly created records, classifying them, and storing them according to standard procedures;
- Coordinating the access and circulation of records within and even outside an organisation and
- Executing a retention policy to archive and destroy records according to operational needs, procedures and regulations.

The organisation that can implement the best records management practices may benefit amongst others through the following¹⁰³:

- **Reduced risk:** improved control of its life cycle, disposal of information at the appropriate time, better enforcement of information governance and protection policies, enhanced business continuity and disaster recovery through proper archiving of vital information.
- **Increased productivity:** more efficient processes for discovery of critical information; elimination of duplicate systems and redundant processes; improved flow of information across the organisation; more efficient access to information.
- **Controlled costs:** more predictable costs via automated processes and technology; improved employee efficiencies and less time wasted looking for information; and lower storage and destruction fees due to better application of information retention rules.

¹⁰²Mutula, 2010, 220

¹⁰³Iron Mountain, 2010:30

Organisations that do not manage their records properly, according to Iron Mountain¹⁰⁴ may experience impacts such as:

- **Escalated Risk:** loss of critical corporate data of vital records; legal fines; loss of shareholder confidence due to the inability to produce required information; costly and embarrassing information breaches, as well as lost customers and revenues arising from the failure to adequately protect records and information from unauthorized access;
- **Reduced productivity:** an inability to produce documents required for the normal course of business; higher costs: redundant processes that waste resources, time and money and retention of records longer. The absence of disposal programmes can cause an organisation to be reluctant to destroy any records and thereby accumulate an excessive volume of obsolete records than are legally necessary.

DIRCO currently does not have a unified content strategy. There is a shortage of skills in Electronic Records Management and the Web Content Management to be able to develop the strategy. This has an impact on the effective use of the electronic content as is elucidated above.

3.3.3 Content management (CM)

Content can be defined as: “*any electronic contents, including records, data, and metadata, as well as documents and websites*”¹⁰⁵. It is also referred to as digital information¹⁰⁶. Content in an organisation (letters, brochures, information sheets, proposals, press release, speeches, presentation etc.) is created by different authors and made available to different audiences in various formats and diverse media. This, in many cases, results in duplication and inconsistencies. There are two distinct types of content based on their use and life cycle: dynamic content that can still be changed during use and static content that is unchangeable content (also called fixed content) held in the archive¹⁰⁷. The latter content is kept in the registries, intranets and extranets for further use. Digital information or content (as some may call it) is managed through a Content Management System which is a “set of processes and technologies that

¹⁰⁴Iron Mountain, 2010:30

¹⁰⁵Kampffmeyer, U. 2006,18

¹⁰⁶AIIM. [Http://www.aiim.org](http://www.aiim.org) Accessed on 19 July 2010

¹⁰⁷Kampffmeyer, U. 2006,18

support the evolutionary life of digital information”¹⁰⁸. The process for content management is comprised of: content creation, approval, record keeping and review of web content. The roles associated with CM are: content author; content owner; content authorizer; image manager; website publisher; website manager/coordinator; records manager; systems administrator. An organisation may choose its roles according to an authoring model or models they need to pursue:

- *Centralised authoring* - source material is provided to the web team, which publishes and manages all content;
- *Decentralised authoring* - individual business units are provided with tools for authoring and maintaining their information;
- *Hybrid authoring* - most authoring is done by business units, while a central unit is responsible for overall quality control and strategic web management¹⁰⁹.

Organisations solve the problem of duplication and inconsistencies of content by adopting a unified content strategy. Content unified strategy is a repeatable method of identifying all content requirements up front, creating consistently structured content for reuse, managing that content in a definitive source, and assembling content on demand to meet your customers’ needs¹¹⁰. The advantage of unified content ranges from: better use of resources; improved quality and usability of content; increased opportunity to innovate, improved workplace satisfaction and increased customer satisfaction and ensuring that content effectively supports your organisational and customer needs¹¹¹.

There are three main challenges that organisations without unified content strategy can experience¹¹²:

- **Content silo trap** - manifests itself amongst other things through a lack of awareness of other initiatives within the organisation, lack of tools to search out existing context, a perception that it is easier to start from scratch rather than deal with inaccessibility of content, the difficulty to identify information for reuse opportunity, vital information is poorly communicated among all the

¹⁰⁸ AIIM. [Http://www.aiim.org](http://www.aiim.org) Accessed on 19 July 2010

¹⁰⁹ Tasmania. 2010,04

¹¹⁰ Rockley Group.2003,2

¹¹¹ Rockley et al, 2003: 14-15

¹¹² Rockley et al. 2003: 14-15

areas that need it (including failure to inform other groups that something has changed).

- **Lack of a sharing culture** due to the environment which is deadline driven, authors are not schooled in sharing good ideas and lessons learned; expertise with teams working on similar projects is not being shared.
- **Lack of standardization and consistency**

The repercussions associated with managing content without a unified strategy entails: legal exposure if users act on incorrect or outdated information on the site; agencies may incur a loss if they are unable to verify/show what was published and when; a negative impact upon reputation and branding; other public relations and political issues caused by the release of untimely, inaccurate or inappropriate information and increased customer complaints and support costs, due to inaccurate, out-of date, conflicting or misleading published information¹¹³.

The implementation of unified content strategy involves three parts¹¹⁴:

- **A content management system:** a unified content solution requires a content management solution that provide functionality such as secure access to content (check in/checkout), revision control, reporting, powerful search and retrieval mechanisms, and metadata. An author requires: content for authoring, distribution or authoring to ensure that content is distributed accurately and appropriately; customers to ensure that they get the right content at the right time, at the right level of detail, and in the right format.
- **Reusable content:** content reuse means to write content once and reuse it many times. Reusable content is written as objects or elements (sections, paragraph, sentence etc.) not documents and that makes them easy to reuse. Elements are stored in a database and referenced to for inclusion into a virtual document rather than copying and pasting. As a result, an element can appear in multiple places but reside in only one place.

¹¹³Tasmania. 2010:04.

¹¹⁴Rockley et al. 2003: 16-17

- **Unified processes:** involves people and unified (collaborative) processes in which authors share in the development of content to create a single definite source of information. In this way, all departments will be aware of what content exists. Again, the authors will have automatic access to reuse the existing context and the processes will be transparent and repeatable.

- **Maintenance of the web content**

Web content must be reviewed to remove or modify material that is inaccurate, out-of-date, conflicting or misleading. Rapidly changing material may need to be reviewed every week or month, while other web content may need to be revisited only every few years. Setting inappropriately short times reviews may create fatigue for content owners. By setting review dates on pages, automated notification messages can be sent out to web content owners. The types of data that may be considered for integration are: customer data, web site and e-commerce portal, product support and training materials, policies and procedures, proposals, regulatory reports. The disposal of data from the website should follow records management disposal processes¹¹⁵.

3.3.4 Information and Communication Technology

Information Technology (IT) involves: computer hardware, system software, utility software, application software, data networks, and computer auxiliary equipment¹¹⁶; Communication Technology, as physical devices and software that link various computer hardware components and transfers data from one physical location to another and information systems-interrelated components working together to collect, process, store, and disseminate information to support decision making, coordination, control, analysis, and visualization in an organisation¹¹⁷. The IT group provides technical support which includes six main functions: applications development, systems support, user support, database administration, network administration and web support. The IT structure differs from organisation to organisation.

The value of ICT in an organisation may include the following¹¹⁸:

¹¹⁵Tasmania. 2010, 04

¹¹⁶Targowski.1990, 301

¹¹⁷Laudon and Laudon, 2006, G3 & G7

¹¹⁸Laudon and Laudon, 2006:31-32

- increased productivity, when coupled with other changes in an organisation it can provide the foundation for new products, services and ways for conducting business that provide businesses with a strategic advantage essential for organisations to deal with change in the global politics and the business enterprise;
- the provision of communication and analytical tools for conducting trade and managing business on a global scale;
- help organisations to manage their knowledge management assets; make it possible for businesses to adopt more flexible working arrangements for employees;
- enable organisations to become more efficient and competitive by transforming themselves into digital organisations where nearly all core business processes and relationships with customers, suppliers, and employees are digitally enabled; e-governments use the internet and intranet to improve the delivery of government services and internal operations and to empower citizens to network electronically with other citizens;
- Information Systems (IS) collect, store and disseminate information from an organisational environment and internal operations to support organisational functions and decision making, communication, coordination, control, analysis and visualization;
- IS transform raw data into information through the basic steps of input, processing and output and they facilitate activities of acquiring, transforming and distributing information to improve the management of decision making and to enhance organisational performance.

The challenges of building and using information systems include: obtaining business value from information systems; providing appropriate complimentary assets to use information technology effectively; understanding the system requirements of the global business environment; creating an information technology infrastructure that is flexible enough to support changing organisational goals; designing systems that people can control, understand, and use in a socially and ethically responsible manner etc. DIRCO has a Business Unit that deals with all ICT related matters but from time to time experience a shortage of skills particularly in information systems due to staff turnover and fluctuation of staff from Head Office and regional offices.

3.3.5 Knowledge Management (KM)

There are many definitions of Knowledge Management, but the preferred definition for this research is: “the systematic, explicit and deliberate building, renewal, and application of knowledge to maximize an enterprise’s knowledge-related effectiveness and returns from its knowledge and intellectual capital assets¹¹⁹”. The purpose of KM is twofold: to codify and preserve knowledge that can be transferred, especially through documentation or storage in databases and to facilitate the linking of people to their sources for data, experts and expertise on a just time basis¹²⁰. The practice of knowledge management is not a new phenomenon. According to Gibson et al¹²¹, “for centuries the owners of firm business have passed on their wisdom, experience, and contacts to their children, master craftsmen have taught their ideas to apprentices and workers have exchanged know-how about their job”. It is something that good firms have been practising for many years¹²². The difference is that knowledge has been recently recognised as a factor of production. It has been now recognised as the driver of productivity and economic growth, leading to new focus on the role of information, technology and learning in economic performance¹²³. As a result, Information Management as a purposeful management technique and the systematic sharing of information has become a common feature in many organisations. It is increasingly seen as a primary business asset and as a key differentiator for business in the 90s¹²⁴.

The main driver of KM in the private sector, accelerated by globalization and high competition entails¹²⁵: “managing tacit knowledge and protecting the intellectual property; achieving organisational efficiency-speed and responsiveness; staying ahead of competition; managing customer relations and competitive intelligence; maximizing the value of its research and developing investments through recycling and re-using experiments; preserving organisational memory; combating the effects of staff turnover; facilitating the transfer of knowledge between staff as well as partners; managing intellectual capital, finding ways to retain the best staff; continuous recycling and promoting the utilization of shared knowledge and experiences”.

¹¹⁹Wiig, K. M. 2004, 334

¹²⁰ Al-Hawamdeh, S. 2002, 11

¹²¹Gibson, J.L et al. 2003, 32

¹²²Broadbent, M.1998,06

¹²³ Al-Hawamdeh, S. 2002, 2

¹²⁴Broadbent, M.1998,01

¹²⁵ Al-Hawamdeh, S. 2002, 8-16

On the other hand, knowledge management specific drivers for the public sector are¹²⁶: “competition in funding from alternative services; customer demand for high quality service particularly in the area of e-government; e-service that are anticipated to be available twenty-four seven; immediate response and attention; simplified and one stop processing; quality product and services and fast processing time”. For the methodologies of implementing knowledge management see appendix E. DIRCO has a Knowledge Management Unit but it is still in the development stage and its main focus is capturing the experience of some of our senior representatives abroad and documenting experiences gained from some recurring high profile projects.

3.3.6 The distinction between Information Management, Content Management, Records Management and Knowledge Management

Information Management is an umbrella term for various information functions ranging from library management, research development, records management, protection and access to information to education and training. Its focus is on capturing, managing, preserving, storing and delivering the right information to the right people. Content Management is a subset of IM and deals with content or digital information from brochures, press releases, manuals and others. The focus of CM is the creation, management, distribution, publishing and discovery of organisational information. Content is usually made available through the intranet and extranet. Systems that are used to manage content include: the Enterprise Content management System (ECM), Web Content Management, Document Management, Records Management, Library Management, Learning Content Management and others. Unified Content Strategy is a mechanism to determine the content needs of the whole organisation in advance to avoid duplication and inconsistencies of electronic information. In this way, information is assembled once and reused as and when required.

Records Management is also part of IM but deals with the management of organisational records both in paper and electronic format throughout its life cycle based on the value of records. The main focus is: creation, receipt, processing, storage, retrieval, access and disposal. RM uses records classification to categorise and index

¹²⁶ Al-Hawamdeh, S. 2002, 12

records and assign retention period and implement the systematic disposal of records. Records with archival value are transferred to the archives repository. Knowledge Management is concerned with the systematic identification and management of knowledge of an organisation in order to create a competitive advantage. The activities of knowledge management are comprised of capturing know-how (implicit knowledge). This experience is gathered by officials rendering service, in dealing with stakeholders or competitors. Once the knowledge is made explicit, it becomes information. Secondly, the tacit knowledge (knowledge that cannot be captured or codified) is shared by creating platforms for the sharing and pairing of experts with learners. The technology tool for knowledge management focuses on collaboration tools to facilitate sharing. The scope of all the disciplines is confusing because they always overlap on different levels. In many organisations, all these functions are placed under different business units and work independently of each other without any form of coordination at the strategic or operational level.

3.4 THEORIES FOR THE EFFECTIVE USE OF INFORMATION

The study is focussed on two theories that purport the effective use of information and knowledge in order to improve service delivery, production or creating competitive advantage in an organisation. The intent of the two theories is to provide managers with conceptual frameworks to understand, develop, nurture, manage and exploit information-based assets. The theories are: Information Orientation (IO) and Information Space (I-Space).

3.4.1 INFORMATION ORIENTATION (IO)

Marchand et al¹⁰⁴ propose a framework which explains how organisations can improve their business performance through using a measuring model known as Information Orientation (IO). The starting point to improve business performance is to orient people in the organisation to use information as effectively as possible rather than just excel at investing in and deploying IT. In this way, people will be able to create value both internally and with customers. This includes managing the information contained in their systems and getting people to embrace the right behaviours and values for working with information. The effective use of information is linked to the managers' mindset because how managers see the world defines their actions, and the impact on

the business they manage. IO is made of three IC that managers need to see and actively manage to create effective information use (See figure 3.2.). Through the IO, the managers are able to see, measure and manage the use of information and thereby improve business performance.

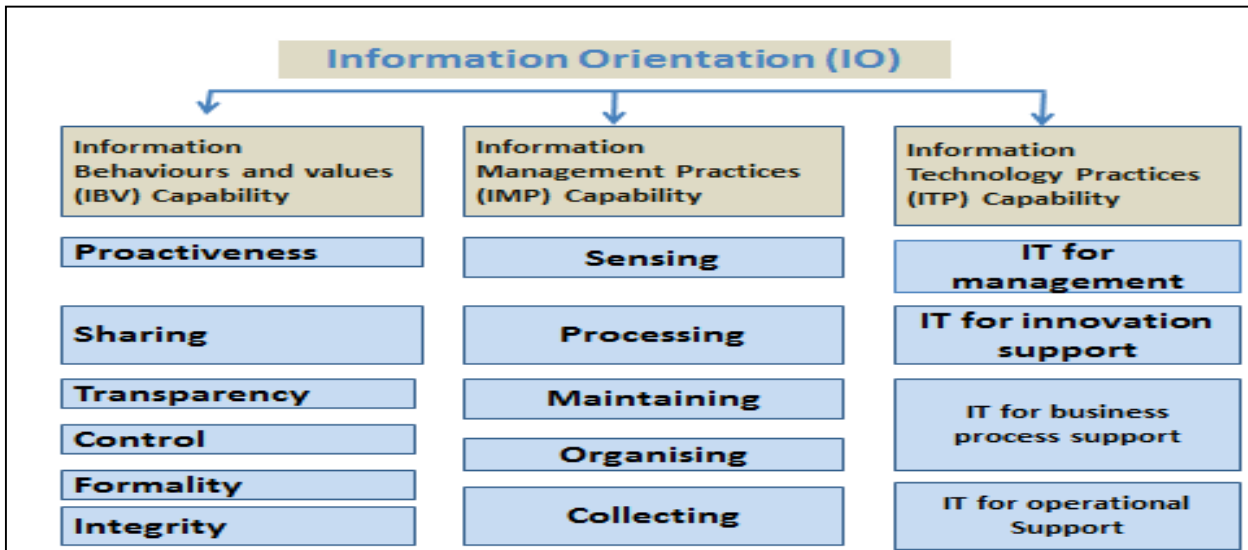


Figure 3.2: Information Orientation for superior business performance

Source: Marchand, D. A. 2002. After the e-business shake out: *The Capco institute Journal of financial information*, 72.

IO offers businesses new lenses, to see information as a critical resource, to all organisations so that they can start to manage it and measure its use in order to improve business performance. The foundation for IO hinges on understanding how to leverage three information capabilities: information, plus people and information technology (IT), to systematically improve business performance. This is essential to executing business strategies efficiently as well as to increase the speed, agility, responsiveness and innovations of the organisation¹²⁷. In addition, it can be used to improve the efficacy of people, structures and business processes including reducing or replacing overheads.

The IO came about as a result of Marchand et al recognising some gaps of knowledge in the information related fields that have a negative impact on business organisations. Firstly, he discovered that past scholars and consultants have recognised three information capabilities of effective use of information in an organisation: Information

¹²⁷ Marchand et al. 2001,01

Technology, Information Management Resources, and Behaviour and Control. However, over the years, they treated them as separate entities. They never developed an integrated theory of effective information use. As a result, business measures of effective information use that could underline the way people, information and IT can be managed to improve business performance, were never developed.

Even today, some organisations still treat various information sectors in their organisations as independent entities that work separately and contribute differently towards organisational objectives. Secondly, Marchand et al discovered that organisations were experiencing challenges of how to channel human attention and information use into specific tasks and decisions. He argues that human beings in an organisation are constantly serving their own interests rather than organisational interests when it comes to sharing their knowledge. Thirdly, he reviewed the IT productivity paradox, due to concern that organisations were increasingly spending on IT without realising direct return from their investments. In response to that, he arrived at an understanding that business organisations must define the relevant context, or orientation, to continuously convert human knowledge and learning into creative ideas and information of value to achieve organisational success and improve the utilisation of IT.

Marchand et al conducted a study to determine how the interaction of people, information and technology establish an orientation towards the use of information within an organisation and how this affects business performance. From the study, they develop a construct that integrates three distinct information capabilities (dimensions) of effective information use and validate that as an organisation. We must achieve competence and synergy across all information capabilities(IC): Information Technology Practice (ITP); Information Management Practice (IMP) and Information Behaviour and Values (IBV) of effective information use as a precondition to achieving superior business performance.

To test their hypotheses, Marchand et al conducted an empirical research project to determine the extent to which the dimensions of effective use of technology practices, effective information management practices, and effective use of behaviours form a nexus of effective IO that is a necessary precondition for superior business

performance. The study sample comprised of 1,009 senior managers from twenty-six countries and twenty-five industry sectors, companies ranged from small to large (250 000 employees) , respondents were from one year to sixteen years¹²⁸.

Marchand et al researched the correlation between IT investments and practices and improvements (IT productivity paradox). The subject of the study was senior managers of business organisations because previous research showed that senior managers have more accurate perceptions. The researchers viewed their mind-sets and perceptions as critical for a number of reasons¹²⁹: perception of senior managers drive strategic decisions within organisations; they are continuously challenged to achieve business results for their organisation and business units; senior managers do not work alone but are members of senior management teams; they represent the key areas of business or functional responsibility in their organisations; they are responsible for formulating basic strategies of their organisations, allocating resources, and implementing strategies to achieve appropriate business results.

In short, the way they view the world, their actions and behaviours shape the manner in which they assess events and situations, and their courses of action¹³⁰. However, IO helps senior managers to see the importance of information in a new way thereby developing new perspectives from which to analyse situations, interpret them and apply appropriate decisions. The assumption is that senior managers, if they embrace IO, will be able to pass the good information behaviours and practices to their subordinates as they occupy strategic positions in the organisation¹³¹. Furthermore, the junior official may learn quickly by observing the way their senior managers do things.

The finding confirms, amongst others, the following factors¹³²: IT often increases organisational output, lowering barriers to competition in industries and increasing consumer value by lowering market prices for goods and services. Organisations are therefore compelled to invest in IT to satisfy strategic necessities but rarely do IT investments and practices lead to sustained business performance benefits; the link

¹²⁸Marchand et al. 2002, 10

¹²⁹Marchand et al. 2002, 10

¹³⁰Marchand et al. 2001,17

¹³¹Marchand et al. 2001,17

¹³²Marchand et al. 2002, 153-156

between IT and business is not direct but evolves through more complex interaction, the effect of three information capabilities of Information Orientation that can directly predict business performance; the confirmation of key information capabilities defining a new strategic management concept in the minds of senior managers that predict business performance called Information Orientation; senior managers possess a high-level strategic concept of effective information use that integrate the three key capabilities: Information Behaviours and Values, Information Management Practices and Information Technology Practices called Information Orientation (IO); IO predicts business performance, the higher the IO score of an organisation the higher the business performance and lastly, being good in any one of the information capabilities is necessary but not sufficient to improve performance. Organisations that need to achieve superior business performance must score high in all three capabilities of the IO. Figure 3.3 illustrates that the three Information Capabilities, as viewed by senior managers, creates a higher-order of effective information. The higher-order of effective information has become known as the Information Orientation and yields direct positive results on business performance. The study, as per previous studies, is used as an indicator of business performance, financial performance and the price of market shares, improvements in reputation, and in product and service innovations. According to Marchand et al¹³³, Chantal in 1997 tested the same business performance indicators and determined that they generally showed reliability and validity.

The IO is based on the gradual improvement of all the three Information Capabilities (IC) in an organisation. The capabilities are:

Information Technology Practices (ITP) - the ability of an organisation to effectively manage appropriate IT applications and infrastructure in support of operational decision making and communication processes. Managers need to link business strategy to IT strategy in order to effectively manage necessary IT infrastructure and applications in support of operations and business processes, as well as those that provide distinctive competency in support of innovation and management decision needs.

¹³³ Marchand et al 2002, 254

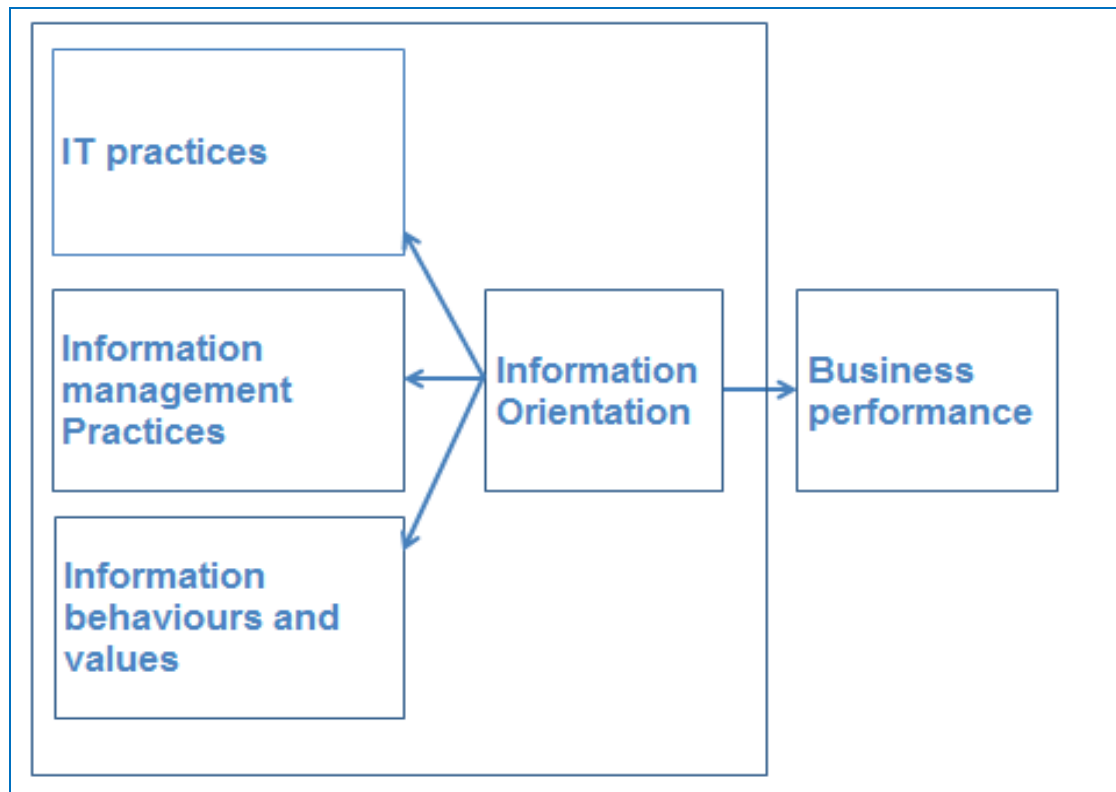


Figure 3.3: Study's Conceptual model

Source: Marchand et al. 2002, 255

The dimensions for ITP are: IT operational support, IT business process support, IT innovation support and IT management support. IT operational support provides the basis for good IT process support and innovation support. IT management support requires the organisation to be good at the other three dimensions. This indicates there are causal relationships between all four dimensions either directly and indirectly.

