UNIVERSITY OF NAIROBI

SCHOOL OF BUILT ENVIRONMENT

DEPARTMENT OF REAL ESTATE AND CONSTRUCTION MANAGEMENT

THE APPLICATION OF INFORMATION TECHNOLOGY IN COMMERCIAL PROPERTY MANAGEMENT IN NAIROBI: A COMPARATIVE CASE STUDY APPROACH

By

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A Project Paper Presented in Partial Fulfillment for M.A. Valuation & Property Management

DECLARATION

I Amina Saad Yahya declare that this research is my original work and has not been presented for award of a degree in any other University.

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TABLE OF CONTENTS

List of figures

List of tables

Abbreviations

BBK Barclays Bank of Kenya
IT Information Technology
KF Knight Frank
KRA Kenya Revenue Authority

ABSTRACT

In this information age, the global real property industry like other industries is adopting information technology in its various forms at a fast pace. This form of technology has brought about advantages of speed, timeliness, flexibility and increased efficiency and productivity to all sectors of business, with property management generally not being an exception. In the Kenyan context, progress of IT adoption has been rather slow considering the increased portfolio sizes and expectations in a highly competitive and globalised economy.

Backwardness and slow progress in adopting information handling techniques has had a negative effect on the growth of the commercial property sector. Marketing lags behind, advanced statistical analysis is not encouraged, and efficiency in carrying out management routines is reduced. Property managers are unable to access new knowledge in management approaches, concepts and tools in a timely fashion.

This study explores the international trends, innovations and best practices in the use of IT then investigates the extent of use of IT in the commercial property management of three case studies locally. These case studies represent the semi-public (parastatal) sector, the private (corporate) sector and the professional property management sector. Qualitative data is sought on the benefits, use and challenges posed by IT in commercial property management. The findings indicate that all three case studies use IT to varying extents. At a minimum, they use standard or conventional software packages which they find adequate for the daily routines. There are concerted efforts by commercial property managers to steadily increase the use of

IT in their work. However, they are faced with challenges. Training, costs considerations, complexity and fast advancement of IT software must be overcome.

The study asserts that top management commitment is key to success in this field. Appreciation by organisations that efficient property management could have far reaching effects even outside the property department of the firms is important. Quality management and effective training programmes should be set up in organisations. Information sharing and networking among professionals is emphasized. The study suggests more involvement by the professional organizations in encouraging and promoting the use of IT in commercial property management.

New research directions are indicated at the end of the study

CHAPTER ONE: INTRODUCTION

1.1 Introduction

It is no exaggeration to say that real property is important in all walks of life. Real property serves as the setting for most commercial and social activities. Real estate investments account for 50 percent of the world's wealth (The Standard Newspaper, Jan 31 2008: 29). For full benefits (financial or otherwise) to be realized from the ownership of property, there must be diligent management of the interest and this entails the application of various skills and know-how to optimize returns from the investment in and use of real estate. To realize this goal several tasks need to be performed efficiently and in a coordinated manner. These tasks are becoming increasingly difficult and complicated to accomplish due to the size of property portfolios, coupled with the bulk of information on the same. Furthermore, the clients are now better informed in this globalisation age and as such demand from their property managers' greater efficiency, accuracy and expert advice backed by thorough analysis. The property managers on their part, in trying to keep up with global trends, have adopted Information Technology to varying extents. Information Technology is the science or practice of collecting, storing, using sending and manipulating information by means of computer systems and telecommunications (CEM, 2002). This form of technology has brought about advantages of speed, timeliness, flexibility and increased efficiency and productivity to all sectors of business, with property management generally not being an exception. There are however, are several challenges that property managers face and must overcome in order to realise the full benefits of IT.

1.2 Problem statement

This study seeks to find out whether the use of IT in commercial property management in Nairobi is as advanced as it should be considering current international trends in the business. Further the study seeks to address the question of whether it is consistent with the latest international thinking and, whether its use is progressing equally among all sectors (both public and private)? It is important to gauge the progress and direction of the use of IT for a number of reasons: Clinging onto old ways in these changing times may sometimes lead to some inefficiency such as late or incorrect invoicing of tenants, late statements to landlords, voids in buildings, overdue maintenance works and so on.

This low level of use is reflected by a number of indicators including, amng others:

- absence of a complete database reflecting market trends, rents and other real estate investment indices for commercial properties in Nairobi
- the low number of Kenyan websites (relative to the number of players in the industry) with varied information on real estate issues.
- Poor service charge budgeting for commercial buildings.

Backwardness and slow progress in adopting information handling techniques has had a negative effect on the efficiency and growth of the commercial property sector. In the first place, if we accept that business decisions ought to be based on adequate and accurate information, then any constraint to speedy access to reliable information could delay important decisions. Secondly IT ineptness constrains the use of statistical

approaches. Basic techniques of market analysis including value mapping, price indices, trend analysis, and regression analysis as a way of estimating rentals or profiling potential tenants can be very difficult without IT. Risk analysis is Kenya is also fairly rudimentary owing to the reluctance – or inability – of many property managers to use quantitative techniques (Oundo, 2001).

