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DEVELOPMENT OF AN OPTIMAL CORPORATE REAL ESTATE FRAMEWORK FOR ALLOCATION OF OFFICE SPACE FOR CENTRAL GOVERNMENT DEPARTMENTS IN GABORONE, BOTSWANA.

Aristocrat Babaki Daman

A research report submitted to the Faculty of Engineering and the Built Environment, University of Witwatersrand, Johannesburg, South Africa, in partial fulfilment of the requirements for the Award of Master of Science in Building December 2012.

DECLARATION

I declare that this research report is my own unaided work. It is submitted for the degree of Master of Science in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university, nor has it been prepared with the assistance of any other body or institution, group, or person outside the University of the Witwatersrand, Johannesburg.

_____
Aristocrat Babaki Daman

_____day of _____, 2012

DEDICATION

This work is dedicated to the loving memory of my parents, and to the rest of my family for their unwavering support especial to my wife and daughter Zandria and Genesis Daman for their patience and encouragement.

ACKNOWLEDGEMENTS

The writing of this research report involved assistance and support of many people, and I would like to sincerely thank you for your invaluable comments and suggestions that greatly improved the quality of this work.

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ABSTRACT

The unpredictable economic ups and downs, competition and advancement in technology has seen organisations that hold a great deal of real estate (RE) taking greater interest in the way their Corporate Real Estate (CRE) is managed: with the aim of reducing costs and making sure organisations occupy the right amount of space that is flexible to their changing needs. Public sector (PS) organisations are no exception, with tight budgetary constraints and calls for improved accountability in the use of public resources has seen CRE gain strategic importance. Governments have introduced Corporate Real Estate management (CREM) reforms, giving birth to establishment of RE management departments or subsidiaries and outsourcing of certain RE functions to experts in the private sector. PS organisations have replicated similar strategies to those applied in the private sector such as disposal of surplus property to unlock tied up capital, sale and lease back of property, collocation and portfolio management as value adding mechanisms to improve performance of their real estate.

The main aim of CREM is to ensure that the properties occupied by organisations support their core operations. CREM is a discipline that has received a great deal of attention from organisations in the developed world due to pressure to stay competitive and improve shareholder value. CREM is relatively a new concept in developing countries and has not been studied at all in Botswana. The aim of this research report is to explore the current CRE management practices in Central Government Departments (CGD) in Botswana, and how it impacts on efficient use of office space compared to similar sized Private sector and Parastatal organisations. The intention of this research report is to develop CRE framework that will aid in the utilisation of office in government departments. Data was collected through semi structured interviews, open and closed end questionnaires administered to CRE professionals in public and private institutions.

The Report recommends that Central Government Departments establish formal CRE units and the current CRE managers must go for further training in Real Estate management disciplines to improve their expertises in the field. Central Government Departments must take cognisance of the existing national office

occupancy rate of 9m^2 per office space per person and benchmark the use of their occupancy levels against it. It is recommended that CRE managers introduce more open plan office space layouts to improve efficiency in space occupation. The ratio cellular or enclosed to open plan offices is recommended at a rate of 1: 9.

Further investigation is required to establish office occupancy densities across the three sectors using the total number of offices occupants and total useable floor area. It is recommended that the future research adopts a comparative approach that is based on size and similar functions of the organisations.

KEYWORDS: Corporate Real Estate Management; Public Sector, office space use and allocation.

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ACRONYMS

APG	Australian Property Group
CRE	Corporate Real Estate
CREM	Corporate Real Estate Management
CGD	Central Government Departments
DBES	Department of Building and Engineering Services
DoL	Department of Lands and housing
DGBA	Dutch Government building Agency
FTE	Full Time Equivalent
NDP	National Development Plan
NPM	New Public Management
NWP	New working Practices
OD	Occupation Density
AOC	Office allocation committee
SLA	Scottish Local Authority
PS	Public Sector

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1.0 Introduction

This introductory chapter gives a brief overview of the background information on the problem, development of public sector CREM, statement of the problem, research question, hypothesis, objectives, and significance of the study, limitations and the chapter outline.

1.1 Background

The Public Sector in majority of countries occupies a substantial amount of real estate and the main reason for this is to provide social services to communities and to enhance economic development (Kaganova and Stone, 2002: Simon, 1993). The following authors argue that development of real estate and infrastructure services is recognised as a catalyst to economic development as it not only creates employment but it attracts private sector investment which further boosts economic growth (ibid). This is also the case in Botswana. Being a developing country, as government uses real estate as an economic development tool. This above assertion is further supported by the Review Chapter of National Development Plan 9 (NDP9) of Botswana which states that the real estate industry has performed significantly well especially because of large development projects implemented by government therefore creating employment for private sector (NDP 9, 2003). Central Government departments in Gaborone Botswana occupy approximately around 1560 000m^2 of office space of which 65% is owned freehold and 35% is rented from the private sector in the open market (Department of Lands Information Portal, 2001). Government strategy as indicated in the nation's Development plans is to acquire office space for ownership either through construction or outright purchase from the private sector. (NDP 9, 2003).

Khamkanya and Sloan (2008) have indicated that regardless of significant role CRE plays in the public sector performance: it still receives little or no management attention when compared with other functions. This not only results in high space utilization rates and costs but also impacts negatively on the service

delivery bottom line (ibid). In Botswana Central Government Office space is managed by three authorities Department of Lands (DoL) through its Real Estate and Valuation unit, Department of Building and Engineering Services (DBES) and user departments (Department of Lands Information Portal, 2001).. It appears that the role the real estate unit undertakes is still restricted to what researchers in this field such as Joroff et al. (1993) as cited in Warren et al, (2007) term the taskmaster role. As a taskmaster the unit simply serves as a supplier of office space to departments as and when requested, paying no attention at all to how that space is used (ibid). Once office space has been acquired departments are burdened with the responsibility of managing and allocating of that space without relevant expertise in workspace management. This type of practice encourages individual management of properties leading to varying space occupation densities and inconsistencies in space allocation throughout the portfolio and prompting the question whether office space is being used efficiently and whether any standards are used in determining space allocation? Both Gibson (1994) and Warren (2006) point out that CRE management at this level tend to be reactive in nature providing no incentives for departments to use their space more efficiently or let alone monitor performance. Joroff et al, (2001) further points out that the taskmaster role is not only costly in terms of misallocated resources but may thwart creativity in space management as the acquisition of more space for departments may not be the optimal solution when other space management solutions could be explored.

Both public and private sector organizations spend large sums of money to provide office space to house their employees and render services. Therefore the amount of space they occupy and how they occupy it, has major implications on their bottom-line.

1.2.1 Providing Public CRE organisations with information in future policy decisions

If organisations are aware of amount of office space their employees occupy this could be used as a reference point in acquisition of space when required and can also be used to determine the number of employees that could be employed per building for reasons of assessing the effects of the development on the economy.

1.2.2 Providing a bench mark for CRE organisations in the public and private sector

Organisations to stay competitive they need to emulate the best practice that have been established by champions in the industry. This is the case for CRE organisations that have established efficient office space occupancy standards can be used as a benchmark by organisations that are seeking to improve their current standards. In Botswana private sector organisations have already established office space occupancy benchmarks which the public sector could follow to reduce their high occupancy rates.

This paper tries to establish the factors which may impact on the way office space is being occupied in the Public Sector in Botswana compared to best practices in literature and against like for organisation in both Private and Parastatal sectors

1.3 Statement of the Problem

There is a deliberate move by government to utilise real estate especially office space to meet its objectives of economic development and provide social services. NDP 9 recommends that:

*"*In addition to purchasing existing office blocks for owner occupation, Government will continue construction of offices for the various Ministries and Departments*"*.

Government still plans to acquire even more office space without ensuring that the relevant expertise and real estate management policies are available to effectively

get the best out of that space. Warren (2006) emphasizes that the way office space is currently managed may impact negatively on the future space requirements. Presently as alluded to above it appears that individual departments are given the responsibility for space management and allocation. This scenario leaves departments to formulate their own diverse space allocation and management solutions leading to inconsistencies and inefficiencies in the use of space.

In many countries the public sector has taken initiatives to reform the management of real estate through introduction of a centralised real estate formal unit that is responsible for real estate budgeting, policy formulation on acquisition, disposal, occupation standards, work strategies and introduction of internal rentals in a view to managing real estate more effective to add value (Kaganova and Stone, 2000)

In sum the RE unit with its technical expertise on management should take the lead and formulate CREM strategies and solutions depending on plans of user departments to efficiently create work environments that will enhance productivity. Rather than let departments occupy cellular style offices allocated according to status which limit innovation in efficient use of space and inhibit productivity due to high churn movement. The purpose of this study was to explore the best CREM practices and find ways of adopting it to public sector in Botswana.

1.4 Research questions

This research answers the following question:

How efficient is the use of office space in central government departments?

In addition to the main question several sub-research questions also arise in this study, the answers to which would significantly contribute to how efficient and effective office space is being used compared to best practices.

- What is the current CREM practice in central government departments?
- What is the total office floor space that is occupied by each department?

- What are the numbers of employees per each department?
- What is the total space consumption per employee?
- What is the number of employees per workstation?
- What are the determinants of space allocation in each department?
- What government office accommodation standards, space targets and design principles have been established to achieve consistency?
- What is the property management strategy that is in place?

1.5 Research Hypothesis

The existing Corporate Real Estate (CRE) management approach of Central Government Departments in Botswana results in an inadequate efficiency in the usage of office space.

1.6 Objectives

The main objective of this research is to determine the extent to which office space is efficiently used in Central Government Departments in Botswana when compared to its counterparts in the Private sector and Parastatals. The argument behind this research is that efficient management office space will not only result in value for money for government departments but will also encourage adoption of space management practices that reduce space utilization rates.

The objectives of this research are to:

- To determine the current CREM system. To find out the total floor space that is government owned and that is rented.
- To find out the total floor space that is government owned and that is rented.
- Establish the number of employees per department.
- Establish the occupancy density per employee in each department.
- Identify the number of employees per workstation in each department.

- To find out the current and future needs of office space per each department.
- Establish whether the workspace environment is tailor designed to accommodate the different work needs of the employees in each department.
- To find out whether there are any office accommodation standards, space targets and design principles have been established to achieve consistency.
- To establish whether there are any accommodation management strategies in place to address the use of office space. Due to similar characteristics between Public, Parastatal and Private sector office spaces a comparison will be undertaken to benchmark the space management.
- Due to similar characteristics between Public, Parastatal and Private sector office spaces a comparison will be undertaken to benchmark the space management.

1.7 Research Methodology and Limitations of the proposed Research

The research focuses on the use of office space in central government departments in the City of Gaborone in Botswana and how Corporate Real Estate Management (CREM) activities and policies relating to the use of office space compared to best practices identified the CRE in literature. The study focuses mainly on selected Head offices in Gaborone taking in to account the following aspects ownership, sizes and location and comparison of occupancy densities. The findings of this study will only be generalised to headquarter offices throughout the country depending on size and location.

1.8 Importance of the Study

It is expected that the findings of the study will:

- Reveal the need for policy makers and public real estate managers to adopt CRE strategy to guide management of their real estate.
- Provide guidance on an appropriate organisational structure to manage real estate management.
- Guide government departments in adopting best practices in CREM in order to improve on efficiency in the use of office space.
- Guide departments on the use of property as a resource which can be measured and its performance improved.
- Help departments collect vital property information that would aid in decision making,
- Assist departments to be able to benchmark their office space use efficiency against best performance in the industry in order to get value for money.

1.9 Proposed outline of Chapters for the research report

1.0 Introduction

This chapter covered a short but comprehensive background to the research problem by discussing the concept Corporate Real Estate Management.

- ❖ Outline of the, statement of the problem, Research questions, aims and objectives, research hypothesis, limitations and the importance
- ❖ Outline of the Subsequent chapters

2.0 Literature Review

This chapter reviews of the current literature on CREM, workspace management, office space allocation practices in the public sector. This chapter gives an overview of what CREM entails in terms of the structure and decision making process. It further focuses on the alignment of the CRE objectives with the core business objectives and the CRE information that is required to carry out

performance monitoring and benchmarking of office space use. This all include current practices used in CRE to improve efficiency and effectiveness in space use.

3.0 Research Methodology

This chapter describes the methods and techniques used to test the hypothesis. It also outlines techniques used for data collection, analysis and touch on limitations of the methods. It will give reasons for selection of the research design as being appropriate to answer the research question

Chapter 4: Data Presentation and Analysis

This chapter presents and discusses the findings of the study with reference to the key themes of work place environment, accommodation strategy and the influence of CREM activities on efficient and effective use of space in central government departments.

Chapter 5: Conclusion and Recommendations

This chapter concludes the study, confirms whether the research questions and objectives have met and puts forward recommendations of research.

2.0 Literature Review

2.1 Introduction

The purpose of this chapter is to provide a critical analysis of the available literature on Corporate Real Estate Management (CREM). Literature has revealed that CREM started taking centre attention on the agendas of senior management in most corporations in the late 1980's after Silverman and Zeckhauser published their paper 'Rediscover your companies real estate' (Warren, 2006: Gibson and Luck, 2006). Silverman and Zeckhauser (1983) as cited in Warren (2006) pointed out that real estate constituted a significant portion of most corporations' asset base and that little attention was paid to this untapped resource with little or no information on its performance. Thus it is clear why this became a major concern for corporations as organizations started realize the significant benefits that their real estate could have on the performance of their business.

Warren (2006), Gibson and Luck (2006) and Manning and Roulac (2001) all point out that CREM is centred on two perspectives; the financial and the broader business perspective. The financial perspective of CREM was more associated with the evolution of CREM in the early 1980's and focused more on cost cutting and control measures in operations. However Warren (2006) points out that when it comes to efficiency the objective is to operate office space at lowest cost per square metre and the disadvantage of using efficiency measures only is that managers end up foregoing important operations which could add value in the long run to organisations in order just to be within budget. In the 1990's the focus of CREM began to shift towards a more strategic approach that tried to link CRE space with the broader business needs of organisation as such human resource, information technology to create more user friendly workspaces (Manning and Roulac, 2001). Instead of focusing only on financial measures that are related to operations the business approach integrated measures of effectiveness in the use of space such as promoting productivity, flexibility and customer satisfaction surveys (Ibid, 2001). Lydia de Puy and Pity van der Schaaf (2000) observed that where only financial measures are used there is a tendency to exclude needs of

other stakeholders as such as productivity and flexibility which target the needs of the employees in terms of space configuration, location, appearance and functionality. The financial perspective tends to be more focused on the needs of management and CRE managers having to prove their worth to organizations by meeting financial targets without taking into account the needs of employees and customers.

Therefore in sum for CREM to add value to organisations a holistic approach that integrates both efficiency and effectiveness in the supporting space is seen as crucial to its advancement and adoption by various organisations (Warren, 2006).

2.2 Public Sector Vs Private Sector and the implication for adoption CREM

Like all other improvement initiatives, CREM emerged in the private sector and slowly worked its way into public sector organizations. The question as to whether CREM as a private sector initiative can be introduced in the public sector and achieve the same results was a topic of debate for the last three decades (Kaganova and Stone, 2008). Public real estate manager have emulated best techniques used in management of non real estate corporations to improve their management of real estate (ibid). Lindholm (2005) concluded in her findings that management of CRE in both public and non real estate corporations incorporates similar principles in the management of their real estate assets: but observes that CREM cannot be adopted wholesale without any modification to the general management in the public sector (Lindholm, 2005).

New Public Management (NPM) agenda calls upon the public sector to replicate successful management ideas from the private sector counterparts (Boyne, 2002). The aims of NPM as summarised by Ferlie et al. (1996) as cited in Lindholm (2005) is for public sector to adopt private sector best practices: that is to operate more businesslike, to have a leaner work force and that is more efficient and cost effective. The improvements to the management of CREM in the public sector emanated from the reforms that have been adopted by the general management (Lind and Lindqvist, 2005). The term that has become synonymous with the management of most public sector organisations is accountability: meaning that

resources must be used effectively and the results must be clearly visible (ibid). This has seen many countries taking the step in adopting private sector accounting systems with a view of overhauling their performance and fostering change (ibid).

Kaganova and Stone (2000) stress the need for adoption of CREM best practices of non real estate corporations as key to improving the management of the public sector's real estate. The argument behind is because of the evident similarities in the use of their operational properties (ibid):

These similarities are as follows (ibid):

- That real estate in occupation by both corporations is not their core function even though it makes up substantial part of their asset base.
- The real estate portfolio can be classified into space in use by the corporations and surplus property.
- The historical lack of use market value in determining the value of their properties.
- Another common feature is that real estate decisions are not made by real estate professionals (either made by Executive boards or political committees).

Critics of the New Public Management (NPM) paradigm have emphasised the fundamental differences that supposedly exist between private and public organisations as an impediment to transferring of private sector management initiatives to the public sector. Schaaf (2002) as cited in Lindholm, (2005) argues that private and public sector organisations operate in totally different environments which require CREM to be adopted to fit the public sector context.

Lindholm (2005) has summarized the differences between public and private organisations in terms of public sector's characteristics relative to those of private sector:

Table 2.1 Differences between public sector and private sector organisations

	Private Sector	Public Sector
Drivers	Profit motive, financial profits, competition	Social motive, social goals and policies. Monopolies
Finance	From customer	From taxpayers
Primary stakeholders	Shareholders, board, employees, customers, suppliers and local community	Global government, elected members, special committees, officers, customers, suppliers, taxpayers, local electorate and the general public
Corporate objectives	Profit satisfying, survival, market share and image	Democratic and customers focused, delivery of public services, political advocacy, sustainability (Local economic development and environmental sustainability)
Purchasing objectives	Cost reduction, quality improvement, innovation transfer and environment management	Value for money/ best value, local economic development, environmental improvements, profile promotion, cost reduction, quality improvement, innovation transfer.
Purchasing legislative framework	Code of ethics, internal purchasing manuals, environmental legislation	procurement legislation, domestic procurement legislation, standing orders, financial regulations, scheme of delegation, code of ethics, internal purchasing manuals

Source: adopted from Lindholm (2005)

In conclusion despite the differences that may exist in the two sectors, both share the objective of harnessing the best value their CRE has to offer to improve service delivery. However the strategies that may be borrowed will have to be adapted to the needs or objectives of that particular institution to get benefits. This point is reiterated by Gibson and Luck (2006) who draw attention to the need for any CRE strategy to be responsive to organizational and environmental changes, which in turn will impact on the way CRE is managed and ultimately on the use of space in the organization's real estate portfolio. In order to minimise costs and gain leverage, both the private and public sector are now beginning to realise the importance of proactive CREM (Manning and Roulac, 2001).

The public sector in Botswana is no exception to this paradigm shift. Therefore CREM issues within any organisation anywhere play a significant factor that requires attention early in strategic decision making process. The assessment of an organizations real estate workplace and management practices helps to benchmark the operating and occupancy metrics within the organizations real estate portfolio and results in the improvement in the usage of existing office space (Gibson, 1994).

There is a large potential for space efficiency in government departments and this can be achieved adopting a more strategic approach to managing office accommodation. The U.K National Audit Report of 2006 has identified the following CREM improvement efficiency measures;

- Reducing the demand for workstations through increased desk sharing
- Subletting excess space to others (providing this is permitted under the terms of the lease)
- Reorganising existing offices into space efficient layouts
- Exploring the scope for achieving savings through moving premises
- Achieving economies of scale. Sharing offices within and beyond the sector potentially increases bargaining power and facilities, the sharing of services and back office functions.

These measures to be implemented require a sound accommodation strategy clearly spelling out; how the organisations short and long term space solutions could be achieved. Therefore departments need a coordinated approach to CREM to gather performance information and compare it with other departments and private sector organizations using common measures of efficiency use of space. Gibson (1994) points out that property can facilitate the achievement of service objectives but it must be incorporated into the service strategies of an organization or department at an early stage.