Organisations must try to focus their IT investment on acquiring relevant information to improve decision making on the operational and process level thereby improving task and process efficiency. They must strive to leverage focussed information across business processes and with strategic partners, suppliers to gain better knowledge for spotting emergent customer needs, forming strategy, and analysing risks. In addition, they should deploy IT for business operations and processes effectively in order to assist an organisation to be innovative in improving or delivering new services and knowledge creation. It is important for organisations to guard against spending too much on basic operations but to focus on the effective use of information by establishing information asymmetry for competitive advantage.

- **Information Management Practices (IMP)** - the capabilities of an organisation to manage information effectively over its life cycle, including sensing, collecting, organising, processing and maintaining information.
- **Information Behaviours and Values (IBV)** - the capabilities of an organisation to instil and promote behaviours and values in its people for the effective use of information. This includes: integrity, formality, control, transparency, sharing and proactiveness.

Figure 3.4 below illustrates the *IO maturity model: Cross Capability*. It indicates how the three information capabilities: IMP, IBV and ITP interact to yield high business performance for an organisation. Firstly, the diagram indicates the interaction amongst capabilities of the same dimension and how they link to other dimensions. In IBV, the direct build-up of information behaviour starts with integrity, leading to formality, which leads to control, transparency, sharing, and ultimately, pro-activeness. Indirectly, integrity leads to transparency and control leads to sharing and pro-activeness. The IBV interacts with the IMP dimension through sensing and processing and then interacts with the ITP dimension through IT for management support. This explains how an organisation can make each dimension work and leverage the interaction effect.

Marchand et al postulated that information use in business organisations is people-centric. It is people who must use information to take decisions and to complete tasks in order to achieve organisational objectives. They use IT to create, store disseminate and manipulate information for one or more purposes. The way they behave with information determines whether information will be allowed to flow freely across the organisation or conceal it from people who truly need it.

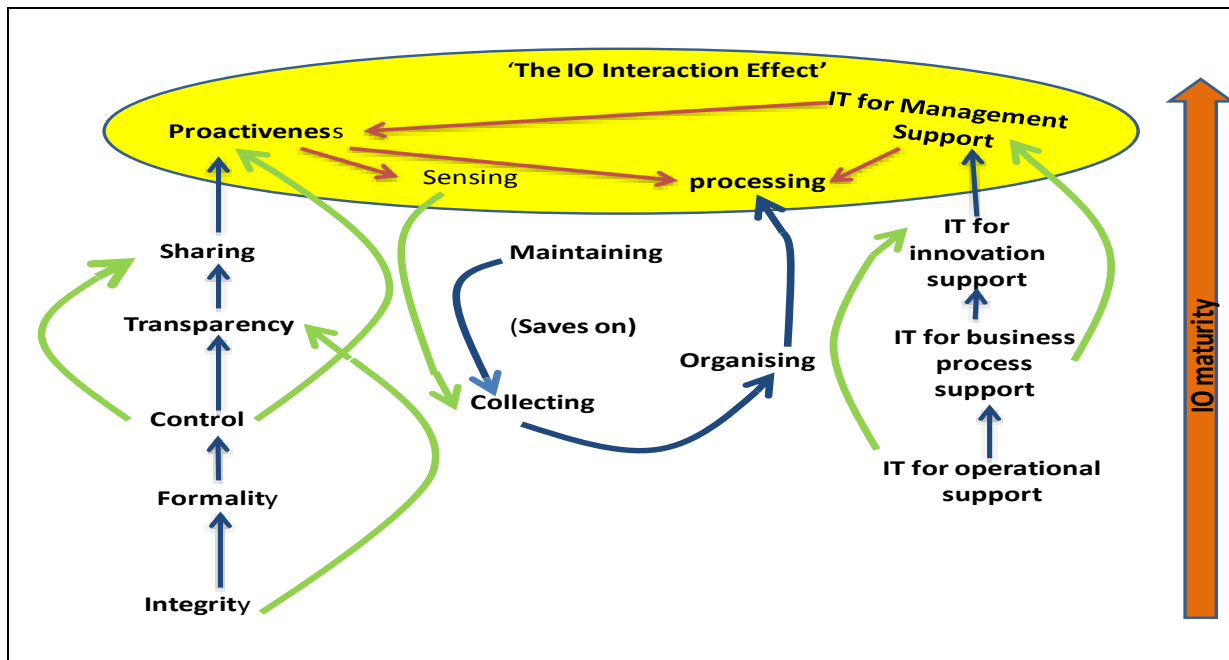


Figure 3.4: The IO maturity model: cross-capability

Source: Marchand, D.A et al.2001, 60

It is therefore imperative for organisations *to formalise and integrate the behavioural aspects of information usage with the existing and more formalised information management practices.*

The key factor is for organisations to use information effectively, people must use information in support of the organisation's interest. People are by nature willing to share but conditions in the organisation may block the opportunity of people to contribute. The conditions, according to Marchand et al¹³⁴, citing Simons may include the following: "people are unsure of how to contribute; feel pressure from competing tasks and where an organisation does not provide sufficient resources to permit positive contributions". The researcher has noted many a time when projects failed because team members were not allocated time but were expected to do all their normal duties concurrently with the project responsibilities. This, in the end, becomes a burden to team members who then have to split their time and attention between the two tasks.

An organisation can create a conducive environment¹³⁵ by establishing learned routine behaviours and decision making, identifying information required to improve individual performance as well as the performance of the organisation; develop in their

¹³⁴ Marchand et al 2002, 7

¹³⁵ Marchand et al , 2002, 152-153

people a readiness to learn, a disposition to proactively acquire and use new information, openness to change and bias for action. They must manage information across all units in a consistent, timely manner while ensuring that the information is accurate and of high quality. It is only when there are appropriate information usage behaviours with selfless and focused information management practices that people are ready to employ IT effectively in support of decision making and their tasks to improve business performance. Importantly, newcomers must be taught quickly to learn the formal and informal information behaviours that experienced organisational members evoke each day to get things done. A mature information culture supports the effective use of information. The learning capacities of organisational members influence effective information use and their ability to change.

Information orientation underpins the Theory of effective information use which is based on the concept of a recursive spiral, whereby good information usage behaviours and values drive better information definition and management. This improves the capability of an organisation to use IT for supporting decision making and problem solving; which in turn reinforces good information usage behaviours and values and information management. When one of these links is disturbed, the recursive aspects of the spiral are disabled and an organisation is less effective in using information¹³⁶. An organisation that aspires to use information effectively must ensure that people develop the following five characteristics¹³⁷: people must use information to support an organisation's interests and not act solely out of their own self-interests; people must make their knowledge explicit for effective information use to occur; people must focus their scarce attention and time on the right or relevant information and not spend their time sensing, collecting, or processing information that is not used in decision making and for executing organisational tasks; people must possess the ability and willingness to acquire new knowledge to learn and change and people must accept change as the natural feature of modern organisational life and be willing to respond quickly to new challenges.

¹³⁶Marchand et al , 2002, 9

¹³⁷Marchand 2002, 7

Figure 3.5 below illustrates a people-centric view of effective use of information which denotes why people should be at the centre of effective use of information rather than technology. People collect information, decide whether they want to use it or not and use technology to manipulate, disseminate or store information. As a result any attempt to improve the use of information should be people-centred.

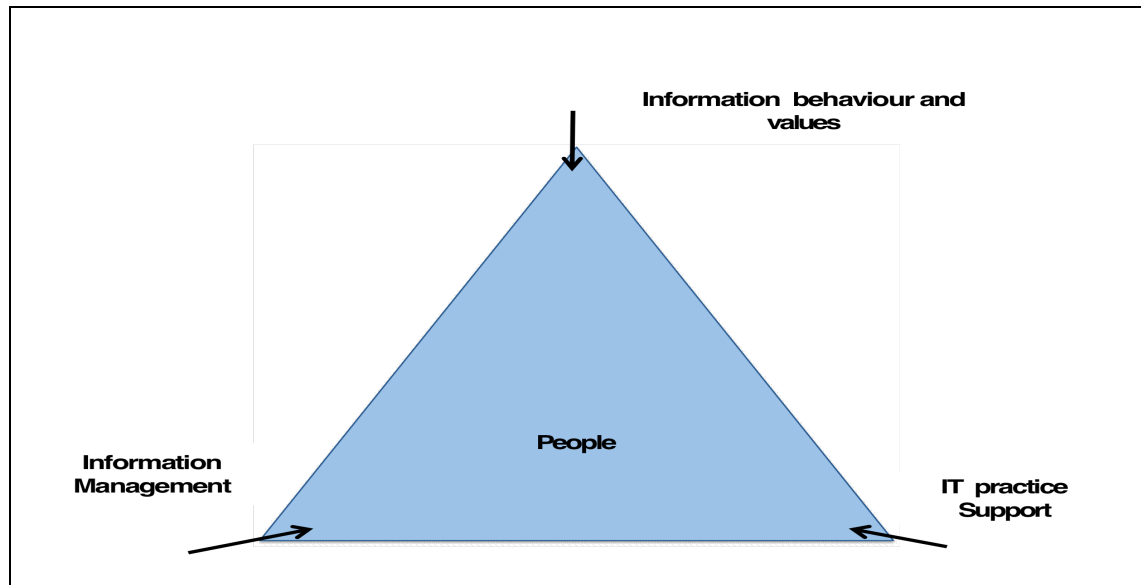


Figure 3.5- A people- centric view of effective information use

Source: Marchand, D. et al, 2002, 7

The research introduces an Information Orientation Dashboard illustrated in Figure 3.5. The IO Dashboard is a diagnostic tool to measure and evaluate each information capability of IO in their organisation and its link to business performance. With the Dashboard, managers: can view where the organisation stands in using information effectively; can easily identify areas of strength and areas in need of improvement; can understand the relationship of the organisation's information use to overall business performance. The score is part of a study conducted by Marchand et al and not for this study. They indicate that the IC through IO has a higher loading of 0.52 but when they were linked directly, they had a lower loading with IMP scoring negatively. That results in higher business performance.

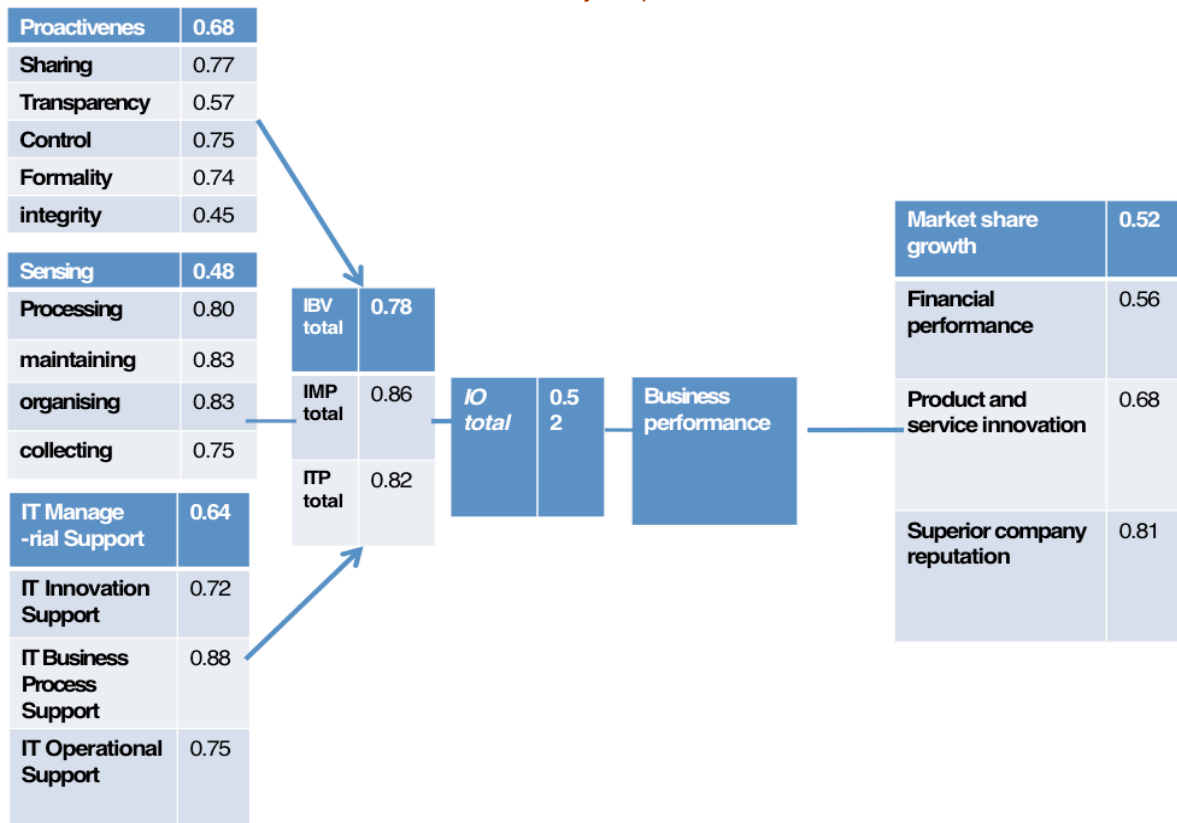


Figure 3.6: The Information Orientation Dashboard

Source: Marchand et al. 2002,276

In addition, it can be used: for either internal or external benchmarking purposes; for benchmarking and comparing multiple business units and divisions; to assess IO deficiencies and to recommend appropriate management actions; for an organisation to develop portfolio strategies using information orientation as a common measure of effective information use across business units worldwide; to monitor the results of management actions over time; to improve the organisation’s capabilities to manage people, information, and IT to achieve better business performance; to identify best practices within a group of portfolios, regardless of product, service, or geographic location; to permit senior managers to understand how different teams of senior managers overseeing business units have or have not effectively developed across the IO capabilities relative to other business units inside the same organisation over the past three to five years¹³⁸.

Figure 3.6 below is the adapted coalignment model: Information Orientation model that is proposed for DIRCO which has business performance measure suited for government department adapted from Figure 3.5. It measures departmental

¹³⁸Marchand et al 2002, 12, 15,172-179

performance in terms of service delivery growth, financial performance, service innovation and superior departmental reputation and image.

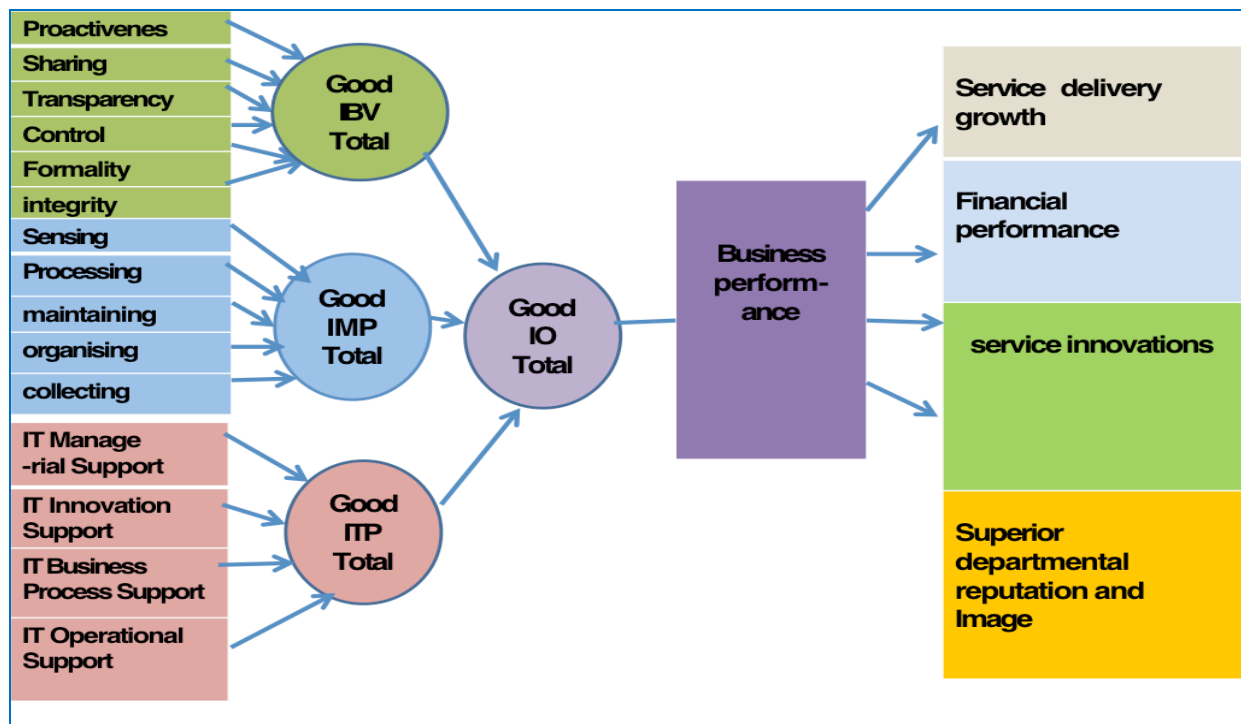


Figure 3.7: Adapted Coalignment Model: Information Orientation Predicting Business Performance

Source: Marchand et al, 2002, 276

The Information Orientation research is significant in many ways¹³⁹: it provides the first integrated view of effective information use that indicates that ICs contribute to one-high level idea of IO instead of each working separately and independently contributing to business performance; it elevates the role of information to the centre of business activity by denoting that IO shapes business performance; it incorporates the people-centric view of information use which recognises that business organisations rely on effective information use by their people to succeed; it provides a performance metric that an organisation can use to monitor and manage; to determine their readiness to compete in the information age; it provides a measurement that organisations can use to evaluate how effectively people use information and IT to improve business performance; it provides a clear and powerful measure of senior management team perceptions of effective information use and business performance across their

¹³⁹Marchand et al 2001, 20-23

organisation and provides an instrument for change, by tying the managerial expectation and the effective use of information in the organisation.

A criticism for the model is that it does not provide adequate guidelines on where and how an organisation can start to create an information orientation. It just tells you about the three ICs that form IO, the dimensions in each IC and how they work together to yield high business performance. People understand what an organisation with high IO or poor IO looks like but still have no idea how to get there. The IO as indicated above is based on the empirical research conducted to determine the effective use of information from senior management perspective as it has been proven by previous studies that their ideas drive decisions and actions in the organisation. The following section will focus on the information theory referred to as the I-Space. The I-Space provides theoretical knowledge on how information flows within an organisation and strategies to maximise learning and create value from the information flow in the organisation. It is vital for organisations to simulate their knowledge diffusion and plot how to maximise learning and value creation.

3.4.2 INFORMATION SPACE (I-SPACE)

Boisot proposes a conceptual framework, the Information Space or I-Space, which seeks to explain how information flows in an organisation and how knowledge emerges from the information flows through a process known as the Social Learning Cycle (SLC). The framework provides an instrument to think about relationships between physical assets and knowledge assets. Boisot argued that in the current information economy “knowledge has become more valuable than the physical substrata that carry it and that knowledge have come to be viewed as an asset in its own right and that knowledge assets are coming to constitute the very basis of post-industrial economics¹⁴⁰”. He describes knowledge assets as “stocks of knowledge from which services are expected to flow for a period of time that may be hard to specify in advance. In contrast to physical assets, knowledge assets could in theory last forever. It has open ended value (allows multiple use and appreciates value in use) and they are

¹⁴⁰Boisot, M.H.1999,2

non-linear (work within the paradigm of gradual accumulation of experience with discontinuous insights)¹⁴¹”.

In human affairs, knowledge economises on the use of physical resources (space, time, and energy) in three ways: by informing them, by embedding itself in physical artefacts or processes; by organising them i.e. by embedding them in documents and by enhancing the understanding of intelligent agents that interact with physical resources by embedding itself in the brains of individuals or organisations¹⁴².

Knowledge assets form a basis for competitive advantage for the organisations that possess them, by enabling them to produce superior products and services quicker and in greater volumes than their competitors. However, possession of knowledge assets does not translate into value; an organisation must know how to extract value from them by managing them as they emerge and flow through the action of the Social Learning circle across the I-Space.

Knowledge assets confer competitive advantages in two ways: when others do not have it (scarcity) and secondly, when it informs, surprises, and modifies others' expectations (utility). The I-Space is comprised of three stages: the first two are codification and abstraction, which are critical for economising data. The former entails creating perceptual and conceptual categories that facilitated the classification of phenomena whereas the latter deals with cognitive simplification. In a way, the two are prerequisites of effective communication and subsequently of effective organisational processes. The author views codification and abstraction as mutually reinforcing, and working in tandem to facilitate the dissemination of information; however, they do not facilitate the use of information made available. Finally, the diffusion stage deals with the flow of information within the selected agents in the I-Space. Certain specific flow patterns give rise to the kind of learning from which knowledge assets emerge. The I-Space is illustrated as figure 3.8 denoting how knowledge is created and flows within an organisation.

¹⁴¹Boisot, M.H.1999,182 & 3

¹⁴²Boisot, M.H.1999,12

Boisot postulate six phases in which knowledge creation, accumulation and diffusion can be understood in the I-Space referred to as the Social Learning Cycle (SLC)¹⁴³:

- *Scanning*: identifying signals of threats and opportunities from the environment then become the possession of individuals or small groups.
- *Problem-Solving*: the process of giving structure and coherence to such insight i.e. codifying them.
- *Abstraction*: generalizing the application of newly codified insights to a wider range of situations.
- *Diffusion*: sharing the newly created insights with a target population.
- *Absorption*: internalising knowledge acquired by using it in different circumstances.
- *Impacting*: the embedding of abstract knowledge into concrete practices. Such embedding can take place in artefacts, technical or organisational rules, or behavioural patterns.

The abstraction, codification and diffusion stages form the first phase of the SLC. When information is located on the left of the I-space, it is restricted to members of the targeted population and hence becomes scarce. As a result, maximum value of information good can be achieved. When it moves further to the right, the information is widely diffused and it assumes the character of public goods, and only minimum value can be achieved. The maximum value of information goods in the I-space is achieved when its diffusion is at a minimum but its degree of codification and abstraction are at a maximum. Conversely, the minimum value of such a good is reached when diffusion is at a minimum and codification and abstraction are at a minimum.