The third point is that it is very difficult to share property information effectively among practitioners, other market operators and researchers in a timely fashion without the use of IT. In Kenya, the real estate sector has been largely ad hoc, with no standard or benchmarks as regards appraisal, capitalization rates etc. This has led to poor portfolio build up, poor management of returns, over-investments and selling at lower values than true value (Karori, 2007). Investors cannot measure performance of their investments or portfolio managers and it is difficult to measure real estate investments against other investments. This situation has driven a group of property professionals to develop a Kenyan property index titled "Krex" which is aimed at providing guidance on investments in the property sector (The Standard Newspaper Jan 31 2008: 29).

Fourth, the tracking of expenses including maintenance, energy, water, insurance and so on is severely retarded by inappropriate data processing and analysis. This is a time- consuming task, especially for large properties. Nyaguthii (2001) explains that the same type of problem is experienced in budgeting for outgoings, with the result that it is not uncommon to find wide variances between accessed service charges and actual expenditure. Another implication is that the landlord finds it difficult to have a

reasonably precise idea of the net income from the property. Fifth, without the use of the internet, marketing cuts out international clients (tenants/ purchasers).

Finally Kenyan professionals are disadvantaged when it comes to accessing new knowledge and the latest thinking in management approaches, concepts and tools. Whereas such knowledge is available in the international arena, the capacity of local managers to access research reports emanating from international research centres, journals and conferences is limited. This has a negative effect on life long learning and continuous professional development. In fact, it is only recently that the Institution of Surveyors of Kenya, after realizing that the membership may be lagging behind in acquiring new knowledge, introduced their continuous professional development programme which requires that surveyors earn a set minimum number of points through various learning/ interacting activities that contribute to professional development

This study looks at the extent to which commercial property management practice in Kenya disadvantaged by poor IT use and infrastructure in the office atmosphere.

1.3 Objectives

The study is guided by the following objectives:

1. To establish the extent of use of real estate management software in the selected case studies.
2. To investigate the challenges faced by property managers in adopting IT in their activities.

3. To come up with suggestions on the strategies needed to improve access and use of IT applications in the management of commercial property.

1.4 Hypothesis

The low level of use of IT in the management of commercial property in Nairobi is due to financial concerns, fast advancement and complexity of IT together with conservative attitudes

1.5 Methodology

The case study approach has been used to supplement an extensive review of the literature and general observation. A careful selection process aimed at attaining institutional diversity led to the selection of three management agencies, one in the semi-public sector, one in the private/ corporate sector and the other in the professional property management sector. The study approach is mainly exploratory, with most of the data expected to be qualitative rather than quantitative. In qualitative research, exploring the range and nature of views, experiences and behaviour is important, more than the extent to which they occur in the population of interest, which is the realm of quantitative inquiry. According to Merriam (1998), the most appropriate case sampling strategy for qualitative research is non-probability sampling methods or theoretical and purposeful sampling. Among these techniques is stratified sampling in which the sample frame is divided into non-overlapping groups or strata (Hunt and Tyrrell, 2001 www.coventry.ac.uk). Another method preferred for qualitative data investigations is purposive sampling. In this sampling method, respondents are

chosen because they have particular features or characteristics which will enable detailed exploration of the research objectives (www.wikipedia.com).

Thus the use of purposive stratified sampling. The selection process started with stratified purposive sampling whereby it was felt that studying a selection of organizations from semi-public, private and professional estate management sector would give a good overview of the commercial property management systems while also allowing valuable comparisons to be made. The nine institutions in the three strata are meant to demonstrate the variety of commercial situations in which property is held and managed. All are powerful institutions in terms of resources, public presence and market influence. They are also big within their sphere of business.

In order to cover the three sectors, purposive stratified sampling was used. Strata were formed each with three organizations in the targeted categories, purposively selected for the study. The criteria for purposive selection included the complexity of the management assignment by virtue of size of portfolio and public profile of case studies.

Due to the qualitative and in depth nature of the findings expected from the study , only three case studies could be concentrated on given the time constraints. As such one case study from each stratum was chosen randomly. Non biased computer generated random sampling technique was used. This method was carried out as follows:

- Numbers were allocated to each case study in the strata. The population in each stratum were allocated numbers 1,2 and 3 for identification purposes. These numbers did not represent any ranking or preferences.
- The random sampling formula was fed into Microsoft excel and allowed to run for each strata as shown below.
- The results were as follows:

Stratum 1: result 1 - Barclays Bank

Stratum 2: result 3 – Knight Frank

Stratum 3: result 1 – Kenya Revenue Authority

The sampling design and selection process is shown below.