Since property is an important resource many departments have started to take steps to improve their management practice to rationalize the use of real estate space and align it to the services they deliver. The pace of change in space utilization rates continue at the pace with new technological changes and working practices requiring CRE executives to continually adapt the work environment to support the business objectives of the organization and deliver an effective workplace design (Gibson, 2007). Organisations are changing and expect to have to rapidly increase their flexibility, both in terms of the nature of the space they occupy and the terms under which they occupy the space (Warren *et. al*, 2007).

The available literature on Corporate Real Estate office use clearly reveals that office space is the second largest administrative cost of any organisation after personnel (Office Space Review, 1997). The majority of this cost is directly proportional to the amount of space occupied. Therefore many organisations realising the high costs of office provision have employed strategic property solutions such as setting office density targets or benchmarks to ensure that space allocation is minimised and regulated.

2.3 Occupation Density

Both government and private sector organisations pay attention to efficiency measures based on square metres per person. Warren (2003) states that measurement of occupation density (OD) is important in the preparation of strategic asset management plans. It provides facilities managers with a measure of how efficiently their office environment is being utilised and, more importantly, with the long – term trends in the office density which will provide hard data to indicate future space requirements. He further identifies the two factors used in the computation of OD as being the total lettable area or net internal area and the number of employees (measured in terms of the total number of full time equivalents (FTE), making allowance for part – time and casual workers). Density is the net lettable area divided by the FTE. Thus the higher density of occupation equates to low square metre figure and corresponds with greater intensity of use than a larger square metre figures which provides more space per person and lower density (ibid).

2.2.3.1 Factors that affect Occupation Density

There are many factors that affect occupation density but in this study we mainly considered the following; style of CRE management, office design, space allocation and allocation standards, style of working, total number of staff and use of ICT. In the past office space allocation was based on work grades and status to assign space to individuals in an organisation.

Office space allocation

Historically space allocation typically depended on an employee's position or seniority which was tied to a specific space standard or office size (U.S. General Services Administration, Office Space Use Review, 1997). The current approach is more team oriented towards, collaboration over entitlement with modern office layouts designed to optimize the benefits of technology and human resource strategies and to encourage knowledge sharing and employee interaction to improve customer service (ibid).

Office Space Layouts; Open plan vs. Cellular office

Designing more efficient and effective space layouts such as open plan and activity based environments that influence and support the way people work can add value in terms of productivity, service delivery bottom line of organisations. Occupancy standards can reduce the amount of space required by an organisation and therefore reduce occupancy levels and associated costs. There has been a move from the traditional cellular office to more open plan office arrangements as one way of achieving efficiencies. This is evidenced in a study of comparison of OD carried by the property consultancy Gerald Eve et al (1997) that indicates that open plan office had more efficient occupancy standards of $14.5m^2$ when compared to cellular offices which averaged $21.6m^2$.

Lease or Owner occupied office space

Another factor that appears to have impacted on the efficient use of office space is the tenure of the buildings. Many researchers have demonstrated that leasehold properties tend to be occupied with lower densities when compared with owner-

occupied offices because leasehold office occupies tend to be more aware of the rental and other cost related to leasing as opposed to owner occupies who think of their offices as a free good without associated costs.

Table 2.2 Comparison OD by Tenure

Property Function	Tenure	OD per m^2
Administration	leasehold	20.8
Administration	Owner occupied	11.6
Branch	leasehold	15.4
Branch	Owner occupied	29.4
computer	leasehold	11.9
computer	Owner occupied	28.4
HQ	leasehold	15.2
HQ	Owner occupied	20.1
Other	leasehold	13.3
other	Owner occupied	17.3
Sales	leasehold	10.8
Sales	Owner occupied	23.2

Sources: Adopted from Gerald Eve e tal (1997)

In summing up the research carried out by Gerald Eve et al (1997) clearly supports the contention that leasehold occupied properties tend to be occupied with lower occupancy densities compared to owner occupied properties.

Work styles

Office space is a resource that can be leveraged to gain better performance of a corporation's goals and objectives (Mohr, 1996) as site in Ilozor and Oluwoye (1998). To improve efficiency and effectiveness in space use, space improvement strategies must be part of the overall CRE strategy so that the performance can be evaluated and the necessary resources made available. Office environments are changing as new concepts such as space less growth, new information and communication technologies influence how space is used and how long its occupied (Warren, 2003).

Adoptions of New Working Practices (NWP) have had a positive impact on achieving efficiency in use of office space. Warren (ibid) observed that the average OD of an organisation using NWP (e.g. hotelling, hot desking and desk sharing) ranged from 16.7 - 18.7m² whilst those that didn't averaged 21.1 m² (ibid).

Examples of Work Style Strategies in the Public Sector

The traditional office environment of both central and local governments has criticised for being occupied with high occupancy costs (Khamkanya and Sloan, 2008). NWP supported by appropriate information technologies, workspace that is adaptable to change has become the cornerstone for achieving efficiency (ibid). This recent trend is gradually being acknowledged and adopted by public sector organisation with the view of leveraging CRE to optimally and efficiently allocate space (ibid)

Attempts have been made by public sector organisation to use office space more efficiently and effectively by using performance standards and adopting flexible working practices (ibid). This evidenced in a model proposed by Sloan and Khamkanya (2008) which recommends that the desk allocation ratio of public offices should not exceed 1 desk per 1 person. This means that a member of staff should not own two or more working desks/workstations in the organisation office at the same time.The prescribed desk allocation ratio of 1 desk: 1.25 FTE (4 desks per 5 people, based on full-time equivalent calculation may be used as the maximum desk allocation ratio in the lowest flexibility workspace area. Other efficiency performance recommendations include maximum OD of office space should not exceeded at 15 sq. m. per Full-Time Equivalent (FTE) and Occupancy cost per area should not exceed £400 per sq. m. If these targets can be achieved, the potential saving is around 25 per cent of current annual occupancy cost (ibid).

The main reason for incorporating flexibility in the management of workspace is to curb liabilities associated to property occupation costs, reduce frequent relocation of staff and to provide the suitable area for each wok activity. (ibid**)** Workspace management concepts aim to allocate space based on the activities being carried out and the time spent in the office by employees (Gibson and Luck, 2004). Workspace can be divided into the several working environments in order to use space effectively and intensely and they include:

a) Common Individual working: the typical open plan office space set up which accommodates employees carrying out routine work which does not

require confidentiality or concentration. This area requires the high degree of standardisation ICT and wireless.

b) Concentrated area: a cellular or enclosed office layout that accommodates an employee's carrying out specific work functions requiring concentration and confidentiality. These are characterised by high flexibility and standardization of ICT.

c) Multi task areas: office space dedicated to teaming working activities or collaborative work. These are also characterized by high flexibility of ICT and wireless networks.

d) Group working areas**:** the formal or informal meeting areas dedicated to multi tasking and mutual interactions.

The concept of flexibility brings into perspective the working environment versus the working activities being carried out by an organization and the question of suitability and advocates for office space allocation to be done as and when it is required by a particular employee for a specific activity (ibid). There is need to establish the different working environments in an organisation as in the case Scottish Local Authorities (SLA) this ranged from individual office, open plan, informal meeting, formal meeting, team working, and outside office areas. It also took into account time spent working in different work environments (ibid). This enabled the researchers to establish a suitable portfolio flexibility model for Scottish Local Authorities. As presented in the survey of SLA the time spent in the different working environments varied considerably. The findings are summarized in Table 2.3 below:

Table 2.3 Summary of work environment location and time spent in each environment

Working Environment	Working time spent in working environment (%)
Individual or personal office	34%
Open plan	25%
Team working room	15%
Formal meeting room	12%
Outside office	8%

Basing on the above results the Sloan and Khamkanya (2008) classified the working environments into Low flexibility workspace, High Flexibility work space and Adhoc workspace and in doing so recommended allocation ratios per work station as follows;

Low Flexibility Workspace:

a) The workspace is to be characterised by 1 desk: 1.25 FTE (4 Desks per 5 people based on Full time equivalent calculation) as a maximum. Staff identified as suitable for occupying this space would be those who spend at least 75% of their typical week in the office.

High Flexibility:

b) This space should be assigned to employees who spend less than 75% of their time in the office and in addition this space may be assigned to part time staff who spend 50% of their time in the office. The desk allocation ratio will be 1 desk: 1.5 FTE (2 Desks per 3 people, based on full time equivalent calculation).

Adhoc Workspace:

c) This workspace area will accommodate staff spending less than 50% of the time in the office and desk allocation ratio will be more than 1 desk: 1.5 FTE.

The proportion between unoccupied and occupied space can be used to increase density of desk allocation in an office: promotion of activity based workspace in public offices like those of the SLA's can be of benefit in terms of churn cost saving and efficient and effective use of office space (ibid).

Anticipated Problems

Adoption of this model may be hampered by budget constraints, not having the relevant policies such as flexitime or remote working and may prove difficult to adopt as they may not be provided in the current regulations (ibid). Problems may be experienced in fully implementing the proposed model in buildings

characterised by traditional cellular office configuration that inhibits interaction and mobility (ibid). The other problem that might hinder this type of model is lack of relevant property information as it may take a while to collect and this could also a further financial burden (ibid). The other shortfall that can be experienced in adopting this model may be the already prevailing culture in public sector organisation and bridging the gap may take some time (Gibson and Luck, 2004). Lastly no having the appropriate technology which is also tied to financial constraints could also prove problematic. Public sector organisation may experience some or all of these limitations but what must be borne in mind is that this model can be adapted to fit the current situation and incremental changes made as and when finances permit. Flexible working principles have a proven record in improving efficiency and effectiveness in space use which in the long term will have affect on organisations occupancy cost.

2.3 Corporate Real Estate Management Defined

This section of the research report will define what CRE is and try to establish a common meaning from definitions of CREM given by previous researchers in this discipline and further explore the style of management used by organisations affects how space is used.

2.3.1 What is CRE?

Hang and Ooi (2000) define CRE as land and buildings held by either public or private organisations to perform their everyday duties and not for investment purposes. Manning and Roulac (1999) as cited in Hang and Ooi (2000) define CRE as real property where the operational activities of corporations take place. Therefore it is quite clear from these definitions that office space in use by corporations whether leased or owned constitutes CRE (Hang and Ooi, 2000). Basing on the definition of CRE therefore public sector office space either occupied (own or leased) by central government departments to enable the provision of social services to communities and enhance economic development would be considered as CRE asset as its purpose is for use. The main distinct factor about CRE to organisations is not the investment value but how it can be leveraged to add value to the operational processes.

Therefore CREM concerns the way space in use by both private and public organizations is efficiently and effectively managed to add value to its operations.

2.3.2 CREM Defined

Kaleva and Olkkonen (2001) defined CREM as "*The management of a corporation's real estate portfolio by aligning the portfolio and services to the needs of the core business (processes) in order to obtain maximum added value for the business and to contribute optimally to the overall performance of the corporation*"

Gibson (2000) defined CREM as:

"*The economic, efficient and effective acquisition, integration, co-ordination and disposal of real estate resources in order to achieve (ever changing) organisational goals".*

When comparing Gibson's and Kaleva and Olkkonen's definitions, both argue that there must be integration of RE resources with the goals of the organisation: and the main reason must for this must be to influence its support of business needs of an organisation in order to add value. Even though Gibson's definition is focused more on ownership of property it only considers RE strategies of acquisition and disposal in the value adding process of CREM, it's good to point out that the key to adding value through CRE is to ensure that there is synergy between what the organisations want to achieve and the CRE strategies. Therefore depending on the goals they have set to achieve different organisations will explore and adopt different strategies that will enhance performance through their RE.

Bon (1994) articulates a broader definition of CREM:

"*CREM concerns the management of buildings and parcels of land at the disposal of private and public organizations that are not primarily in the real estate business. An organization that occupies space is in the real estate business and needs to manage it properly. CREM covers the entire range of activities concerning portfolios of buildings and land holdings: investment planning and*

management, financial planning and management, construction planning and management, and facilities planning and management. The chief real estate officer is the top executive concerned with an organization's property and needs to integrate all these activities into a coherent strategy" (ibid).

The definitions of CREM as defined by the authors above emphasises that effective management of real estate in both private and public organisations must integrate corporate real estate resources and align them to the core business in order to add value. The different definitions have a consensus on synergy of the CRE strategies to overall goals to maximise value, but the preferred definition for this research is Bon's as it is a more holistic and exhaustive definition that covers all perspectives of CREM acquisition, the role of CRE unit in management and decision making and incorporates the aspects of facilities management which its main focus will be on the efficient use of space in the study.

2.3.3 CREM Style

The first objective of this study was to determine the level of CREM practices in the different sectors and the starting was to compare the following themes as identified by literature as essential elements to effective management. The following elements are adopted from a studies carried out by McDonagh (2002), Simon (1993), Tay and Liow (2006), Liow and Ingrid, (2008).

- Existence of real estate authority
- Existence of corporate real estate inventory,
- Senior reporting level,
- Structure of real estate unit
- Formal real estate plan,
- Real estate staff size relative to real estate assets.

The following themes will be used to examine the current level of CREM in each of the three sectors; private, parastatal and public. Literature on the following

themes is summarised below under the following headings with the view of illustrating the importance of these indicators to effective CREM.

2.3.3.1 CREM Organisational Structure

CREM organisational structure covers the following management components as follows below.

Existence of Formal CRE Unit

The existence of a CRE unit that coordinates RE activities and functions is crucial to effective management as evidenced by high percentage rate responses (84 - 86%) of private sector participants, which are viewed as better performers in management of their properties compared to the public sector (Simon, 1994). The importance of the existence of a CRE unit is also emphasised by Mcdonagh (2005), where 78% of respondents indicated as having a separate CRE unit.

CRE unit structure

Zeckhauser and Silverman (1983) as quoted in Tay and Liow (2006) identified that the CRE unit can either be organised into three basic structures;

a) Decentralised structure: in this sense CRE management activities and decisions are made by the user departments.

b) Centralised structure: this is whereby all the activities and decisions concerning CRE in organisations are coordinate and managed by a single department.

c) Subsidiary: this is whereby all of the CREM activities of the organisation are transferred to an outside entity or one that is owned by the organisation (ibid).

In comparing the structures Simon (1993), Kenley and Heywood (2000) argue for a centralised structure as the most optimum as it brings about more consistency, better coordination of CREM functions and better management of an organisation’s portfolio, as opposed to a decentralised structure where each unit

manages its space differently leading to inconsistency and individual management properties in a portfolio. They further point out that a centralised structure brings RE closer to the organization's financial objectives because of the reporting level of the unit head to senior management. The critics of the centralised structure disagree and point out that this structure is more associated with a cost control and may not view CRE as an asset that can generate income for the organisations and advocate for profit centre that would bring in revenue (Lindholm, 2008).

CRE Reporting Level

One important factor under the CREM unit as alluded to by many researchers is for the head of unit to report directly to the CEO or top management of organizations: as this makes the senior management aware of the value added by CRE strategies to the organisation. This further forges the link between the CRE strategy and the overall organisational strategy as the head of CRE unit has input at the strategic planning level (Kenley and Heywood, 2000; Lindholm, 2008).

Role of CREM

The CREM structure also includes an examination of the services of the CREM unit renders to the organisation i.e. an examination of real estate activities undertaken by the CREM unit (Tay and Liow, 2006: Lindholm, 2008). Joroff et al (1993) as cited in Lindholm (2008) has identified six different successive roles a CREM real estate must go through to add value to the organisation (Deakin, 1999: Lindholm, 2008);

Taskmaster:

a) At this level the role of the CRE unit is to supply user departments with space as when requested within a stipulated budget. The CRE unit undertakes a reactive approach to management of properties and achieving efficiency savings in this way may be detrimental to an organisation. As space obtained might not be flexible enough to cater for improvement in productivity and may affect the organisations bottom line performance.

Controller:

b) The Controllers main aim is cost reduction therefore they manipulate the existing space by devising occupation standards to gain efficiency in use of space therefore reducing occupancy costs. This is where alternative solutions for use of surplus are devised and surplus space sold to earn income for reinvest in operations.

Dealmaker:

c) At this stage the dealmaker tries to solve the problems being experienced by departments using RE strategies. This is where solutions such as leasing over owning are explored and incorporating flexible lease terms such as an early exit strategy. At this level the CRE unit deals mostly with transactions.

Entrapreneur:

d) At this level CRE is treated as one of the factors of production such as capital, technology and human and has to be seen as adding value to the organisational needs. Like other factors of production CRE must be planned and budgeted for. At this level CRE unit usual assumes a profit center role and charges user departments rent for space they occupy.

Business strategist

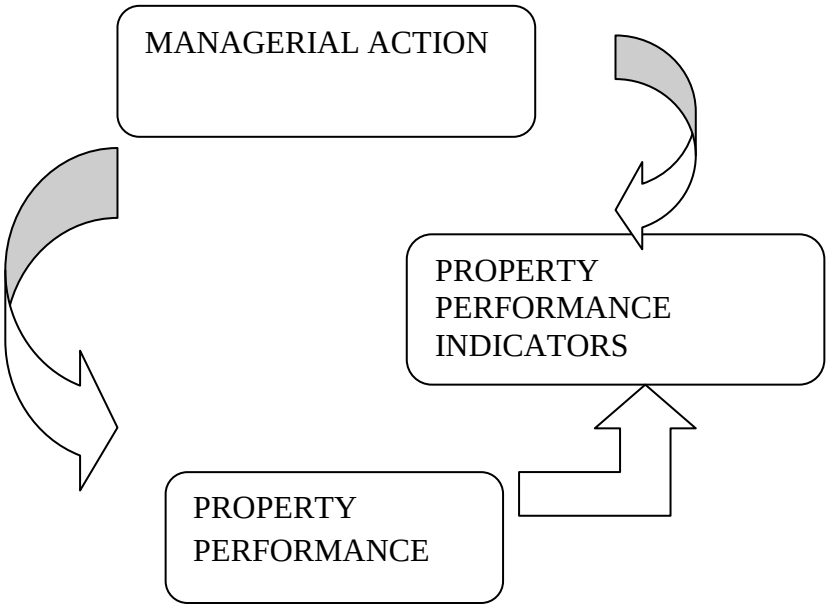
e) At this level the CRE role is to integrate all the organisations resources; human, technology, workplace to the business strategy in order to add value. This is the level CRE units aspire to reach but as pointed in the literature many corporations a still struggling to get there.

The CRE manager plays a strategic role in the planning process and this echoed in definition of given Edward and Ellison (2004) "*It is the role of property manager to provide options to achieve the overall business goals and to help solve business problems with property solutions. The property manager should be proactive and interactive, working with the board of directors to anticipate the business needs,*

and planning ahead to translate those needs to property requirements. In addition, she should be identifying opportunities where property might add to the business performance, giving it a competitive advantage over other businesses by increasing the net value of its activities (i.e. increasing its sales and/or decreasing its cost)" (ibid).

Bon et al (1994) points that the key strategic role CRE Management is to come up with a system that facilitates the flow of information between portfolio performance and management for every identified action as shown in Figure 2.1 below. This feedback loop creates the link towards incremental improvement of real property performance, guided by the ever-changing objectives of an organization. The authors further argue that continual incremental improvement that is always in line with changing organizational goals is the "theory" behind CREM. CREM therefore focuses on the provision of tools that would help take an organization's real property portfolio in the right direction, while relying on the business strategy for determining what direction is right for the organization.

Figure 2.1 feedback loop



A feedback loop between managerial action and property performance as proposed by Bon et al (1994)

In conclusion, the research will investigate whether CGD have formal established CREM units and what their functions are in effectively managing the real estate resource. The research will also examine the hierarchy of decision making and the interaction of the CREM unit with the senior management in taking into account properties strategies that add value to the organization.