¹⁴³Boisot, M.H.1999,59-61

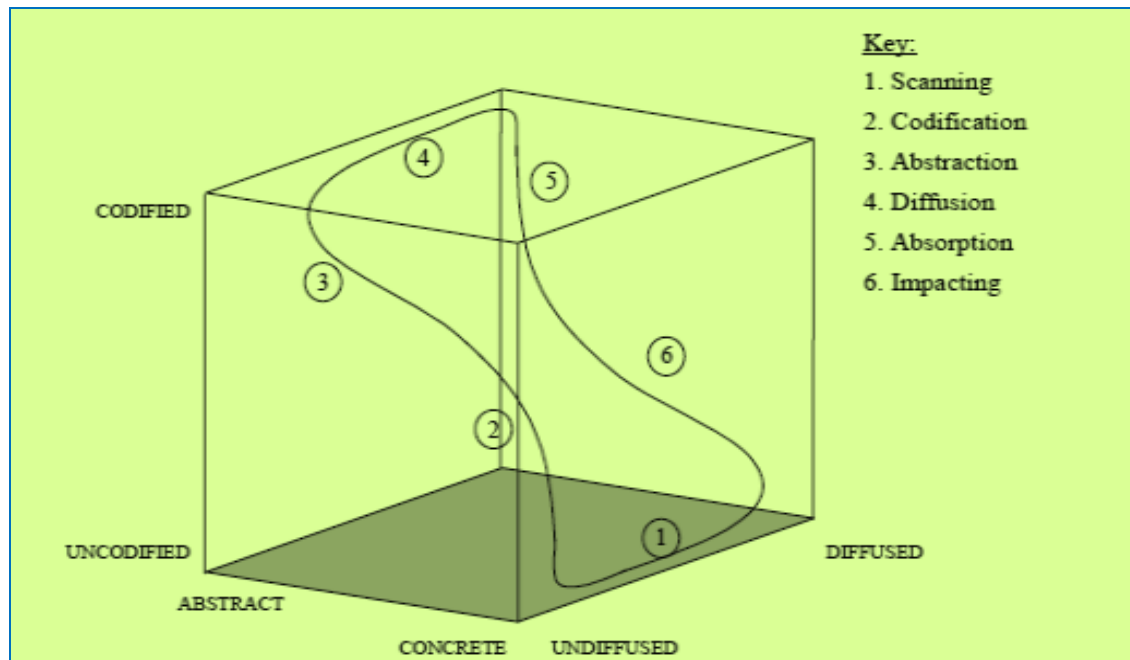


Figure 3.8: Boisot's Information Space

Source: Boisot, M.H.1999, 60

An organisation can extract value from knowledge assets by slowing down their diffusion to region 5, thereby prolonging their stay in region 3 by erecting barriers to their diffusion¹⁴⁴. The value of information good and the knowledge assets is to reduce disorder (entropy) and uncertainty in the world.

There are two ways to manage knowledge assets: hoarding or sharing. The choice of strategy is shaped by the organisation's perspective towards knowledge assets. The first perspective is Neo classical or the N-learning strategy - those who view knowledge as “cumulative consisting of gradually eliminating errors so that better-quality knowledge slowly accumulates in the memory of social systems and organisations are likely to pursue a hoarding strategy”¹⁴⁵. This learning strategy is more applicable to a stable environment and organisations can slow the flow of knowledge to maximize the profits. The second one is the Schumpeterian or S-Learning strategy - those who view knowledge as cumulative but only within the confines of a paradigm, in which models displace each other and much of the old knowledge is destroyed, will adopt a sharing strategy. This learning strategy is appropriate to a highly dynamic environment which requires coordination across the organisations, joint ventures or strategic alliance, networking and team work. In this terrain, organisations must encourage knowledge

¹⁴⁴Boisot, M.H.1999,94

¹⁴⁵Boisot, M.H.1999,93

flow to be ridden rather than slow them down in order to exploit and benefit from them. The two perspectives are influenced by an optimistic and pessimistic view of the world in which the former see progress as linear and the latter as non-linear.

The strategies that the organisation follows often gives rise to: distinctive cultures (hoarding or sharing); institutional structures (vertical or flat); technologies and products generated by the organisation (stove pipe or fully integrated networks) which in turn influence the strategy. An organisation needs to decide which strategy is appropriate for the organisation or when to use each strategy; the decision cannot be left to individual managers and officials. This is a very important decision with wider implications and requires a collective group to make such a call.

DIRCO objectives largely fit into the S-learning strategy but in practice it has a strong N-learning culture. The organisation has an academy in which employees learn how to perform their duties and exchange their knowledge. Knowledge is gathered and packaged into training manuals for each and every function including the local and foreign dominant languages in which the organisation operates. The information is diffused through classroom teaching, application in the real work situation, coaching and so on. The training is divided into different qualifications, which are certified by the South African Qualification Authority (SAQA). The employees utilise their knowledge in their day-to-day activities such as providing services, conducting bilateral and multinational negotiations, lobbying for particular action at the multilateral arena and facilitating the resolution of conflicts. The knowledge is further diffused through meetings with small groups of selected population through reports and project team meetings. People use knowledge acquired through training and their hands-on experience to update the existing information, find the best way to do things and to implement change in the environment.

Boisot also identifies core competencies as knowledge assets and a source of competitive advantage. Core-competencies develop in the lower regions of I-space as emergent property by scanning inside and outside the organisational environment. He refers to them as the outcome of human action rather than human design out of strategic choices. They are largely tacit which make them hard to imitate.

As emergent property, they are difficult to manage for a number of reasons¹⁴⁶:

- Patterns out of which core competencies are built cannot be managed in “command and control” methods.
- The selection and patterns to be attended depend on those who generate them.
- Patterns are embedded in the heads of individuals.

DIRCO, in terms of how the information is handled, seems to be more inclined to the protection of information than innovation and improvement of service and processes. It is a sort of paradox since on the one hand through the training academy, the organisation seems to be promoting learning and on the other hand, information is not allowed to flow freely across business units due to structural and cultural impediments. The structure is vertical and information systems are also not integrated. However, the organisation constantly, through desk officials deployed the mission’s staff and communication operation centre, scan the environment for information about trends in the global arena and the country at large. Again, the information is restricted to very few people and there is little sharing taking place between different business units. To recap, DIRCO seems to be aspiring to be an S-learning kind of organisation but it still has strong features of N-learning institutions which makes the former difficult to achieve.

Core-competencies are more protected in an un-codified state. However, organisations over time are compelled to codify knowledge that underpins their core competences for a variety of reasons: to protect their property rights and to reduce uncertainty. The IT revolution also accelerates the flow of information in the I-Space: by increasing the organisation’s capacity to capture, process, transmit and store data, thereby facilitating the speed in which information moves towards codification, abstraction and diffusion as well as accelerating transmission capacities; lowering the costs of data processing and transmissions; and embedding cultural knowledge in technologies and artefacts.

By drastically lowering the costs of data processing and transmissions, the new electronic revolution is facilitating the creation of knowledge assets throughout the I-Space, not just in upper regions. He also emphasizes the value of viewing culture as a

¹⁴⁶Boisot, M.H.1999,197

knowledge asset, in which the significant part of it is embodied in social process, institutional practices and traditions and many of which are carried around in people's heads. Information has a cost for scanning, storage, manipulation and that should be treated as a capital investment which means that it must be properly managed. Otherwise, organisations may waste their limited resources by acquiring and keeping information that they do not use. The existing culture at DIRCO is not tuned to promote the effective use of information. Consequently, the information scanned is not shared and that culminates in duplication and ineffective use of resources and a waste of storage spaces.

Organisations need to identify information relevant to the realisation of organisational strategy as well as operational needs and compliance purposes; and disposes of them when no longer required for any of these purposes. In the fast paced world, skilled intensive decentralisation of function is a key to ensuring that problems are sorted closer to whatever point from which they originate in order to enhance service delivery and to create opportunity for exploratory learning, and empowerment. The downside is that knowledge accumulates in the heads of empowered employees¹⁴⁷ and that point to complex organisational problems as far as who owns the tacit knowledge in the heads of employees, and how to exploit it to the best interest of the organisation. However, organisations that need to manage intellectual capital effectively must cultivate a positive disposition towards learning, intellectual flexibility and a tolerance of ambiguity. They need to learn to use information and knowledge to exploit other resources for better results; a point, which according to Boisot, explains the difference between developed and developing economies. The assumption is that many organisations ignored or misunderstood the nature of knowledge assets and as a result continued to manage them with the old paradigms and techniques for energy economy rather than information paradigms.

The Information flow and use in DIRCO using IO and the I-Space can be illustrated as follows:

- **Sense, collect, organise, process and maintain information required to conduct its business, which is akin to codification.** These require pro-

¹⁴⁷Boisot, M.H.1999. 267

activeness from knowledge agents in order to be willing to think about, to use, and improve the management of information. However, this will be dependent on first mastering other behaviours such as integrity, formality, control, transparency and sharing.

- **Officials as knowledge agents interpret and make sense which akin to Abstraction.** Traits such as proactiveness, integrity, formality, control, transparency and sharing will be vital to strengthen the behaviour;
- Reports will be written and distributed to the appropriate decision makers. This is the action of diffusion. Behaviour such as: flexibility to change one's assumptions; focus on relevant information to make good decisions and thus avoid information overload; knowing who needs information and a willingness to make one's knowledge explicit will be crucial in this endeavour.

There are at least four population groups to whom information could be diffused:

- **Firstly**, the codified and abstracted information is diffused within the organisation to appropriate decision-makers.
- **Secondly**, it can be diffused externally to other governmental bodies, the Presidency, Cabinet or other departments.
- **Thirdly**, it is distributed to the general South African public, for awareness, transparency and accountability purposes.
- **Fourthly**, it is shared with international communities such as regional bodies, trading strategic partners and multilateral bodies. In each case, the nature and extent of abstraction will differ.

3.4.3 STRATEGIC INFORMATION ALIGNMENT (SIA)

Donald Marchand et al provides a conceptual framework known as Strategic Information Alignment (SIA) which suggests four ways to use information to create business value: firstly, minimise risk which involves the collection of relevant data to generate information for the monitoring and control of financial, legal, market and operational risks. Secondly, reduce cost - the focus is on cutting costs by introducing cross functional processes, eliminating redundant practices, upgrading the out-dated and automate where possible. Thirdly, add value - the focus is on understanding the need of the client, draw a profile for client behaviour, share information with them, use information to render a follow-up service and improve offerings in order to enhance

customer satisfaction and loyalty. The fourth one is to create a new reality. This is done by collecting information about clients and shares them throughout the organisation in order to promote creativity, to generate new ideas and apply them rapidly. The key to the four strategies lies in identifying information that needs to be collected in each strategy in order to monitor the situation and goal. Organisations that can learn to mobilise their information assets along the four strategies can ultimately develop a competitive advantage. It is important for management to understand which strategies or combinations can bring better results for their organisation. The strategies for minimising risks and reducing costs are good for improving effectiveness and efficiency while strategies for adding value and creating new reality assist in creating a competitive posture for the organisation and sustainable growth.

3.4.4 INFORMATION ECOLOGY (IE)

Davenport and Prusak proposes the concept of Information Ecology (IE) which is based on a metaphor of ecology to mean “the science of understanding and managing the whole environment¹⁴⁸”. The IE is comprised of three environments: firstly, the external environment is comprised of: the business landscape, the technological world and legislative framework. Secondly, the organisational environment is made up of the geographical location, number of buildings, type of infrastructure available and the prevailing business condition. Lastly, the information environment consists of strategy, staff, culture/behaviour, politics and architecture. These are the capabilities that organisations can leverage to promote the effective use of information. They are discussed in detail under Section 3.5 IE is also based on three attributes: "the need to integrate diverse types of information in an organisation: computerised and non-computerised; structured and unstructured; text, audio, and video"¹⁴⁹.

The main principles that influence IE are: to describe current information needs rather than venturing too far into the future as the information environment and the outer business environment is forever changing; to embrace change as the information environment changes constantly; to focus on observing what people do with information and facilitate its effective use rather than merely emphasizing the supply of information to users; the need for managers to understand the whole organisational

¹⁴⁸Davenport, T.H. &Prusak, L. 1997,10

¹⁴⁹Davenport, T.H. &Prusak, L. 1997

landscape in which the information is used in order to frame their responses to information use.

The main assumptions of the model are: computer and communication technologies do not necessarily lead to better information use as demonstrated by advent of PCs, processing speed, memory or storage capacity and email. IE therefore advocates the shift from concentrated focus on technology to a balanced perspective that is human-centred and include technology to denote that information and technology are inextricably related.

3.4.5 MOBILISING ASSETS

Cronin and Davenport also provided a framework for mobilising the information assets through metaphor. They offer three categories of modelling information assets so that they can be better analysed, harnessed, controlled and exploited. Firstly are the metaphorical models, which describe one thing (the target) in terms of another (the source). The classic example here is information as a resource. Secondly, are metonymic models where the part of something stands for the whole such as the standard chart describing standards set for procedures? Thirdly, taxonomies such as a classification scheme thesaurus. It helps to exploit what is classified more effectively.

The framework provides new perspectives for managers and employees to view information as an asset for an organisation thereby explicitly acknowledging the value of information in order to exploit information and manage its life cycle. Furthermore, to see information as a catalyst for change and an instrument for development that must be shared, and invest in information-based assets for efficiency and to improve development. Cronin and Davenport also provide seven ways to distinguish the value of information: value-in-use; exchange value; insurable value; latent (collected for one purpose and become useful for another purpose); covert (secretive) and integrative which exceeded the estimated value in relation to the original task.

They also provide categories to classify information in order to reveal their potential value. The first category is the current tangible which deals with stakeholder/client/competitors information which can be used for monitoring, profiling and even starting a new service. The second one is a fixed tangible information asset. It

includes: telecommunications infrastructure (leased lines, value added services, switching gear, satellite links) and the installed hardware and system base. The third one is the collective know-how of a business which are the experiences and heuristics of personnel, organization lore. It is developed and protected through nurturing human resources, capturing expertise in knowledge-based systems, registers, codes of conduct or procedural manuals to accelerate the transfer of talent throughout the organisation. Patents, copyrights and registered designs are also used to protect these types of assets and make them available to the public.

The fourth one is trademarks. They are fixed intangible assets and its value is a brand name which elicits customer loyalty and boosts goodwill in accounting terms. All these quadrants collectively improve efficiency as well as enhance effectiveness and transformation.

Another point of emphasis is that information needs to be accessible in order to be exploited, it must be allowed to flow freely throughout the organisation. For information to be fully exploited, to add value to the organisation, it must be accessible and allowed to flow freely throughout the organization. The lack of transparency may result in the sub-optimal use of information, disenfranchise potential users and create conditions which breed questionable and corrupt practices whereas ultimate transparency may result in information overload. As a result, organisations must strive to bring opacity and transparency in a state of equilibrium. The constraints for information flow include amongst others: localization, elitism, suppression, concealment, lack of structural clarity, incompatible classification schemes, different operating systems, excessive regulation, low skills transfer and limited adoption of information. Accessibility to information can be improved through: standards, openness, equal access, clear structure, few rules, accountability, effective interaction and high skills transfer. In addition, the organisation can conduct a needs analysis; check the direction and pace of information diffusion; identify structural blockages and wastages, duplications, inefficiencies in the system and address them. Other constraints may include a delay by sending information indirectly; wastage by duplicating the information and information overload by receiving the same information from different sources.

The importance of the theory is to denote that information with all its distinctiveness and complexities can be managed by looking to other areas to find analogous situations where processes and properties have been modelled to achieve definable results. The main criticism of this model is that it is difficult to find an exact match in terms of metaphors and that may limit the understanding and extent of exploitation of the resource in question.

3.4.6 FIVE PILLARS FOR BENEFITS REALISATION FROM INFORMATION SYSTEMS AND IT PROJECTS.

Murphy suggests a comprehensive approach to guide how an organisation can evaluate and manage IT investment which is based on three Ps: pillars, process and people. There are five pillars: strategic alignment; business process impact; IT architecture and direct payback and risk.

- **Strategic alignment** - deals with the alignment of IT investments to business strategy in order to facilitate the achievement of the organisational goals and objectives. The focus is using IT to forge ties with stakeholders, competitors, customers and suppliers and as well as to get business managers to be actively involved in IT investment projects.
- **Business Process Impact** to promote integration of business processes through the organisation and across the organisation with partners, suppliers and stakeholder. This takes place in addition to regularly reviewing processes for efficiency and effectiveness to avoid an accumulation of redundant processes.
- **IT architecture according to Murphy:** IT architecture “refers to approved hardware platforms, operating systems, database management systems, development tools, middleware services or other products. Gartner divides the technical architecture into main subgroups: Computing Infrastructure, Network Infrastructure, and Office Information Systems”¹⁵⁰. It emphasizes the need of an organisation to have a dedicated team for designing and policing the architecture. The IT architecture needs to be flexible in order to support an integrated business process, to allow it to change

¹⁵⁰Murphy, T. 2002, 54

and to protect other IT assets, such as legacy systems. It is critical that organisations guide against creating information islands by procuring systems that cannot communicate and to go for applications that facilitate the exchange of objects, files, messages and other.

- **Direct payback** emphasizes the importance of a shift from IT investment justified on the basis of tangible benefits such as finance, headcount, quality control, revenue creation, to intangible benefits which bring improvement in business performance but not in a way that directly impacts the bottom line. Murphy's argument is that measures provide insight from one perspective but do not provide a complete picture.
- **Risk it** encourages organisations to conduct risk management in a structured, comprehensive and methodological manner in all IT project in order to achieve optimal benefits.
- **The second P deals with processes.** It outlines the process required to deliver IT value through five pillars. The five processes are: setting the ground rules of IT-investments; defining IT value standards; IT values analysis; IT value project management; IT value achievement¹⁵¹.
- **The third P deal with People.** Murphy emphasizes the need to set principles that determine the way decisions are made and conflicts get resolved at all levels across the organisation to standardise the way people act and interact which he refers to as governance. To Murphy, the dangers of working without effective governance is that decision making takes place in the context of rigid departmental silos that are unable to meet the requirements of today's dynamic, volatile technology and business environments. The governance issues may entail: strategy, priority setting, funding sources and levels, allocating resources, organisational roles and responsibilities, standards, practices and guidelines and autonomy versus common or shared resources, such as infrastructure. Consequently, people will take shortcuts - the loudest voice will win the day, ad hoc decisions will be made, and loss of

¹⁵¹Murphy, T. 2002, 80-118

accountabilities and lessons from successes and failures will not form a part of corporate wisdom¹⁵².

Murphy, as a result, recommends the following structures (roles), responsibilities and their interrelationships for the effective management of IT across the organisation¹⁵³:

- The IT council role
Definition of strategy and the setting of ground rules and priorities for IT expenditure.
- The IT Investment Board Role
To ensure that potential IT investment proposals and opportunities are thoroughly analysed within guidelines defined by the IT council, and to develop concise assessments and recommendation for presentation to the IT council.
- The office of architecture and standards role ensures that corporate architectural and business value standards are comprehensively addressed as part of the assessment process.
- The project office role brings best practice in project management to both the initial feasibility assessment and to the on-going review of the project.

All the models, as discussed above, empower senior management as to how best to manage information resources in their organisations. The following are descriptions and discussions of traditional organisational capabilities and how the organisation can replace them with the information capabilities or create strategic capability in order to create a competitive advantage.

3.5 Factors that contribute to effective and efficient Information Orientation

Organisation is defined as “a coordinated unit consisting of at least two people who function to achieve a common goal or set of goals. They enable society to pursue accomplishments that can’t be achieved by individuals alone”. The organisation’s environments as part of the social system are comprised of: economic and marketing circumstances, technological innovations, multilateral and regional, national, local legislations and agreements and political, social and cultural conditions. It is the

¹⁵²Murphy, T. 2002, 151-152

¹⁵³Murphy, T. 2002,154-155

responsibility of managers to ensure that their respective organisations are able to adapt to changing environments. This can be achieved in two ways: by identifying the most powerful coalitions and satisfying the demands of the most influential members of those coalitions and by making significant changes in the total organisation which is referred to as change management. Organisational change means “the planned attempt by management to improve the overall effectiveness of individuals, groups and the organisation by altering structure, behaviour, and process”¹⁵⁴.

Traditionally, the key levers for managing business change are: strategy, organisational structure, processes and people. However, recently - knowledge, information, systems and technology have emerged as key dimensions for implementing business change. The shift signifies the focus on managing knowledge and information as the key assets in the business using the new tool of information systems and technology. This denotes that organisations have opened a new leaf from managing information to managing with information or competing with information. The discovery made visible in the minds of management three information capabilities forming the information orientation: the IMP, ITP and IBV¹⁵⁵. Other information capabilities, as identified by Davenport and Prusak are: Information Strategy; Information Politics; Information Behaviour and Culture; Information Staff; Information Management Processes and Information Architecture.

I shall discuss the latter capabilities since they resemble those found in public organisations in South Africa and I shall conclude with the former as it is the future state which many organisations still need to implement by reforming their current systems. This is to ensure that senior management understand their current existing environments in order to make informed decisions on how to improve what they have rather than making drastic changes that can paralyse the institution. It is important to ensure that crawling must precede walking, and walking precedes running.

¹⁵⁴Gibson, J.L. et al. 2003, 6 & 23

¹⁵⁵Marchand, D.A. (Ed). 2000, 21

3.5.1 Information strategy

According to Davenport and Prusak¹⁵⁶, “strategy is about choices and emphasises which types of business to pursue, products to create and markets to address”. Evernden and Evernden¹⁵⁷ refer to information strategy “as a clear overarching framework or structure that provides the big picture, encourages coordination and collaboration, and helps direct initiative and change”. The significance of the ‘big picture’ is to provide mechanisms for sharing information and knowledge, to explain and justify what is required, inform decisions and actions and use of information effectively. They described the lack of a big picture as the most important problem facing organisations today. A good strategy facilitates communication, debates and consensus, amongst the managers¹⁵⁸.

Most organisations nowadays have a variety of explicit management strategies, namely: human resources, risk management, ICT, financial strategy and Information Strategy. The information economy has catapulted information to the level of other critical resources in the organisation to the extent that information has become a basis for competitive advantage and an economic resource in its own right. It is therefore high time that organisations must consider making explicit the high-level information intent of their respective businesses in order to benefit from information¹⁵⁹.

The information management strategy clarifies what the organisation is intending to do with information, how they will create value out of information and assist in mapping out the type of information available in the organisation. The ideal information strategy documents in all intent must reflect the basic objectives and principles that the organisation intends to follow. As Davenport and Prusak cited in Mintzberg¹⁶⁰ state, “strategy is a continual, incremental process of setting and resetting organisational direction; it should not be elaborate or detailed, because we cannot anticipate the future in detail; it is a dialogue rather than a document and should be done by business managers, not ‘strategic planners’ ”.

¹⁵⁶Davenport, T.H. & Prusak, L. 1997, 46

¹⁵⁷Evernden, R. and Evernden, E. 2003, xi

¹⁵⁸Davenport, T.H. & Prusak, L. 1997,46

¹⁵⁹Davenport, T.H. & Prusak, L. 1997,34-35

¹⁶⁰Davenport, T.H. & Prusak, L. 1997, 47

There is a plethora of reasons why organisations need to think in a strategic manner about information¹⁶¹: information environments in most organisations are a disaster; to facilitate better allocation of resources; to make information more meaningful and for helping organisations adapt to change. Lastly, by identifying organisational capabilities with which to make competence and create learning opportunities.

3.5.2 Information Politics

Information politics refers to “the phenomenon of keeping information for self-interest or sectional need rather than the benefit of the whole organisation”. An organisation needs to prevent information politics and promote information governance. The difference between the two is that in information politics, decisions about information sharing are made on an ad hoc basis by whoever happens to own any given piece of information at any given time and in information governance information sharing policies are set by managers charged with protecting the interest of the organisations. It is imperative for any modern organisation to acknowledge the existence of information politics and come up with explicit mechanisms to manage it. Many other organisations that have ignored information politics have failed or are on the path to failure¹⁶².

3.5.2.1 Factors that contributes to information politics

There are a number of factors that fuel information politics in an organisation that need to be addressed such as: when information becomes the basis of organisational structure, people’s jobs are defined by unique roles and the jobs they hold more than information that is at stake; there is no consensus around business information needs; not recognizing the link between processes and information; a highly unstable organisation, operating in a business in which employees are uncertain about their job security and place in the hierarchy. The solution to this problem may entail: a common definition of information requirements as well as business practices and processes that generate information; an attempt to understand information politics and manage them and a set of approaches for managing information politics at both a strategic and day-to-day level¹⁶³.