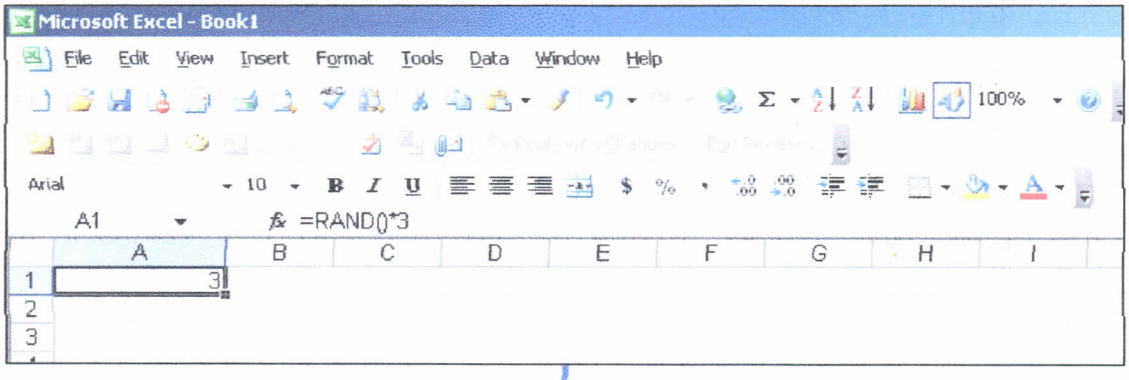
Figure 1: Case study sampling method

Commercial Property Management Case Studies

Purposive stratified sampling

Stratum 1 – private	Stratum 2 – professional managing agents	Stratum 3 – semi public/ parastatals
1. Barclays Bank Properties	1. Lloyd Masika	1. Kenya Revenue Authority
2. Standard Chartered Properties	2. Regent Management	2. National Social Security Fund
3. Kenya Commercial Bank	3. Knight Frank	3. Kenya Ports Authority (Bandari)

Random Sampling method through Microsoft Excel for all stratums



1.Barclays Bank Properties	3.Knight Frank	1.Kenya Revenue Authority

Data collection, presentation and analysis

Primary data was obtained through key informant interviews. A checklist of questions (see Appendix 1) was administered to solicit useful information including how current use of IT hinders or enhances productivity. This was supplemented by open-ended discussions with property managers where different views and opinions on the use of IT were expressed, challenges explained and remedies suggested. The third technique was to analyse corporate reports, budgets, facilities manuals and guidelines.

Literature was reviewed from books, journals, research reports, magazines and the internet on different aspects of property management and information technology. Extensive internet research was undertaken to find out the different software products that have been developed locally and internationally for property management.

The data is presented in form of discussions, statements and other forms of qualitative data presentations including tables and pictorial depictions. As the data sought in this study was largely qualitative, it has been analysed mainly by reflective means. Karen (1999), observes that reflective analysis method allows great latitude for the researchers interpretation and evaluation and hence its suitability to investigative or exploratory research.

It is important to note that it is not possible to draw statistical inferences from this kind of sampling method since, the number of people interviewed is less important than the criteria used to select them (www.wikipedia.com)

1.6 Scope of study

The study is limited to commercial property management within the three selected case studies chosen to represent the property agency sector, private sector and semi-private sector. These are Knight Frank, Kenya Revenue Authority and Barclays Bank.

The focus will be on the use of IT to property management functions specifically marketing, rent collection, lease administration, record keeping, maintenance, risk management and development. The methods, systems and facilities used will be investigated together with the challenges posed and envisaged improvements.

As far as IT is concerned, the study will lean more towards the application of computer technology and not all areas of Information technology.

CHAPTER TWO: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 *Introduction*

This chapter defines property management, its routines and its information requirements. It proceeds to outline the various uses of computer software and their application to property management. The advantages of use of IT and the strategies that support beneficial use of IT are elaborated on later in the chapter. The chapter ends by presenting a conceptual framework which guides the study.

2.2 Property Management Objective

Stapleton (1999), defined property management as "the direction and supervision of an interest in landed property with the aim of securing optimum returns." Realisation of optimum returns is in most cases pegged to the ability to maximize net rental returns and preservation/ enhancement of the capital value of the property. *However, optimum returns need not always be financial, but may as well be in terms of social benefits, status, prestige, political power depending on the goals of the property owner.* To achieve any of these goals, property management must be practised in a prudent way right from the time any development is conceived and designed to the time the building is occupied. Within this stipulated time span, the property manager is entrusted with a wide range of duties.

2.3 Property Management Routines

These are both preoccupancy duties and post occupancy tasks.

Preoccupancy duties include:

- Designer assistance: The manager offers advice on the different design aspects such as finishes and layouts drawing wholly from his experience as a user and supervisor of buildings.
- Marketing and leasing the building: This involves advising on market rentals, vetting of prospective tenants, preparation and interpretation of the lease and preoccupancy education.

Post occupancy tasks entail rent collection, lease administration, record keeping and accounting, maintenance, tenant administration, risk management and insurance development.

2.3.1 Property Marketing

Marketing has been defined by McCarthy (1987) as the performance of activities that seek to accomplish an organisation's objectives by anticipating customer/ client needs and directing a flow of need satisfying wants, goods and services from producer to the customer. Marketing of real estate is quite different from marketing of other consumer goods. This is mainly because of the unique characteristics (indivisibility, heterogeneity and large capital outlays) of real estate making marketing of real estate a very sensitive task. It involves various techniques aimed at attracting prospective tenants and purchasers. Common techniques include

- Advertising through a broad range of media print media like brochures and adverts in newspapers; broadcast media; and electronic media such as websites. Bluetooth technology is also used for example Global systems for mobile communications (GSM) has already begun to enable owners to send text messages to phone users entering particular spaces using Bluetooth technology. Display media and direct mail and personal selling can also be used.
- Publicity which involves conscious efforts by the organisation to communicate relevant information that will be to the advantage of the organisation e.g.
- Pricing
- Corporate Identity which entails creating a good image of the organisation in the eyes of the customers.
- Quality Control/ Management which reassures clients

2.3.2 Rent Collection

Rent is the consideration paid by a tenant to a building owner for its use (Syagga & Aligula, 1999). Rent is ordinarily paid in accordance with the terms of the lease / tenancy agreement, which can be quarterly or monthly. In Kenya, rent for commercial buildings is usually paid quarterly in advance or half yearly depending on the agreement between the two parties. Invoicing for rent must therefore be done in advance and collection done promptly as this is one of the most important roles of the property manager considering that rental income determines returns.