2.3.3.3 CRE Planning

CRE Strategy

CREM emphasizes that an organization that seeks to manage its properties effectively must first come up with a CRE strategy that will act as a framework for decision making (Gibson, 1994: Simon, 1993: Tay and Liow, 2006). This CRE strategy must be properly documented, this evidenced in the study carried by Simon (1993) where private and public sector organizations were quizzed on having a formal documented CRE strategy and the results are as indicated 54% of private sector compared to 13% of public sector operated with a formal CRE strategy. Simon (1993) concluded that private sector organizations tended to outperform their PS counterparts because they had formulated and documented their CRE strategies so that their plans are explicitly known. The first priority in developing a CRE strategy is to know why an organization is occupying space (van der Schaaf and de Puy, 2001). They cite an example of the Dutch Government Building Agency (DGBA) and the CRE strategies it formulated to meet the service delivery needs of user departments by capitalizing on location and corporate identity as ways to improve accessibility and visibility to their customers (ibid).

The CRE strategy is a key requirement that proactive management advocates and is very instrumental in implementing an organisations overall strategy (Nourse and Roulac, 1993). They further point out that whichever strategy an organisation decides to adopt determines the resources required to implement it. They go onto state that in formulating CRE strategies the following questions must be taken in considered (ibid):

a) What role does real estate play as a factor of production in service delivery?

b) Is real estate an operational or ancillary asset to service provision?

c) What role does location have on effective provision of service delivery?

d) How important is communication or interaction between employees?

e) What amount of space is required per employee to perform that particular type of function?

f) What image is the organisation trying to portray to both its internal and external client?

Nourse and Roulac (1993) concluded that historically organisations formulated CRE strategy that focused on improving efficiency in organisations, gravitating towards the financial objective of cost reduction. They pointed out that more recently there has been need to encompass other strategies that are oriented towards achieving effective work environments. The alternatives strategies as summarized by Nourse and Roulac are captured in Table 2.3 below:

Table 2.3 Alternative real estate strategies

1. Occupancy cost minimisation - Explicit lowest-cost provider strategy - Signal to critical constituencies of cost-consciousness
2. Flexibility - Accommodate changing organisational space requirements - Manage variability/risk associated with dramatic escalation/compression space needs - Favor facilities that can readily be adapted to multiple uses by corporation and others
3. Promote Human Resource objectives - Provide efficient environment to enhance productivity - Recognize that environments are important elements of job satisfaction and therefore compensation - Seek locations convenient to employees with preferred amenities

4. Promote marketing message - Symbolic statement of substance or some other value - Form of physical institutional advertising - Control environment of interaction with service offering
5. Promote sales and selling process - High traffic location to attract customers - Attractive environment to support/enhance sale
6. Facilitate and control production, operations, service delivery - Seek/design facilities that facilitate making company products/delivering company services - Favor locations and arrangements that are convenient to customers - Select locations and layouts that are convenient to suppliers
7. Facilitate managerial process and knowledge work - Emphasize knowledge work setting over traditional industrial paradigm - recognize changing character, tools used in, and location of work
8. Capture the real estate value creation of business - Real estate impacts resulting from demand created by customers - Real estate impacts resulting from demand created by employees - Real estate impacts resulting from demand created by suppliers

Source: Nourse and Roulac, 1993

In summation CRE strategies emphasise that there are other important value adding aspects that CRE can support to positively impact on an organisation's overall strategy. This indicates how the choice of an office location with appropriate amenities can impact positively on productivity and service delivery by retaining staff. Efficient design and the layout of a building that is easily adaptable to the changing needs of an organisation can reduce costs by avoiding frequent moves and enhance productivity by meeting the needs of workers. The need to improve flexibility by incorporating alternative workplaces can reduce space occupancy and provide working environments that encourage teamwork and that support concentration.

The CRE strategy must anticipate changes in a user department's space use needs, so that they are planned for in advance. The CRE strategy on the demand for office space must be mission specific to a particular department or organisation and accommodate user space needs (Bon, 1994). It is imperative that

each organisation or department establishes a CRE strategy that will outline its objectives in terms of space use and control. The strategy must be led by the top management as it will require financing and overcoming cultural barriers. Organisations must plan strategically for their own space and as pointed out in the 1997 review of office space that organisation must be aware of the following by about their own space when developing their strategy that:

- Space is a cost of doing business, like personnel or supplies.
- Space can be measured
- Space use can be tracked, controlled and planned for.

If organisations pay attention to space and measure it, space use usually can be improved.

2.4 Factor that affect the Performance of CRE Strategies

The problem that appears to lead to failure of CRE strategy being implemented is the shortage of appropriate CRE information and planning periods of both Public and private sector organisations (Simon, 1994, Tay and Liow, 2006). Most planning periods of CRE organizations range from 3 to 4 years while the property planning duration may be more than 10 years (Ibid).

2.5 Comparison of Private sector and public Sector CRE strategies

2.5.1 Public sector

Government strategies related to CRE are more oriented towards meeting the objective of efficient service delivery. Therefore location will be one of the major determinants of the CRE strategy where properties are located centrally to achieve that objective. Public sector strategies will also focus on equitable distribution of resources and the CRE strategy will be accessibility of government facilities to all communities (Simon, 1994). Another crucial objective of Public sector CRE as pointed out by Simon is social return, where CRE is used as an economic tool leading to development of communities and attracting private sector involvement

leading to creation of employment. One other CRE strategy in public that is synonymous with the private sector is productivity as space occupied should be seen to enhance this aspect of workplace environment adopting strategies that will foster team working and collaboration. Another objective of the Public sector is accountability and providing facilities that are cost efficient and within budget and whether existing facilities still meet the needs of an organizations in delivering services (Kenley and Heywood, 2000: Warren, 2006). Even most PS properties are held for own use by most organizations there has been a tendency by organizations to introduce an internal market by charging rentals to user departments and disposal of surplus property to fund new projects (Lind and Linqvist, 2005: Warren, 2006).

2.5.2 Private Sector CRE strategies

Private sector organizations seek to maximize profit by holding on to property as capital assets to create wealth (Kenley and Heywood, 2000). The other objective is to reduce the use of the cost of property as capital and the strategies used to achieve is reduce occupancy and operational cost (ibid). Another strategy is to enhance the corporate image that could be improved by central locations, design and appearance of facilities etc (ibid). Productivity strategies by providing effective working environment that would reduce the space to support the organization (Lindholm and Gibler, 2005). To be competitive private sector CRE has capitalize on location by being in areas where there is sufficient market (ibid).

2.5.3 Conclusion

Even though public and private sector operate in different environments the strategies used for the CRE to achieve organizational goals are not vastly different and have similar goals in terms of achieving efficiency and effectiveness. Therefore the PS organization can benchmark its performance against best performers in the private sector and also learn from them when it comes to formulating appropriate strategies.

2.6 Aligning CREM Objectives with the overall Organisation

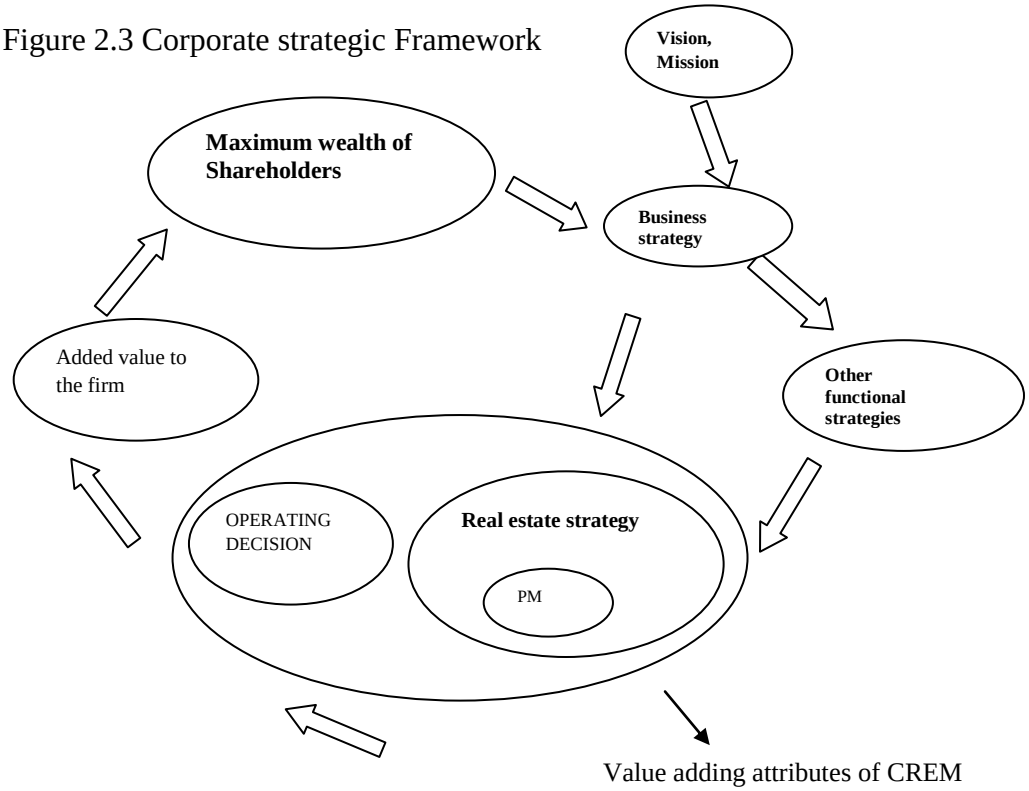
CRE is an asset of strategic importance and most research has revealed that public sector organisation CRE is under managed (Gibson, 1994: Simon, 1993). The main problem is lack of a link between the reason why property is occupied and the space required. It is very crucial that CRE is viewed as factor of production that can add value to the overall performance of an organisation. CRE must be understood in terms of the services it provides to an organisation and that knowledge must be utilised to formulate strategies that are measurable against set targets (Gibson, 1994). CRE manager's expectations of effective value creation are that there must be synergy between CRE objectives and organisational objectives. The real estate strategy must be informed by the corporate strategy in order to meet the needs of the organisation. The strategic alignment of these factors will enable organisations to operate efficiently with the right space in an appropriate location that meets their immediate and future needs.

Gibson (1994) points out that without proper alignment of these strategies an organisation will never know whether its real estate is inadequate and that this will inevitably impact negatively on progress in productivity, efficiency and service delivery. Adopting a strategic approach to property management recognises the need to link the business strategy with that of operational property management and this requires up to date information on property performance to make informed decisions. An organisation has to be fully aware of its real estate weakness and what the likely causes are to be able to leverage its contribution positively. This requires evaluation and review of the current real estate management practice and for this to take place the necessary information pertaining to the real estate is needed.

Warren (2006) further emphasizes the need for this information by stating the old adage 'you can't manage what you can't measure' which is as true for the strategic management of property assets as efficient workplaces as it is of any other aspect of organisational and business management. Strategic management is a process which enables an organisation to clearly define and determine corporate objectives, formulate the plan action to meet set objectives, devise appropriate

measures and appraise the performance. In relation to the current study the proposed framework will assess whether real estate as an operational asset supports the corporate strategy. What policies are in place to facilitate the achievement of the set strategies to proactively manage office space as a resource and whether it is the appropriate located. Lastly it will focus on the monitoring of performance of the identified measures to determine what the shortfalls are and what done to remedy the situation. The flow of the corporate real estate framework is summarised by Lindholm and Gibler (2005) in the diagram below:

Figure 2.3 Corporate strategic Framework



Source; adopted from Gibler et al (2004)

This diagram clearly indicates the flow of the strategic linkage between organisational objectives and the RE strategy as an enabling resource can through different strategies are devised through Asset, property and facility management to enhance value of the organisation (Lindholm and Gibler, 2005).

2.7 CRE Information and Management

Simon (1993) stressed the need for property by property information to help in decision making and that this must coupled with a centralised RE inventory that is computerised to enhance proper evaluation of RE performance.

2.7.1 Existence of RE inventory

Detailed information on every property is required and it may include physical attributes of properties, Legal matters, lease details, purchase cost, staff head count, maintenance costs (Tay and Liow, 2006). This is intended to help evaluate the performance of each building and further makes it easy to compare it with others in the portfolio and take the necessary steps to remedy the shortcomings.

Information is a vital element in implementing the continual improvement that CREM is based on (Bon, 1994). To effectively match the CRE and organisational objectives, and progressively monitor the performance it is essential to understand what information is needed and how that information will be applied. The following quote by Hamer, (1988) as cited in Williams and Anker (1995, p 23)
"*Facilities decisions are only as good as the information on which they are based. Any active organisation's facilities unfortunately present a moving target: any comprehensive inventory performed from scratch is likely to be out of date by the time it is completed"* (ibid, p23).

This quote emphasizes the need for reliable and up to date information in decision making in order to leverage it in CRE and get necessary value out of it. Collecting and monitoring the relevant data specific to property performance is an exercise that requires time and substantial financial commitment from organisations. As articulated in CRE research most public sector organisations view CRE as a free good therefore either operate it with scant or fail to collect the necessary data in order to measure the efficiency of their office space as a resource (Gibson, 1994, Simon 1993). Edwards and Ellison (2004) highlight, that it is important to establish basic facts about the RE portfolio of an organisation physical attributes such as location, size and headcount in order to make an effective assessment of its performance. RE performance measurement should be common practice by organisations seeking efficiency and effectiveness within their organisations (ibid).

This is further stressed by Baldry (1995) that effective property management requires an extensive information set which is the subject of regular updating to ensure validity and reliability to aid corporate decision making. The study further recognises that many organisations are exposed to the limitations and inadequacies of property information systems and how the value of quality information was underestimated in most organisations by both property and operational managers. (Ibid) further points out how information has became very critical that major public sector bodies in the UK have developed fairly sophisticated and extensive systems, in particular the National Health Service,

which has measured and recorded property condition, space utilisation, functional suitability, and energy efficiency; all of which are available to contribute to guide and contribute to a strategic planning and management process. Lastly organisations that do not have the financial capacity to collect the needed information will be forced to survive on spontaneous decision making and this could prove to be ineffective (ibid).

2.7.2 Information Management

How RE information is managed is very critical, Teoh (1993) stresses that a well organised and up to date property inventory not only ensures good decision making but keeps management abreast of the changing CRE environment. Teoh further identifies that research in this field has advocated for computerisation of such information to enable reliable, easy access and updating (ibid). This is supported by studies undertaken inter alia, Gibson (1994) and Simon (1993) who advocate a computerised RE inventory as an indicator of good CRE performance. This makes it an appropriate variable for examination when making a comparative analysis between Private, Public and Parastatal management.

2.8 CREM Performance measurement

Once the CRE and organisational strategies have been linked and appropriate objectives formulated, there is a need to monitor and evaluate the progress and put in place the necessary checks and balances to facilitate improvement. To determine whether an organisation's CRE strategy is achieving its set goals, as well as to evaluate, control and improve organisational processes, an organisation needs to compute relevant performance measures that should be derive from the organisation's strategy (Ghalayini and Noble, 1996; Keegan *et al*. 1989) as cited in Lindholm (2008).

As already stated, the primary objective of CRE strategy is to support the organisational goals. Therefore there is need to continuously monitor and evaluate the progress and to put in place the necessary checks and balances for achieving the set strategies. Performance measurements are indicators which examine how the CRE strategy fairs in facilitating the core business of an organization by

taking into account the necessary resources required (Lindholm, 2008). Lindholm describes *"strategic performance as a process whereby the strategy of an organisation is translated into coherent objectives and the achievement of those objectives evaluated"* (ibid).

Traditionally CREM performance measures were focused on the financial goal of cost reduction and the measures include operating costs, cost per square meter and maintenance costs (Ibid, 2008). These measures tend to ignore important intangible strategies that are equally pertinent to the overall performance of the organisations. These include functions of the workplace environment that such as employee morale, productivity and customer satisfaction. Lindholm gives an example of how the choice of property location and design can impact employee satisfaction, which in turn will influence productivity and turnover (ibid).

Lindholm (2008) summarised the need for use of the Balance score card, that goes beyond the most commonly used measures used by CRE organisations. These are divided into five different types as listed below:

a) cost
b) space efficiency
c) Customer satisfaction
d) CRE unit efficiency
e) portfolio efficiency

CRE managers have been criticised for focusing more on the physical measures such as costs and occupancy, and of failing to develop intangible measures that can assess performance of strategies such as accountability and community benefits that are move driven by political orientation of Public sector organisations (van der Schaaf and de Puy, 2001). This lack of explicitness of measures is cited in an example of Public Building Service (PBS) in the USA, a department charged with the management Government RE portfolio. The PBS had defined nine performance measures to monitor CRE performance and benchmark against best performers in the private sector (ibid). Out of the nine measures only one, customer satisfaction was not a financial measure casting doubt on whether PS CRE actually met its intended objectives.

For CRE to add value clearly explicit performance measures that will indicate that value of RE to organisation must be devised in order to meet the needs of the different stakeholders (ibid).

2.9 Benchmarking Defined

Benchmarking is a process of comparing the current CREM performance targets in an organisation with a desired level of performance in order to improve its performance by reaching that level or surpassing it (Warren, 2002). Lindholm and Nenonen (2006) define benchmarking as a process of establishing best pratice which current targets can be pegged against now and in the future. Benchmarks can either be classified as internal or external. Internal benchmarking: is whereby the same processes for example a standard on occupancy density is set and the organisation is expected to meet that target. External benchmarking: is whereby an organisation pegs its performance against the best performing practices of other organizations.

In terms of this study the champion benchmarking organisations will be identified from the private sector as CRE literature has pointed out, public sector organizations still lag behind the private sector in the adoption of performance measures. The performance of individual public sector buildings is usually benchmarked against like for like best performers in the private sector. This would be determined by the size, location and the culture of the organisations. Benchmarking results gives a clear indication of the relative performance and the potential for efficiency savings on a building by building basis by bringing performance in line with that of the benchmark building. The analysis will focus on key indicators which may include building performance against benchmark OD and occupancy costs and finally try to establish the correlation between space, cost and total potential efficiency savings.

The majority of the metrics measure property performance in term cost reduction, but effectiveness in terms productivity, the right space for specific functions is equally an important CRE measure. The benchmarking of corporate real estate is

essential to make that the necessary supporting resource are made available and best practices are standardised.

The quest for improvement in efficiency and effectiveness in the use of space has seen benchmarking going beyond country boundaries in order to compare performance of organisations with the best in the industry (Warren 2002).

2.10 CREM in Public Sector

This section of the research summarizes the current real estate management situation in the public sector and identifies the shortfalls that exist.

Kaganova (2000) indicates that RE management in the public sector is fragmented due to divided ownership and control over real estate portfolio. This situation results in the independent management of real estate portfolios with the consequent lack of standardisation of process, whereby strategic guidance through policies and comparison within the public sector is almost impossible. Lindholm (2005) stresses the same sentiments by pointing out the weaknesses associated with decentralised real estate management prevalent in the public sector, normally results in inefficient and expensive operations and maintenance due lack of large scale operations, poor competence and ineffective utilization of space and other resources.

Public sector real estate management is indicated in the literature as lacking the necessary information to effectively carryout proactive management. Kaganova, (2000) states that public sector real estate management is characterised by a non-advanced status. Most organisations lack the basic steps, such as inventory, computerization, and tracking performance of their property (ibid). Computerisation of records and property is a good indicator of whether a system is operated effectively (ibid).

Gibson (1994) summarises the shortfalls in the management of CRE as follows:

1. **Reactive management:**

Property is considered as an operational asset without any financial implications to the organisation. Management of such property is driven by quick fix requirements carried out as the need arises. The property management objectives if any exist at all are based on short term solutions which in the long run prove to be more costly: than if proper proactive management with clearly identified causes and distinct value adding solutions where implemented to enhance the property.