¹⁶¹Davenport, T.H. & Prusak, L. 1997,47

¹⁶² Davenport et al, 1992, 53-54

¹⁶³Davenport, T.H. & Prusak, L. 1997,54

3.5.2.2 Information models of Information Politics

There are five information models of Information Politics that are in an organisation. They are listed below illustrating the advantages and disadvantages of each model as illustrated in Table 3.1. In some organisations, they have more than one model. It is important for an organisation to choose the appropriate model in order to manage information politics.

Models	Description
Technocratic Utopianism	A heavily technical approach to IM stressing categorisation and modelling of an organisation's full information assets, with heavy reliance on emerging technologies. Role-players are small groups of technologists, consultants and technology vendors. Information is high on technologically oriented users and individuals have easy access to the information they needed. It ignores information politics and assumes that managers will not impede the free flow of information other than organisational risk. No focus on information processes and as a result the quality of information is low and people suffer from information overload.
Anarchy	The absence of any overall information management policy, leaving individuals to obtain and manage their own information. Everyone has his own database and that results in duplication of cost and information, and inaccurate or inconsistent information across the organisation.
Feudalism	The management of information by individual business units or functions, which define their own information needs and report only limited information to overall cooperation. The challenge is a lack of common vocabulary across the organisation and shared meaning, duplication of information across the organisation, and reluctance to disclose negative information at organisational level. Feudal lords restricting access to and distribution of information under their control. The quality of information is high on individual and low on corporate perspective.
Monarchy	The Chief Executive Officer appoints an information manager to create rules as to how information will be managed. The power is centralised and departments and units have less autonomy on the policy. The individuals report directly to the CEO. The benefits of monarchy include: information mapping, a common vocabulary to enforce consistency and integrity, enhancement of information quality, less unnecessary information is collected or distributed and a guarantee of a high level of efficiency. The disadvantage is the temptation to withhold some information by the monarch. The challenge is that developing common information cultures takes years to achieve.
Federalism	An approach to information management based on consensus and negotiation on the organisation's key information element and reporting structures. It supports both autonomy of business units and coordination at the centre. The benefits of the model include: common vocabulary, wide access and distribution of meaningful information and an acknowledgement of information politics. The constraints may entail: the inability of the organisation to reach consensus, to educate and persuade information owners to share information particularly in an environment where many believe 'information is power'.

Table 3.1: Models of Information Politics

Source: Adapted from Davenport et al, 1992. p56

Organisations must first recognise the existing model, assess an institution's culture, and choose the desired model. The selected model should match the culture or the

culture has to change to support the model. Information-based organisation underpins the cultures in which information is shared freely throughout their organisations with little regard to level or function.

Organisations must acknowledge and try to manage information politics. History has so far taught us that in every situation where one actor has complete information and others have incomplete information, whether at an individual level or organisational, state or multilateral organisations, it creates political inefficiencies and political advantage. In the case of the former, it allows some actors to reach outcomes closer to their preferences than otherwise and in the case of the former, it produces outcomes that prevent optimal levels of exchange or foster conflict bargaining or greater failure of cooperation, rejection of agreement or accept that which would not have endured. However, the ill-gotten advantages are not sustainable and elicit resentment on the other part¹⁶⁴. This situation should be avoided as it contaminates the organisational environment.

3.5.3 Information behaviours and values

Information behaviours deal with “how individuals approach and handle information”. It entails sharing, searching, using, modifying, hoarding, as well as ignoring. The purpose of managing information behaviour is to attempt to “improve the overall effectiveness of the whole organisation’s information environment through concerted action”. It goes beyond optimising internal effectiveness and includes the achievement of competitive advantage. It is concerned with the use of information in order to allow managers to make better decisions about services, issues and processes; to learn from customers and competitors and to monitor the results of their actions. Information culture refers to “behaviour and attitudes that express an organisation's orientation towards information”. The information culture can take a variety of forms: it can be open or closed, factually oriented or rumour and intuition based, internally or externally focussed, controlling or empowering, engender preferences for certain types of information channels or media such as face-to-face communication versus telephone and conferencing, display antipathy towards certain types of technologies - distaste for voice mail etc. All these behaviours have an impact on the overall effectiveness of the

¹⁶⁴Milner, H.V. 1997, 20-22

respective organisations and make it imperative for organisations to manage the human aspect of information¹⁶⁵.

The organisations usually have values and beliefs that support the organisational goals and objectives. Organisational culture is very complex and may be comprised of various subcultures of business units and Community of Practice (CoP). It must support and enhance information culture and vice versa. The values of an organisation play an important part in creating the knowledge management culture. It is advisable for an organisation to identify all these cultures and subcultures to understand how they impact on them and how to deal with it. An organisation must prescribe to its employees to align the individual information behaviours to the organisational information culture. It is therefore imperative that managers must ensure that employees adopt information behaviours that can enhance the strategic objectives of the organisation¹⁶⁶.

3.5.3.1 The importance of Information Culture

The significance of information cultures lies in understanding the value of information, sharing it across the organisation boundaries, disclosing it internally and externally, and capitalising on it in their business. When organisations embarked on change management projects such as redesigning work processes and project management, they turned to focus on machines at the expense of soft issues. However, History lessons so far have taught us that the availability of IT systems does not change information behaviour, for example e-mail systems do not encourage people to share; an Executive System does not make managers share up-to-date or accurate information and lastly, organisations are grappling with the ever-increasing demand of communication bandwidth which is constantly wasted as well as with information overload as a result of bad information behaviour¹⁶⁷.

¹⁶⁵Davenport et al.1992, 83-86

¹⁶⁶Du Plessis, M. 2006, 5-7

¹⁶⁷Davenport et al.1992, 35 & 97

3.5.3.2 The role of people in Information and Knowledge Management projects

The focus of each change management project should be on people. The majority of workers in the current dispensation are information workers. They are responsible for sensing, collecting, processing, interpreting, manipulating (styling, adding texture and colour), sharpening and sharing both implicit and explicit information. The processing and analysis of information occurs inside human brains and may be intentionally or spontaneously done; they personally ensure that information is imbued with relevant experience to address day-to-day challenges. In addition, individuals prefer timely, styled and contextualised information.

Making information available is one thing, the effective use of such information and sharing is another. It is a personal choice influenced by individual values. Information behaviour must be instituted to benefit the value of information and knowledge change. The change starts with the individual mind-set. Members of organisations must align their individual values with organisational values. The organisational values must, amongst others, seek to promote the effective use of information.

3.5.3.3 Information behaviours and values to build a mature Information Culture in an organisation

Every organisation tries to promote a set of behaviours and values that managers believe will influence business performance. Marchand et al identified six information behaviours and values that managers have to instil in their people and practise themselves. These behaviours and values are interlinked and influence each other to promote effective information use and business performance. They are:

- **Integrity**

It is defined “as the use of information in a trustful and principled manner at the individual and organisational level”. It encompasses: honesty, candour, and openness. It sets limits of information use by organisational members. The employees, if they share these values, develop trust in their formal sources of information such as reports. This also relies on the integrity of managers and the quality of shared performance information. This further culminates in a willingness to expose sensitive information such as failure, mistakes and errors, and to seek remedy. Finally, it creates an

atmosphere of trust and openness necessary for employees to share information willingly. Integrity promotes trust and the use of formal information and enhances information control. The behaviours that can impact negatively on integrity are: people deliberately passing on inaccurate information to other employees; distribution of information to justify decisions after the fact; people keeping information to themselves or withholding information for fear of personal consequences; exploiting business information for personal gain and the use of positions or privileged access to sensitive information for personal gain¹⁶⁸. Openness and transparency pave the way for organisations to learn to treat mistakes as learning opportunities that must follow a corrective process rather than apportioning blame. Otherwise, the same mistakes repeat themselves.

- **Formality**

It is about the willingness to use and trust institutionalised information over informal sources. Both formal and informal information are pertinent to an organisation and can be complimentary and substitutable. However, business organisations will push to establish formal processes and information flows to achieve predictable business results, to ensure appropriate controls are in place and to deliver products and services in a consistent manner. People respond positively to formal sources if they are seen to be reliable, relevant, and trustworthy. The formal sources may be used in operation and process management, for management decision making and innovation whereas informal sources or communication to supplement or check reliability of formal information¹⁶⁹.

- **Information Control**

An organisation exercises 'management control' to go in the right direction. Information control involves linking business performance criteria and measures and the intended strategy of the organisation to all levels of the organisation and ties employees' rewards to appropriate performance. This is used to provide continuous information feedback to people in order to manage and monitor performance. It provides managers with information they can use to monitor and control operational activities and decisions to improve business performance to accomplish their intended

¹⁶⁸Marchand, D.A. et al 2002, 121

¹⁶⁹Marchand, D.A. et al 2002, 107 & 122

strategic goals. The significance of information control lies in improving transparency and feedback, to create learning opportunities, mechanisms to implement strategy, facilitate motivation, monitor and reward achievement of specific goals and sets limits on opportunity seeking behaviour. It also links with integrity and formality by providing employees with trustworthy and formal information related to an individual and organisational performance¹⁷⁰. In an organisation with poor control, certain managers guard information about performance, sharing it only on a need-to-know basis. In such a situation, employees may be disinclined to share sensitive information since they do not know how it is going to be used. Managers can undermine control when they hide or falsify the real performance of a single employee or group. That inhibits employees from using information proactively since insiders know where they really stand and what really counts in evaluating individual, group and organisational performance.

- **Transparency**

Marchand et al defines transparency as “openness in reporting and presentation of information on errors, failures, and mistakes¹⁷¹”. The importance of information transparency in an organisation entails: permitting organisational members to learn from failures, errors and mistakes; the production of opportunity to respond constructively, enabling organisations to formulate an appropriate emergent strategy; it fosters sharing behaviour; permits senior managers to build trust in sharing information across the organisation; fosters the use of formal information sources by sharing trustworthy and formalised performance information with organisational members; it improves proactive information use by encouraging the information behaviour of sharing; nurtures the disposition to listen to bad news and not only to good news; creates a cultural climate of information selflessness; paves the way for an organisational climate of trust where organisational members are willing to share the most pertinent information in the organisation in respect to organisational and employee performance¹⁷². Managers can suppress transparency when they punish the bringer of bad news, criticise constructive responses to mistakes, errors and failures; stifle opportunities for preventative action or improvements to business performance.

¹⁷⁰Marchand, D.A. et al 2002, 103,109,129

¹⁷¹Marchand, D.A. et al 2002, 124

¹⁷²Marchand, D.A. et al 2002, 124

In such situations, employees hesitate to identify and report bad news for fear of embarrassment and sanctions. The managers in this category ultimately lose the opportunity to turn bad news into good news, to learn from mistakes and they discourage learning amongst their employees.

- **Information Sharing**

Information sharing is defined as “the willingness to provide others with information in an appropriate and collaborative fashion¹⁷³”. The importance of sharing entails the exchanging of information within the teams, across functional boundaries, externally with suppliers, customers and partners. The emphasis is for teams to be able to share information laterally rather than vertically. As the teams share information about defects and challenges in the organisation across business lines, so they create opportunity for service innovations, service improvement, and process quality. Sharing occurs under reciprocal conditions, where individuals and groups respect one another and they respect each other’s knowledge, skills and abilities. It needs a typical environment which would produce win-win situations. People share in a variety of situations such as: meetings, reports, e-mails and memos or informally through conversations. People are disposed to share positive information formally and negative information informally. Sharing is a voluntary action but it is determined by several preconditions: common language and shared meanings amongst members of the organisation; the existence of a prior relationship between members of the organisations based on how much is known about them relative to their roles and positions in the organisation and the perceived level of trust among people who can share information. The assumption is that the level of perceived trust is directly proportional to a willingness to share information; the need to have a shared purpose or common stake or ownership of results; sharing of information must be part of the organisation’s culture¹⁷⁴. However, according to du Plessis¹⁷⁵, “incidents of rivalry between Business Units, different age groups and ranks have a negative impact on sharing”.

¹⁷³Marchand, D.A. et al 2002, 124

¹⁷⁴Marchand, D.A. et al 2002, 124

¹⁷⁵Du Plessis, M. 2006,90

In organisations with mature information culture, a climate of enlightened self-interest develops where people share because they believe it is in their best interest to share information that can improve decision making and make the organisation less prone to errors, mistakes, failures and surprises. Senior managers' ability to provide formal, credible and useful information about the performance of the organisation at each level of employee is vital to instilling a climate of trust and willingness to share important information across the organisation. In an organisation there are numerous issues that make people not share that managers must be aware of and address promptly¹⁷⁶: they view information as being of unique value to their careers; think information will reflect negatively on themselves or their organisations; they may be suspicious of what the recipient will do with it; are concerned that they may have to spend time supporting information if they share; information hoarding to preserve the unique and important contribution of its creator and no incentives or plenty of potential negative consequences for sharing and having other members take credit for their work or shoot them down.

- **Proactiveness**

Proactive information use is an “extent to which people think about using information to create or enhance products and services, actively seek out information about business conditions to test this idea and respond quickly to this information”. Proactive information use is a precursor to effective use of information. However, the accumulative effect of information integrity, formality, control, transparency and sharing provides the direct and indirect influence on proactive information use. Proactive information use is the positive belief that senior managers must foster. An organisation that leverages the interactions between these five information behaviours and values produces enlightened proactive information users. They develop the following distinguished qualities¹⁷⁷: the disposition to think about how to use information for new products and services; obtain new information, and the desire to put useful information into action; use new information about business environments, and analysing this information to make the best decisions possible before responding to competitive challenges and recognition that people should use information to respond quickly.

¹⁷⁶Davenport, T.H. &Prusak, L. 1997,85

¹⁷⁷Marchand, D.A. et al 2002, 118,122,125

When organisations attain a mature information culture, individuals in their organisations exhibit the following characteristics of a mature information culture as is illustrated in Figure 3.9

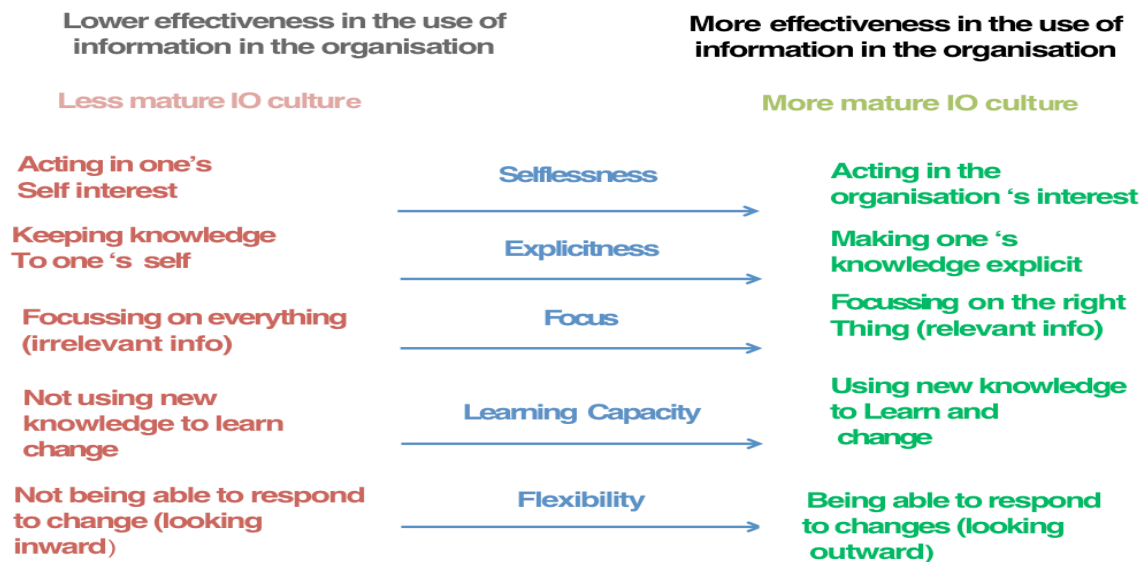


Figure 3.9: Key characteristics of Effective information use in mature IO Culture

Source: Marchand et al, 2002, 206

3.5.3.4 Linking value to Performance Management

Information and Knowledge Management activities need to be linked to individual performance in order to reinforce good behaviour and create a basis for successful change management. Information or knowledge is regarded as a source of power and is owned by individuals. In this context, an individual who gains the competitive edge from this scarce resource will try to hang on to their source of power unless there are incentives to motivate them to share. An organisation must therefore try to reward staff for their contribution to information and knowledge management activities. In the absence of this link, performance management can impact adversely on information and knowledge management projects as individuals turn to focus more on those operational activities that attract incentives¹⁷⁸. This will assist in creating an environment where employees will be willing to harvest and share information with others and most importantly, act in the best interests of the organisation.

¹⁷⁸Du Plessis, M. 2006, 126-7

The organisation, in order to measure the value of information, should ensure that business units: draw annual plans on how effectively to utilise and manage information as a critical resource; tie the performance plan to the performance of individuals and teams and provide visible rewards to those who show commitment to nurture information culture. The performance indicators may include: a reward for any links and communication that breaks down silo behaviour; a number of contributions to centres of excellence repositories and that they must be linked to quality as well; the number of times a specific document was accessed; activities done that reinforce information and knowledge management values such as sharing, cooperation, openness to learning and innovation; and action that reduces incidences of hoarding culture. Managers may be evaluated on the basis of information and decision processes rather than the outcome of decisions alone and the improvement of information management processes. Other non-monetary rewards such as good ideas and users of good ideas awards can be used.

The training of staff in the effective use of information may accelerate the uptake, user adoption and implementation stage. It is essential that training is developed in cooperation with the Business Unit in order to align it with the actual environment. A community of Practice (COP) can also be utilised where members of the implementation team interact with other officials¹⁷⁹.

3.5.4 Information staff

Information staff in many organisations are organised according to a functional line, and in many respects without any coordinating mechanism. As a result, “they neither develop capacity nor attain authority to manage information as a whole¹⁸⁰”. The advent of ICT created an opportunity for collaboration since difference is in the medium. Information staffs persist in focusing more on the preservation and organising process rather than on the use of information. They focus on the means (machine and technology) to manage information rather than information and its use in the organisation. They administer strict access control to all information rather leverage

¹⁷⁹Du Plessis, M. 2006, 17

¹⁸⁰Davenport, T.H. &Prusak, L. 1997,113

information use. In addition, the dominance of technology in the new economy swayed senior managers and other staff members to look at technology as a panacea for all information problems thereby overlooking the human aspect (behavioural side) of information use.

In essence, in IE the focus should be on people who add value to information - particularly staff members like researchers, editors, guides, other content interpreters, categorising and arranging, information planners etc. Information ecologists advocate that organisations must focus on business value and uses of information, rather than on the technical tasks of storing and searching.¹⁸¹

• Characteristics for determining the value of information

Organisations must only preserve information that has economic value for the business. According to Davenport et al,¹⁸² there are six characteristics that determine the value of information: accuracy (accurate, reliable, trust of source over time, corroborated statements etc.); timelines (to be up-to-date); accessibility (retrievable, understandable, network availability etc.); applicability (can be directly used to solve problems without further rearrangement); engagements (to be engaged in terms of its presentation, format and medium) and rarity (to be unique or scarce). Bocij et al¹⁸³ citing O'Brien, describes the attributes of information quality as divided into three basic categories: time, content and form and is summarised as in Table 3.2. Information architecture (IA) in the information environment context refers to “a guide to the structure and location of information within an organisation”.

Time	Content	Form	Additional characteristics
Timelines Currency Frequency Time period	Accuracy Relevance Completeness Conciseness Scope	Clarity Detail Order Presentation Media	Confidence in a source Reliability Appropriate Received by correct person Sent by correct channels

Table 3.2: Summary of attributes of information quality

Source: Bocij et al, 1999, 11

¹⁸¹Davenport et al.1992,113

¹⁸²Davenport et al.1992,117-126

¹⁸³Bocij et al, 1999,11

3.5.5 Information Architecture

It ushers in a shift from traditional information engineering models to more innovative information mapping along with guidelines for their effective use. Information mapping provides a guide to an existing information environment by identifying the location of information, officials responsible, the purposes, the potential users and their accessibility. The significance of information mapping are: to emphasize the importance of information in records as critical organisational resources that need to be managed, shared and used effectively in order to meet strategic objectives and create a competitive advantage; to assist the organisation to reduce the cost for acquisition and storage by eradicating duplication; to help users in locating the existing information thereby improving the access, use and reuse of information; to point out areas where redundancies and shortages exist; to create the opportunity for efficiency in procuring and using information; to enhance information quality by identifying key information attributes: the source, age, storage medium and accessibility; to raise the significance of information and promote sharing and to emphasise taking cognizance of the economic value of information by applying information life cycle management principles and to improve information behaviour and culture¹⁸⁴.

3.5.6 Information Processes

Process is a “series of business activities that generate product or service for instance product development life cycle”¹⁸⁵. They should not be viewed as hierarchical controlled tasks. In the Ford era, workers only performed specialised tasks which assisted in reducing the cost of training and the speed in getting workers productive since they did not have to know all the series of activities but only one. The disadvantage was that none of the employees involved in specialists’ tasks had a clear view on the effectiveness of the whole process or the impact on the customer. The success factor of *Fordist time* of focussing on activity rather than the entire process or outcome is “out of line with the modern business” of information economy. Failure to review processes leads to accumulating inefficiencies. This also leads to redundant processes being automated into the IT applications thereby missing the opportunity to make real improvement and to attain business value out of IT investments¹⁸⁶.

¹⁸⁴Davenport et al.1992,156-7 & 161

¹⁸⁵Murphy, T. 2002, 46

¹⁸⁶Murphy, T. 2002, 46

Information ecology emphasizes a process perspective to information management. This involves identifying all steps in the information process, the resources involved, all the role-players and the gaps and problems in the processes. This stage is vital in identifying changes and innovations required for process improvement. The information orientation emphasizes an identification of process owners, customers and the measurability of process in order to effect improvement. An organisation has an option to make incremental changes or to overhaul the whole process instantly. In addition, it offers opportunity to introduce a cross-functional approach in an organisation thereby eliminating silo methods, tools and techniques that are in existence in a variety of functional units across the organisation¹⁸⁷. It also culminates in moving away from implementing information management as a separate administrative process but rather as an integral part of the business process embedded in daily work routines and staff performance measurement is tailored to processes and the identification of a diversity of needs¹⁸⁸.

IM process is done through two basic means. Firstly, it is done by identifying the distinctive demand of records management; it is useful to identify the basic activities that generate such demands. Secondly, by analysing more specific business processes that are particularly information-intensive such as research, financial reporting etc. Organisations always ignore the monitoring and improvement of the utilisation of information collected by the organisation.

Marchand has identified the phase of IMP known as Information Life Cycle (ILC) as: sensing, collecting, organising, processing and maintaining information. An organisation needs to manage each stage of a life cycle to improve information use. It is vital for people to understand how the dimensions of IMP work, and which information and information practice creates the most value for an organisation:

- **Sensing**-testing perceptions and views against new information about changing business conditions; new information needs (what relevant information will be collected within an organisation); the usefulness of new information to address new or future problems or decisions.

¹⁸⁷Davenport et al. 1992,39

¹⁸⁸Du Plessis, M. 2006, 60

- **Collecting**—acquiring relevant and focussed information, to prevent information overload; the benefits of information collection are worth the costs.
- **Organising**—involve arranging information (indexes and classify, information and link to database) for quick retrieval;
- **Processing**—assisting in processing information so that they can operate effectively and change their business. Knowing what information to process and maintaining it saves time and resources by effectively avoiding retaining and collecting irrelevant information or recollecting the same information. Determining whether information is sensed, collected and organised meets the problem needs of the business in the business context;
- **Maintaining**—involve regular appraisal to avoid retaining irrelevant information or failing to reuse or update information, saving time of other employees from having to recollect and organise it in order to make decisions; establishing whether information should be retained and updated for future use.

There is a string of interaction between different dimensions of ILC which occur in a circular form. This means that the improvement of dimensions must be done concurrently. A weak dimension creates a vicious cycle of poor performance. Effective information management depends on a mature information culture. People are selfless and ready to contribute to the organisation goal. They have a willingness to share information sensed and collected for their own decisional context to improve decision making and to improve the maintenance dimension and thereby reduce the need to recollect the same information in other areas of the organisation. People must be ready to: learn to interpret changes and errors within their working environments; to allow changes in information that might affect future business decisions and strategic directions; to focus their attention, time and resources on decisions that lead to improved business performance; be more explicit with personal information and knowledge.