In order to ensure non-accumulation of arrears, the property manager may employ one or a combination of the following methods to collect rent: door to door collection,

office rent collection (where tenants pay at managers' office) and electronic transfers and bankers orders. The method of rent collection used depends on the property, and sometimes also the tenant. Whichever method the property manager uses, it should yield 100% rent collection. The property manager in carrying his duties must pay undivided attention to timely invoicing; determining and reviewing rent figures periodically and keeping updated and accurate records of rental payments/ arrears (see an example of records that should be kept in appendix 6).

It is advisable for the property manager to issue receipts to all tenants when the rent is paid. Statements of the rent account should always be up to date to enable easy follow-up with tenants and reporting to the landlord

2.3.3 Lease Administration

A lease is a legal document through which an owner of a property transfers/ grants the right to use and occupy the property for a specified period at a specified amount of rent to a tenant. In management of commercial buildings, occupational leases are usually granted for a period of over five years in order to avoid controlled tenancies under the Landlord and Tenant Act Chapter 301 of the Laws of Kenya. The lease usually provides the tenant with an option to renew upon expiry. This means that the manager must notify good tenants in advance in order to negotiate renewal of their leases and ensure that tenants do not occupy premises without being bound by a valid lease. Early sourcing of new tenants for expiring leases is also paramount to avoid voids as they affect the cash flow to the landlord/ investor. A lease schedule such as

that in Appendix 4 would help to diarise tenancy expiry dates as well as keep other information on leases within easy reach. The lease renewal dates are therefore of utmost importance to the property manager.

Drawing up and renewal of leases is just a part of lease administration which is a multifaceted function which entails ensuring that both the landlord and tenant conform to the stipulated provisions of the lease. To do this one must be conversant with the lease clauses or at least have them within easy reach for quick reference.

2.3.4 Record Keeping & Accounting

Property managers brief landlords on the income and expenses expected for a building through issuance of summary statements regularly, either every month or quarterly. The expenditure item could be supported by invoices and bills paid out or receipts issued for any items purchased. "Further it is also in order to establish an accounts department more so where the number of clients is big. This department should have a computerized system to help keep track of records" (Syagga and Aligula, 1999). The property manager must pay all the outgoings incidental to the ownership and use of property. These incidentals include repairs, annual ground rent, insurance, rates, sinking fund and utility charges (water and electricity, garbage collection, security, gardening; and service contract fee for generator, fire equipment and water pumps).

Budgeting for the above dues to ensure timely payment of services and non-interruption of the same constitute some of the tougher tasks of management. According to the preliminary survey of this study, the above expenses are usually covered by a service charge, the rate of which must be set by the property manager with the usual figure being between 20 - 30 per cent of the receivable rent. The total amount collected must be accounted for by the property manager through audited accounts presented to both the tenants and the landlord. There must be a system or place that facilitates calculations of service charge and accounting of the same. Computers can be programmed to deal with these accounts.

2.3.5 Maintenance

The aim here is to maintain the property as close as possible to its intended function and to maximize the useful life of the premises as well as the returns from the same. The property manager's functions in maintenance include planning for these works perhaps by drawing up a schedule, contracting the work or arranging for the work to be done in house and supervision of the works.

Maintenance can be managed in three ways, namely planned maintenance, unplanned maintenance and a combination of both planned and unplanned.

Planned Maintenance is work carried out before a failure has occurred in order to preserve the building structure and amenities at their present level. It includes work carried out to prevent accelerated deterioration; day to day maintenance for example

periodic cleaning and rectification and repair due to wear and tear and general use. Replacement caused by changes in external conditions, technological advancements and changes in the physical and economic environment or expiry of functional life of the component also falls under this category.

This system relies on an accurate estimate of the functional life of various components of the building so that they are replaced at appropriate times. Further it is always useful to maintain a schedule of maintenance works carried out for purposes of accounting / budgeting for service charge and for arrangement of supervision

Unplanned Maintenance

This involves work arising from unforeseen breakdown / damage to the property due to external forces. The property manager should therefore put into place a good maintenance policy which should encourage carrying out regular routine inspections in order to rectify any defects, handle any repairs and maintenance tasks promptly.

2.3.6 Tenant Administration

This involves having good relations with the tenants so as to encourage openness and trust. It entails dealing with their complaints, suggestions while at the same time ensuring that they honour the lease through payment of dues and compliance with the different provisions.

2.3.7 Risk Management and Insurance

Various forms of risk must be managed in order to maintain value. Insurance of the premises against various perils like fire, floods, loss of rent and so on must be arranged. Apart from shifting liability to a third party through insurance, other precautions taken by property managers include installation of security measures and arrangements for disaster recovery. Contracting security firms and installation of state –of-the art computerized systems like smart cards for tenants and visitors usually help. Appendix 5 shows an example of a replacement value schedule which would help a property manager in calculations of premiums for insurance of property.