2. **Landlord versus tenant objectives**:

RE managers have to clearly understand the intentions of both the landlord and the tenant organisations concerning the operational property. So that property strategies could be formulated to reconcile the conflicting objectives to achieve a balance which will be beneficial to both of them. The solutions should add value to the asset and at the same create affordable effective working environments.

3. **Lack of performance monitoring:**

Without clearly defined, measurable property objectives, property performance monitoring cannot be carried out effectively. This is further exacerbated by the fact that the opportunity cost of the property is rarely taken into account especially for properties owned freehold. This is evident in certain instances where the services of the property manager are outsourced and where there is no incentive for them to use the space efficiently as it was viewed as a free resource.

4. **Inadequate information**:

For property management decisions to be taken effectively the relevant information on the following resources; people, space use and technology must be inventoried and computerised to make it readily available and accessible. Lack of integration of the above resources makes property management impossible.

With the pressure public sector organisation are experiencing due to changes in the economic climate leading to tighter financial constraints organizations are seen to be taking greater interest in the management (ibid). RE as will be seen from the following international examples described below:

2.10.1 Example of Public Sector CRE Management in Sweden

The PS in Sweden introduced RE management reforms in responses to pressures of tighter market conditions and calls for prudent management of resources (Lind and Lindqvist, 2005). This lead to drastic changes were properties that were formally owned by user departments were transferred to state owned entities and departments were given opportunity rent from these entities or from the private sector (ibid).

The reason for this radical change in property ownership was perpetuated by the need to make user departments more accountable for the space they occupied as in the previous system property was treated as a free good with no expenses (ibid). The introduction of internal rents made departments become more aware of the need for efficiency and effectiveness in the use of space as it now impacted on their budget (ibid). The other reason for opening up the market was to encourage the entities that owned the properties to be effective in managing their properties. User departments now had the option to rent from the private sector if they were not satisfied with the conditions of the space occupied (ibid). What made this more interesting was that departments were made to exercise short term flexible lease agreements therefore putting pressure on entities to be more professional in their CRE management (ibid).

The reform of the Swedish public sector supports the assertions made in earlier studies by Simon (1994) and Gibson (1994) that stressed the need for a centralised CRE unit that operated as a profit center to improve efficiency as opposed to a decentralised system. This reform has had an impact on the amount of space occupied by departments and reduction in costs.

In conclusion Lind and Lindqvist (2005) point out that every initiative has its teething problems as concerns were raised as to how the rent must be determined

whether it should be cost based or market related and the impact this would have on the budget of departments and finally on their performance.

2.10.2 Public Sector CRE Management in Australia

The Australian government has implemented to two CRE strategies concurrently to improve the management of their PS real estate (Warren, 2006).

The first CRE strategy used was similar to that introduced by the Swedish government where a market like operation of an internal rent system was later introduced. Public sector CRE in Australia was managed by Australian Property Group (APG) which had a centralised organisational structure but operated as cost center in the early 1980's and allocated space to departments on the basis of space per grade and system provided no incentive for an improvement in space use (Warren, 2006). In the 1990's due to economic pressures that resulted in the downsizing of the public sector (APG) introduced an internal rental market and operated more as profit center charging rent for space occupied by government departments. This approach had a similar effect as the Swedish Public example the departments became more aware of the cost of property there was better use of space. Warren (2006) argues that this approach did not just result in space reduction those organisation that achieved more efficiency had financial savings that they could redirect to service provision.

During the late 1990's the Australian public sector introduced a more radical reform that started with the privatisation of the CRE management and was followed by disposal of the real estate asset. In the early 1980's PS owned close to 51% of the office space it occupied and this fell to 34% in the 1990's, from there onwards it declined to almost zero (ibid). Warren states that this reform never proved to be effective for the PS as most of the properties were sold for less than their market value due to a depressed market with high vacancy rates. In conclusion Warren points out that the second strategy was short term and did not take cognisance of the long term effects of that decision. This supports the conclusion made by Gibson (1994) that the reason why there is no synergy between PS objectives and CRE strategies is because of short term objectives,

which are mostly politically driven while property can only provide long term solutions.

Both the examples of CRE management in Australia and Sweden stress the need for integration between CRE strategy and organisational objectives for CRE to achieve added value to the performance of organization. The findings further emphasize the need for a formal RE unit that coordinates all functions and operates as a business unit that earns revenue.

2.10.3 Public sector CRE Management in Botswana

Real Estate management in the public sector falls under the jurisdiction of three departments namely the Department of lands, Department of Engineering and Building Services and user departments.

2.10.3.1 Department of Lands

This department under its Estate and Valuation division is responsible for property management of the central government RE portfolio. This division is responsible for the acquisition and disposal of state land and of office space for all central government departments (CGD) and ministries throughout the country. This division is also responsible for all lease transactions including negotiations and maintenance of leases for CGD. Further carries out valuation of CGD RE to determine the market value for acquisition and disposal purposes. This division is also responsible for development of regulations and policies for RE management, and further determines rates and rentals for tribal and state land. (Department of Lands Information Portal, 2001).

Summary of Office Allocation Procedures

In order to apply for office space central government departments have to go through the following procedures.

1. Office space applications from use departments/ministries are submitted to Department of Lands.
2. Department of Lands carries a needs assessment to determine how much space is required.

3. Department of Lands forwards the application to office allocation committee (OAC)
4. Office Allocation Committee (OAC) approves/rejects the request
5. Department of Lands requests for expression of interest to offers office space to government.
6. Department of Lands recommends available space to Departmental tender Committee for evaluation
7. Department of Lands communicates the decision of the OAC to the applicant

2.10.3.1 Department of Building and Engineering Services

This department is responsible for coordination of all Central Governments Building projects, including the maintenance of these facilities. Maintenance of CGD CRE depends on the scale of the property asset but is either outsourced or carried by an in house resource. DBES coordinates all development projects through liaison with user departments to determine the user needs from project inception, supervision of the design process and the construction of the facilities. This department is also responsible for space planning and partition of office depending on the needs of the CGD and in line with existing minimum health and architectural requirements. Recommendations have been made in the NDP9 to decentralise the maintenance budgeting to individual departments so that it is easier to outsource and reduce the time taken to communicate the maintenance needs of specific departments to DBES and the time it takes to engage independent contractors.

2.10.3.3 Departments

The user department carry out certain aspects of FM such as allocation of office space, purchasing of office furniture and ICT and coordinating maintenance requests with the responsible departments. These aspects FM are coordinated by office space allocation committees through the human resource division. The user departments budget for office furniture and ICT through their annual recurrent budget.

When assessing the current management system of CRE in the public sector it appears fragmented as different aspects are performed by different departments each with its own objectives. As pointed out by Lind and Lindqvist (2005) once departments are given the responsibility to own buildings, CREM activities such as maintenance, furniture and ICT compete with the core activities for funding and are usually foregone. The review chapter of NDP 9 has indicate that during the lifecycle of government property very little maintenance is undertaken resulting in deterioration and high costs in trying refurbish the buildings (National Development 9, 2001). Plans have been initiated to transfer all maintenance operations to individual Ministries and their respective departments, but the review has cautioned that a maintenance strategy has to be formulated first and clear implementation framework has to be established. The argument of clear CRE strategies has been emphasised by leading CRE researchers as an indicator to improvement in management.

Real estate activities in Botswana are governed by the Real Estate Professional's Act, of 2003. The Act outlines academic requirements and defines functions for RE professionals and these following including estate agents, property auctioneers, property managers and property valuers (ibid). In contrast to the CGD the private sector and Parastatal either had in-house CRE management services or had outsourced the services to property management companies.

In summary RE management in the CGD seems to lack integration as there is no centralised department that coordinates CREM functions and activities. CREM functions are coordinated by different departments each with its own set of objectives, therefore without a clear CRE portfolio strategy to leverage RE to add value to the overall government objective of service delivery may be impossible. Departments are left to manage the space without any guidance, in terms workplace strategies or designs that can reduce occupancy levels, costs and further improve productivity. The decentralised system has been criticised by researchers such as Gibson (1994), Lind and Lindqvist(2005) and Simon (1994) for not providing any incentives to encourage departments efficiently utilising the

space they occupy and point out that when cashed strapped the first thing departments do is to forego any financial needs related to RE.

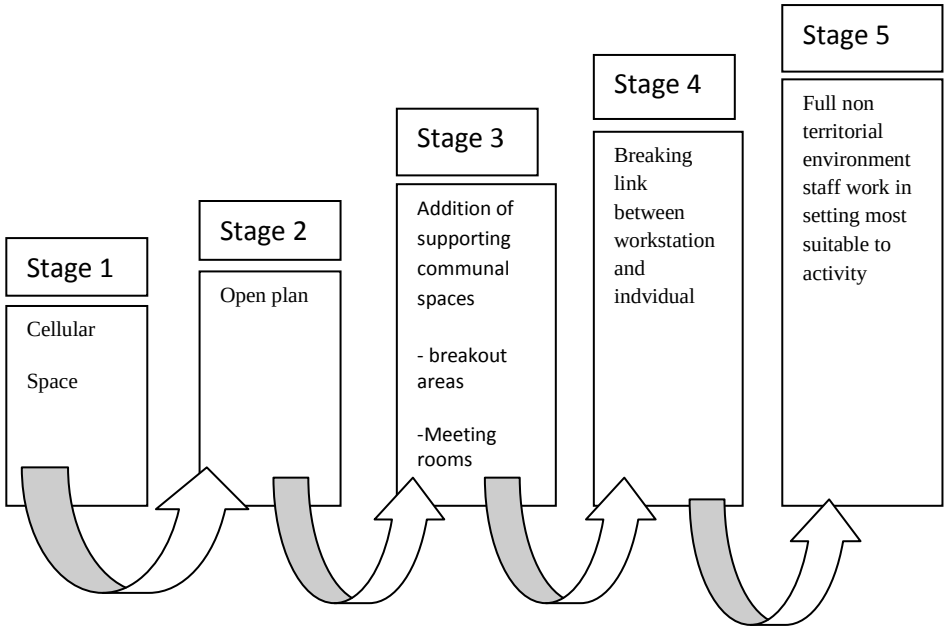
2.11 Space Allocation and Utilization

2.11.1 Evolution of Office allocation in the public sector

Gibson and Luck (2004) point out that public sector RE portfolio just like other non CRE organisations has been built up over time and the space layouts may vary considerably. Traditionally public sector office space was characterised by a cellular layout with space dedicated to an individual. Space was allocated on space standards based on the grade of employees (Bell and Anderson 1999: Gibson and Luck, 2004). Even though standards have been overtaken by events there are still offices in the public sector portfolio that were designed in this fashion lacking flexibility and inhibiting functionality (Gibson and Luck, 2004). In trying to optimise the use of office space and reduce occupancy costs PS CRE has been characterised by more open plan spaces with limited cellular space reserved for senior members of staff. Recently the focus has been shifted from efficiency in space use to creating more collaborative and team workspaces, together with the fact that staff does not spend their entire work in one place which has seen introduction of concentration areas, more meeting spaces and touchdown spaces. These environments have created more flexibility and mobility resulting in increased productivity (Gibson and Luck, 2000: Bell and Anderson, 1999).

Gibson and Luck (2004) have summarised the evolution of the Public sector office as indicated in the following diagram.

Figure 2.3 evolution of office allocation in the public sector



Impact on office	Increase office efficiency	Increase in office effectiveness	Increase in office efficiency	Increase in office efficiency and effectiveness
How achieved	Increase density and facilitate with standard office furniture	Provide more appropriate environment to support work	Increase the intensity of use of space – the building now supports more workers than available work stations	Workspace seen as a tool for doing work. Space designed and supplied around the needs of the business processes
Supporting ICT requirement	ICT is standardised to allow staff to relocate within building	ICT that supports mobility – including internal telephone systems	ICT that supports mobility both inside and outside the offices. Understand the security issues of mobile workers	Balance specialist ICT requirements for some groups and generic ICT for other
HR Issues	Develop protocols for behaviour in open space. Manage the perceived loss of status	Guidance on which types of space suitable for different activities. Develop protocols for behaviour in different environments	May have contractual implications depending on location of designated office. Provide support for remote/home home workers and training for managers dealing with remote/home workers	A genuine understanding of the work processes. Provide support and training for staff and managers in different work environments

Source: Adopted from Gibson and Luck, (2004)

Thus the allocation of office space has evolved from cellular office space based on seniority and functions to activity based areas that are suitable with the work needs of individuals.

2.11.2 Office Allocation trends

The GSA policy (2002) indicates that there has been a drastic change in the way office space is allocated or assigned to individuals. It suggests that there has been a progress shift form allocating office space basing only on seniority/status and further indicates that organisations are now embracing allocation of space based on job functions, mission of organisation, culture and also take cognisance of availability of space (ibid, 2002).

Organisations both in Private and Public sector are now looking at establishing an average space per person standard as a means of allocating space and for benchmarking purposes (ibid, 2002). This standard is developed taking into account the minimum building and health requirements applicable.

GSA policy (2002) further high lights the different ways in which the space per person standard may be used.

Table 2.4 Insurance Company space allocation by employee category

Position	Office dimension (m2)	Office m^2
Customer contact (call centers)	2.1 x 1.8	3.78
Managers, directors (mid management)	2.1 x 3.2	6.72
Everyone (else excluding to executives)	2.1 x 2.4	5.05

Source: GSA Policy (2002)

It can be summarised from the above table that space allocation person has been set based on type of function performed in organisations and standard is set per specific function.

Table 2.5 Consulting Company space allocation by employee position

Position	Area of office space (m^2)
Executive	30.2
Director	21.0
Managerial, supervisory technical	16.3
Support staff	12.3

Source: GSA Policy (2002)

Table 2.5 gives an example of office space per person allocation based on an employee's position in the organisation. Office space allocation is based on norms set based on an employee's position in the organisation.

Table 2.6 Telecommunication Company space allocation by employee

Position	Area of office space in m^2	Type of space
Executive	14 - 28	offices
Director	9 - 14	offices
Director	8	cubicles
Managerial, supervisory technical	5 - 6	cubicles
Support staff	4 - 5	cubicles
Telecommuters, hoteling	3.5 - 5	cubicles

Source: GSA Policy (2002)

Table 2.6 illustrates the use of office space standards set according to the position of employee in the organisation, for different settings of office space including cubicles used for alternative working practices.

The minimum office space per person prescribed by the public health Act (Cap 63: 2001) and Building control Code (Cap 65: 2002) in Botswana is $9m^2$ per office space per person.

2.12 Conclusion

Basing office space allocation on norms that have been set make it easy to able to monitor the amount of space allocated and makes it easy to benchmark with similar organisation using the same standard. Evolution in space allocation tries to break the attachment of space being allocated to individuals by introducing new working practices such as teleworking and desk sharing.

3.0 Research Methodology

3.1 Introduction

This research report is concerned with the management of Public CRE in Central Government Departments in Botswana. It was aimed at finding out how CRE is managed and what effect it had on the use of office space.

3.2 Research Questions

The report seeks to answer the following question:

How efficient is the use of office space in central government departments?

Sub questions are as follows:

- What is the current CREM practice in central government departments?
- What is the total office floor space that is required by each department?
- What is the total floor space that is government owned?
- What are the determinants of space allocation in each department?
- What is the total space consumption per employee?
- What is the number of employees per workstation?

3.2 The research Design

The research mode was descriptive in nature as the study sought to establish the opinions and attitudes of CRE managers in the public, private sector and parastatals in Botswana. Questionnaires as descriptive tools, were chosen to collect the data and descriptive statistics was used to analysis the data. True (1989) points out that this type of mode is usually adopted where variables to test for are known. This study the following CREM variables include existence of a RE unit, size of organisation, CRE planning, availability of RE information which indicators of good management of properties.

3.2.1 Population

The target population consisted of Corporate Real Estate managers in the following Sectors Central Government Departments, Private and Parastatals.

3.2.1.1 Sample size

Considering cost, time and distance a small manageable sample size of thirty participants from all the three sectors.

3.2.2 Sampling Technique

3.2.2.1 Cluster Sampling

Rea and Parker (1992) point out that the main reason for clustering is to categorize the sample population into homogenous subgroups and to select the appropriate number of representatives from each group. The sample population was divided into three subsets comprising central government departments, Parastatal and Private sector CRE managers from which random samples will be selected from each organisation to enable cross comparison of the findings.

3.3 Data Collection Instruments

The research was based on both qualitative and qualitative data. The questionnaire design comprised both close and open ended questions. True (1989) makes a distinction between qualitative and quantitative data by pointing that qualitative deal more descriptions expressed in words while quantitative is descriptions given in numbers.

3.3.1 The questionnaire

Self administer questionnaires were used as of data collection tool for the following reasons (True, 1989):

- They are cheaper band easy to administer
- The process is less likely to embarrass participants
- They relatively easy to analyse
- They allowed respondents to remain anonymous if they wanted to.
- Provided respondents with enough time to think about responses

. True (1989) points out that close ended questions give the respondents a choice of responses based on a particular theory. The reason why close ended questions where used was to find out if aspects of CREM that are used in the management of real estate in Botswana. Open ended questions were included to try and capture the individual views of RE managers on issues such as why the current CREM practices might be lacking and what improvement can be taken to improve the situation.

3.3.1.1 Questionnaire Structure

Section A: Background

The questionnaire was divided into the following 5 themes as identified in literature, for more detailed information make reference to appendix B:

This section A (Question 1 – 5) consisted of information on qualifications, organisational type and experience and Core business. The main aim of this section was to try and determine whether RE manager in the different departments had the relevant qualifications and experience to perform CREM effectively.

The questionnaire comprised of 43 questions and was answered in approximately 50 minutes.

Section B: Real Estate Portfolio

This section comprised of 9 questions (6 -14) that included the size of portfolio, number employees, number of owned and leased properties, space layout, allocation and density. The main of these questions were to establish the size of the RE portfolio in each sector, determine the strategy used for office space acquisition and how efficiently and is space utilised.

Section C: Existence of a RE unit and How it is organised

This Section covered 7 questions (15 – 21) these included existence of a real estate unit, organisational structure, number of real staff, reporting level and role of CRE unit. The aim of this section was to answer whether organisation had a

formal RE unit that coordinated CREM functions and whether there was interaction with the top management.

Section D: Existence of a real estate Inventory

The main of this section was to determine organisation had relevant property information and how it was managed.

Section E; CRE Planning

The aim of this section was to determine if organisation had a RE strategy and whether it help organisations to achieve their objectives.

Table 3.1 Table of sample selected

Type of organisation	Sample size	Response rate
Government	10	9
Private sector	10	9
Parastatals	10	9
Total	30	27

The high response rate may have been attributed the researcher personally administering the questionnaire in order to clarify certain issues on CREM that the respondents might not be familiar with. In certain instances this was not possible because as the respondents were in meetings and some preferred to fill them on their own. Follow ups were made in person and this may have contributed to the high response rate as the respondents may have felt obligated to complete the questionnaires.

3.3.2 Observation

Direct observation was the main method applied in the building survey. The observation criterion was basically structured with priority being given to the layout of space in every chosen organisation. This will be done to determine what the layout of the space (cellular, open plan, mixed) in each building and to confirmation ICT equipment are available. Observation will be used to verify the answers to questions on office space layout.

3.3.3 Qualitative Document Review

The main aim of document review which is technically literature review is to evaluate the current CRE management practice in Botswana Central Government departments compare with what is perceived as best practices. According to Yin, (1994) documents such as internal reports provide good sources of information. Most importantly these documents serve to corroborate and augment evidence from other sources. A Document review is a modest method for collecting rich descriptions of the values and beliefs of individuals running the organization (Ibid). The documents that were studied included minutes of meetings, announcements, formal policy statements, letters, and journals. The advantages of this method included no obstruction from respondents and easy verification of information if required.