All these capabilities are instrumental in leveraging the effective use of information in an organisation. The following section denotes how organisations can replace some of the traditional capabilities with IC.

3.5.7 Defining the IC Maximisation effect

The digital capability for access to information anywhere and anytime enables organisations “to substitute good information management for the movement of people, paper and products across geographical areas, time zones, markets and organisational boundaries. The physical processes are replaced with electronic ones, and rigid organisational structures with more flexible virtual networks”. This process where an organisation uses IC to eliminate inefficiencies and achieve cost savings as well as add value is called the IC Optimisation Effect¹⁸⁹. The five key business areas where optimising the use of information in business can provide cost and value advantages include: organisational structure, processes, people, external relations and information capabilities. The details of organisational capabilities are depicted in Figure 3.10

According to Marchand¹⁹⁰, an organisation with mature information capabilities can leverage IC to save or enhance all other four business capabilities, for instance:

- **Organisational structure:** eliminate redundancy or unnecessary layers in an organisational structure by streamlining processes, minimising management layers, facilitating communication and improving monitoring. IC can assist by creating more agile and flexible organisational structures.
- **Processes:** continuous improvement of organisational processes in order to make them efficient and ultimately effective in areas such as processing orders, delivering products, customer servicing, creating new services and dealing with back office processes, namely accounts payable and receivable, expenses reporting and recruiting. IC can be used to streamline processes and replace physical processes with electronic ones and improve operational efficiencies by coordinating similar tasks across functions and disparate channels so that everyone in the organisation is working towards a common goal.
- **People:** with the right people, processes and technology, IC can be used to reduce the number of people required to complete difficult tasks. IC can leverage people's jobs by increasing communication, coordination and access to information and knowledge. There is the Provision of tools for continuous online training to improve

¹⁸⁹Marchand, D.A. 2010. Value add through effective use of Information: How some companies outperform competitors. [Http://www.imd.org/research/challenges/TC001-10.cfm](http://www.imd.org/research/challenges/TC001-10.cfm)

¹⁹⁰Marchand, D.A. 2010. Value add through effective use of Information: How some companies outperform competitors. [Http://www.imd.org/research/challenges/TC001-10.cfm](http://www.imd.org/research/challenges/TC001-10.cfm)

people's performance and understanding of the business and ultimately create a shared culture where people work together, learn from mistakes and leverage the expertise of other employees.

- **External relationships:** forming close relationships with suppliers and alliance partners is essential to creating a competitive advantage by pooling knowledge and expertise inside and outside the organisation and by being able to reach global markets or players. ICs are important in improving communication and coordination between an organisation and its external partners.

According to Marchand et al,¹⁹¹ organisations create a competitive advantage through the combination of strategic priorities and the development of information capabilities. There are four generic strategic priorities that are actively pursued by senior managers in leading their organisation towards success: **Creating new Business Opportunities (CBO)-use**

<p>Organisational Structure</p> <p>Refers to the hierarchical and network relationships in an organisation including</p> <ul style="list-style-type: none"> • Spans of control • Allocation of decision rights • Degree of job enlargement
<p>Processes</p> <p>Refer to the sets of logically related tasks which are performed to achieve a defined business outcome. Process can be:</p> <ul style="list-style-type: none"> • Business process or • Management process
<p>People</p> <p>Refer to investment in human capital and the mix of shared values and behavioural norms exhibited by people overtime in an organisation, including;</p> <ul style="list-style-type: none"> • Competencies (knowledge skills) • Motivation and rewards • Manager selection • Communication networks

¹⁹¹Marchand et al, 2001, 175-177

<p>External relationships</p> <p>To an organisation's activities to build competences and capabilities outside institutional boundaries including:</p> <ul style="list-style-type: none"> • Joint ventures • Partnerships • Alliances • Informal external relations
<p>Information Capabilities</p> <p>Refer for capabilities of the organisation to build:</p> <ul style="list-style-type: none"> • Information behaviours and values • Information management practices • Information technology practices

Figure 3.10: Key information capabilities

Sources: Marchand et al 2001,178

Differentiation strategies that offer innovative or unique products or services to gain and sustain a competitive advantage; **delighting the customer (DC)** - focuses on exceeding customer expectations and offering superior customer service. Believe in a direct link between customer satisfactions and profit/ organisational success; **reducing cost (RC)** - refers to the need to substantially reduce costs to stay competitive **and minimising risk (MR)** - focuses on controlling risk in business strategies.

Organisations can exploit proactive bias by creating new business opportunities and delighting customers, combined with the right capability mix of IC and external relations. IC plays a dominant role in attaining the strategic priorities with the highest performance. The organisation's strategic approach can be classified into three groups: **Grower strategy** - the organisation has a proactive bias by creating new business opportunities and delighting the customer, combined with the right capability mix of IC and external relations. This is the higher-performer. In the **Cutter strategy** - the emphasis is on reducing costs and minimising risk, combined with rigid organisational structure and process but low investment in IC. The middle strategy is the **Makeover strategy** - the organisation is in transition, has begun to move towards strategic proactive bias and to improve their IC. However, their business capability is similar to that of the **Cutter strategy**¹⁹². The above suggests that senior managers need to understand which strategies and capabilities are appropriate for their organisations and

¹⁹²Marchand et al, 2001, 177

keep in mind that the incorrect mixes of strategies, compounded by inadequate investment in IC, result in poor performance and the appropriate mix of strategies and capabilities result in better performance¹⁹³.

Figure 3.11 indicates how organisations can replace traditional capabilities with IC in order to create a competitive advantage.

IC	People (PL)	Processes (P)	Organisational Structure (OS)	External Re-lationships (ER)
Bottom line saves	Knowledge is used more efficiently Increased output Less direct Management Fewer people needed	Process simplification Process standardization Reduce in number of processes Cycle time improvement Just in time(JIT) delivery	More local decision-making and more centralized control and coordination Improving monitoring Flatter OS Less rigid OS	Direct relationship with customer Fewer suppliers Less interface overhead Lower coordination
Top line enhances	Better business knowledge spread through the force Make work more interesting	Make to order Reconfigurable processes Tight processes links with other companies	More virtual teams possible OS quicker to change More value in each layer/node	Better relationships with suppliers/ delivery companies Better servicing Empower customer

Figure 3.11: Defining the IC maximisation effect

Sources: Marchand et al 2001,215

DIRCO's strategic outlook in terms of three Marchand strategic approaches mentioned above resemble that of **Makeover**, but is more inclined towards a **Cutter Strategy**. There is a gradual movement towards creating new business opportunities and on improving ICT as well as on making good investment in the employees' empowerment and knowledge creation. All these still need to be done in a systematic, integrated and coordinated fashion. On the other side, the hierarchical structure makes it less flexible and the cultural norms impede the realisation of strategy.

3.6 Conclusion

The literature study focuses on the published sources that deal with the subject of the effective use of information in a public organisation. The chapter starts with offering an explanation of the distinction and interaction between data, information and knowledge as well as the role of knowledge agents as conceptualised by Boisot and Canals. Secondly, it tackles the subject of information as a resource and how organisations

¹⁹³Marchand et al, 2001, 195

derive value from information as addressed by Meltzer. The topic also addresses the need to have someone to oversee the management of information of the whole organisation. Drawing from different authors, the study also looks at the diverse information functions in an organisation, their distinctions and roles as well as the challenges and benefits. Emphasis was also placed on the management of content and value drivers for knowledge in the public sector and private sector as an area that requires more clarity.

Thirdly, the chapter reviews the models of effective information from Marchand et al's Information Orientation, Boisot's Information Space, Marchand et al's Strategic Information Alignment, Davenport and Prusak's Information Ecology, Cronin and Davenport's mobilising assets and the five pillars of benefits realisation. All these models seek to purport the importance of information in creating business value and competitive advantage. The researcher identified IO as the main theory with which to denote how to use information effectively and to build competitive advantage. Furthermore, IO was also used to demonstrate that IO can be used to measure business performance. The theory is based on the three information capabilities of an organisation by building good IBV, good IMP and good ITP and demonstrates that leveraging the interactive effect can improve business performance. The key to IO is the change of the mindset of management to incorporate IO, the inclination towards a human centred approach as opposed to a techno-centric approach only. Most importantly, it provides an empirical approach to how an organisation can build a mature IO culture and IO dashboard to measure business performance.

The second main theory is the I-Space. It provides a conceptual framework to assist in understanding how information actually flows in the organisation and how knowledge assets are created from the information flows. In addition, it explains how the learning process occurs in the organisation. It also addresses the strategies for learning and exploiting information through hoarding or sharing or mixing the two depending on the business circumstances. However, like IO, it emphasizes the importance of a human approach in promoting the effective use of information. All in all, it is essential in the building of mental models for the understanding and implementing of IO.

Other models are playing a supporting role to the two main models. SIA provides strategies for promoting effective and efficient use of resources through information and by building creativity and new ideas for competitive advantage. The IE encourages the importance of considering all relevant factors in planning for the information requirements of the organisation. It provides the organisational capabilities that government departments can use to leverage business performance and to determine institutional readiness to implement IO. Mobilising assets provides models to showcase the potential value of the information. All the models are complementary and assist in getting individuals to understand ways of using information effectively.

Chapter 4

Mandate in terms of the effective use of records, information and knowledge

4. Introduction

This chapter focuses on the legal framework that underpins the management, preservation, and use of information in the South African public service, particularly in DIRCO. It further provides standards pertaining to this area based on the South African Bureau for Standards (SABS) and International organisation for standards (ISO). The chapter will also, through participant observation, express to what extent DIRCO information practices comply with the legislative framework and standards. The legislations and standards applicable for the effective use of information are as follows:

4.1 The constitution of the Republic of South Africa, 1996

The constitution¹⁹⁴ as the supreme law of the country sets the tone for how the public resources should be managed and the relationship between those holding office and the larger public. Section 195 (1) of the constitution prescribes basic values and principles for governing the public administration to ensure that it is governed by the democratic values and principles. Amongst the eight principles listed under section 195, three have direct bearing on the management of information, knowledge and records, namely:

- Efficient, economic and effective use of resources;
- Fostering transparency through the provision of the timely, accessible and accurate information and,
- Public administration must be accountable.

Section 32 further gives everyone the right of access to information held by the state. The realization of all the above principles and responsibilities hinges on the availability of records. The Act emphasizes the effective use of resources, including information

¹⁹⁴The Constitution of RSA. 1996, Section 32 &195

and entrenches the transparency, timely and accessible information which are at the core behaviour for information orientation. The management of records is still at a basic level in DIRCO and is not as effective as it should be and that ultimately impacts on: the efficient, economic and effective use of resources; transparency; timely access to information as well as accountability.

4.2 The Public Finance Management Act (PFMA) (Act.No.1 of 1999)

The key objective of the PFMA¹⁹⁵ is to regulate financial management, to eliminate waste and corruption in the use of public assets, to promote efficient and effective use of resources as well as good corporate governance. All in all, it promotes more accountable governance in the public sector. As a result, the effective and efficient management of records and information is essential for the attainment of these objectives. The availability of records and information serves as a deterrent to criminals or bad behaviour by officials since they understand the risk that the act will subsequently be uncovered and punished.¹⁹⁶ It is therefore essential that managers ensure that detailed records are kept and stored safely and knowledge of practices is transferred between officials to maintain evidence and to ensure consistency in order to realise the objectives of the Act. A lot has been done to comply with the PFMA and to minimise the financial risks in this environment but the challenge with retrieval of records and obtaining aggregated information from disparity information systems puts a damper on the potential to regulate the financial risk effectively. The Department has managed to get a clean audit in the past five years although with matters for emphasis in certain instances. The Monitoring and Evaluation Unit has been introduced recently and is also assisting in inculcating the culture of an evidence-based performance reporting system.

4.3 The National Archives and Records Service of South Africa Act (Act. No. 43 of 1996) as amended.

¹⁹⁵Public Finance Management Act,1 of 1999

¹⁹⁶Deferrant et al. 2009,43

The purpose of the Act¹⁹⁷ is to promote the preservation of a national archival heritage for use by the government bodies and the public and to promote efficient, accountable and transparent government through the proper management and care of public records. The Act assigned the responsibility of ensuring the proper management and care of public records to the National Archivist. The mandates of the National Archivist in terms of Section 13 of the Act are the following:

- To determine records clarification systems to be applied by government bodies;
- To determine the conditions subject to which records may be microfilmed or electronically reproduced;
- To determine the conditions subject to which electronic records systems should be managed to inspect public records in government bodies in respect to performance of his/her functions under the Act.

The Act further required the head of a governmental body to designate an official of the body to be the Records Manager. The Records Manager, in terms of the Act, is responsible to ensure that the governmental body complies with the requirement of this Act. In a nutshell, the Act seeks to promote the proper management of records throughout their life-cycle, systematic disposal and the preservation of our recorded heritage. Records are vital in enabling institutions created to protect democracy and to fulfil their mandate, namely the Auditor-General and the Public Protector.¹⁹⁸ The Act advocates the economic value of information through adhering to the principle of Information Life Cycle Management and thus supports the effective use of information in public organisations. In this area, DIRCO has complied with many of the requirements of the Act. The organisation has an appointed records manager and records centres are established in almost all business units. However, the management of records is not consistent throughout the organisation; there is still a deficiency in the systematic disposal of records, and a shortage of skills particularly in respect to the management of electronic records.

4.4 The Promotion of Access to Information Act (PAIA) (Act 2 of 2002)

¹⁹⁷National Archives Act of RSA of 1996

¹⁹⁸Deferrant et al. 2009,43

The purpose of the Act¹⁹⁹ is to promote transparency, accountability and effective governance by empowering and educating the public in terms of the following:

- To understand and exercise their rights;
- To understand the functions and operation of public bodies and
- To effectively scrutinize and participate in decision-making by public bodies that affects their rights.

PAIA is a constitutionally mandated legislation and gives effect to section 32 of the constitution which guarantees everyone the right of access to any information held by the state. The Act seeks to promote a society in which individuals have effective access to information in order to exercise and protect their rights. The Act also requires public institutions to publish a manual on functions and an index of records held by the public institution as well as the voluntary disclosure and automatic availability of certain records. Public bodies are obliged to provide access to records at all times and can only decline on the basis of mandatory grounds for refusal of access to records which are part and parcel of this Act.

The citizens are able to participate actively in government activities and hold the government accountable or challenge public institutions only when they are well informed about the activities of the government. Similarly, the research institutions and the media are able to fulfil their role in society based on the availability of information and records. It is evident that the ability to exercise one's right is linked to the ability to acquire accurate information timeously. The essence of the Act is that it promotes transparency in public organisations thereby encouraging wide access to public information sharing and learning and discouraging information hoarding which is a precursor to illicit practices. There is compliance in aspects such as the appointment of a Deputy Information Officer and the development of a PAIA manual, but the turnaround time to answer requests for information is still very slow.

4.5 Electronic Communication and Transaction Act (Act No 25 of 2002)

¹⁹⁹PAIA, 2000, 4

The purpose of the Act is to institutionalise electronic communications and transactions in order to ensure the creation of credible electronic records. In terms of this Act, electronic messages are legally admissible records in court provided that their authenticity and reliability as true evidence of a transaction can be proven beyond any doubt. The admissibility of electronic records is subject to the proper management of electronic records from where the message originated. This means that consistent compliance with policies and procedures is critical to the creation of reliable and genuine electronic records. The legalisation of electronic communication opens doors for ultimately managing information as the shared resources of an organisation. There is compliance mostly on the security aspects of electronic content but the other aspects of managing electronic records have not yet been met.

4.6 White Paper for Transforming Public Service

The paper outlines the eight Batho Pele principles. The purpose of the paper is to inculcate a culture in the public service of putting people first. These are cultures that will ensure that the government becomes responsive, efficient and effective in delivering the service. The eight Batho Pele principles are as follows:

- **Consultation** - citizens should be consulted on the level and quality of public services they receive and wherever possible should be given choices about the services that are offered.
- **Service standards** - the public should be told what level and quality of public services they will receive and where to enable them to be aware of what to expect.
- **Access** - all citizens should have equal access to the services to which they are entitled.
- **Courtesy** - all citizens should be treated with courtesy and consideration.
- **Information** - citizens should be given full, accurate information about the public services they are entitled to receive.
- **Openness and transparency** - citizens should be told how national and provincial departments are managed, how much they cost and who is in charge.
- **Redress** - if the promised standard of service is not delivered, citizens should be offered an apology, a full explanation and a speedy and effective remedy;

when complaints are made, citizens should receive a sympathetic, positive response.

- **Value for money** - public services should be provided economically and efficiently in order to give citizens the best possible value for money²⁰⁰.
Two additional principles have also been added to the original eight²⁰¹:
- **Innovation and reward** - new ways of providing better services, cutting costs, improving conditions, streamlining and generally making changes that tie in with the spirit of Batho Pele should be developed.
- **Customer impact** - this concern has benefits for both internal and external customers, levels of service delivery and customer satisfaction levels. The Department has recently established some service standards and published service standards for the whole organisation and has participated in a public service week celebration. There is compliance in one or two business units that developed and implemented standards earlier on but a lot still needs to be done to ensure that Batho Pele principles are part and parcel of the day-to-day activities of the organisation. In short, there should be awareness all year round and the monitoring of its application across the organisation.

4.7 Batho Pele Revitalisation Strategy

The government developed the Batho Pele revitalisation Strategy in 2001 to intensify the campaign to improve service delivery. The strategy is to be built around four pillars:

- **Re-engineering and improving the back-office operations of Government**

It is about efforts to improve systems, work processes and institutional structures which collectively make service delivery possible. Typical examples of re-engineering and improving back office operations are:

- Introducing effective performance management systems;
- Revising organisational structures to support work objectives;
- Re-organising work processes to use staff optimally and minimise inefficiencies;

²⁰⁰Batho Pele Hand Book, 2004, 17

²⁰¹Batho Pele Principles: www.kzntransport.gov.za/batho_pele accessed on 2010-10-15

- Utilising appropriate forms of technology and
- Improving conditions of service.
- Re-engineering and improving the front-office operations of government

It focuses on improving front office service in order to change negative perceptions through better services. The front offices are comprised, amongst other things, of the following: rendering consular services to South Africans travelling, working, studying and living abroad, during circumstances of distress.

- **Internal communication**

The purpose of internal communication is to communicate with public officials about the service delivery transformation in order to instil a greater sense of pride and patriotism.

- **External communication**

The purpose of this pillar is to inculcate a culture amongst public servants of communicating information about the services they render and listening to their clients in order to build constructive relationships with citizens so as to provide good service delivery²⁰².

The Department has implemented a performance management system and 39 awareness sessions were conducted for the 2011/12 financial year and current standardised performance measures within similar categories of work. A major challenge is receiving performance reports and finalising the moderation process on time.

Organisational structure is also constantly reviewed for effectiveness but the rate of response is slow in relation to the work at hand. Work processes are being looked at here and there but even then not in a holistic manner. The compliance level can be regarded as just satisfactory but there is much room for improvement and a concerted effort to improve compliance in these areas is really necessary.

²⁰²Batho Pele Handbook, 2004, 10-12

4.8 Minimum Information Security Standard (MISS)

The MISS document²⁰³ provides a minimum standard for the handling of classified information in all public institutions in order to create a safe environment for dealing with protected information in governmental bodies. MISS deals with a whole range of security matters, namely:

- **Document security** - from the classification of document; access, handling, transmitting, sealing and dispatching of classified information including diplomatic bags; access to registry facilities; creation, management and disposal of documents;
- **Personal Security** - vetting of immigrants or persons with more than one citizenship or a person who lived abroad for longer periods; security screening of contract suppliers and public officials.
- **Protection of executive officials**
- **Communication security** - exercise self-discipline in conducting conversations or discussions with other people to protect sensitive information as well as the use of approved and acceptable apparatus.
- **Computer security and physical security**

The success of this unit entails developing a MISS compliance framework and vetting staff before they are deployed abroad.

4.9 Copyright Act 98 of 1978 as amended

The purpose of the Copyright Act²⁰⁴ is to grant legal protection to an author for his or her work. It provides copyright owners (authors) the sole right to use their work or to give permission to others to use them. The author refers to artists, painters, photographers, sculptors, composers, architects, sound recordings, cinematograph films, video recordings, broadcasting, public editions and computer programmes. The ownership of copyright can be transferred from one person to another through sale, donation, or death. The infringement of copyright occurs when any person, not being the owner of copyright, who without license of such an owner, does or causes any other person to use a piece of work of which the owner has exclusive rights. Copyrights are

²⁰³ Minimum Information Security Standard

²⁰⁴ Copyright Act 98 of 1978 as amended

valid for a period of fifty years and the name of the author must appear in the work. Infringement of copyright is a criminal offence and is punishable with a fine or time in jail. The copyright for research conducted by employees as part of their work belongs to the employer. But when an employee creates something out of their normal work, he/she is the owner. In a case where a student is sponsored in any way, the contract must clarify the issue of ownership of copyrights. There are exceptions in terms of the law in which original work can be exploited without permission from the owner:

- **An insignificant part** - a very short extract for judicial proceeding, quotation or teaching purposes;
- **Fair dealing** - use of the work for educational or historical reporting and not necessarily for commercial exploitation, namely: research, private study, reporting and critical analysis of work.

DIRCO, as information intensive organisation with its training academy, relies on information collected from various external sources for training, operational and strategic purposes and from time to time commissions academics and other intellectuals to do research compile training material and so on. In this regard, it is crucial that DIRCO, or any other public organisation, must try by all means to protect their intellectual assets in terms of this Act in respect of commissioned work, sponsored work and work done by employees as part of their work during the employer's time. Furthermore, DIRCO - as consumers of original work - must abide by this Act whenever exploiting copyrighted material in any form.

4.10 Managing electronic records in governmental bodies: policy, principles and requirements: NARS

This document²⁰⁵ provides advice and guidelines to governmental bodies by the National Archives and Records Service of South Africa as a body responsible for supervising the proper management of records on the best methods and tools to manage electronic records as a strategic resource. The emphasis of the documents is on: clarifying what constitutes electronic records; defining related concepts; regulatory requirements; roles and responsibilities of various stakeholders; systems to manage

²⁰⁵Managing Electronic records in governmental bodies: policy, principles and requirements.

digital born records as well as paper records; sharing best practice and standards of the electronic records; management of unstructured records; prerequisite requirements for adopting document management systems and Electronic Records Management Application and Integrated Records Management Systems. Most importantly, the concept of an information life-cycle philosophy on the management of digital born records and steps ensures that electronic records are trustworthy and attain same status as paper records. The management of electronic records is still a serious challenge and a lot still needs to be done in order to comply adequately in this area.

4.11 Conclusion

The chapter set the parameters and constraints for the effective and efficient use of information as a resource in the public service in South Africa and DIRCO. The ability of the organisation to exploit information assets depends on their accessibility since they are embodied in services, systems and human expertise. The inaccessibility may be unintentional due to issues such as poor design, excessive bureaucracy, technical jargon, complex pricing mechanisms and confusing access procedures etc. However, they must try to balance access with the need of a public organisation's highly sensitive information.

CHAPTER 5

The Findings of the Research

5. Introduction

The purpose of this bound case study was to explore, through a sample of senior managers, their perceptions on the extent to which their organisation possesses the capabilities and behaviours associated with effective information use to achieve superior business performance. The researcher seeks to determine the presence and effectiveness of levers of IO in their organisation in order to gain insight as to which capabilities inhibit the implementation of IO. This will assist in drawing an informed programme of action to improve the management of information capabilities in an integrated manner, to capitalise on the nodes for interaction between them and thereby enhancing the overall use of information in order to achieve superior business performance. The study provides findings in respect to each of the six information capabilities as per perceptions of senior managers. The key findings were obtained from focus groups conducted with five senior managers and six individual interviews with senior managers who were not part of the focus group. The information derived from pilot focus group discussion with four middle managers was also used as it offered a different perspective. The questions used to conduct focus group discussion are attached as appendix A.