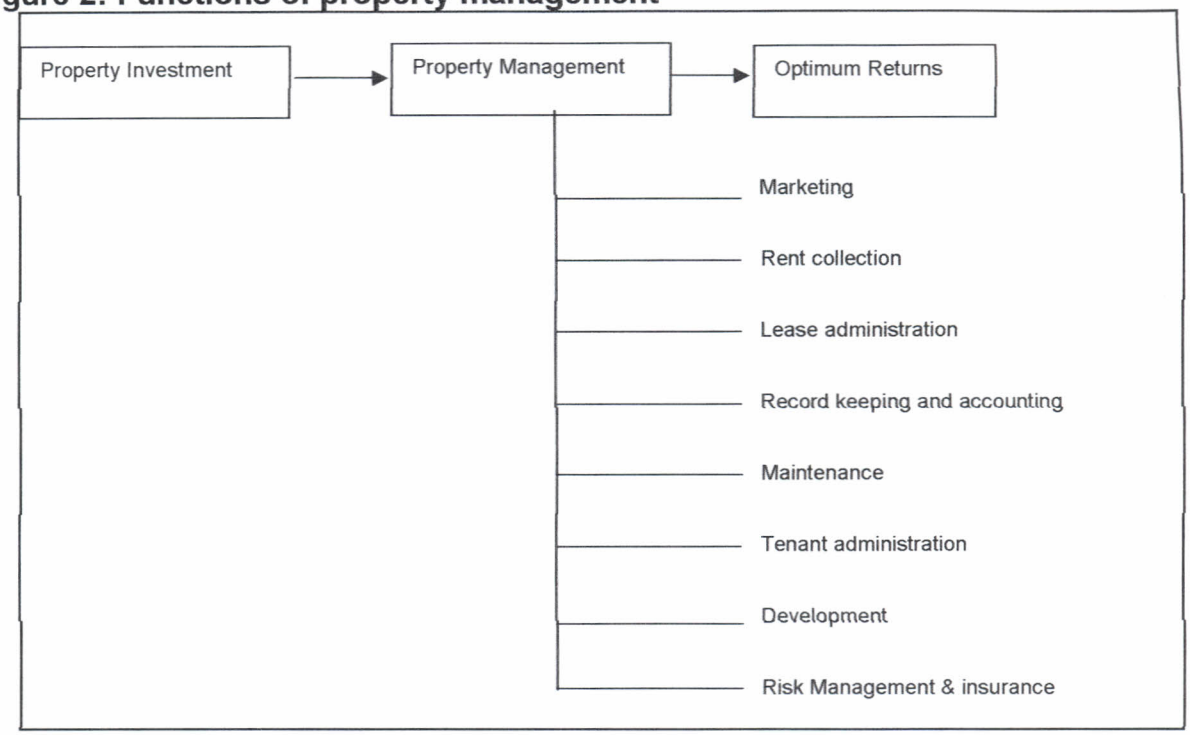
2.3.8 Development

The property manger usually advises his client on appropriate major capital improvements to the property after studying the market and ascertaining what would be the most profitable venture.

Other duties encompassed in the broad and dynamic discipline of property management include

- Management and administration of service contracts
- Marketing for tenants
- Public relations promotion, publicity and community relations
- Advisory role to landlords and tenants
- Management of personnel that work under him through delegation, supervision and coordination
- Energy management, environmental management

Figure 2: Functions of property management

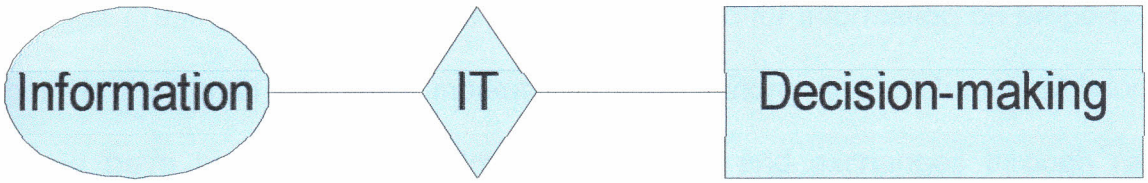


Source: Author's own construct

2.4 Information requirements of property management

In carrying out his duties, the property manager would need to draw from a wide pool of knowledge and information so as to facilitate decision making. For instance he should be familiar with economics, statistics, forecasting and appraising to assess a property's economic life. Similarly, he must be in touch with latest developments and trends in the real estate cycle and the effect of the financial market on real estate conditions. Ongoing analysis of the real estate market, for example, is fundamental to successful property management. Therefore information from external sources as well as internal (within the firm or property being managed) must be applied in a useful way to help realize the objectives of management (Fig 3).

Figure 3: Application of IT in decision-making



Source: Adapted from Financial Standard p20, 24 April, 2007

Ndede-Amadi (2007) argues that the manager who is faced with the task of decision-making relies on available information to make decisions. She concludes that "because computers have allowed the manager to have better information faster for decision-making, the manager's decisions are better and timelier (The financial Standard April 24,2007). The vital information requisite for decision-making in property management.

- Property market information including conditions of demand and supply, general finance and mortgage volume, prevailing interest rates and returns, current and future supply of property stock (construction activity).
- Technological information on innovations, production techniques
- Environmental factors (level of activity in the industry, economic conditions, operational government policy, political climate)

The main avenues of information open to the property manager traditionally include office records of professional advice, seminars, clients, personal exchange; press

reports on auctions, prices, statutory notices, local authority proposals and property agents' reports.

Syagga (1999) observes that the market is starved for information on property values both in the rental and sales market where networking and exchange of information would have been invaluable. Internet searches and exchanges through resource centers could provide a flow of such information. In Kenya, the Kenya Real Estate Index association (Krex) is currently being developed to counter the dearth of critical information to investors, regulators, portfolio managers, valuers and so on. Krex seeks to develop an index based on market data to guide different players in the real estate market (The Standard, Jan 31 2008 pg 29).