However the limitation with this method is that it gives the researcher monopoly for making inferences from documents therefore and therefore requires a broad understanding of issues to make accurate inferences (Ibid, 1994).

3.4 Method of Data Analysis

Descriptive statistics were used to compile and analyze data with the aid SPSS (Statistical Package for The Social Sciences). These frequencies, percentages presented in tables in Chapter 4. Qualitative data from open ended questions was coded by categorising the same responses therefore making it easy to utilise quantitative analysis.

3.4.1 Cross Tabulations

Once the data was edited and coded it was compiled into tables and cross tabulation using SSPP of the CREM variables were carried out to make a comparative analysis between the sectors. For example one of the cross tabulations carried out was between type of organisation and space allocation and the aim of this was to establish the determinants of space allocation in each organisation. In the research the identified space determinants were seniority, job function and activity based settings. Kalton and Moser (1979) point out the ease with which cross comparison of variables can be used to get different analysis, but

warns that this may result in the researcher running to many cross tabulations which might not be useful in the study.

3.5 Conclusion

The sample size that was selected was viewed to be a reasonable representative of the total population and the use of questionnaires for data collection proved to effective as the required information pertaining to CREM was obtained. Descriptive statistics was used to analysis the data and cross tabulations were used to compare the different variables per each sector.

4.0 Presentation of Data and Discussion of Findings and conclusion

4.1 Introduction

The first part of this section analyses the background information of the participants. There were 27 RE managers who participated in this study and were selected using stratified random sampling to get the following 3 subgroups Central Government, Private Sector and Parastatal.

4.2 Frequency distribution of demographics

4.2.1 Response rate per sector

There was a total response of 27 out of 30 questionnaires distributed, a response rate of 90 percent. An even distribution of respondents per sector was encouraged to enable cross comparison: response per each sector was 33.3% as indicated in Table 4.1 below.

Table 4.1 Response rate per sector

Type of Organisation	N	Percentage (%)
Government	9	33.3
Private	9	33.3
Parastatal	9	33.3
Total	27	100.0

4.3 Training and Experience of CRE Managers

The respondents were further categorized by Formal training and this is summarized in table 4.2

Table 4.2 formal training of Respondents

Formal Training	N	Percentage (%)
Property managers	10	37
Facility	11	40.7
Town planners	6	20.2
Total	27	100

Table 4.2 shows that 40.7% of the respondents had indicated that they had formal training in facility management discipline followed by 37.0% who were trained in property management and least percentage count of 20.2% were trained in Town planning discipline.

The researcher cross tabulated CRE managers with the number of years of experience they had in performing CREM role.

Figure 4.1 Job Title by years of experience

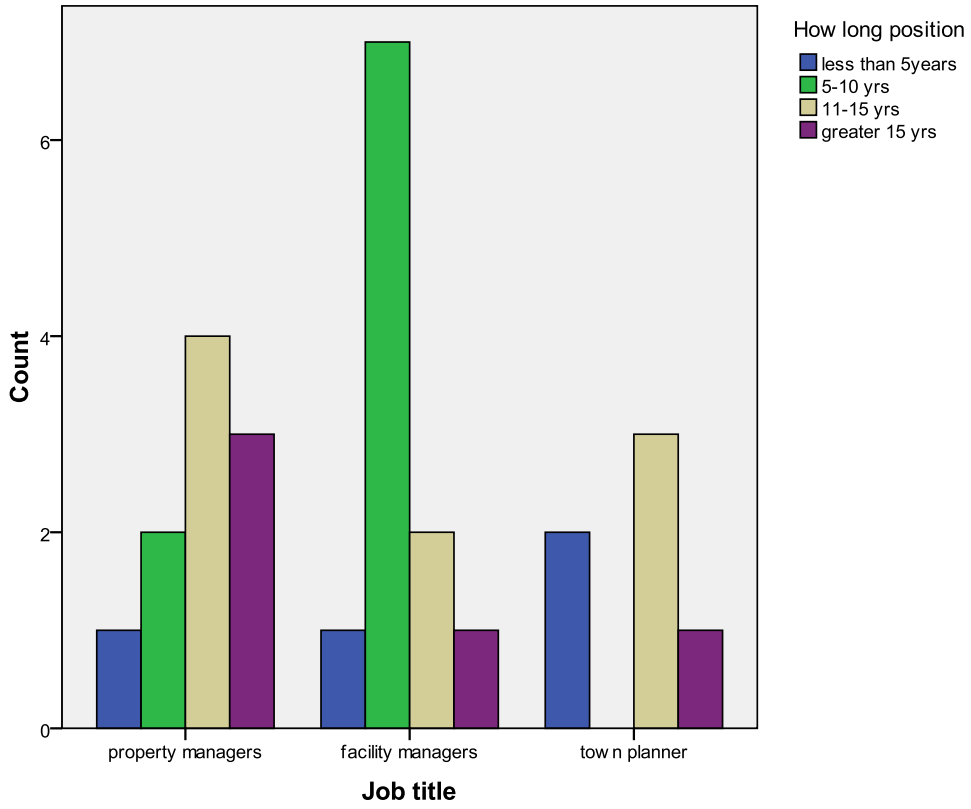


Figure 4.1 indicated that 33.3% of respondents had work experience in the category range of 11 – 15years. 44.4% of those respondents were property managers, 33.3 and 22.2% were Town planners and facility managers respectively. It can be concluded from figure 4.1 that the majority respondents had long experience in the RE management in their organisations.

4.4 CRE Strategy

4.4.1 Preference to Lease or Own

The respondents from the 3 different sectors where asked to indicate on a scale of 1 – 5 their preference towards leasing and ownership of buildings. 1 = strong preference to lease, 2= preference to lease, 3 = neutral, 4 = preference to own, 5 = strong preference to own.

Table 4.3 Preference to lease/own

Type of Organisation	Preference to lease or own buildings					Total
	Strong preference lease	Preference to lease	neutral	Preference to own	Strong preference to own	
Government	0	2 22.2%	0	4 44.4%	3 33.3%	9 100.0%
Private	4 44.4%	4 44.4%	0	0	1 11.1%	9 100.0%
Parastatal	2 22.2%	1 11.1%	1 11.1%	1 11.1%	4 44.4%	9 100.0%
Total	6 22.3%	7 25.9%	1 3.7%	5 18.5%	8 29.6%	27 100.0%

Table 4.3 reveals that 29.6% (8 out 27) of organisations in the three sectors showed a strong preference to own their operational buildings. Parastatal organisations had the highest percentage count of 50.0% in this category, compared to 37.5% and 12.5% from the CGDs and private sector respectively. When it came to leasing of buildings, Private sector had a strong inclination towards leasing 66.7% of respondents indicating that they preferred to lease the buildings they occupied. This was followed by government with 33.3% while Parastatal organisations had the lowest percentage count with only 11%.

Figure 4.2 Type of organisation by number of properties owned

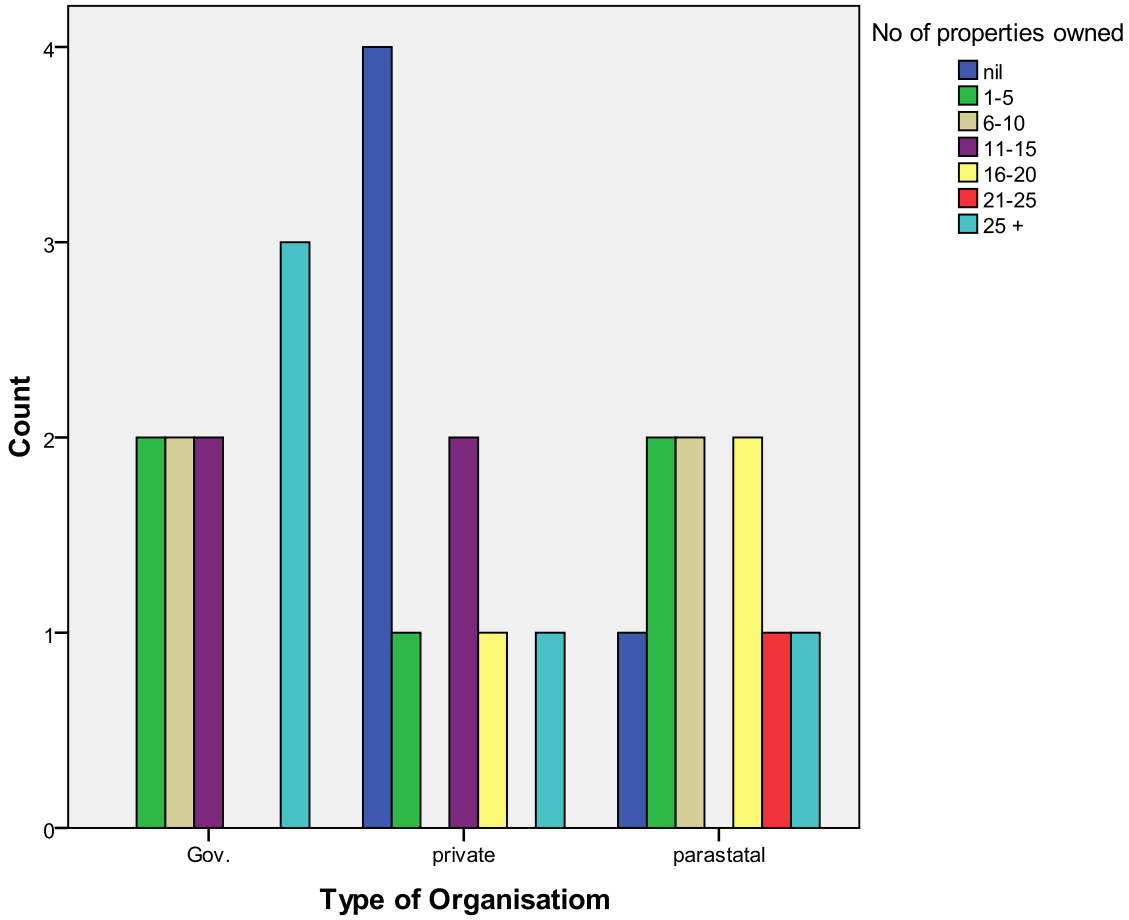


Figure 4.2 suggests that 18.5% of the organisation in the 3 sector owned more than 25 properties. 33.3% of CRE managers in CGDs indicated that they managed more than 25 properties compared to 11.1% both in the Private and Parastatal sector. Private and Parastatal respondents had the highest percentage in the category of nil properties owned with 44.4% and 11.1% respectively.

Figure 4.3 Type of organisation by number of properties leased

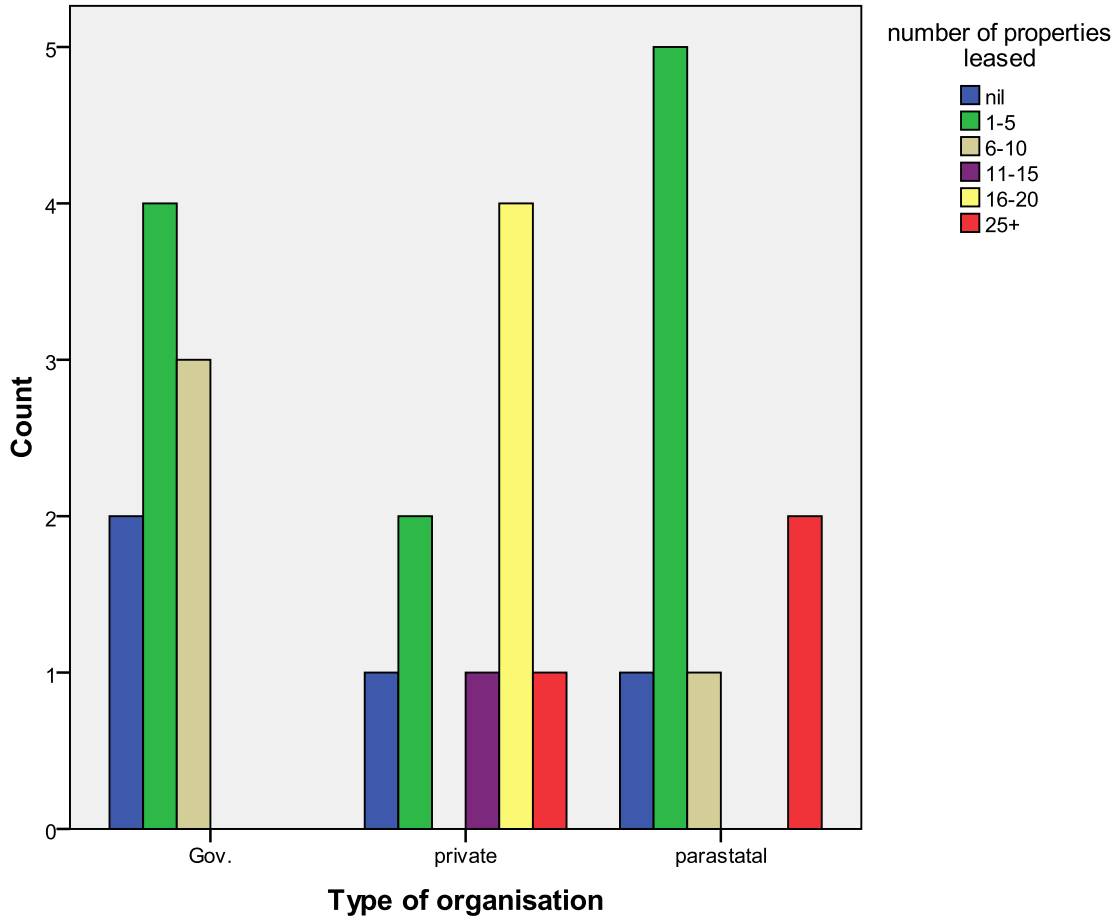


Figure 4.3 reveals that most common range of number of leased properties in both Parastatal and CGDs is 1- 5 properties (44.4%), while in the Private sector is 16 – 20 properties. The researcher introduced a third variable of office space per person to the cross tabulation of Type of organisation by property leased.

Table 4.4 Type of organisation by no. of leased properties by area of office/ person

Area of office space per person	Type of organisation	Number of leased properties						Total
		NIL	1 -5	6 - 10	11 - 15	16 - 20	25+	
$10m^2$	Central Gov. % leased. % of total	1 50% 10%	0 0% 0%	0 0% 0%	0 0% 0%	0 0% 0%	0 0% 0%	1 10 10
	Private % leased. % of total	1 20 50	0 0% 0%	0 0% 0%	0 0% 0%	3 60% 30%	1 20% 10%	5 50 50
	Parastatal % leased. % of total	0 0% 0%	2 20% 20%	1 10% 10%	0 0% 0%	0 0% 0%	1 10% 10%	4 40 40
	Total % leased. % of total	2 20% 20%	2 20% 20%	1 10% 10%	0 0% 0%	3 30 30	2 20 20	10 100 100

Interestingly from Table there seems to be an association between leased properties and tighter density measure. 10 out 27 CRE managers indicated that of the properties they leased occupied were occupied higher occupancy levels of $10m^2$ per office per person. 50% of CRE managers in private sector indicated that their leased properties had high occupancy density of $10m^2$ followed by Parastatal organisations with 40% and the CGD with the least percentage count of 10%. Therefore it can be concluded from the above findings that the Private sector leased properties are occupied with tighter occupancy densities compared to the other two sectors.

Another element of CREM that was investigated among the three sectors was why organisations preferred to lease or own their operational property and the cross tabulation below summarises the findings.

Table 4.5 Type of organisation by reasons why they preferred ownership

Type of organisation	Reasons why organization prefer to own property			Total of number respondents
	Increase in capital value	Control over property	Saving on lease Payments and unexpected increases	
Central gov	0	5 56.6%	4 44.4%	9 100.0%
Private	4 44.4%	1 11.1%	4 44.4%	9 100.0%
Parastatal	4 44.4%	4 44.4%	1 11.1%	9 100.0%
Total	8 29.6%	10 37.0	9 33.3%	27 100.0%

Table 4.5 suggests that amongst the three sectors (37.0%) the common reason for owning CRE was for control over the property. The highest percentage count (56.6%) with this category was CGDs followed by Parastatal organisations (44.4%) and Private sector with the least count of 11.1%. The organisation where further asked to indicate if their CRE strategic objectives changed if the corporate strategy changed, and the outcome of the cross tabulation is summarised in the figure below;

Figure 4.4 Type of organisation by change in CRE objectives

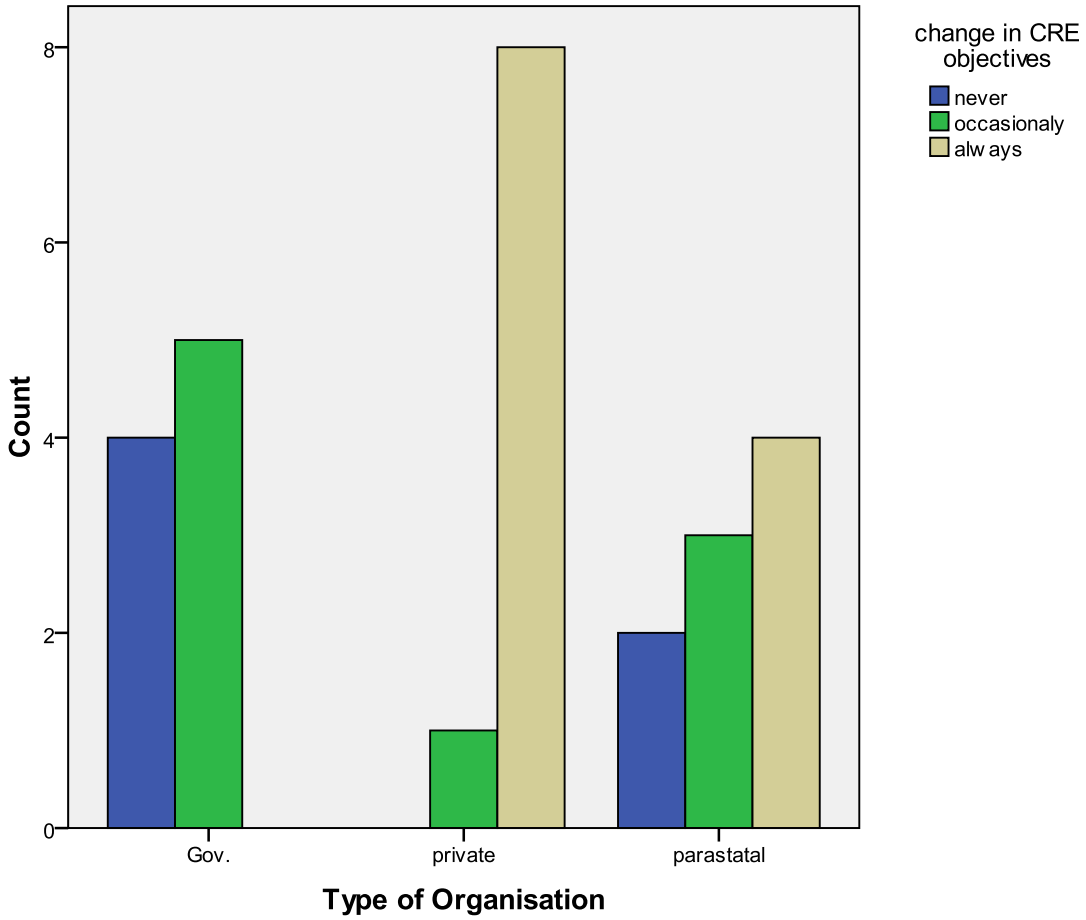


Table 4.6 Type of organisation by level of strategic alignment

Type of organisation	Level of strategic alignment				Total percentage count
	High level of alignment	Well aligned	Moderately aligned	Poor alignment	
Central Gov.	2 22.2% 22.2%	1 11.1% 9.1%	2 22.2% 66.7%	4 44.4% 100.0%	9 100.0% 33.3%
Private	4 44.4% 44.4%	5 55.6% 45.5%	00 0.0% 0.0%	0 0.0% 0.0%	9 100.0% 33.3%
Parastatal	3 33.3% 33.3%	55 55.6% 45.5%	1 11.1% 33.3%	0 0.0% 0.0%	9 100.0% 33.3%
Total Count	9 33.3% 100.0%	11 40.7% 100.0%	3 11.1% 100.0%	4 14.8% 100.0%	27 100.0% 100.0%

Table 4.6 suggests that 9 out of 27 CRE managers indicated that they believed that their CRE objectives had a high alignment to their corporate strategy. Out of the 9 CRE managers 44.4% managed Private sector organisations followed by 33.3% from the Parastatal sector and 22.2% from CGDs. 14.8% of the organisations interviewed indicated that they believed there was a poor alignment between the CRE strategy and the corporate strategy and all those CRE managers managed CRE in CGDs.