5.2 The Presentation of Findings

The major findings that emerged from the study as per categories derived from the literature are presented as follows:

5.2.1 Finding 1: Information Strategy

The questions in this theme wanted to determine whether there is a need for a public organisation to craft an information strategy, the participants required for the exercise and the main focus of the strategy. There was consensus among participants that information is an important resource for organisations that requires a strategy in order to determine which information the organisation needs, for what purposes and for how long, who should have access and so on in order to facilitate the allocation of

resources, the implementation and the monitoring thereof. This is best illustrated by the following participants' statements:

SA-1: Information is the life blood of an organisation. We need to make information accessible to other users.

SD-1: How can we keep Knowledge Management without strategy? Somebody is here today but not here tomorrow.

RB-1: The first thing is that the strategy will assist the organisation to have the history, the archived information, consistency of application of the principles of the service. The other thing is you will be in a position through the strategy to know what type of information, on how and when and what are you going to do with it. You can already design the security and protection of that information before even it has been compiled, categories of information security, categories of profile to access information, you can determine by using the strategy. The most important thing is that, you will be in position to have a plan, to provide service delivery through information.

PA-1: When handling information in any organisation it is important to have a plan so that you know what you need to keep as information, what you don't need to keep as information and what to do with the information that you keep.

PC-1: The organisation should develop a work plan because at the end of the day each and every organisation is obliged to get effective service out there, if they do not have a plan, they are planning to fail to provide the services out there. We need to have a plan on who, then disseminate information to all the clients inside or outside and between direct or indirect clients.

On the issue of who is supposed to participate in the information strategy development, the participants were of the opinion that every stakeholder must participate, but senior managers must be there for strategic direction and other staff for management and operational requirements. Some of the participants captured their views in this way:

PC-1.1: It should be both from junior staff members and to the highest management, the reason being that the employees at the junior level are the implementers.

RD-1.1 It is not restricted to senior management ...from junior management upwards.

The views of participants collectively identify the focus of strategy as: making information available and relevant, sharing of information and knowledge, dissemination of information, mitigating risks, determining security requirements and what constitutes security breaches, medium of information storage and determining how long to keep information. Some of the participants express their views in this way:

SB-1: Sharing knowledge needs to have an objective. There is a need for information to be accessible and relevant to this world.

PB-1.2: Developing a sharing culture, infrastructure, a need for a central hub of information.

These views are corroborated by existing literature on information strategy: An Information Plan requires the evaluation of your information resources and an assessment of how effectively and efficiently using these resources to attain corporate goals²⁰⁶. According to De Wit and Meyer²⁰⁷, “making a strategy is not an end in itself, but a means of reaching particular objectives. Organisations exist to fulfil a purpose and strategies are employed to ensure that the organisational purpose is realised”. In clarifying levels of strategy that an organisation is expected to have, they indicated that “strategies can be made for different groups of people and /or activities within an organisation. The lowest level of aggregation is one person or task, while the highest level of aggregation encompasses all people and/or all activities within an organisation. The biggest distinction between aggregation levels made in strategic management literature is between the functional, business and corporate level”²⁰⁸.

²⁰⁶ Meltzer, M.F. 1981, 79

²⁰⁷ De Wit B, and Meyer, R. 200, 13

²⁰⁸ De Wit B, and Meyer, R. 200, 9

5.2.2 Finding 2: Information Politics

The question wanted to find out if information is allowed to move freely across the organisation and whether information that cuts-across the organisation is identified to facilitate sharing as well as determining if the reasons why people hoard information are known in order to address them appropriately.

The views of the panel suggested that information is not allowed to flow freely across the organisation. The organisation seemed to be more inclined towards information confidentiality and privacy. Furthermore, the information that cut-across the organisation has not been identified so that it can be managed centrally to facilitate sharing. Subsequently, although information politics has been identified by participants as a serious challenge, it has not been acknowledged at organisational level in order to be openly discussed and addressed appropriately. The evidence indicated that the imperative for information security somehow overrides the need for information and knowledge sharing within the organisation. The participants put forward divergent views on why information should not be shared freely, and why others share it freely as follows:

SD-2: I do not agree that information should be shared freely at all. It must be based on context; information needs to be made available on a need-to-know basis.

SC-2: I do not agree information should be shared freely otherwise the organisation will lose competitive advantage.

SA-2: ...but you do not need to go through ten books to get information (responding to SC).

RC-2: It is because of continuity, we do not stay in one job, in our case we move to mission, we come back to organisation, so it is important to share information freely; of course you got to be mindful of the level of security of

classifications whether it is top, secret, confidential. But more importantly based on your question is because of continuity.

SE-2.1: Free sharing is a result of people not aware of the sensitivity of information, lack of discipline, venting their anger, disgruntled people...

SB-2.1: ...sharing is not happening because other people see information as power and sharing as empowering others, information is used to manipulate others, it is for a self-serving reason.

RC-2.1 Sometimes it is just selfishness may be, it is not thinking beyond the bigger scope of the department, maybe it is self-interest, may be they want to sit with information so that they become point of contact all the time, and want to look as if they are the only ones who know these things.

RA-2.1: It is the perception that existed in the organisation, I was told explicitly when entering this organisation that knowledge is power, the more I have, the more I become more powerful, and so do you think I will seriously be able to share it then? So is this whole idea that if I have information I am indispensable. I can secure my own career path and growth. And that is why, its organisational culture issue. And if you keep on rewarding that kind of behaviour, you actually reinforcing belief.

FAC: Do you think we are promoting it?

RA2.1; If promoting somebody that hoard information, then yes. There are different types of reward than promotion, for example getting opportunity to travel all the time or to write briefing documents or to be part of discussion at senior level. If they see that as recognition and realise that this never get shared and that is why the person always gets called on. And because there is nobody else that can give the answers. We are rewarding it.

According to Meltzer²⁰⁹, “it is not uncommon to spend more time getting permission than they spend generating information. The bottom line is less productivity, increased frustration and anger and eventual stifling of information generation”. It is in this situation that people spend more time requesting information that they come with their own individual alternatives to serve their own information needs that may be detrimental to the objectives of the organisation.

A divergent view between senior managers and the middle managers who participated in the pilot study was also observed. The former were concerned with the protection of the information as indicated above the latter emphasized on sharing information freely, citing the following reasons: to integrate and coordinate the effective use of information; to avoid duplication of information or activities, reinventing the wheel and as well as compromising collective development; and lastly, there will not be a need for information management if people do not share information. Some of the participants’ views were expressed as follows:

PC-2: ...I might be doing something only to find another component is doing the same thing, but we are doing it from different perspectives as a result we are not cost effective in terms of resources but if we can integrate, share information freely. If we don't share information we will remain where we are, we are not going anywhere, is another form of oppression, not sharing of information.

PB-2: We find our self reinventing the wheel so many times.

PD-2: If the information is shared freely, there will be no need for information management because there will be nothing to manage.

PB-2.1: ... so for me, I will basically say that the reason why people don't want to share information, is because they are afraid they think that information should catapult them into the next level and by so doing, they feel threatened by

²⁰⁹ Meltzer, M.F. 1981, 94

others, that if somebody has the same information they will actually move forward more than they can, if I can put it that way.

PC-2.1: ...by not sharing you deny yourself opportunity to grow because others are likely to add to your stock of knowledge or make correction.

PC-2.2: ...in terms of managing common information, information must be sent to the intranet where everyone can have access including those in different geographical zones.

PC-2.3:it seems that there is no one who notices there is a problem, and if there is no problem, you can't solve it.

On information that cuts across the whole organisation, the views of the interviewees were that information is distributed through a general email list. However, most information distributed through this channel was of a personal nature rather than important organisational information. The reliance over informal channels such as a grapevine was also presented as a challenge. Others felt there was no system to manage common information such as quarterly reports. Others felt that information is shared through management meetings from the highest structure to the lowest one. The use of a shared-folder was raised as one of the mechanisms to share information. However, some sentiments were that there must be a place dedicated to explain what each and every business unit does. Some interviewees expressed their views in this way:

RD-2.2: You need to identify the central point in the organisation. That central point should be the one that disseminate information to all end users. We should have distribution list.

SD-2.2: Personal information is shared but crucial information is not shared

On the free flow of information, the views of participants were that information politics is not addressed and there is actually no culture of sharing. People tend to move with information when deployed to other areas to the disadvantage of their successor. The value of sharing is not well understood. The practices also differ from one business unit to another. Some lamented that as managers, they were not able to lead by example and

they also kept information to themselves. The participants expressed their views in this way:

SD-2.3: It is not addressed. There is no culture of sharing information.

No, the culture of sharing information is not there. The value of sharing information is not an existing one. The system is not consistent. It differs from business units to business units.

SB-2.3: The value of sharing information is not there. As managers, we do not send files to the registry and other staff follow suit.

SC-2.3: The platform is there but is just that we are not trained to use it.

RA-2.3: No, I have not seen any effort, if there is any effort it might be an individual level at directorate or sub directorate level but not an organisation, but we have not seen it as a problem. If we have not recognise it as a problem why would you want to address it

RD-2.3: But how do we address it, May be we must start putting them into performance. May in your area of field you need to give us a written material on the subject matter. You can only do that if you make compulsory.

RB-2.3: No, we only talk about it in passages. And we all know that there is this gap, but maybe we do not know how to fill in the gap, or capacity, or skill.

RD-2.3: I do not remember one meeting where we address hoarding information. There are people who continue to work in silos. Because information is power, if other people do not know, you are the only person; you are the most important person. We still have culture of hoarding information. There is no effort to address it specifically.

5.2.3 Finding 3. Information Behaviours and Values

The question wanted to find out the values of the organisation, the presence of an information culture and whether they form part of a performance management system and the role of leadership in inculcating the information culture.

The views of the panel suggest that corporate values are there but have no effect on the performance of the staff. The values were identified as outlined in the strategic document of the organisation. However, they are actually ignored on the day-to-day function of the organisation since they are not part and parcel of performance evaluation and the reward system of the organisation. The senior managers were also aware of some of the information behaviours and Batho Pele principles which featured prominently in the discussion. However, they were not institutionalised to promote the effective use of information and knowledge. Due to lack of formality in this area, there were no common information values that senior managers could promote and they tended to differ from one business unit to another depending on the orientation of the managers. The interviewees also emphasized the prevalence of informal information channels over formal channels in the organisation. The views of interviewees were expressed as follows:

RB-3.1: Yes, our department shares, the department shares information may be the question is what kind of information we share. May be we share irrelevant information, consultation are made. There are platforms for sharing: Regional Head of missions; Head of missions; Departmental Management Committee; Branch Management Committee; Performance Management Committee and Task Teams.

SE-3.2: No, we do not have a behaviour reward system.

PA-3.2: It is important to include behaviours and values when doing evaluations. Senior managers have their favourites. It is not about performance but making managers happy.

PB-3.2: No, employees are evaluated on what the manager thinks they should

...

PC-3.2: Whenever there is a wrong doing we will be reminded of the code of conduct but when it comes to evaluations, it's silent.

On the question of the role of a senior manager the participants expressed their views in this way:

PA-3.2 In an organisation, people should not be working in silos especially in this day and age where you need to share information. You cannot have an organisation where one person is not around then you cannot get access to certain information. As part of nurturing from senior management or from leadership of an organisation, you need to nurture employees in such a way that when someone is not around, the people who are in the office can still access information not necessarily meaning they have to go and open the office of that person but because information has been shared among everybody ...

RD-3.2: If they build them as a part of a working culture and performance reward. As long as it is not part of the working culture how do you start to evaluate and reward.

RA-3.2: No, we don't evaluate and reward them those people who are living up to the value. There was a process years ago where they try to pack our values and they want to translate them into actionable activities or behaviours, the process was not completed, so I would not know what integrity look like, therefore I cannot reward it and I wouldn't know what patriotism look like, therefore I cannot reward, I don't know what transparency look like, therefore I cannot reward it.

PB-3.3: There is not much of nurturing, it is only judgemental.

According to Werner²¹⁰ the role of senior managers in shaping organisational behaviour is as follows: “.... Senior leadership of an organisation is ultimately responsible for ethics in the organisation and should be exemplars of ethical conduct. Understanding organisational culture is imperative for leaders and managers who want to steer their organisation along a road of continuous excellence. People do not act in a vacuum; they are subconsciously influenced by the values that are reflected by the organisation. Management must determine which values are important for long-term business success and then consciously managed the integration of these values into the product, process and behaviour of the organisation”.

5.2.4 Finding 4: Information Staff

The question wanted to find out if senior managers are aware of officials responsible for managing different kinds of information in the organisation, how these diverse activities are coordinated and if the structure enables the organisation to manage all types of information efficiently and effectively.

The views of participants indicated that senior managers were aware of the roles of different information officials but for some reason managed them separately without adequate coordination. Consequently, the structure was deemed to not be enabling since there was no complete integration of activities of all related information-based activities. They identified all the relevant groups that manage information such as Knowledge Management, Records Management and ICT. In addition, communication was added and all officials since every person work with information. In terms of coordination of the activities, one group felt there is fragmented coordination, while the other felt there is no coordination at all. In the end, those who supported the latter indicated that the structure is fine, but the former agreed that there was no coordination. In the end, a consensus was reached that the organisational structure was not enabling the organisation to manage all types of information efficiently and effectively. The participants expressed their views in this manner:

SC-4.1: Coordination is fragmented but there is some coordination.

²¹⁰Werner, A. 2007, 37 and 44.

PB-4.3: We have a section that specialises in this but how do they work together? Maybe we should put our structure together in such a way that there is better coordination.

PC-4.3: No, because it is not integrated, more decentralised than centralised.

PB-4.3: ...we are creating pockets of information in different areas within the same organisation, which goes back to the repetition of everything.

RC-4.3: The coordination is not there, definitely not,

5.2.5 Finding 5: Information Process

The question wanted to determine if processes are continuously reviewed to adapt them to changing business environments such as the advent of technology, whether processes are designed as function based or for the business as a whole and if the key processes are measured for effectiveness.

The views of interviewees suggested that the processes were reviewed on a reactionary basis to address problems within the function rather than the business as a whole. In addition, key information processes were not measured for effectiveness and did not focus on adapting processes to a changing environment.

Some indicated that they did not see the relevancy of the processes to the rest of the question in the research. They argued questions might be more relevant to dynamic organisations that need to be constantly re-engineered in line with changing market demands. However, the core businesses of public organisations are stable. Others felt that the organisation, as reflected in the strategic plan, was operating in a dynamic environment and needed to adapt to the changing working environment. Some of the participants expressed their views in this manner:

SE-5: All organisations must try to respond to changes to respond to a dynamic environment. We operate in a dynamic environment so we need to respond appropriately, even department to department.

SC-5: How does this question relate to other questions? It refers to an organisation that needs to reinvent itself so that it can be relevant to its core business.

SB-5: I agree, there does not appear to be the link between this question and other questions.

PA-5: Because we need people who are going to run those processes as the business condition changes, there is obviously going to be new methods of information handling introduced as a result that goes hand-in-hand with infrastructure that will enable those processes to function effectively so you are obviously going to need capacity that ensures that those processes and changing business conditions are managed properly.

In relation to processes, there seemed to be some processes that are aligned across the business in the organisation that are working so well but it is not standard to align all the crucial processes that cut-across the organisation. This suggests that it is born of circumstances or up to individual business managers to align processes in his/her function rather than a norm to set single processes or to streamline all activities. Our interviewees expressed their views in this way:

SB-5.2: It is not a norm to check the effectiveness of the processes and our processes are not measured for effectiveness.

PC-5.2:-We donot proactively measure our processes, it is only when there is a problem detected by an Internal Audit or Auditor-General that we try to rectify the problem, so we're reactive.

PA-5.1: I think the process we use is more reactive than corrective, therefore the approach to our business is not necessarily up to standard because if it is, we will be more proactive in the business process and then react when we are tackling a situation which is normally the case. We only react when a situation is put before us and sometimes we wait until the situation happens, then we react and even then it is to cover our backs.

RD-5.1: *There is an indication that there is interest to do that but pace which it goes is another story.*

On the question of whether the organisation measures the performance of key information processes, one participant made the following statement:

PA-5.3: *It goes back to what PC was saying, reactive. The internal auditors or Auditor General will come back and question certain things and we react in trying to actually be in line with what they are asking.*

PD-5.3: *We are driven by situations.*

5.2.6 Finding 6. Information Architecture

The question wanted to find out if an organisation needs a blueprint for both information and technology, who should be involved in formulating the architecture and the factors which should be addressed. The views of participants indicate senior managers understand there must be a plan for both although others see the two as integrated. They also understand factors must be addressed but in practice only one, the IT, was done. The participants expressed their views in this way:

SC-1: *There is a need to have information and IT architecture but it should be done in an integrated manner. All information sectors' stakeholders such as ICT, KM, Libraries and Records Management should be integrated. The focus of the architecture is to determine: what information is relevant to what, critical information, connectivity, platforms, capacity and accessibility.*

PA-6: *what happens when you build a house without a plan?* (The participants pose a question rather than answering)

PB-6: *You never finish building the house. You decide now I am turning this way, now I want a window this side, you will never finish.*

PA-6: So is exactly what you are saying, you need a road map, a road map for your information architecture.

PB-6: A blueprint is needed as a roadmap for the information hub. The technology architecture needs to be informed by the information architecture and ensure that information systems are integrated for easy accessibility by the users otherwise you end up with stove pipes.

SC-6.1: They are integrated; you need to find out what information is relevant to what. ICT provides the platform for business units and records management

RB-6.1 The highly skilled people of ICT, process engineering that we do not have, internal control to make sure that we mitigate the risk get skills not level. For me is not who is occupying the position but to get the best people irrespective of the level but in those capacity.

PA-6.2: All relevant stake holders need to be involved.

PB-6.2: To have technology architecture it needs to be informed by the information architecture because you don't build technology architecture for its own sake, it's there to serve the information evolution and there are more things we need from the information because information will evolve not necessarily change but then it will have to change with it to be able to give the type of information that you need.

PA-6.2: If systems in the organisation were proper, IT architecture would look at the type of information that we draw from. We'd be able to click one button and get any type of information right now ...when you need a report, you must access each one of this systems separately. Instead, maybe there should be functionality where you are able to get into that one system and get reports from all these types of systems.

5.3 Conclusion

The chapter discussed the findings of the research and provides supporting statements from the interviewees and corroboration statement from the literature. The finding reveals the following: First, Senior management understand the importance of information strategy, the need to involve all stakeholders and have a fair understanding of factors the strategy should address. However, the organisation has no composite information strategy. The information politics is not addressed, the significant majority seem to believe information is power and hoard information from their colleagues. However the formal platforms to share information are there but the challenge is that those who take part on those platforms do not necessarily share with the rest of the officials. As result, this makes the grapevine more prevalent. There is a strong indication that managers due to their position acquire the necessary information in many respect but the information is not well cascaded downward since many believe on sharing on the need to know basis. Information that cuts across the whole organisation is not yet identified and still controlled by individual Business Units. But the platform to share common information such as the Intranet is available.

Secondly, DIRCO has no specific information behaviours and values. The generic organisational values are there but they are also not entrenched into the day-to-day operations of the organisation. There are more on the level of compliance rather than the practice. There is no individual or committee to spearhead the implementation of information strategy. Consequently, the activities of diverse information units are not coordinated either at operational or strategic level. Thirdly, the processes are there, some cut-across the organisation but it is not yet part of organisational strategy to regularly review or measure the effectiveness of existing process or to integrate main processes. Lastly, there is an understanding of the need for the organisation to have an integrated IT architecture but many of the participants do not know if it exists or not. In practice the architecture is also not enforced due to the lack of an adequate IT governance structure. The next chapter will discuss the analysis and interpretation of the findings.

Chapter 6

Analysis, Interpretations and Discussions of findings

6. Introduction

The purpose of this case study was to explore, with a sample of senior managers, their perceptions on the extent to which their organisation possesses the capabilities and behaviours associated with effective information use to achieve superior business performance. The researcher hoped the findings may assist in gaining insight as to which capabilities inhibit or leverage the implementation of IO in the organisation and to recommend measures the institution can follow in developing the effective use of information in order to improve business performance. The research used naturalistic inquiry to collect qualitative data in the form of focus groups with a group of five senior managers and four middle managers respectively. Individual interviews were conducted with six senior managers who were not part of the focus group. The data were coded, analysed and organised according to categories derive from the literature. The study was based on six main research questions with one or two sub-questions and in each category as reflected in Annexure A. Each summary of the findings opens with the abridged version of questions in the specific category.

6.1 Analytic Categories

The analytic categories were arranged as follows:

6.1.1 Analytic Category 1: Information Strategy

The first category sought to determine: whether there is a need for a public organisation to craft an information strategy; who should be involved in the exercise and what is supposed to be its main focus.

The participants indicated that senior managers possessed knowledge of the value of information strategy and the stakeholders to be involved in the organisation and to a limited extent, the focus of the information strategy. In a nutshell, they seemed to

believe that an organisation requires an information strategy in order to compete and survive in the information economy. However, the question is if they know why their organisation has not yet developed one. The researcher would like to put the matter into context by looking at what a strategy is and how it is developed. According to Quinn,²¹¹ “a strategy is the pattern or a plan that integrates an organisation’s major goals, policies and action into a cohesive whole. A well-formulated strategy helps to marshal and allocate an organisation’s resources into a unique and viable posture based on its relative internal competencies and shortcomings, anticipated changes in the environment and contingent moves by intelligent opponents”.

The development of a strategic plan is the prerogative of top-management. Strategy is “a perspective, its content consisting not just of a chosen position, but an ingrained way of perceiving the world²¹²”. However, the information strategy according to Howard²¹³, “is a holistic approach to information management that best support the goals and strategies. It guides the organisation towards a coherent, integrated environment for managing and delivering information in support of their business goals”.

From the perspective attained above, the absence of an information strategy in an organisation suggests that information in the organisation is still viewed as a support resource rather than a strategic resource, hence, a high level information strategy for the organisation is often ignored. It further indicates that top-management have not yet fully embraced the concept of managing information in their organisation. This indicates that information is therefore not yet considered a big enough priority to warrant its own strategy like in the field of risk management or human resource management or finance management. An organisation that does not have an information strategy may experience some of the following challenges: information is not fully understood as a corporate resource; lack of a comprehensive information plan in place for the organisation as a whole; information needs of an organisation are not systematically identified; information may not be readily available to other managers across the organisation; no composite plan to locate or retrieve information for users; the cost for providing and managing information may be not known; potential for

²¹¹Mintzberg et al. 1999, 05

²¹²Mintzberg et al. 1999, 19

²¹³Howard, P. 2008, 1-2.

overlapping and duplication of services and information is high and evaluation and assessment of information resources as to how they effectively and efficiently they are used to attain corporate goals, is not done.

A conclusion to be drawn from this finding is that although information is universally accepted as a source of competitive advantage, the organisation has not yet started treating information-based assets as strategic resource, which requires a strategic plan of its own in order to exploit them effectively and efficiently. A further conclusion may be that appreciation of the importance of information-based assets does not necessarily raise the profile of information resources as a into priority until top-management can buy into the level that they can support and lead the endeavour. Stewart²¹⁴ sums it in this way, “it is one thing to possess intelligence and another to turn the insight into plans and strategies that lead to better performance”.

6.1.2 Analytic Category 2: Information Politics

The question in this theme wanted to find out if information that cut-across the organisation is identified and managed centrally to facilitate sharing and if the reasons for hoarding information are known, in order to address information politics appropriately.