2.5 Information Technology

Information Technology is the science or practice of collecting, storing, using sending and manipulating information by means of computer systems and telecommunications (CEM, 2002). It is evident therefore that information is the key component and purpose of information technology and, organisations exist to process, relay and react to different types of information. Harrison (1987) describes information as the lifeblood which flows into, out of and within an organisation. The College of Estate Management further argues that discussions on IT tend to be wrapped up in the "T" rather than the "I". Yet it is obvious that the only reason the technology should be adopted is so as to ease communication, store and analyse information (CEM, 2002).

It is further observed that the advent of computers has created a spiral demand for services and control systems which is so complex and pervasive that it is easy to miss the fact that the boxes, wires and plugs are not the value: it is the information flowing through them that is actually important. The technology is just a means of enriching the meaningfulness of information by enabling timeliness, good presentation and in depth analysis. According to Syagga and Aligula (1999) where there is lack of information, a decision in property management is likely to be highly subjective and determined by experience and attitudes, which may be only partly rational. Information is therefore collected, communicated, processed or relayed through computers, telephones, cell phones and fax machines with computers being the most dominant form of IT or handling the bulk of information in organisations.

2.5.1 Application of computer systems in Property Information Management

Computer technology makes use of various systems to enable carrying out of the following broad tasks to be performed with accuracy and speed: communication, data sourcing, presentation, data analysis and filing.

Computer systems are instructed by use of programs which issue a sequence of commands on tasks to be performed by the computer. These programs are known as software (CEM, 2000). Hardware which includes the physical components of the computer must have the capacity to accommodate different software. In property management several software programs have been devised.

There are also general computer applications not specific to property management but just as useful in this discipline. Both general and specialized applications exist to carry out repetitive tasks consistently, with a high degree of accuracy, and with minimum human effort. These applications are discussed below:

2.5.1.1 Word Processing

Computers enable document or letter production in less time than the typewriter due to ease of correcting typographical errors. The features of word processors include: creation, storage and retrieval of documents, importation and exportation of documents, formatting and presentation; spell check, thesaurus and style-checks; merging of lists into form documents; and reprographics which is the overall process of producing multiple copies of original documents.

2.5.1.2 Spreadsheets

Spreadsheets are helpful productivity aids for repetitive calculations in property management like regular calculations of rent and service charge or numerical reports such as rent statements and also for textual data like contact lists of landlords and tenants. Their features include:

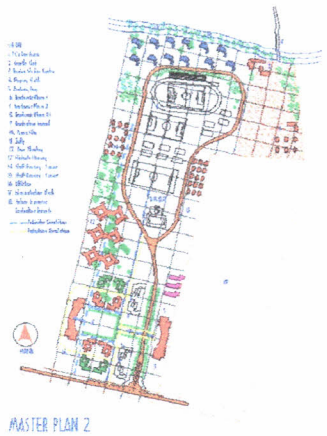
- Formula entry to manipulate data. Service charge, valuation, commission and premium formulae can all be fed into the computer.

- Complex statistical calculations to calculate parameters like mean rents/ income; return on investment
- Storage and fast retrieval of data e.g market indices
- Charting, creating graphical representation of data for example in budgeting and reporting of income and expenses trends in form of graphs and charts.

2.5.1.3 Graphics and presentation

Documents and presentations are greatly enhanced by pictures of any sort. The development of colour display screens with high resolution and of laser printers among other gadgets has allowed property managers to offer graphical creation, manipulation, storage and display capability. The areas in which graphics have been used in property management include space planning, advertisements, power point presentations, report compilation and marketing of property for sale/ rental as shown in figure 4.

Figure 4: Use of graphics in property management

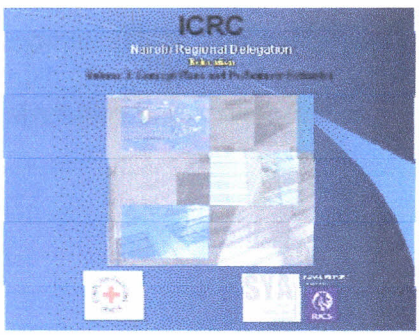


Space planning

Beach property for sale

Malindi; 1 acre first row beach property. Contact sole agents: HBS Tel 0722756489

Advertisement



Power point presentation

Source: Author's own construct

The College of Estate Management, Reading (2003) argue that computer software such as PowerPoint and Harvard Graphics have revolutionalised presentations. A PC (personal computer) can be connected to a projection TV system to directly display computer images for a large audience. This facility is used by property managers in marketing property, preoccupancy education, fire drill preparation and presentation of audited service charge accounts to tenants. Image in its many forms is becoming more necessary as a part of sophisticated communication (Ledger, 2000).