The CRE managers where further interrogated to find out if their CRE objectives changed if the Corporate strategy changed. Figure 4.4 suggests that 12 out of 27 CRE managers indicated that their CRE strategy always changed when their corporate strategy changed. 8 out of 12 CRE managers managed CRE in Private sector, followed by 4 from the Parastatal organisations. Therefore it can be concluded that CRE objectives in the private sector respond to change in the business strategy implying that CRE plays an active role in driving the business objectives. This is followed by Parastatal sector, while CGDs where characterised by occasional (66.7%) and never (55.6%) response this likely to signify that changes in CRE objectives are reactive to the business strategy.

4.5 Space use

4-5.1 Office Layout

The researcher further investigated the type of office space layout that is prevalent in each of the 3 sectors and the findings are as summarised below;

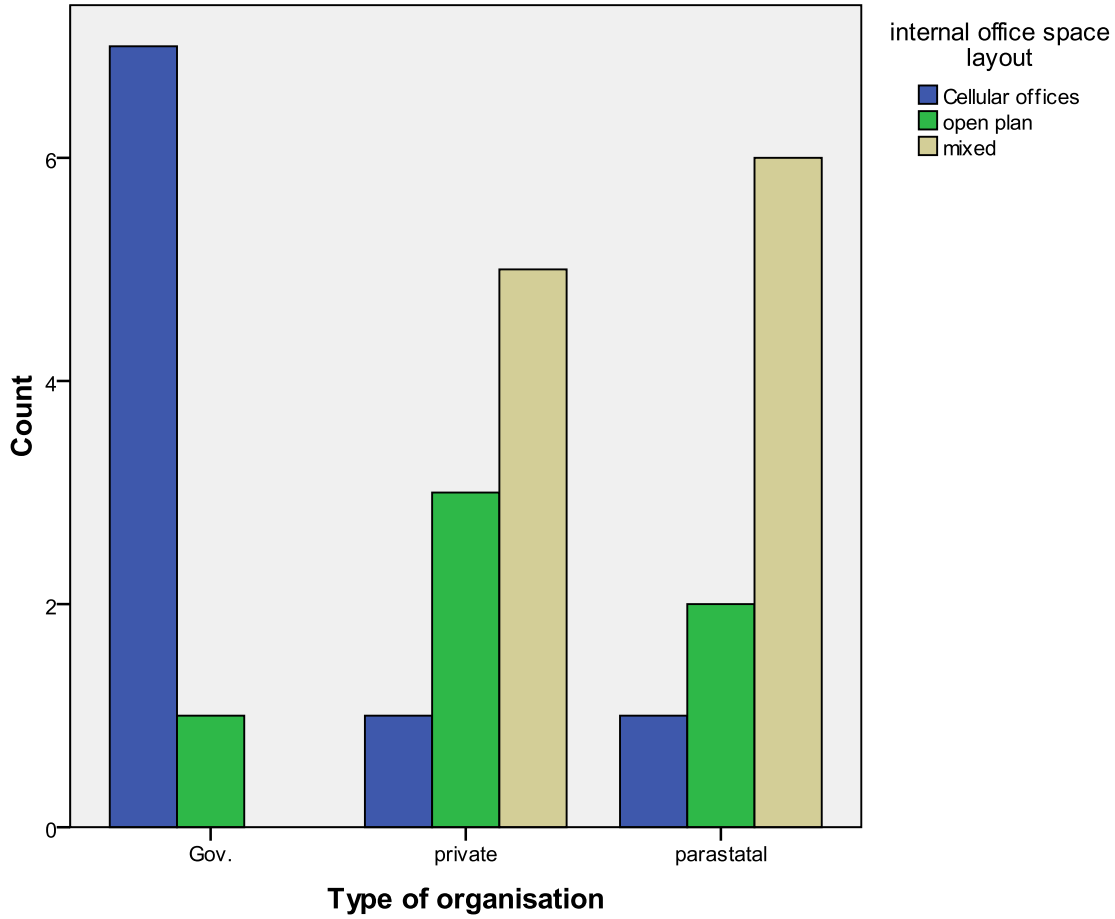
Table 4.7 Type of organisation and internal office layout

	Internal office space layout			
Type of organisation	Cellular	Open plan	Mixed	Total
Government	7	1	1	9
Private Sector	1	3	5	9
Parastatal	1	2	6	9
Total	9	6	12	27

Table 4.7 suggests that 33.3% of CRE managers across the three sectors indicated that the predominant office layout in the organisation they managed was cellular. CGDs had the highest percentage count of 77.8% compared to 11.1% for both

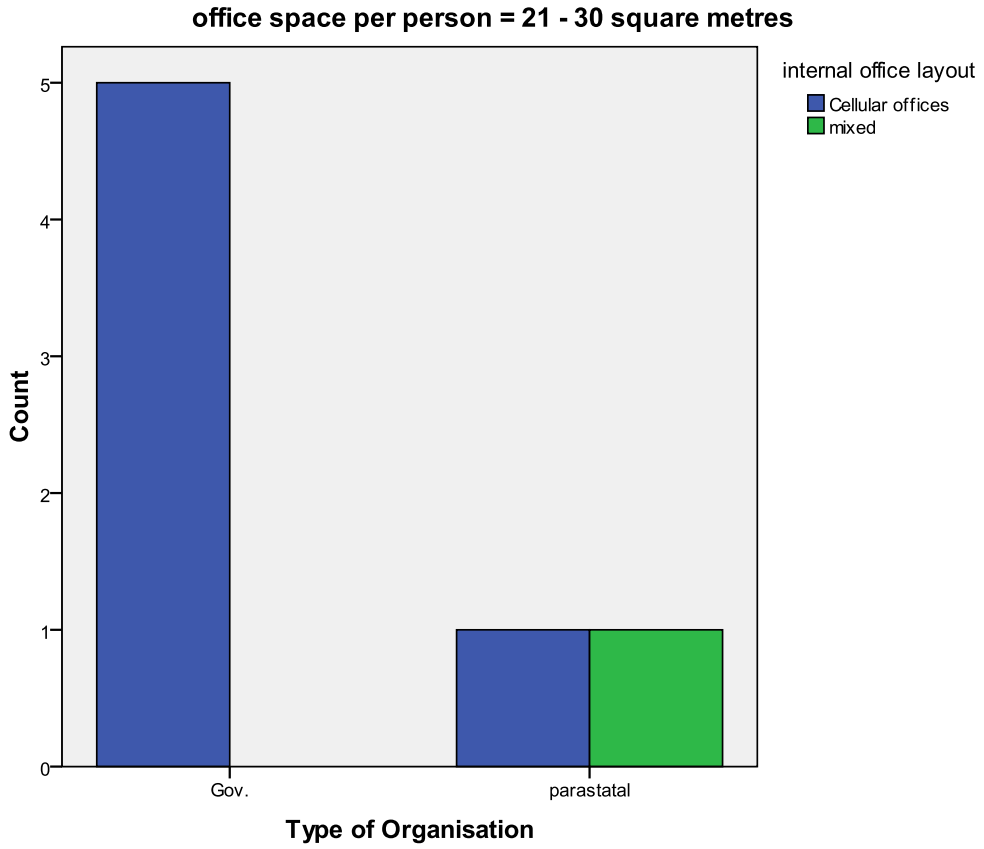
Private and Parastatal sector organisation.

Figure 4.5 Type of organisation by internal office layout



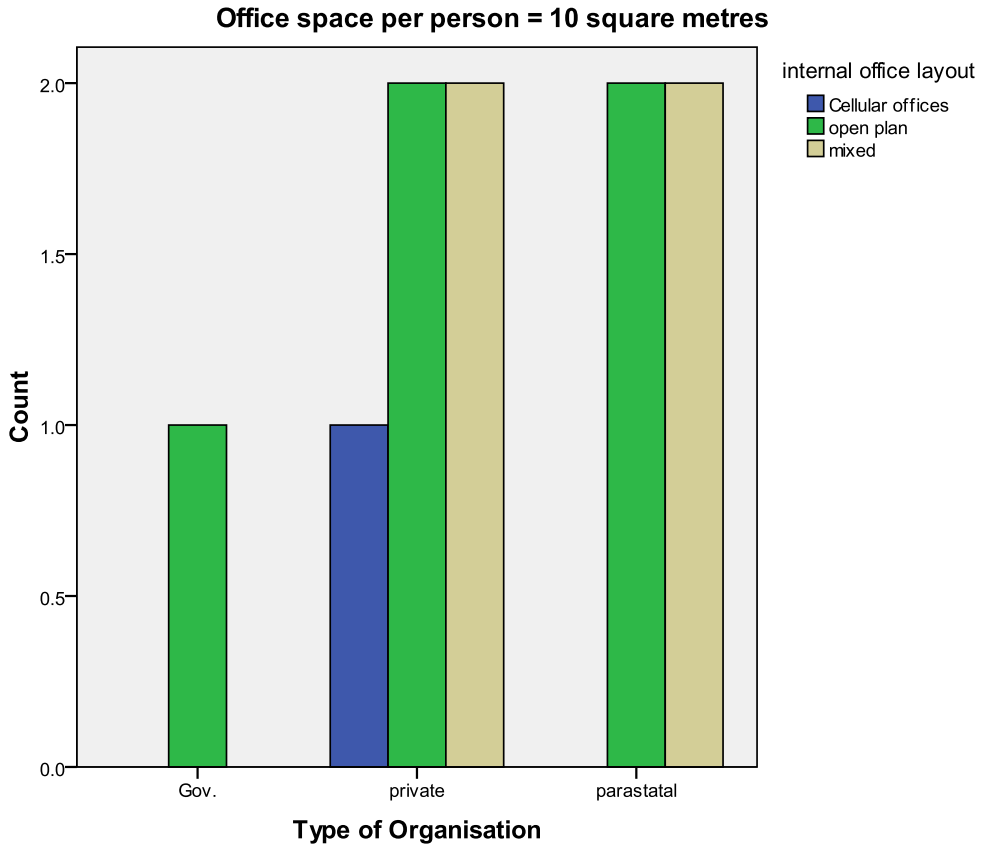
It can be concluded from the findings that CGDs had the highest incidence of internal cellular office layout compared to the other two sectors. The researcher further cross tabulated the type of organisation by internal layout by office space per person.

Figure 4.6 Type of organisation by internal layout by office space per person



The above figure 4.6 suggests that there is an association between internal layout of offices and office space per person. There seems to be an association internal cellular office layout and higher incidence of lower occupancy range of 21 – 30m^2, compared open plan and mixed layouts (figure 4.7) that are occupied with tighter occupancy of 10m^2.

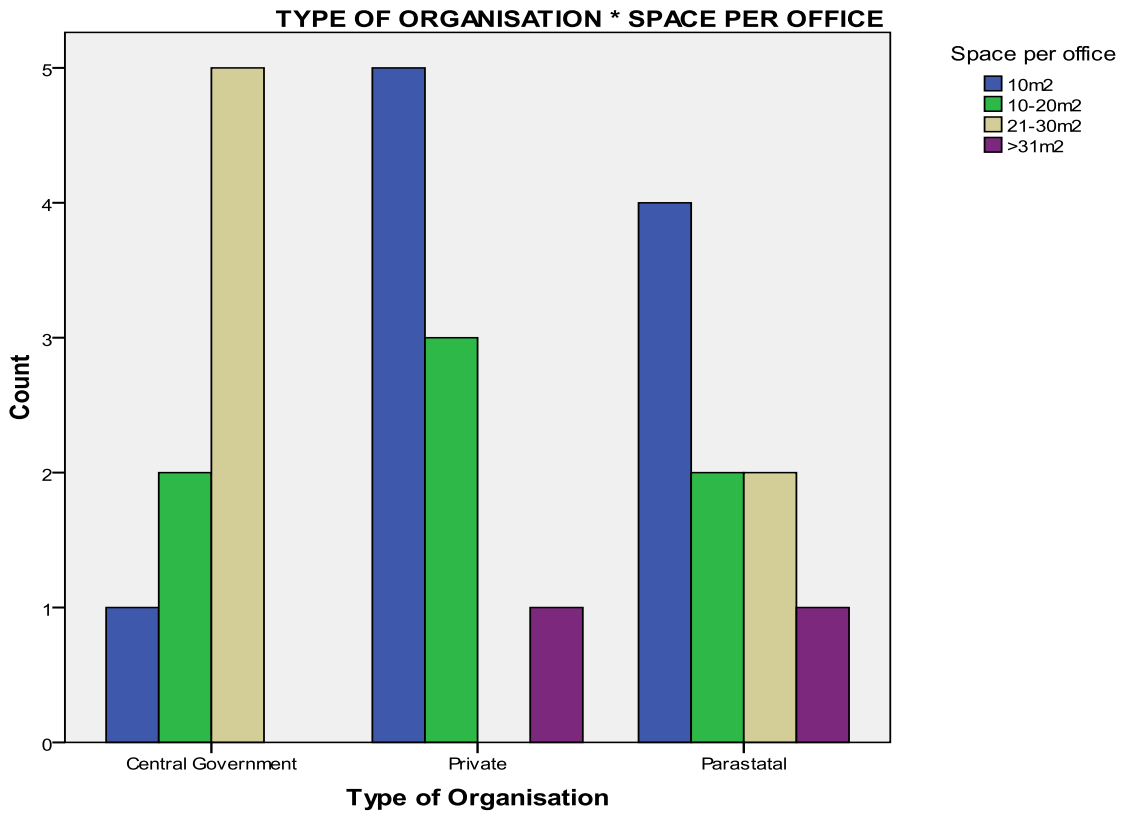
Figure 4.7 Type of organisation by internal office layout by office space person



It can be concluded from these findings that CGDs are characterised by cellular internal layouts which contribute to inefficiency in the use of office space.

4.5.2 Office space occupancy density

Figure 4.8 Type of organisation by office space per person



As it can be seen from figure 4.8 and Table 4.8, 62.5% of CGDs occupied office space per person range of 21 – 30m^2, compared to 56.6% and 44% of Private and Parastatal sectors that occupied 10m^2. It can be conclude from the findings that there is a high incidence of low occupation density levels in CDGs compared to its Private and Parastatal sector counterparts.

Table 4.8 Type of Organisation and office space per person

	Space per office				Total number of respondents
Type of Organisation	10m2	11 – 20m2	21 – 30m2	>31m2	
Central Gov	1 12.5%	2 25.0%	5 62.5%	0 0%	8 100.0%
Private Sector	5 56.6%	3 33.3%	0 0.0%	1 11.1%	9 100.0%
Parastatal	4 44.4%	2 22.2%	2 22.2%	1 11.1%	9 100.0%
Total	10 38.5%	7 26.9%	7 26.9%	2 7.7%	26 100.0%

Table 4.9 Type of organisation by Office/person and internal office layout

		Office space per person				Total
Internal office layout	Type of organisation	10m2	11 – 20m2	21 – 30m2	>31m2	
Cellular offices	Central Gov.	0 0.0%	2 28.6%	5 71.4%	-	7 100.0%
	Private	1 100.0%	0 0.0%	0 0.0%	-	1 100.0%
	Parastatal	00 0.0%	00 0.0%	1 100.0%		1 100.0%
Total		1 11.1%	2 22.2%	6 66.7%		9 100.0%
Open plan offices	Central Gov.	1 100.0%	0 0.0%	-	-	1 100.0%
	Private	2 66.7%	1 33.3%	-	-	3 100.0%
	Parastatal	2 100.0%	0 0.0%	-	-	2 100.0%
Total	Count	5 83.3%	1 16.7%	-	-	6 100.0%
Mixed offices	Private	2 40.0%	2 40.0%	0 0.0%	1 20.0%	5 100.0%
	Parastatal	2 33.3%	2 33.3%	1 16.7%	1 16.7%	6 100.0%
Total		4 36.4%	4 36.4%	1 9.1%	2 18.2%	11 100.%

The table 4.9 suggests 71.4% of respondents show that CGDs cellular internal office layouts fell within the lower occupancy levels of 21 – 30m^2 clearly indicating that there is association between cellular internal layout and inefficiency in space use. While only 28.6% exhibited a high occupancy level ranging between 11 – 20m^2.

Table 4.9 suggests that CGDs are characterised by cellular internal layout with lower occupancy density levels (21 – 30m^2) compared to the other two sectors. Table 4.9 further reveals that the prevalent internal office layout in the private sector is the open plan and it is occupied with the highest occupation density level 10m^2.

4.6 Role of CRE and Formal CRE unit

Figure 4.9 Type of organisation by role of CRE unit

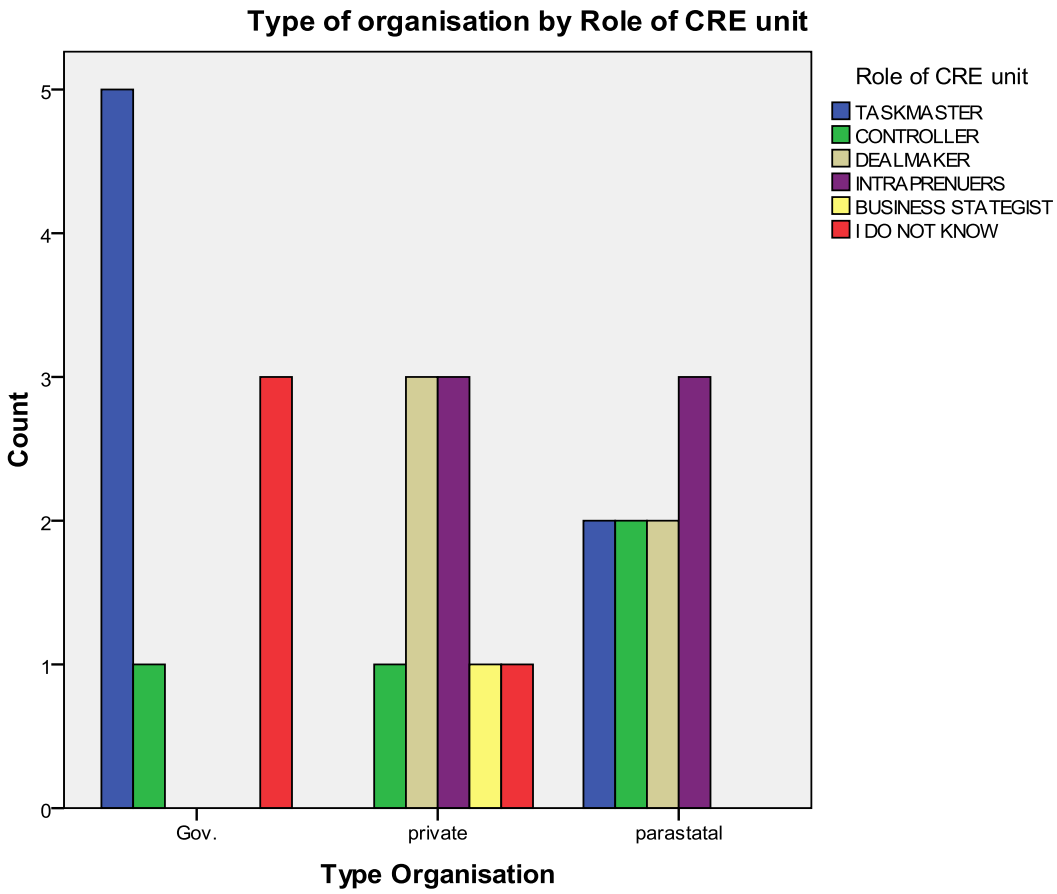


Figure 4.9 Illustrates that the most common (55.6%) CRE role amongst CGDs is that of the taskmaster that focus on providing office space as and when requested by departments and space is viewed as a free good. The private sector and Parastatal exhibited a higher role in the evolution of CRE management with 33.3% respectively indicating the role of entrepreneur, where CRE unit functions as real estate unit charging departments for services provided.