The interviewees indicated that information was not allowed to flow freely across the organisation and information that cut-across the organisation was not identified so that it could be managed centrally to facilitate sharing. In addition, information politics was not addressed. There seemed to be more emphasis on confidentiality and privacy of information than on the sharing of information and knowledge. According to Cronin and Davenport²¹⁵, “...access to the Government Data Network, even to non-sensitive, non-controversial files, is considered a potential security risk in the United Kingdom”. This is true for many government institutions. The Information Bill here in South Africa was born out of a similar concern. However, senior management objectives should be first and foremost, to encourage information diffusion, identify structural blockages and wastages, duplications and inefficiencies in the system, and to address them promptly in order to promote better utilisation of information within the

²¹⁴Stewart, T.A. 1997, 66

²¹⁵Cronin, B. and Davenport, E. 1991, 52

organisation. Secondly, to protect security and other trade secrets so that they are restricted to the privilege of a few individuals in the organisation and does not leak either internally or externally to the organisation. The latter category should be comprised of a very small percentage of all the information compared with the former which will be comprised of the majority of records and information accessible to staff. In this way, the organisation may be able to balance their act as to what must be accessible and protected. The value of information flow has been captured by different authors in this manner:

“...the exchange of significant and timely detail can be of immediate practical advantage where it removes the Chinese wall which inhibits lateral information flow between different accounts or regions; such a network allows individuals to leverage off one another’s experience. It is the process of structuring and integrating this collective know-how that converts the raw into the cooked, which can be shared and digested by a wide range of users²¹⁶”.

“Our ability to exploit these will depend on whether they are opaque or transparent²¹⁷”.

Organisational survival is related to management’s ability to receive, transmit, and act on information. The communication process links the organisation to its environment as well as to its parts. Information flows to and from the organisation and within the organisation. Information integrates the activities within the organisation²¹⁸.

“Control is necessary but it must not inhibit information flow. Control must be flexible enough to channel growth to meet objectives”²¹⁹.

“Information often becomes hostage in these turf wars. To some extent, such territorial concerns may be reasonable. It is important to keep information secure. And information should not be carelessly allowed to leak in ways that would hurt the business as whole. On the other hand it is important not to allow self-interest of

²¹⁶Cronin, B. and Davenport, E. 1991, 48

²¹⁷Cronin, B. and Davenport, E. 1991, 37 & 48

²¹⁸ Gibson, J.L. et al. 2003,13

²¹⁹Davenport and Prusak,1997, 94

individuals or groups or groups within the organisation to impede the effective leveraging of knowledge assets across the organisations”²²⁰.

The organisation that has not yet identified and managed common information centrally and addresses information politics generally may experience the following: the organisation has not identified information hoarding as a problem that needs special attention; no consensus on the information needs of the organisation; information behaviours are not identified and reinforced through performance management mechanisms; the environment in which information is hoarded is probably being rewarded in the organisation; employees may be uncertain about job security and their place in the hierarchy of the organisation and individuals may have difficult access to information they need to carry out their tasks.

The conclusion to be drawn from this finding is that the need for protection of information seems to supersede the need for sharing information across the organisation both horizontally and laterally. This seem to hamper cooperation, collaboration, organisational learning across business units and to impact negatively on the delivery of objectives. However, senior managers and middle managers seem to experience the impact differently. The indications are that senior management due to their position have access to most of the information they need to do their work but the level below that struggle to get information since most of the senior management only release information on a need to know basis. The department has genuine concerned about the protection of information but security classification seem to discretionary and used at times as a pretext to hide information from deserving officials. In another instance, the way official handle documents seem to disregard the security classifications. Another conclusion to be drawn is that there is some kind of belief that everybody or every manager is acting in the best interest of the organisation and the need-to-know principle will not be hampered by individual behaviour every now and then.

6.1.3 Analytic Category 3: Information Behaviour s and Values

²²⁰Information Optimised. <http://informationoptimized.com> accessed on 2012/02/06

The questions in this category sought to determine the values of the organisation, the presence of information culture and whether they form part of performance management system and the role of leadership in inculcating the information culture.

My analysis indicated that the values and culture adopted by the organisation are probably adopted for different a purpose other than promoting the effective use of information. This is supported by responses of managers in respect to sharing information freely in the organisation, the focus was not about fostering cooperation across business units, better problem solving, informed decision making, and improved service to clients but on the protection of information from falling into the wrong hands, even between individuals within the same business units and within departments in the organisation. The culture seemingly, is meant to secure information from leaking into the external environment rather than its effective use within the organisation. This view is also supported by Meltzer²²¹, in saying “information behaviour and cultures are scarcely recognised by managers. The value of information behaviour is further illustrated by Davenport and Prusak²²² “when they say by managing information behaviour we are trying to improve the overall effectiveness of the whole organisation’s information environment through concerted action”. However information behaviour and values is often ignore by senior management. This also has an adverse effect on the organisation since evidence suggests that information is not allowed to flow from one department to the other easily.

Organisations are able to operate efficiently only when shared values exist among the employees. According to Gibson²²³, “The cause of a person’s effectiveness is a person’s motivation, ability, knowledge, attitude and stress levels”. However, “group effectiveness is larger than the sum of individual effectiveness because of the synergy realised through group efforts. A synergistic effect makes organisations obtain higher levels of effectiveness than the sum of their parts. Effectiveness can be achieved by making significant changes in the total organisation by altering structure, behaviour and process”.

²²¹Meltzer, M.F. 1981,26

²²² Davenport, T.H. &Prusak, L. 1997, 88

²²³ Gibson, J.L. et al. 2003, 15 & 23

In situations where an institution does not manage information behaviour, it translates into some of the following: common information cultures to support the delivery of organisational objectives and the realisation of vision and values are not identified; assessment of information culture through performance management mechanisms is not carried out; the values of information sharing are not well understood; the effective and efficient use of information by the people is not measured; the organisation has no specific behaviour to influence business performance and behaviours and information may not be allowed to flow freely across the organisation.

There are a couple of conclusions that can be drawn from this: firstly, the organisation has some of the information values as part of corporate values but they do not manage the information behaviour of their staff. Secondly, the organisation has some of the information behaviour as part of its corporate values but is not designed for purpose of promoting the effective use of information and therefore they are not managed to influence how officials should behave with information. Thirdly, the organisation has not yet institutionalised information behaviours and senior managers follow their own discretion in fostering good information practices hence the practices differ from one business to another. This vacuum opens the door to an informal culture where fellow workers teach each other or new recruits how to conduct themselves. In many of these cases the advice is bad for the organisation. However, the organisation is in a better position to introduce information behaviour since there is some overlap of values between information behaviours and corporate values as well as Batho Pele principles. They can only expand the values to embrace the effective and efficient use of information and knowledge and can be enforced by making them part of their performance management and reward system of the organisation. The Department performance management also make use of Core Management Competence (CMC) or Generic Assessment Factors (GAF) in which information behaviour and values and can be accommodated and properly promoted.

6.1.4: Analytic Category 4: Information Staff

The question here wanted to determine the presence of all information functions, how their activities are integrated and if structure is enabling the effective and efficient management of information.

The interviewees indicated that senior managers were aware of the roles of different information officials and the organisation has all relevant information functions but for some reasons manage them separately without any adequate coordination. Consequently, after discussion, the structure was deemed to be not enabling since there was no complete integration of activities of all related information-based activities. This may be linked with the priority of the executives or the government, not yet realising the benefit of having individuals or committees to lead the development and implementation of the information strategy. It may be that the way the information-based assets operate is not yet well understood. In addition, it can also be a manifestation of information politics.

The Information Economy needs managers adept at managing knowledge workers and teams and to identify core competencies for better performance. It requires a formal education and the ability to acquire and apply theoretical and analytical knowledge. But most importantly, knowledge workers require a habit of continuous learning in order to improve their stock of knowledge and ultimately their performance capacity. An organisation that needs to do well in managing and using information should enlist the service of specialist and provide them with platforms to work in teams and to continuously improving their knowledge and skills. The set of skills for information officials for previous economy are no longer sufficient as the prescribed stock of knowledge for effective and efficient performance.

The organisation that does not have adequate information staff experiences the following: the position of executive sponsor to drive the management of information-based assets; the manner in which information and knowledge work is not fully understood; the activities of various information sectors are not integrated; the key competences of an organisation may not be clearly defined and systematically managed and developed; the likelihood of loss corporate memory is high and there is competition for resources and influence between information-based functions.

There are several conclusions to be drawn from this: firstly, the manner in which information based assets work is not well understood, hence the structure and coordination is not adequate. Secondly, the role of information based asset is

understood but is not currently seen as a high priority and therefore the focus of senior managers and executives is currently on other pressing agendas/priorities.

6.1.5 Analytic Category 5: Information Processes

The questions here were intended to find out if organisations continuously review processes to adapt them to changing business environments such as the advent of technology, whether processes are designed as function based or for business as a whole and if the key processes are measured for effectiveness.

The participants indicated that the processes were reviewed on a reactionary basis to address problems within the function rather than the business as a whole. In addition, key information processes were not measured for effectiveness and did not focus on adapting processes to changing environment such as before the implementation of technology. This indicates that process management has not been adopted and fully utilised in an organisation as a strategy to improve the effectiveness of the organisation. In short, the organisation has not yet committed itself to business process improvement. The improvements are done as and when the need arises and to business that is affected at the time rather than focusing on the organisation holistically. There seems to be the thinking that the rigorous pursuit of process efficiency is associated with the private sector/pursuit of profits. The effective use of information promotes planning for the collection, storage, dissemination of information: to promote informed decision making; to improve turnaround time; to manage other resources better; to improve processes; to manage risks, to understand clients better and for competitive advantage. This is about getting value for money and competitiveness and nothing to do with the sector your in.

The organisation that does not pursue process management as a part of their strategy to improve service delivery or improve processes may experience some of the following: no emphasis on identification of process owners, customers and measurability of process in order to effect improvement; the process of identifying changes and innovations required or process improvement is rarely used; processes are not evaluated holistically and improved for the benefit of the entire organisation; accumulation of inefficiencies due to the failure to processes; not all steps are

identified in the information process, the resources involved, all role-players and the gaps and problems in the process; less emphasis to process perspectives to information management; redundant processes being automated into the IT applications thereby missing opportunity to make real improvement and to attain business value out of IT investments.

The conclusion to be drawn from the above is that the organisation has not yet adopted process management but does a review of processes as and when is necessary. However, the review may focus only on the affected business rather than the organisation as a whole and the reviewed processes are not regularly evaluated for effectiveness. The department need to shift from ad hoc process improvement and measurement to systematic process improvement and measurement throughout the organisation.

6.1.6 Analytic Category 6: Information Architecture (IA)

The question in this category wanted to determine the need for organisations to have a blueprint for both information and technology. In addition to determine who should be involved in formulating the architecture and the factors that the two architectures should address.

The interviewees indicated that senior managers understood that there must be a plan for both architectures, to determine what systems and technology to use, to ensure flexibility and compatibility and to guide its implementation although others see the two as integrated. They also understood factors that each of the two architectures must be address, but in practice, react differently. In principle, senior managers were aware of how things are supposed to be done but organisations have no clear process on how to develop either architectures or the integration thereof as some suggested. They also seemed not to be inclusive committees with divisions of responsibilities along the lines prescribed by Murphy in respect to IT governance in order to: manage people factors; to establish objectives for architectures, to provide standards and processes to realise value from IT investment. Many of the senior managers who took part in the research have not seen the IT architecture document or took part in its development.

This is supported by Murphy²²⁴ in saying, "... that the decisions about critical IT investment are the joint responsibility of business and IT management. Governance structures and processes which are an essential part of managing the people dimension. They provide transparent pathways for different levels of involvement, decision making, and the allocation and acceptance of responsibilities. Sound processes provide the mechanisms that enable business and technology executive, managers, and professionals to integrate business and technology planning, to implement and monitor key business and technology initiatives, and to track and learn from their effectiveness".

This means the task planning ICT is left in the hands of ICT specialists (less participation by business people) who develop the technical architecture with little or wno active involvement of business people.

Information Architecture is defined "as the connective tissue between the business strategy, processes, organisation, and technology, explicitly defining the role of infrastructure in realizing business strategy. It establishes the guiding principles that will be used in selecting, implementing, integrating and managing shared resources, and ultimately drives the business's portfolio of supported infrastructure methodologies and technologies"²²⁵. In this context, it seems businesses have left all their responsibilities to ICT specialists who develop the technical architecture with little or no active involvement of business people. The challenges with this arrangement may entail some of the following: an inadequate process of developing information architecture; insufficient inclusion or participation of all stakeholders in the process; managers involved not certain about their requirements; IA not seen as critical in achieving senior management objectives; management not even aware of the existence of the IA; IA written in a manner that makes it incomprehensible to non-technical managers; wasteful expenditure and effort on acquisition and storage due to high duplication of information activities; economic value of information is not properly adhered to by applying information life cycle principle; keeping redundant information; collect external information that is never used; information collected but not used

²²⁴Murphy, T. 2002, 165

²²⁵ Murphy, T. 2002, 61

because its existence or location is not known; too much information collected but unneeded; no directory or complete directory of information resources which result in poor information distribution.

The conclusions to be drawn here are: Firstly, the responsibility for designing IA is left solely in the hands of IT professionals who do all the work with little participation from Business Units. Consequently, the focus tends to be on technology rather than information and satisfying the needs of Business Units. An organisation needs to start understanding that there are no longer IT projects in the current environment but organisational projects with a high degree of emphasis on technology technology emphasis and business managers must start claiming their space. Secondly, the lack of IT architecture governance and clear processes make it difficult for ICT Business Unit to develop, guide and enforce compliance with the architecture.

6.2 Conclusion

The analysis of data collected through various methods provided sufficient information about the IE's information capabilities: information strategy; information politics; information behaviours and values; information staff; information processes and information structure. In all these information capabilities, DIRCO is not doing well. This information assisted the researcher to understand the IBV, IMP and ITP of the department. In terms of the evidence gathered during the research period DIRCO has a Low Information Orientation. The IBV is Low, IMP and ICT are just on elementary level. However, the department has a great potential to improve its IO standing: the infrastructure is already there, the technical know-how is there, functional in-house training institute is there and the leadership has also shown interests to address the matter. Central to this challenge is for the department to improve the IE's information capabilities which are already in existence in the organisation but not functioning well. The improvement in the information environment capabilities will make the IO energise the IO capabilities and as a result the organisation will be on the right path to a mature Information Orientation. The change as reflected in the IO should start with the mindset of people, the leadership in particular, through implementation of organisational values and culture, followed by learning Information Management Practices in order to use information appropriately, then they will be ready to use technology. However, all

this need to be implemented simultaneously. There is also great need for the organisation to shift from its ad hoc functional approach as raised by participants to systematic improvement of all the capabilities and to follow an integrated approach. The I-Space can also be employed to plan the information flow and learning strategies in order to shape the right core-competence for the organisation and to attain value from departmental information assets. The following chapter provides recommendations on how to go about making necessary changes required to have effective organisational capabilities tuned for information based economy and thereby improve IO and the business performance.

Chapter 7

Conclusions and Recommendations

7. Introduction

This chapter first and foremost assesses whether the objectives of the research have been realised and provides recommendations as to how DIRCO can address the gaps identified as a result of this research in order to improve the IO of the organisation and ultimately the business performance. Secondly, it provides recommendations for future research.

7.1 Achievement of Objectives

The research sought to determine the factors that impede a holistic approach to information use in a public organisation, DIRCO in particular. The researcher used qualitative research methods to explore the perception of senior managers in respect to the IO of their organisation. Focus group discussions, observation and critical incidents were used to collect data for the study. The research discerned the two theories that purport the effective use of information that organisations need to improve their IO and may use to craft their own strategy and to understand the concept of effective use of information from a variety of perspectives. The factors affecting the implementation of IO were identified and a road map on how to improve IO was made available. The information ecology levers can be used effectively to determine IO at a basic level as an alternative to the IO Dashboard which measures a high level concept of IO. The reason is that an organisation at a low level of IO has not yet replaced their traditional information capabilities (structure, strategy, process and people) with the information capabilities (information management practices, Information technology practices and information technology). This provides a good basis for organisations to start from the known (traditional capabilities) to the unknown (IC). The role of leadership and people in management and the use of information have been unpacked and located accordingly within the effective use of information.

7.2 Recommendations

The researcher provides recommendations based on the data collected from the literature review, focus group discussions, observation, findings, analysis and conclusions of this study as follows:

7.2.1 Information strategy

The challenge identified in this category was that the organisation does not have an overarching plan for managing information based assets. Information and knowledge are broadly accepted as a source of competitive advantage and strategic resources for the organisation. This implies that information resources must be managed accordingly. An information strategy assists an organisation in making explicit the high-level information intent of an organisation; it actually makes sense in an information pervasive world²²⁶. IT and information specialists play a pivotal role in supporting how organisations use information effectively, but it is the unique responsibility of general or senior managers “to develop an integrated view of how to manage people, information and IT in a business to implement strategies and achieve results. They must understand how to integrate business processes, organisational structures, behaviours and values as well as the appropriate information uses and IT resources to achieve their company’s or business unit’s strategies”²²⁷.

The senior management and executive must provide high level strategic information direction by formulating the vision, setting objectives, crafting strategy with desired outcomes and overseeing its implementation and execution, as well as undertake the evaluation of performance and corrective adjustment. They must first make a rational assessment of the competitive environment’s opportunities and threats. Based on the assessment, they should specifically frame how they will achieve their strategic priorities at the highest levels. They should try to create a mix of capabilities within their organisation that is difficult for competitors to imitate, in order to successfully achieve their strategic priorities. The instrument for creating and mix of capabilities to achieve desirable strategic priorities is attached as Appendixes B, C and D.

²²⁶Cronin, B. and Davenport, E. 1991, 4.

²²⁷Marchand, D.A. (Ed). 2000, 5.

The above context indicates that the starting point for information strategy is²²⁸: “have an understanding of your business strategy and planned areas of focus for business optimisation; map this strategy onto IT in general and information management in particular; have a detailed understanding of your current information capabilities; conduct a gap analysis between point number 2 and 3; gain an understanding of how tools, products, and processes can extend your current information environment to bridge this gap and the roadmap for doing so in your information strategy”.

In focusing the information strategy, an organisation must concentrate on the following²²⁹:

- **Specific information content** - the identification of information that is critical to improving delivery of service, compliance and generating revenue for the organisation. The selection of appropriate options in respect to information content ranging from strategic necessities, financial, operational, core competencies etc.
- **Organisation's common information content** - a focus on sharing common information in order to facilitate communication across divisions, functions and or business processes. The focus should be centred on sharing information rather than technology.
- **Information processes** - to provide processes to capture information that officials gather in rendering service or in contact with clients, find new ways of doing things etc. and to ensure that information flows readily from one official to another. This can be a source of effective service delivery and competitive advantage if it can be resold in the market and used in human capital development.
- **New Services** - the invaluable information that an organisation accrues about stakeholders, partners and customers can be used to cement existing relationships by providing freely such information or selling it in order to develop new business.

²²⁸Howard, P.2008, 4.

²²⁹Davenport and Prusak, 1997, 47.

The information strategy, according to Du Plessis, must include amongst others, the following²³⁰: articulate the role in which information/knowledge will create value in the organisation; all relevant stakeholders should be involved (top management, business units, IT and Information Specialists) to ensure wider participation, quicker adoption at implementation and training stage; it should be aligned to organisational strategy and IT strategy; a process formulating and reviewing Information Strategy should be clearly indicated; assign an individual to oversee the implementation of the Information Strategy and people must be aligned with that vision (the alignment must be from the top-down and across the organisation).

In essence, the information strategy must belong to the business in its entirety and assists the organisation “in managing data and content over its life time, connect multiple data and content sources, create a single source of trusted and relevant information and create a design that supports business optimisation through improved business intelligence, performance management, and compliance and risk management”²³¹.

The literature review has provided a sound background on how to create value with information from different perspectives. The areas to consider are: the four ways to create business value with information as described in Marchand et al’s SIA; the analysis of the whole environment from IE; ways to distinguish information value and categories to classify information to determine potential information value, the principles in the five pillars for benefits realisation and social learning cycles stages particularly the codification, abstraction and diffusion and the choice of the learning strategies. Most importantly, the strategy should look at how to build and sustain the three IO capabilities to achieve superior business performance.

7.2.2 Information Politics

The challenge in this theme was that information politics is not managed in the organisation. According to Moon, the politics of information needs to be consciously managed and viewed as a natural aspect of organisational life, before a true

²³⁰ Du Plessis, M. 2006, 16-17

²³¹ Howard, P.2008, 4.

information-based organisation can emerge. The ‘politics’ of information addresses the need for consensus about what information is already within the organisation, who has it, in what form it is kept, and how to harness and use this information.

The activities of information politics manifest themselves in the form of information hoarding, leaking of information, brokering and selective dissemination and use of information. Consequently, an organisation is negatively affected through the lack of sharing pertinent information, duplication of activities, sub-standard service delivery and the missed learning opportunities. Information must be put to use or the acquisition, processing and distribution of activities becomes a wasteful effort if information is not used optimally²³².

An organisation trying to address information politics must be focussed on, amongst other things, the following²³³: managers need to talk honestly and directly about the political nature of the information; the organisation must first recognise the existing information model (federalism, feudalism, monarchy and anarchy); match the organisation to the structure that best suits it; assess the culture of the organisation, and choose the desired model. The selected model should match the culture or the culture has to change to support the model; balance the need for common information versus the specialised information of a business unit; categorise information that needs to be shared across business units from business specific information; the process should be reviewed at least once a year but preferably every six months; plan how information should be collected as well as the format for the dissemination of information and the classification to be used; determine the method of storage and decide how information should be made accessible to all stakeholders and try to create a healthy balance between the protection of information and providing access amongst employees across the organisation in a way that will not negate the principle of information access, but reinforce the doctrine of information as an organisational resource.

The best political model is federalism, followed by monarchy. The federal model assists the organisations to manage a healthy tension between central and dispersed information control which continues to shift over time. Federalism is more appropriate

²³² Meltzer, M.F. 1981, 155

²³³ Davenport, T.H. & Prusak, L. 1997, 72

to an organisation ‘operating in complex and rapidly changing environments, which creates a high level of uncertainty.’ The monarchy model is good to counter feudalism and ensure consistency of information practices across the organisation. It is also good for an organisation where it is difficult to reach consensus on a variety of issues. It is important to understand, before making final decisions, that decentralisation of information or knowledge management can lead to a silo approach whereas in centralisation, they may struggle to meet the unique needs of each business unit. To recap, “centralisation of information policy making and processing is the most efficient, effective and economic practice in this fast changing world of information proliferation”²³⁴ and to decentralise the day-to-day operational activities in order to meet the specific needs of various information centres. The factors that contribute to information politics and how models work are provided under section 3.5.1 and the review should be considered.

7.2.3 Information Behaviours

The views of participants indicated that there were no information behaviours and values to promote the effective use of information within DIRCO. However, an organisation has corporate values which resemble information behaviours but are conceptualised from a different perspective to that of propagating the effective and efficient use of information and knowledge for the better performance of the whole organisation and are not incorporated as part of a performance management system or the day-to-day activities of the organisation. The culture of an organisation “is an amalgamation of the values and beliefs of the people in an organisation”²³⁵. An organisational culture can be positive or negative. It is positive when it helps the organisation to improve productivity and negative when it hinders behaviour or disrupts group effectiveness. The main purpose of an information culture is to encourage the sharing of information across the organisation and at times with clients, partners and even competitors in order to work more effectively, become more productive and thereby assist in meeting the objectives of the organisation²³⁶.

²³⁴ Du Plessis, M. 2006, 47

²³⁵ Du Plessis, M. 2006, 5

²³⁶ Gibson, J.L. 2003, 6 & 9

IT specialists champion that technology solves all information problems (information flow and its effective use in the organisation), but it is the behaviour of people and their attitudes that ultimately determine if information is allowed to flow freely and be used effectively in the organisation. Managers should understand that information cultures determine how much of those involved, value information, share it across the organisational boundaries, disclose it internally and externally, and capitalise on it in their businesses. It is therefore imperative for organisations to manage the information behaviour of their people in order to meet business objectives. The road to a mature information culture starts with senior managers, the mindset of the senior management needs to include information and knowledge management as key assets in the business along with the enabling tools of information systems (IS) and IT. They need to understand how new ways of using information and technology transform the traditional view of doing business; it is a change that is primarily oriented towards strategy, structure, processes and people. These may include, amongst others, the following:

- To appreciate the difference between managing with information and the management of information in the organisation.
- To differentiate the tools of the management of information, with the content, use and value of the information employed by the people in the organisation.
- To be comfortable with the management of information. This focuses on how well the organisation competes by using and deploying information, systems and technologies better and faster than its competitors.