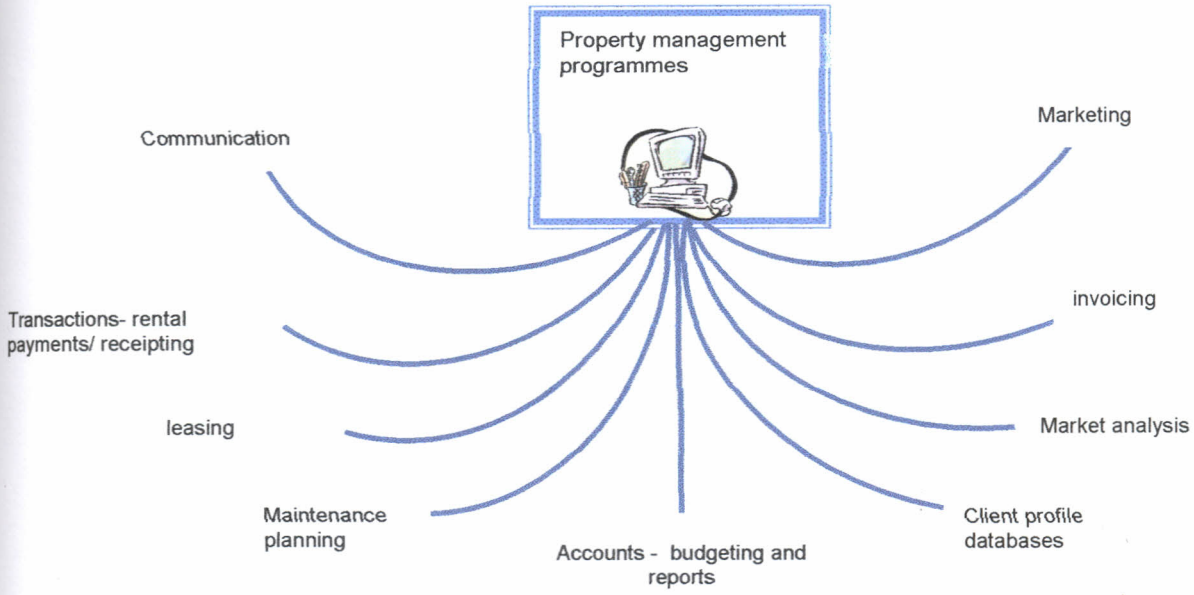
2.5.1.4 Database Management

Generally, the database management system and the information made available for decision making are now regarded as key elements of production. In property management, all pertinent data on the property portfolio can easily be stored to replace filing cabinets and eliminate the hustle of manually searching through the cabinets for sometimes misfiled information. Databases allow data to be accessed without any previous requirement to index the raw information -- even text within sentences can be searched for. Property managers can store landlord, tenant and building details for the whole management portfolio in a systematic way that allows easy retrieval of information.

2.5.1.5 Specialised Programs – Statistics, Forecasting, Designing, Land Information

There are specialised softwares which could be used in the broader field of property management in conjunction with other programs to carry out various functions as illustrated in Fig 5.

Figure 5: Functions of property management software



Source: Author's Own Construct

The various software are as shown in Table 1 below:

Table 1: Programmes related to property management

Programme	Function
Contact management system	For example goldmine – www.goldmine.com This software enables inputting of clients contacts and provides for their classification and easy search.
Virtual Reality CAD (Computer Aided	➢ Computer aided design can be useful to the property manager in his input in the design stage.

Design)	Three dimensional modeling as a design tool enables property managers give views on design and see effects/ results of their recommendations beforehand. ➢ CAD can also be used in space allocation. CAD systems may be linked to the cable management or building management system
Construction software	➢ Enable erection of intelligent buildings and automated building systems with sensing techniques and condition monitoring that can help notify property managers of building and service defects.
Building management Systems	These use technology to control and monitor the physical environment: the following are made possible: ➢ Comparing and adjusting temperature or air conditioning ➢ Motion sensors can be linked to lighting controls for automatic lighting ➢ Efficient scheduling of preventive maintenance through keeping a running tally of the number of hours each unit has been in operation and notify property manager in advance ➢ Installation of security systems characterized by swipe cards; sticky labels for asset tracking and visitor ID tracking
GIS & LIS (Geographic Information System and Land Information Systems) Software include Pythogoras, Archview, ILWIS	➢ Software enabling handling of spatial data in form of maps. Enables digitizing; storing of plans and land details of managed properties; and easy weighing of development options
Development software	➢ Facilitates risk appraisals, sensitivity analysis, forecasting and costing for property managers to advise clients on development options
SPSS, MS Office Excel	➢ Formulas can be fed into excel to calculate values, comparables can be sought in the internet and multiple regression applied using SPSS (Statistical Programme for Social Sciences) to establish contribution of various features to value.

Source: Own Construct

2.5.2 Internet & Networking

The word internet (from the words "international' and 'network') describes a world-wide network of computers, which provides the means to use electronic mail (email) and to access the World Wide Web. The 'web', is the graphical front end of the internet, used for information retrieval.

According to Dixon (1998) the main benefits of the internet include:

- increased competitive advantage
- reduced communication costs
- increased productivity

The internet and networking has given rise to the concept of teleworking. This system of work uses technology to allow people to be productive even while away from the office by use of laptop computers and mobile telephones (CEM, 2002). Property sales persons and even managers now do not need to be fixed to any one location. Technology reduces the importance of the location of the office and allows teleworking to be a legitimate business practice. It makes possible reduction of office usage and brings rise to hot desking where workspaces are shared (Lunness-Barnes, 2003). Teleworking is revolutionizing property marketing as well as the way property managers undertake space planning for their clients premises.