CRE organisations where further asked to indicate if they had a formal CRE unit and findings are as summarised below.

Figure 4.10 Type of organisation by formal real estate unit

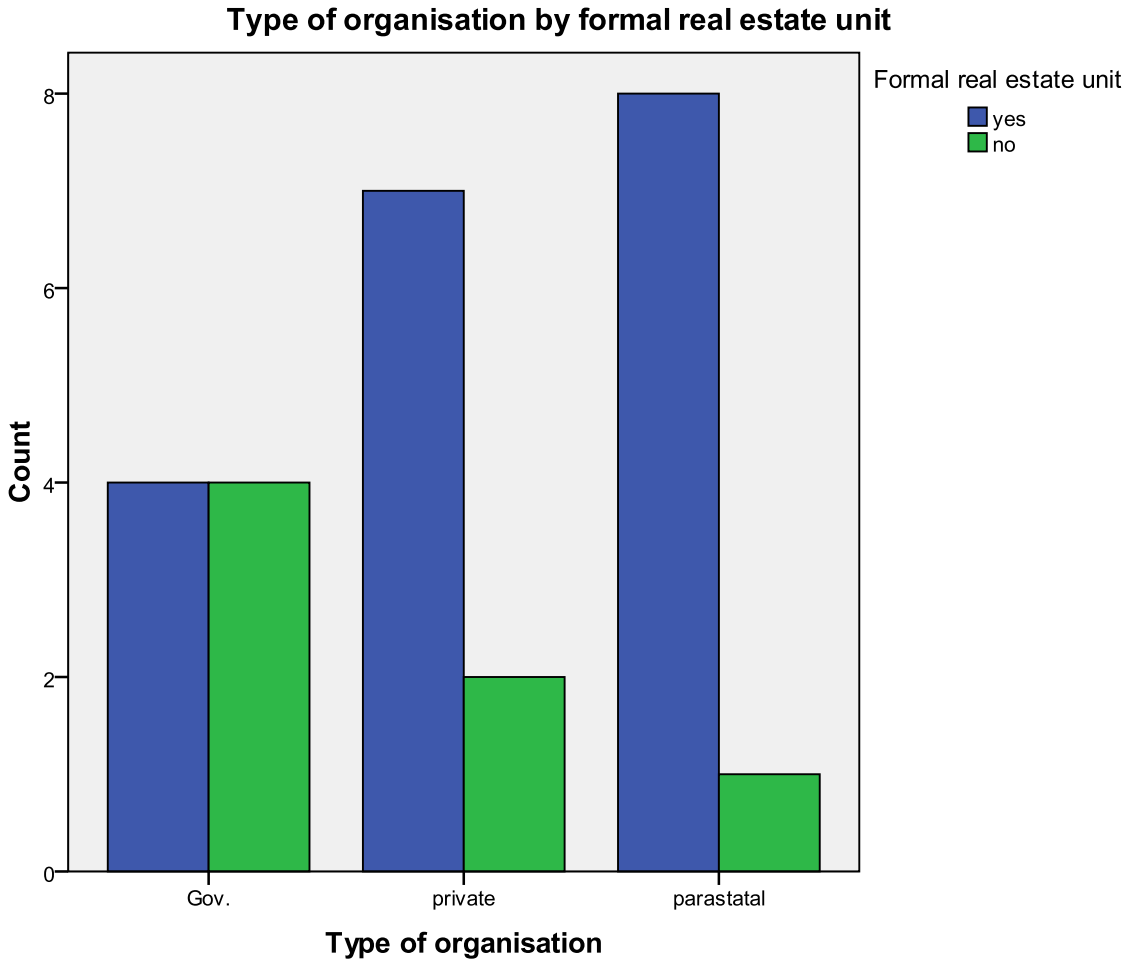


Fig 4.14 reveals that out of the three types of organisations interviewed Parastatal organisation had the highest percentage of formal real estate units (88.9%) followed by the Private sector organisation (77.8%) and Central Government departments had the least percentage of formal real estate units (50%).

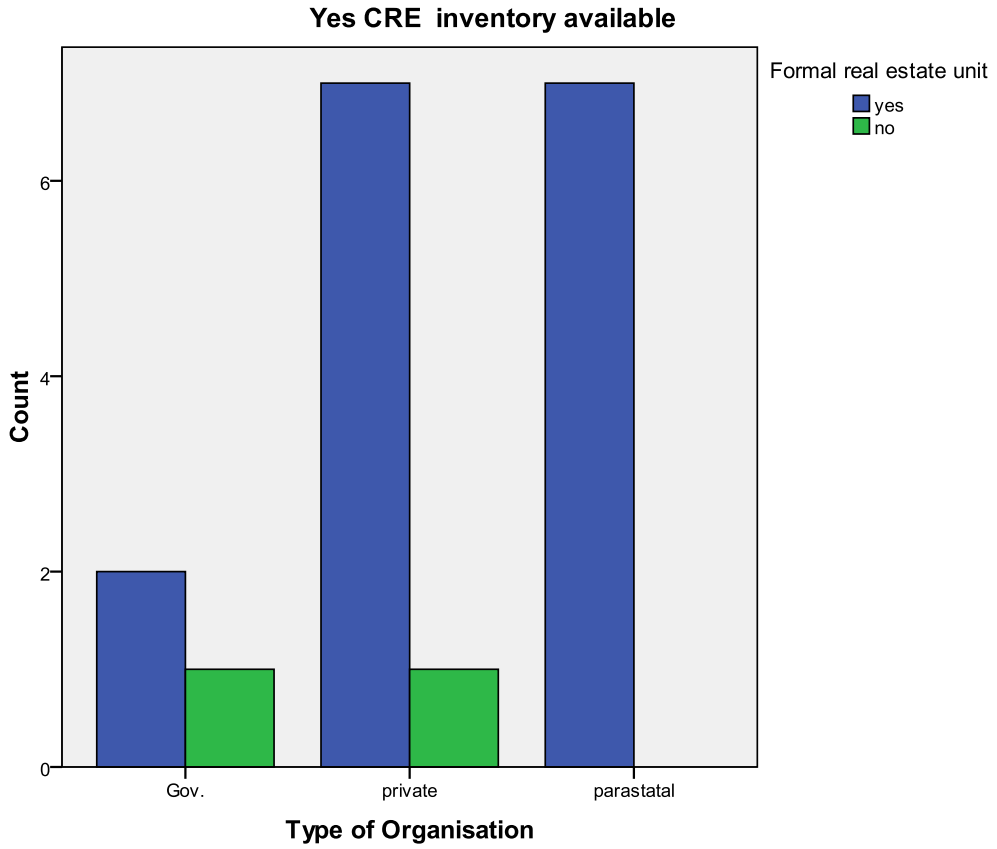
In trying to find out the way CRE is managed the researcher further carried out a cross tabulation of the following variables type of organisation by formal real estate unit and up to date CRE inventory.

Table 4.10 Type of organisation by formal real estate by availability of up to date CRE inventory

Availability of Real Estate inventory	Type of Organisation	Formal Real Estate Unit		Total
		Yes	No	
	Central Gov.	2 66.7% 12.5%	1 33.3% 50.0%	3 100.0% 16.8%
	Private	7 87.5% 43.8%	1 12.5% 50.0%	8 100.0% 44.4%
	Parastatal	7 100.0% 43.8%	0 0.0% 0.0%	7 100.0% 38.9%
Total		16 88.9%	2 11.1%	18 100.0%

Table 4.10 shows that 16 out of 18 (88.9%) organisations that had indicated that they had a formal CRE unit also had up to date real estate inventory. In accounting for the different sectors, Private and Parastatal organisations each had a percentage count of 43.8% compared to 12.5% that were CGDs. These findings are best illustrated in figure 4.15 below.

Figure 4.11 Type of organisation by formal real estate by CRE inventory



It can be conclude from the above figure 4.15 that there is an association between formal CRE unit and availability of information.

Another aspect of CREM that was explored in this researcher was the type of organisation by availability of CRE Strategy

Table 4.11 Type of organisation by Availability of written CRE Strategy

Type of organisation	Availability of CRE Strategy		Total
	Yes	No	
Central Gov.	3 33.3%	6 66.7%	9 100.0%
Private	7 77.8%	2 22.2%1	9 100.0%
Parastatal	8 88.9%	1 11.1%	9 100.0%
Total	18 66.7%	9 33.3%	27 100.0%

From the above Table 4.11 it can be seen that amongst the three sectors, 66.7% of

organisations indicated that they had a CRE strategy. The Parastatal sector had the highest percentage 44.4% compared to the other two sectors. This was followed by Private sector (38.9%) and CDGs had the least percentage count (16.7%) of organisations with A CRE strategy. The existence of written formal CRE strategy is identified as a good indicator to RE management. Government departments perform poorly when it comes to this variable.

The researcher introduced a third variable (availability of CRE information) to this cross tabulation to find out if there is any association between CRE strategy and information.

Figure 4.12 Type of organisation by availability of strategic planning by real estate inventory.

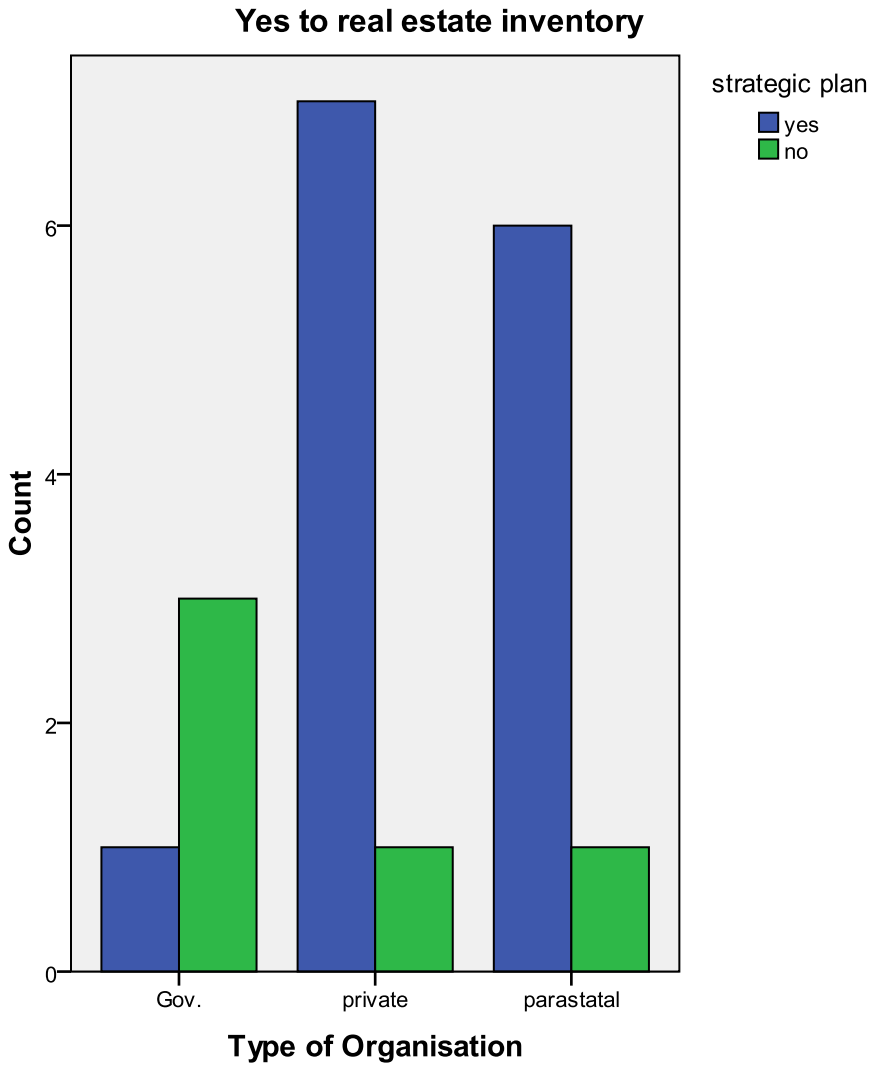


Figure 4.16 reveals that from those organisations (79.0%) that had answered yes to having a CRE strategy also had up to date CRE information compared to only (21.1%) that a CRE strategy but had no up to date information. It clearly indicates that having CRE strategy is a catalyst to collecting and keeping up to date CRE information.

Figure 4.16 Indicates that the 62.5% of organisation that indicated that, they did not have a CRE strategy also had no up to date CRE information compared 37.5% that answered no to having a CRE strategy but had up to date information.

In summary it can be concluded that up to date CRE information is key to implementing a successful CRE strategy.

Organisations from the 3 sectors were further asked if they undertook evaluation of their CRE to determine if they are underutilised and their responses are as summarised in the table 4.12 below;

4.7 Evaluation of CRE Performance

Table 4.13 Type of organisation by Evaluation of Property performance

Type of organisation	Evaluation of property performance		Total
	yes	no	
Central Gov.	1 11.1%	8 88.9%	9 100.0%
Private	8 88.9%	1 11.1%	9 100.0%
Parastatal	6 66.7%	3 33.3%	9 100.0%
Total	15	12	27

It can be summarised from table 4.12 above that (15 out 27) 55.6% of CRE managers amongst the three sector indicated that they carried out evaluation of their CRE performance to determine if there was indeed underutilisation of office space. In comparing the three sectors Private and Parastatal sector perform much better with percentage count 53.3% and 40% respectively as opposed to CGDs with 6.7%.

The respondents were further asked to indicate the most popular office use space performance measure used in their organisation and this is summarised in the figure 4.17 below;

4.7.1 CRE Performance Measures

Figure 4.14 Type of organisation by office use space performance measure

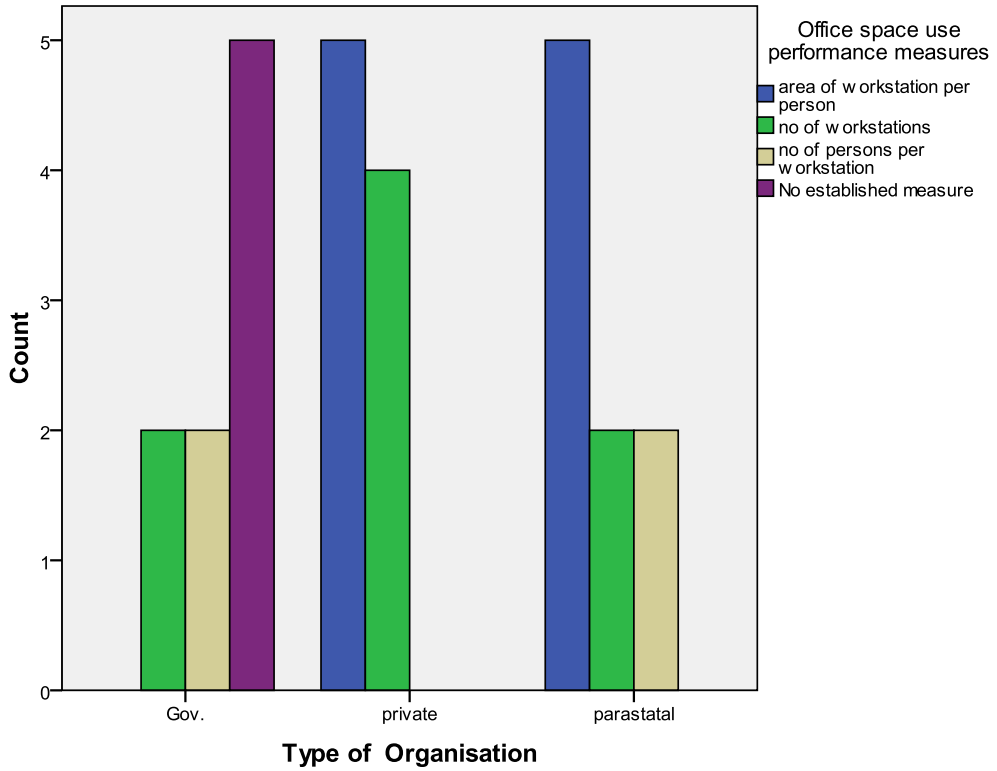


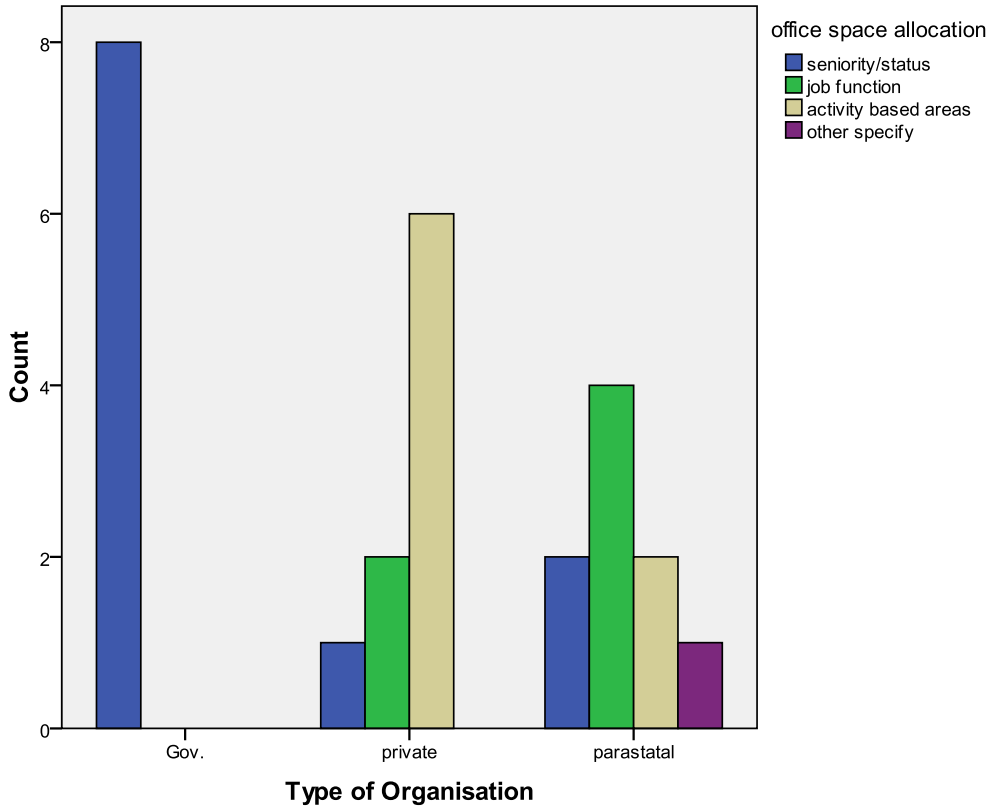
Figure 4.14 suggests that (81.5%) CRE organisations in the three sectors used some form of office space performance measure. 18.5% CRE managers indicated that they had not established any office space performance and they all managed central government offices.