The process for building a supportive information culture entails the following:

- determining how people use information and ultimately build a supportive information culture; managers must start and appreciate the role of values and culture in change management processes; there should be communication that information is valuable; managers should clarify the organisation's information strategy and objectives; develop strategy with targets in order to explicitly manage behaviour; focus on managing specific types of information content; identify the information culture they need to instil in their organisation; provide training to help develop desired information behaviours; determine how to reinforce such cultures through control measures and reward mechanisms; identify structures and individuals to assume responsibility for information behaviour; recruit and hire employees who

have a positive disposition towards information; integrate information behaviour management with other organisational processing such as training, disciplines and performance management and identify individuals whose behaviour needs to be influenced first: senior managers, distributors of information and so on.

The information behaviour and values that an organisation can adopt to cultivate and grow the disposition of its people to use information effectively as suggested by Marchand are: integrity, formality, information control, transparency, information sharing and pro-activeness²³⁷. Other mechanisms that an organisation can consider to develop and reinforce information behaviours and values as provided by Werner citing Mey²³⁸ are: “senior leadership involvement by attending training sessions, making speeches and presentations and acting in exemplary manner; provide guidelines for ethical decision making, rigorous training through use of videos, lectures, role-playing, case studies and simulations can be used in ethics training, reinforce reward through appropriate rewards structure; introduce organisational values audit, introduce platform to introduce violation of value(anonymous)and organisational value committee”.

7.2.4 Information Staff

The challenge identified in respect to this category was that there was no coordination of information based functions in the organisation, a problem which is linked to the organisational structure. The organisation needs to identify an individual to become the focal point for the coordination of information resources and requirements. The person should be responsible for the overarching information strategy formulation and implementation. Alternatively, the organisation can appoint a committee, chaired by an executive reporting directly to the Chief Executive Officer.

In addition, the organisation must address the following: review information management structures regularly (at least every 5 years); a specific group or groups within the organisation should be charged with managing information of all types; determine a mechanism for coordinating the activities and groups that manage

²³⁷Marchand, D.A.et al, 2002, 202-206

²³⁸Werner, A. (ed). 2007, 38

information; information providers are taught, through a regular and consistent programme, how to add value to information; at least one information staff member should help user assess their needs and access multiple types of information.

On substantiating capacity building and change, Stewart²³⁹ indicated that “successes in a knowledge-based economy depend on the new skills and new kinds of organisations and management”. This is further supported by Drucker²⁴⁰ in saying, that “in the post-capitalist society, it is safe to assume that anyone with any knowledge will have to acquire new knowledge every four or five years, or else become obsolete”. The information staff should continuously update their skills for the organisation to derive value from them otherwise their knowledge becomes obsolete in this fast paced changing world.

The effectiveness of knowledge-based organisations depends on identifying core competencies, attracting specialised knowledge workers with the right skills, attitudes and beliefs; create an environment where people with different skills bases can work in teams; foster continuous learning and the acquisition of additional specialities; the use of new learning technologies and ensuring that managers are adept in managing knowledge workers²⁴¹.

The information professionals need to shift from solely focussing on technical tasks such as indexing, cataloguing, sorting, searching and retrieving documents. They can do so by performing tasks that can add value to information for users such as: developing information sources; creating information awareness in order to recruit new users; relentlessly pruning the obsolete materials, the irrelevant and inaccurate resources; adding context to information (historical or benchmarking with other sources or information); enhancing style and choosing the right presentation medium; and linking information expert and user²⁴².

7.2.5 Information Process

²³⁹Stewart, 1997, 17.

²⁴⁰Drucker, 1994, 58.

²⁴¹Punnet and Sweeney, 1989, 3-14.

²⁴²Davenport and Prusak, 1997, 108-131

The challenge identified in this category was that process management has not been adopted and fully utilized in an organisation as a strategy to improve the effectiveness of the organisation. The matter of changing how work gets done is usually called process improvement, which emphasizes incremental change and process engineering or innovation, which sometimes lead to radical innovations. Information ecology first calls for a thorough description of how any piece of information work is done²⁴³. The organisation, in addressing the challenge above, should address the following: designate responsibility for process management to individuals or teams; create a generic model for the information management process that it hopes to implement; identify information management process steps such as determining information requirements; information capturing, distribution and its use should be assessed in a systematic manner and improvements undertaken; determine how to measure the performance of key information management processes; review and improve each specific information-intensive process at a time rather than focus on the whole organisation; key information users should be actively involved in designing how information processes should function. The organisation has to choose an approach for reviewing its process management. The options range from top down engineering, enlisting the services of specialists to a participative approach - the latter being the best approach to information and knowledge work processes that emphasizes outcomes, not detailed work steps, along with external factors like common physical location and working in teams and will probably deliver the best results²⁴⁴.

Marchand has identified the phase of IMP known as Information Life Cycle (ILC) as: “sensing, collecting, organizing, processing and maintaining information”. An organisation needs to manage each stage of a life cycle to improve information use. It is vital for people to understand how the dimensions of IMP work, and which information and information practice creates the most value for an organisation.

7.2.6 Information Architecture

The challenge in this category was that the organisation's information architecture is more focussed on the technical aspect of design rather than the use of information. Consequently, business units were not actively involved and actually renounced their

²⁴³Davenport and Prusak, 1997, 34

²⁴⁴Davenport and Prusak, 1997, 154

responsibility to IT specialists. Davenport and Prusak²⁴⁵ advocate a shift from a traditional information engineering model to a more innovative information mapping along with guidelines for effective use of information. The IT Architecture set standards to ensure that dispersed computers and networks can interface and communicate. Information architecture standards enable broad access to information and easy interpretation and use. The standardized formats enable decision-makers to easily find the information they need; to enhance consistency, to identify and be able to reuse information. Information mapping is basically the guide/directory to the present information resources. It describes the location of information, persons responsible for it, access rights etc. The value of information mapping is to improve access to information, identifying shortages and redundancies, creating opportunities for efficiencies in acquiring and maintaining information, determining if the current information database meets current and future needs. It can enhance information quality by identifying key information attributes such as: source, age, storage medium and accessibility and to improve information behaviour and culture. The process for developing information mapping includes, amongst others: getting buy-in from the top before starting the project; determining your audience; selecting a domain map (particular type of information, such as customer, product or competitors, a particular business unit, function, project, or processes, even particular time or period or location); reviewing all available bits and pieces of information; setting information categories based on the conceptual similarities; commencing with a broad scope comprehensive set of categories as a smaller scope is difficult to extend or change; prioritising categories that are important; deciding on what distribution and format channel will be used, so that the people who are contacted can visualise what is being done; tracking your sources in hierarchical form; maps should include pointers to those who possess information so that they can elaborate on it and provide context; avoid going into detail until there is a demand for such kind of usage; stick with institutional sources; plan on frequent revision; avoid updating maps that nobody uses and consider automation in moderation.

The organisation may also establish IT governance structures made of representatives of both business and IT stakeholders to roles, processes, accountabilities, and metrics.

²⁴⁵Davenport and Prusak, 1997,

These are assigned and agreed upon to develop better technique and a sound basis for assessing the capability of the organisation to achieve business from its investment. It will clarify the division of responsibility between IT (managing costs) and Business (for managing the benefits) by specifying responsibilities at each stage of development, implementation and use. It will provide the mechanism for disciplined project management and monitoring by ensuring that benefits tracking and benefits management programmes are in place. It will enable business and technology executives, managers and professional to integrate business and technology planning and to implement and monitor key business and technology initiatives and to track and learn from their effectiveness²⁴⁶. DIRCO can also implement the IT governance structure as recommended by Murphy to guide and defend information architecture.

7.2.7 Change Management

All the theories for effective use of information involve a change from current practices to new or improved practices. They offer a new paradigm, a new perspective, a different approach, and an orientation on how to manage information, people and technology in an integrated manner for better results. It calls for senior management to change their mindset with respect to IM and IT, shift their view from a techno-centric to a human centred approach, to adopt information behaviour appropriate for the information economy, to learn to manage with information, to implement and reinforce new information behaviour through a performance management system and to learn to talk the talk and walk the talk as individuals learn more from observation. The disparity between the talk and walk sends confusing messages or depicts the sender of the message as confused or the two contrasting behaviours as normal to followers. For all this to happen, there must be a comprehensive change management plan. It is unthinkable that we cannot effect critical change of this magnitude successfully without a plan. The organisation must consider eight critical factors of implementing successful change in an organisation: clear vision, strategy for change, communicating the vision, empowering followers for broad based action, planning for short term wins, urgency, consolidate gains and produce more change, anchoring challenges in the organisational culture, anchor new approaches in the culture.

²⁴⁶Murphy, T. 2002,154-155

Werner, citing Milner, suggests that senior leadership can pursue the following steps in engineering organisational culture change that will contribute to the attainment of organisational change²⁴⁷:

- **Firstly**, define the optimum culture that will support the overall organisational vision and values and it will almost result in success.
- **Secondly**, assess the current culture by obtaining feedback from employees, teams and managers, through evaluations and meetings on the extent to which identified attributes and behaviours are evident in activities such as project work and daily tasks.
- **Thirdly**, do a gap analysis by comparing the current cultural attributes and behaviours with the desired ones. Determine whether the current culture is in alignment or in conflict with the vision and direction of the organisation.
- **Fourthly**, engineer cultural change by using specific strategies and tools to reinforce the desired culture and related behaviours. Start with management development programmes and instil the right values and behaviours in key management team members. Coach and mentor key individuals who do not exhibit the desired behaviours. Review the reward system to determine whether it promotes or prevents desirable behaviours.
- **Lastly**, review the organisational culture annually during a strategic planning meeting. The results should be communicated to management and key individuals in the organisation to reinforce what is expected of everyone.

7.3 Recommendations for Further Research

The researcher recommends that further studies be conducted to develop a larger database on the factors impeding the implementation of IO in public organisations as well as the approaches that they can follow to improve IO in order to make a breakthrough from managing information to competing with information and technology for higher business performance. The current study was a bound case study and focussed on a single organisation. This has imposed limitations on the generalisation of results. Consequently, the following research scope may be pursued in this field:

²⁴⁷ Werner, A. (ed). 2007, 32-33

- A multi-case study may be conducted to determine major impediments of information orientation in public organisations.
- The use of the Information Orientations Dashboard instrument to measure the performance of a public organisation that has established an Information Orientation.
- A comparative study can be done to determine the key characteristics of public organisations with a mature IO compared to a public organisation with a Low IO.

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Appendices

Appendix A: Focus group questions

(Source: Adapted from Davenport and Prusak, 1997, P66-174)

Theme 1: Information Strategy

1. Why should public organisations develop an overarching plan for information management?

1.1 Which members of the organisation should participate in developing the information overarching plan?

1.2 What must be the main focus of an organisational information strategy?

Theme: 2. Information Politics

2. Why is it important for members of an organisation to share information freely?

2.1 Why do employees in some organisations share information freely and in others they do not?

2.2 How do you manage information that cuts across the whole organisation?

2.3 Is the politics of sharing and hoarding information addressed? If your answer is *yes* indicate *how*? If *no* state *why*?

Theme: 3. Information behaviour and values

3. What values does your organisation require employees to uphold?

3.1 Does the organisation also have specific information behaviour and values that employees need to uphold?

3.2 Are employees evaluated and rewarded on the basis of these behaviours and values?

3.3 What role does senior management play in nurturing and reinforcing information behaviour?

Theme: 4. Information staff

4. Which categories of officials are responsible for managing all different kinds of information in your organisation?

- 4.1 How are the activities of these people managing diverse information functions coordinated in the organisation?
- 4.2 Is there a committee or individual responsible for management of information as whole?
- 4.3 Is the organisational structure enabling the organisation to manage all types of information efficiently and effectively?

Theme: 5. Information Process

5. Why do organisations require capacity to rapidly change business processes in line with changing business conditions?

- 5.1 Have specific information intensive processes such as finance been improved and reengineered? Please substantiate your answer.
- 5.2 Does it facilitate a process approach to business or function base operations? Add how that advantages or disadvantages your organisation?
- 5.3 Does your organisation measure the performance of key information processes?

Theme: 6. Information architecture

6. Why does an organisation need a blue print for both information and technology?

- 6.1 Who should be involved in formulating the two architectures?
- 6.2 What are the main factors that each architecture (IT and information) should address?

Appendix B: Strategic Priority Assessment

(Source: Marchand et al, 2001, 193-194)

On scale of 1 to 10 representing the ideal what were the strategic priorities your company achieved during the past five years

Creating new business opportunities	1	2	3	4	5	6	7	8	9	10
Delighting the customer	1	2	3	4	5	6	7	8	9	10
Minimising risk	1	2	3	4	5	6	7	8	9	10
Reducing cost	1	2	3	4	5	6	7	8	9	10

Add and subtract as follows to get your strategic bias

Creating new business opportunities + Delighting the customer = (1)

Minimising risk + Reducing cost = (2)

Strategic bias = (1) – (2) =

Capability Mix Assessment

For total of 100 per cent, assign a percentage to each of the following five business capabilities to represent their relative contributions to realising strategic priorities in your company over the past five years.

	Contributions
Processes	
Organisational structure	
People	
External relationships	
Information capabilities	
TOTAL	100%

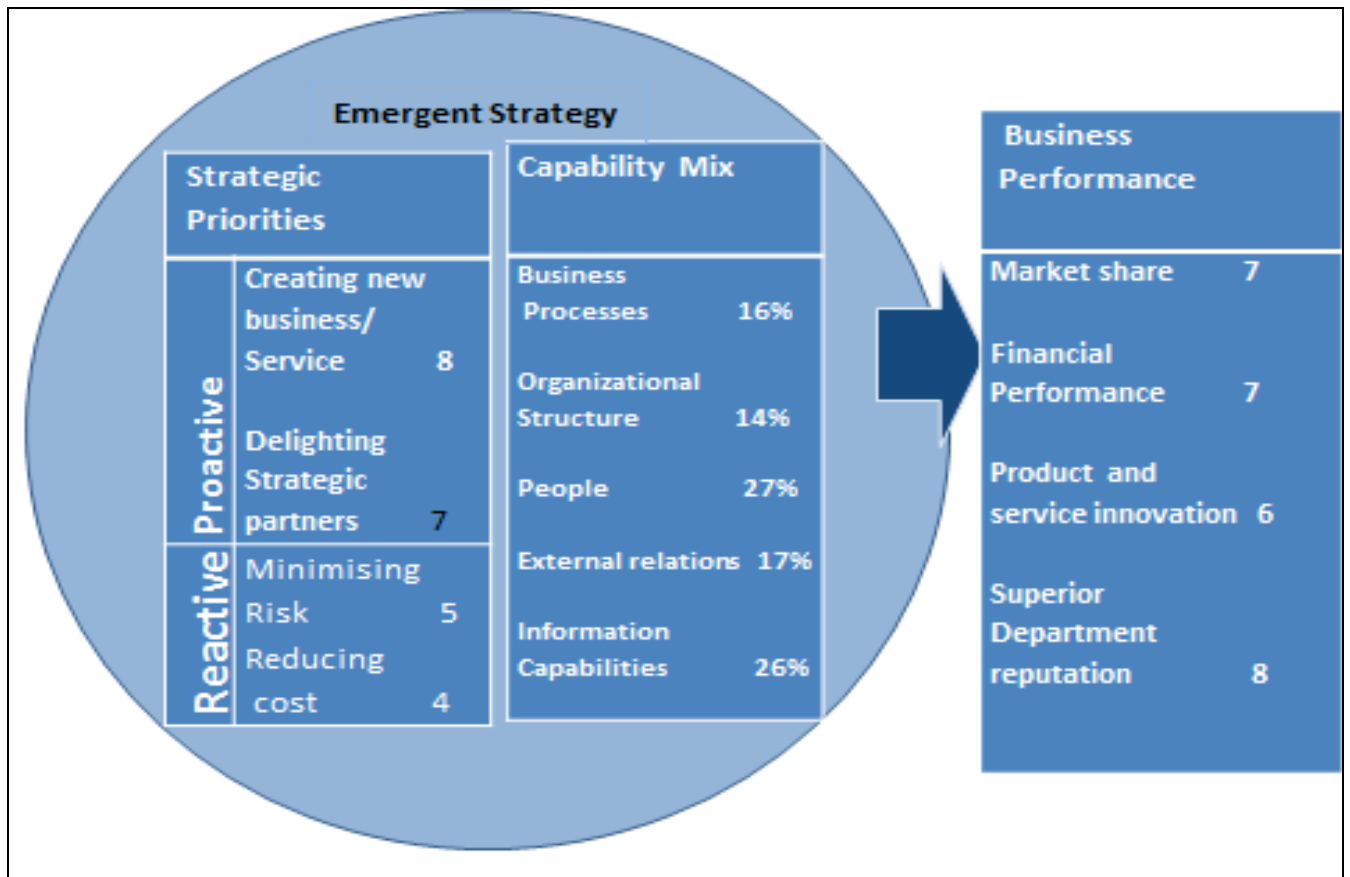
Rearrange the capabilities in order from the highest to the lowest percentage contribution in the following table:

	Contributions
1	
2	
3	

4	
5	
TOTAL	100%

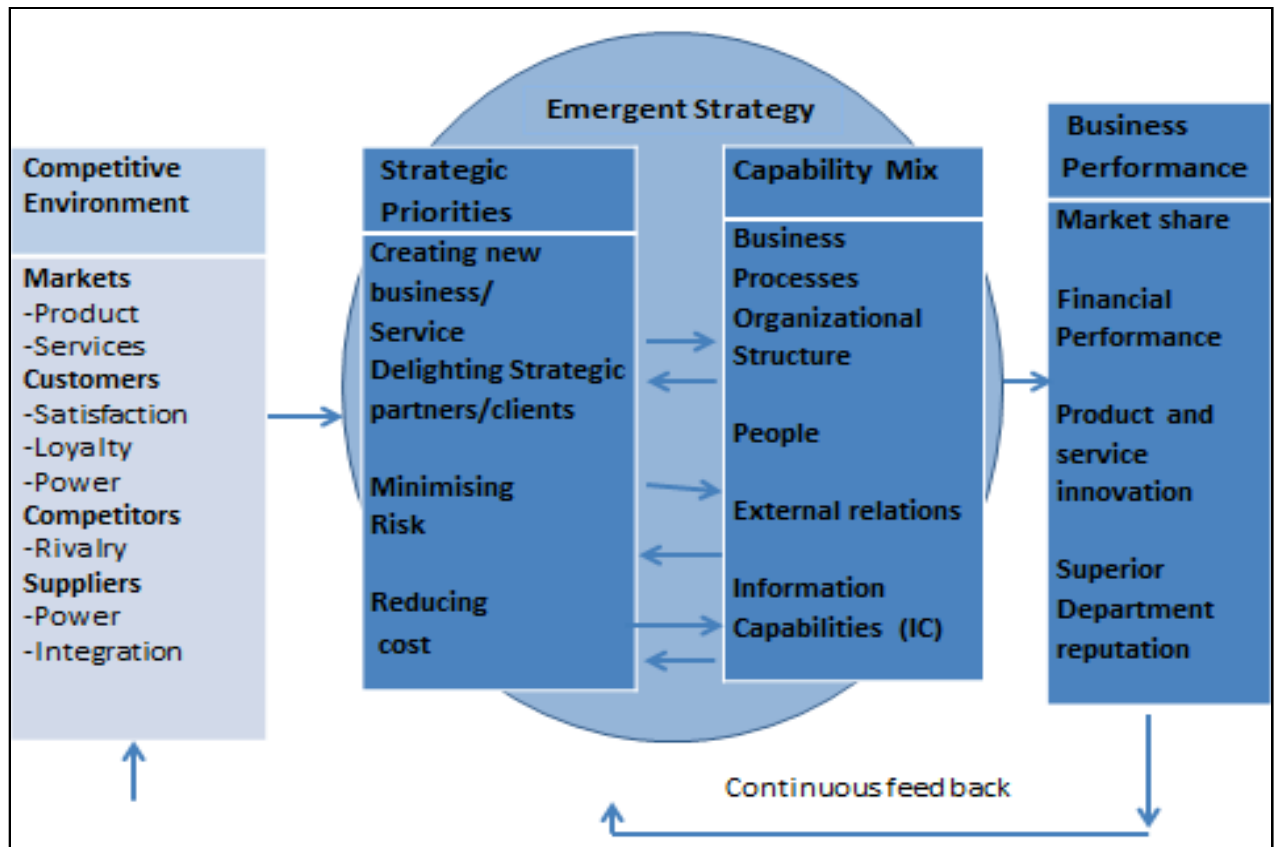
- What capabilities has your organisation emphasized to achieve strategic priorities over the last five years?
- Where has the most monetary investment and management attention been spent in your organisation?
- Does your organisation emphasize processes and organisational structure over IC in its capability mix? What has been the role of external relationships within this mix?
- Is your Organisation a Grower, Makeover, or Cutter?
- If your organisation has a positive strategic bias and a business capability mix that emphasizes IC and external relations over the business capabilities, you are a Grower.
- If your organisation has a positive strategic bias, but your capability mix that emphasizes organisational structure and processes over IC, even though it has made improvements to IC, you are a Makeover.
- If your organisation has a negative strategic bias and your capability mix emphasizes organisational structure and processes over IC, you are a Cutter

(Source: Marchand et al, 2001, 182)



Appendix D: Strategic Priority Assessment

(Source: Marchand et al, 2001, 180)



Appendix E: Eight methodologies for implementing knowledge management

Source:

<p>1. Communities of Practice- bringing people together, often from different department, to share ideas. Involves process of sharing tacit knowledge and development of informal networking. Knowledge stewards, topic experts and cross pollinators</p>
<p>2. Questions and answer forums- bring people together, often geographically dispersed, but with similar jobs, usually through email or chat rooms, to solve problems. It includes Best practice repository and Virtual Naval Hospital</p>
<p>3. Knowledge mapping- performing an audit to discover the knowledge resources within organisations, as well as the development of guide for employees describing and providing location information for these knowledge resources</p> <p>a. Directory of experts with their profiles Dial up databases</p>
<p>4. Expert Databases- similar to mapping of knowledge, these maps experts by identifying knowledge of each experts and providing a guide map to help employees find those experts- just to facilitate the sharing of tacit knowledge</p> <p>a. Connect: expert database where staff creates their homepage outlining their expertise, affiliations, etc.</p>
<p>5. Knowledge Database-explicit knowledge is stored in databases similar to standard document databases</p>
<p>6. News information Alerts-provide for the distribution of selected information and explicit knowledge. Real time news emails to key decision makers.</p>
<p>7. Organisational learning- acquisition of new knowledge by individuals through training, continuing education.</p>
<p>8. Virtual collaboration-enabling people from various areas to work together Knowledge network. Open place forums to allow employees to post messages and questions. Customer information centres. Learning centres. Orientation Database.</p>

ANNEXURE F: LIST OF PARTICIPANTS FOR FOCUS GROUP AND INDIVIDUAL INTERVIEWS

FOCUS GROUP DISCUSSION PANEL LIST

PARTICIPANT CODE	BUSINESS UNIT	JOB CLASSIFICATION
SA	International Property and Facility	Senior Manager
SB	Consular	Senior Manager
SC	Information Technology	Senior Manager
SD	Internal Audit	Senior Manager
SE	Supply Chain Management	Senior Manager

FOCUS GROUP MIDDLE MANAGEMENT: PILOT STUDY

PARTICIPANT CODE	BUSINESS UNIT	JOB CLASSIFICATION
PA	Supply Chain Management	Middle Manager
PB	International Property and Facility	Middle Manager
PC	Human Resource Management	Middle Manager
PD	Security	Middle Manager

INDIVIDUAL INTERVIEWS

PARTICIPANT CODE	BUSINESS UNIT	JOB CLASSIFICATION
RA	Office of the Director-General	Senior Manager
RB	Internal Audit	Senior Manager
RC	Europe	Senior Manager
RD	Protocol	Senior Manager
RE	ICT	Senior Manager
RF	Human Resource	Senior Manager