The most commonly used space performance measure is area of workstation per person (37.0%) followed by number of workstations (29.6%) and number of persons per workstation (14.8%). It can be concluded the above figure that CGDs fair unfavourably in measuring the performance of their buildings compared to the other two sectors. Not being able to measure the performance of their buildings CRE managers will never be able to know if the space occupied adds any value to the corporate strategy.

4.8 Allocation of office space

The researcher further explored how office space was allocated to employees across the three sectors and carried out a cross tabulation of organisation by office space allocation

Figure 4.19 Type of organisation by office space allocation



The above figure 4.10 reveals that the most common method of allocation among the three sectors is to assign office space to individuals basing on seniority/status.

42.3% of CRE managers in the three sectors indicated that office allocation in their organisations was based on seniority/status, compared to 23.1% who indicated that office space was allocated basing on job function 30.8% which was based on activity based areas.

CGDs had the highest percentage count (72.7%) of office allocation based on seniority/status of employees, followed by 18.2% in the Parastatal and the Private sector with the lowest percentage count of 9.1%. The cross comparison of the three sectors indicates that allocation of office space in CGD predominantly based

on seniority when compared to its counter parts in the private and Parastatal sectors.

4.9 Discussion of Results

4.9. 1 Introduction

In discussing the results it is pertinent to review if the research has answered the research questions. The main research question (How efficient is the use of office space in central government departments?) was answered by identifying the measure of office space use efficiency which is occupancy density and carrying out a cross comparison with Private and Parastatal organisations. This was further answered by assessing other elements that affect the occupancy density such as internal office space layout and office allocation.

4.9.1.1 Efficiency in office use

In answering this question literature review identified occupancy density as a measure of office space efficiency. The measure of office space occupancy density used in the research was the area of office space per person. It can be concluded from the cross comparison of occupancy density of the three sectors that CGDs office space is occupied with lower density levels ranging between 21 – 30m^2 (62.5%) compared to Private and Parastatal sectors (56.6% and 44.4% respectively) that occupied tighter level of 10m^2.Another aspect of space use that contributed to inefficiency in the use of office was the type of internal office layout. From the findings it can be concluded that CGDs have a high occurrence of cellular internal layout which attributes to inefficiency. It can be concluded that there is an association between lower occupancy levels and the use of cellular offices as the most common density level in CGDs was between 21 – 30m^2 (71.4%) followed by 11 – 20m2 range with (28.6%). It can further be concluded that allocation of office space CGDs is predominantly based on seniority/status. This is typified by the highest percentage CRE managers (72.7%) managing CGD CRE compared to only18.2% and 9.1% in Parastatal and Private sector respectively. Literature review points out that space allocation based seniority has

no regard to efficiency in space use as office size is linked to status and not the job function or activity being performed. Warren (2003) argues that lower space occupancy density has a cost implication to the organisation as it ends up occupying more space than what they truly require. Leading to more space acquisition which is unnecessary and this has a direct bearing on an organisation bottom line by diverting funds from other functions (Ibid, 2003). CGDs fair unfavourable in comparison to the national office density level of $9m^2$ as set by the National Building control code of Botswana Cap. 65:02 (p. 67). In comparison to the national occupancy standard Private sector organisation perform much better with majority of CRE managers indicating that the most prevalent density level is $10m^2$ (56.6%) followed by Parastatal and CGDs with a percentage count of 44.4% and 12.5% respectively.

4.9.1.2 Role of CRE

The next question was what is the current CREM practice in central government Departments? This was answered by examining the role that CRE manager played in the organisation.

It can be concluded from the findings that the common role amongst CRE managers in CGDs (55.6%) is that of the taskmaster which focuses on provide departments with office space as and when required. Literature has identified this as the first stage in the evolution of CREM where CRE is treated as a free good with little attention paid to efficiency. It can be concluded that Private and Parastatal sector exhibited advancement in evolution (33.3% respectively) signified that indicating the role of entrepreneur, where CRE managers have to be innovative in controlling cost, setting occupancy standards to add value to the corporation.

4.3.9.3 Formal CRE unit

Another aspect of CREM that was investigated was the availability of a formal CRE unit that had a clearly defined mandate. It can be concluded that 50% of CGDs had no formal real estate unit dedicated to the management of CRE. This clearly indicates that CGD CRE does not receive the attention that is given to other resources therefore it does not add value. The organisations that indicated

that they had a CRE unit where further subjected to a cross tabulation with availability of up to date information. It can be concluded that majority of CRE in CGDs is managed without up to date information meaning that CRE decisions are made without sufficient information. Out 18 CRE managers that indicated that they had a formal real estate (88.9%) had up to date CRE information. Private and Parastatal organisation accounted for 43.8% respectively while CGDs only accounted for 12.5%. Therefore it can be concluded that availability of a formal CRE unit that coordinates the CRE functions in the organisation is a catalyst to up to date CRE information that assists in taking the right decision pertaining to CRE.

4.9.1. 4 CRE strategy and alignment

There is lack of alignment between CGDs CRE strategy and corporate strategy and the objectives of CRE are reactive to the corporate strategy. Evidence points out to this effect that 14.8% of the organisations interviewed indicated that they believed there was a poor alignment between the CRE strategy and the corporate strategy and all those CRE managers managed CRE in CGDs. This is further supported that 12 out of 27 CRE managers indicated that their CRE strategy always changed when their corporate strategy changed. 8 out of 12 CRE managers managed CRE in Private sector, followed by 4 from the Parastatal organisations. Therefore it can be concluded that CRE objectives in the private sector respond to change in the corporate strategy implying that CRE plays an active role in driving the business objectives. Simon (1994) and Gibson (1994) emphasize the need of CRE strategy to avoid reactive management to property. Without appropriate CRE strategies that are linked to corporate needs there is no way that CGDs manage their office space more efficiently.

4.9.1.5 Evaluation of CRE performance

It can be concluded that CGDs hardly evaluate the performance of CRE to determine if space is underutilised when compared to its counterparts in the Private and Parastatal sectors. Out of the 15 CRE managers amongst the three sectors that indicated that they carried out evaluation of their property CGDs only accounted for 6.7% as opposed to 53.3% and 40% respectively for the private and

Parastatal sectors. Out of 12 CRE managers that indicated that they do not evaluate performance of their real estate CGDs accounted for 66.7%.

4.9.2 Conclusion

The hypothesis of this research is the existing CRE management approach in central government Departments in Botswana results in an adequate efficiency in the use of space. The responses from the CRE managers clearly point out that CREM function in Central Government Departments is still under developed and without a formal real estate unit with the right expertise's, up to date CRE information and proper evaluation of CRE performance office space cannot be used efficient. Therefore failure to perform in the identified areas of CREM supports the assertion that poor CRE management in central government departments attributes to poor performance in efficiency of office space as signified by lower occupancy levels, high incidence of cellular offices and allocation of office space based on seniority and status.

5.0 Recommendations

5.1 Introduction

The main aim of this study was to examine the efficiency of Central government space compared to its counterparts in the Private sector and Parastatal organisations. This chapter makes recommendations to identified shortcomings in central government CREM.

5.2 Recommendations

1. Central Government Departments must take cognisance of the existing national office occupancy rate of 9m2 per office space per person and benchmark the use of their occupancy levels against it.
2. It is recommended that CRE managers introduce more open plan office space layouts to improve efficiency in space occupation.
3. The ratio cellular or enclosed to open plan offices is recommended at a rate of 1: 9.
4. It is recommended that formal CRE units be established and the current CRE managers must go for further training in Real Estate management disciplines to improve their expertise's in the field.
5. Benching with similar organisations performing similar functions to ensure that the allocation standards are reasonable.

5.2.1 Office space allocation Framework

1. CGDs must allocate office space as per function as required and the study prescribes the norms to be observed in allocation of office space
2. Administrative work space will be assigned to open plan areas ranging 9 – 12m^2 per office space per person.
3. Work that requires concentration, meeting areas, technical work must be assigned enclosed cellular offices ranging from 9 – 15m^2.
4. Senior Management must be assigned cellular or open areas of 12- 15m^2.
5. Executive management must be assigned maximum enclosed office space range of 16 – 20m^2.

6. Where feasible CGDs must introduce other working strategies such desk sharing and working from home particular for officers that do not interface with the public.

5.3 Conclusion

This study will enhance the understanding of CREM in Central government departments and may be used as a stepping stone to the improvement of management of real estate. During periods of economic downturns and budgetary constraints CRE can be leveraged if planned for to provide solutions through better use of office space and by adopting a mixed internal layouts with tighter occupancy levels. It is important that government takes cognisance of CRE as a strategic asset that needs to be managed properly, with the right information and performance measures.

5.4 Limitations

The following are some of the issues that may have limited the findings of the research report:

- Number of occupants in the organisation and the sizes of the buildings to able to estimate the level of occupancy as using ranges could limit the occupancy levels.
- Reluctance of by some respondents to give information for fear of confidentiality.
- Finally due to perceptions the study may be vulnerable to errors and biased responses.
- Due to time and financial constraints it was not possible to interview a larger enough population to draw a more comprehensive conclusion.

5.5 Further Study

Due to limitations identified in this report there is need for further studies in office space occupancy density covering a larger population across all the three sector. This will entail working out occupancy levels by dividing the total useable space by number of occupants rather than using estimates. There may be a need to

classify the organisation by functions and size to avoid comparing apples and oranges.

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7.0 Appendix

7.1 Letter to Interviewees



University of the Witwatersrand
Faculty of Engineering and the Built Environment
School of Construction Economics and Management
Johannesburg

To: Whom it may concern (Facility Managers and Property Managers)

Re: Participation in a research project

Research topic: Development of an Optimal Corporate Real Estate Framework for allocation office space

This serves as a request for your participation (by filling the attached questionnaire) in the research project on the abovementioned topic. The research is an academic exercise and will enable the researcher to fulfil requirements for obtaining a Master of Science (Property Development and Management) with the University of the Witwatersrand. All information given will be treated in strict confidence.

The research explores whether the current Corporate Real Estate Management practice in Botswana results in efficient and effective utilization of office space.

Your cooperation and input into this research through the short time requested in filling the questionnaire is much appreciated.

By: Aristocrat Babaki Daman (Mr)

Tel: +26771733436

Email: arisdria@yahoo.com

7.2 Research Questionnaire

Faculty of Engineering and the Built Environment
School of Construction Economics and Management
University of the Witwatersrand

Research Survey: Development of an optimal Corporate Real Estate Framework for allocation of office space

By: Aristocrat Babaki Daman

Section A

1. Type of organisation (*Please tick the appropriate answer* (√)

   ☐ Government department ☐ Private ☐ Parastatal

2. What is your training/qualification? *Please tick the appropriate answer* (√)

   ☐ Property Manager

   ☐ Facility Manager

   ☐ Other (please specify) _____

3. Please indicate your rank/position in your current organisation *Please tick the appropriate answer* (√)

Chief	Principal	Senior	Assistant	other specify
☐	☐	☐	☐	_____

4. How long have you been working in your current position? *Please tick the appropriate answer* (√)

   ☐ < 5yrs 5 – 10yrs ☐ 11 – 15yrs ☐ > 15yrs

5. What is the core business of your organisation?

   _____

Section B

Real Estate Portfolio

6. Please ticket the approximate number of properties your organisation owns freehold

☐ Nil ☐ 1 – 5 ☐ 6 – 10 ☐ 11- 15

☐ 16 – 20 ☐ 21- 25 ☐ 25 +

7. Please tick the approximate number of properties your organisation leases

☐ Nil ☐ 1 – 5 ☐ 6 – 10 ☐ 11- 15

☐ 16 – 20 ☐ 21- 25 ☐ 25 +

8. What is the total floor area in square metre occupied by the organisation?

Less than 500m²	
500 – 1000 m²	
1500 – 2000 m²	
More 2000 m²	

9. Please circle to indicate whether your organisation prefers to lease or own real estate.

Strong preference neutral strong preference

To lease own

1 2 3 4 5

If 4 or 5 please answer (a), if 1 or 2 please answer (b).

a) Why does your organisation prefer ownership?

_____

_

b) Why does your organisation prefer leasing?

_____

10. How many people are employed by the organisation?

less 50	
50 - 100	
100 – 150	
150 - 200	
More than 200	

11. Has there been any change in the number of people employed by your organisation in the last 3 years?

a) ☐ Growth ☐ Decline

b) Has an increase or decline in the number of staff affected the amount of office space required?

12. What is the average office density per employee?

Less than 10m²	
10 - 20 m²	
20 - 30 m²	
More 30 m²	

13. What is the layout of the space?

☐ Primarily cellular offices

☐ Open plan offices

☐ Mixed

☐ Other specify_____

14. How is office space allocated?

☐ Seniority/Status

☐ Job Function

☐ Activity based areas

☐ Other specify_____

Section C

Organisational Structure of the Corporate Real Estate unit or division

15. Does your organisation have a formal real estate unit?

☐ Yes ☐ No

16. How is the corporate real estate unit organized within the organization? *Please tick the appropriate answer* (√)

☐ Department of the organisation ☐ Subsidiary

17. Indicate by a tick the level of centralisation or decentralisation of the following real estate decisions in your organisation. 1 = highly centralised, 3 = moderately, 5 = highly Decentralised

Real Estate Decisions	1	2	3	4	5
Leasing					
Maintenance					
Real estate budget					
Real estate disposal					
Space allocation					
Space layout					
Furniture purchase					
Refurbishment decisions					
Outsourcing decision					

18. How many staff members are employed by your real estate unit?

_____

19. Which of the following statements closely resembles the current role of real estate management in the organisation? (*Please tick one (√))*

☐ Accounting for the costs of using real estate and allocating both the real estate and its costs to operating units

☐ Investigating ways to use less real estate or increase efficiency (e.g. by standardising office layouts, combining facilities, subleasing, selling excess buildings, refurbishing old buildings to suit new uses).

☐ Organising provision of land/buildings/ or real estate so that operating units of the organisation have what they need.

☐ Examining trends in conjunction with operating units, developing the real estate implications for the core operations of the organisation and proposing optimal solutions.

☐ A separate business unit earning a return on the capital tied up in the real estate assets by providing space requirements of operating units in return for market related rents and operating expenses

None of the above (please elaborate)_____

20. Outline the reporting line of real estate unit to senior management

21. Is the head of real estate unit part of the senior management team?

☐ **Yes** ☐ **No**

Section D

Inventory of Real Estate

22. Does your organization maintain a real estate inventory? (Tick the appropriate answer)

☐ Yes (answer Q 23) ☐ No (answer Q 25)

23. Is the inventory computerized?

☐ Yes (answer Q 24) ☐ No

24. I f yes tick its performance on each of the following.

Information					
	1	2	3	4	5
Current use of property					
Physical attributes – i.e size, dimensions, age					

Legal matters including zoning, tenure etc					
Lease details					
Purchase cost					
Operating or maintenance costs					
No of people working within the specific buildings					
Usefulness in assisting in strategic decision making					
Usefulness in identifying non performing properties					

25. If you do not maintain an inventory for your organizations real estate, what are the reasons for not developing and operating such a system in the organization?

☐ Not enough funding and manpower

☐ Difficult to effect change in the organization

☐ Not cost justifiable

☐ Not enough power vested in the real estate function

☐ Real estate functions too decentralized

☐ Resistance to new procedures by real estate staff

☐ Unfamiliar with available inventory systems for real estate

☐ Cannot convince top management

☐ Other specify

_____

Section D
Corporate Real Estate Planning

26. Does your organisation have a strategic plan for real estate management?

Yes ☐ No ☐

If yes answer question the following

Does the plan get referred to when making real estate decisions?

In your opinion does the strategic plan provide relevance and guidance to what should happen with the real estate portfolio**?**

☐ No relevance/ guidance

☐ Some relevance/guidance

☐ Very relevant providing excellent guidance

27. In your opinion is the preparation of the strategic plan guided by the overall organisational strategy?

28. How well would you say the real estate strategic plan is aligned with the overall organisational strategy?

☐ High level of alignment ☐ well aligned ☐ moderately aligned

☐ poorly aligned ☐ not aligned at all

29. If the organisational objectives change are there any corresponding changes made to the real estate strategic plan?

☐ Never ☐ Occasionally ☐ Always

30. Is the real estate unit or division represented in the senior management or board meetings?

☐ Never ☐ Occasionally ☐ Always

31. How does your organisation record real estate value for owned and leased?

Owned property

Historic purchase Price ☐ Current market Value ☐ Depreciated replacement Cost

Leased Property

☐ Annual Rental ☐ Gross Occupancy Cost ☐ Other please specify

_____

Section E
Corporate Real Performance

The following section covers information on performance measurement

32. Do you employ performance measures? ☐ Yes ☐ No

If so, what do you measure and how?_____

_____

33. Which of the following performance measures are used in the organisation?
(Please tick the appropriate answer (√)

☐ Cost per square metre

☐ Cost per employee

☐ Employees per square metre

☐ Employees per workstation

☐ Others (please specify)
_____

34. Which of the following types of information and communication Technology tools are used by office staff in the organisation? *(Please tick the appropriate answer* (√)

☐ Telephones

☐ Mobile phones

☐ Email Internet

☐ PC/Laptops

☐ Others
(specify)_____

35. What impact has the use above mentioned ICT tools had on the use of space and occupancy characteristics in the organisation?

Increased ☐ No change ☐ Decreased ☐ Do not Know ☐

36. Which of the following workplace strategies are employed in the organisation to maximise use of office space?

☐ Full time home/remote working

☐ Hot desking (desk sharing)

☐ Activity based work environments (e.g. concentration areas, touchdown areas, meeting rooms)

☐ Shared Space with other organisations

☐ Others (please specify)_____

37. Is feedback on implementation and success of these strategies ever reported to the top management?

☐ Yes ☐ No

38. If yes, how often is feedback reported to the top management?

☐ Monthly ☐ Quarterly ☐ Bianually ☐ Annually

39. Performance in the organisation
How you do rate the following real estate Management issues in the organisation?
1= excellent, 2 = good, 3= Fair, 4 = poor, 5= very poor.

	1	2	3	4	5
Integration of Business Strategy and CRE Strategy					
Objectives of CRE are clearly defined					
Maximising space utilization					
Maintaining up to date real estate information					
Involvement of Property manager in the overall strategic planning of the business and its activities					
Reduction in occupancy costs					
Making surveys on occupier satisfaction					
Making use internal and external space utilisation benchmarks					

Reporting system and review of performance						

40. The following are some of the common organisational objectives and supporting CRE strategies. Please indicate agreement level with following statements from a property managers perspective in terms of what is taking place in the organisation (1 = strongly 2 = disagree, disagree, 3= neutral, 4= agree, 5 = strongly agree, NA – do not know)
(Please tick the appropriate answer (√))

	1	2	3	4	5	NA
In the organisation real estate is considered and managed as one of the key assets of the organisation						
The organisation has a strategic plan for real estate management						
In the organisation collecting and maintaining property information is a very important activity of CREM						
Cost reduction is one of the objectives of the organisation concerning real estate						
Workspace management is one of the main objectives concerning real estate						
Increasing productivity is one of the organisations objectives concerning real estate						
Measuring real estate performance is one of the organisations objectives concerning CRE						
Real estate performance is benched marked against similar sized organisations						

41. Do you personally believe that the current real estate system requires improvement?

Yes No If yes State some of the issues that hinder effective management of your real estate.

_____

_____