The uses of the internet and of networking in property management are detailed here below:

2.5.2.1 Electronic mail

Electronic mail is one of the main uses of the internet which is a global network. Kirkwood (1994) notes that it is also one of the simplest software to use, principally because there are very few functions involved. These include reading, storing and forwarding incoming mail, and composing and sending outgoing mail. The requirement

would be to have an email address just as a postal address is required for snail mail. With e-mail, after the initial investment, communication is possible worldwide, at any time, at very low cost (Bardhan, etal 2000). Property managers can use this to communicate with tenants, landlords, suppliers and so on for timely action. However, there are concerns on lack of security in transmitting client details, legal and confidential issues (Dixon,1998).

2.5.2.2 E-marketing

This is the practice of using the internet to market goods such as real property. It usually involves a firm designing and launching a website whereby all available properties are listed perhaps with brief descriptions and pictures. Potential tenants/ purchasers either browse through the sites or just communicate directly via email to the property managers/ agents inquiring on available properties. In Kenya, a number of firms carry out this function through their websites like:

Hassconsult: www.hassconsult.com

Knight Frank Kenya: www.knightfrank.com/kenya

Chartered Valuers: www.charteredvaluers.com

Property Kenya: www.propertykenya.com

See Appendix 7a and 7b for sample website pages.

Dixon (1998) explains that this practice has a limited effect due to the nature of the product, complexity of the transaction process and the need for face-to-face contact and secrecy.

In a bid to try and promote e-marketing, Levy (1995) advises that it is important for agents to have access to the right type of information in order to add value to their organisations as well as to create added value for their clients. Due to the sensitivity of e-marketing, Rudland (2000) observes that some management firms launch websites yet they do not get much benefit and therefore advises that it is best to be sure that the website will be interactive before launch.

Syagga (1999) notes that in this information age, the worldwide web offers limitless opportunities for advertisement of real property at a minimal cost. It can accommodate endless details such as the type of properties available, area profiles, location of the property, neighbourhood, the utilities and services available as well provide opportunities for viewing the property via a photograph or even 360 degree panorama where you can view all around the property or walk through facilities.

With e-marketing, properties or services offered by real estate managers can be advertised to a larger audience than the traditional advertising leading to increased business.

The main features of e-marketing include digital photos, websites, 3D (three dimensional) topographical representation, 360 degree panoramas of interior, space allocation of space using CAD, electronic conveyancing search, property availability searches, property and neighbourhood descriptions and linkages with related services such as mortgage and insurance

2.5.2.3 Discussion lists

One of the most interesting developments made possible by the introduction of email is discussion lists. These enable users to post a message to a group of recipients who may respond to the user individually or to the whole group. This facility enables members to receive articles in their particular field, reach a very large audience and obtain an efficient response to a problem. Kirkwood (1994) observes that if a discussion list were established for property management, it could provide both practitioners and academics with an excellent forum for exchanging information and ideas. It would also serve as a useful tool when searching for solutions to property management problems.

2.5.2.4 Professional associations websites/ resource centres

These are websites whereby professionals come together to analyse, package and distribute information among themselves and their clients. An example of such a database is the Sapoa online electronic property portal solution (EPPS) in South Africa. It enables access to a central industry portal with aggregated property information, central property search, brokers directory, aggregated and focused research on commercial properties related information (See Appendix 3). The benefits of this include provision of a friendly one stop shop for buyers/ renters; improved quality of information available to clients and industry insiders. (www.sapoaonline.co.za)

The RICS (Royal Institution of Chartered Surveyors) on its part has become a virtual internet service provider offering web access, an email address and personal web space to its members (Chartered Surveyor Monthly 6. 2000). The RICS website (www.rics.org) has a section focusing on delivery of specific information on various surveying fields including property management and provides interactive products such as Library Direct to help members in their business and professional lives.

Valuable contents of professional affiliation websites that add value to property management include

- Events database whereby seminars and other future events are listed
- Advertisements of vacancies in the profession
- Information of new products and services for example latest property management software
- Access to books and Published material
- Forums for discussions where professional can post ideas/ comments.

The websites mentioned above serve to provide real estate market information to the professionals and public in general. According to Kolbe (2003), "many aspects of real estate markets are not known to the public because they are not published, but those individuals who put forth the efforts to collect the information have an advantage in the marketplace."

2.5.2.5 Internal networks

The intranet, which is based on the same principles of web technology as the internet, operates in the secure internal network of an organisation (Ledger,2000). Communication among staff in one office can be done using a Local Area Network (LAN) and all offices or branches can be linked through a Wide Area Network (WAN). LAN is a group of computers linked electronically to form a common work environment. This facilitates the sharing of applications and data. A WAN involves computers separated by significant distances, such as those located in different buildings (www.iath.virginia.edu). This communication within the firm is very important as it enables all members of staff to know exactly what is happening and be able to communicate to clients accurate and updated information on their properties as well on the prevailing status of the industry (Rudland,2000). The property manager must be in constant communication with caretakers of buildings while the property marketer must always be updated on available properties and prevailing rates.

2.5.3 Innovations in the Property Management Industry

There have been several different programmes developed for the purpose of property management. These programmes vary in design, presentation and sometimes functionality.

Countless software products have been developed in Kenya and abroad and are much in use. A few examples from around the globe are listed below. Appendix 2 shows an example of a management programme user menu.

i. *Prop pro*

Prop pro is a property management software package developed by Nicor of South Africa.

ii. D'Tenant

A property management information system by IFCA Consulting group developed in Asia. Features include

- Comprehensive tenancy tracking even for multiple tenancies per client.
- Prompt and accurate bills by automatically generating invoices.
- Sorting and alerting on complaints and keeping track of responses
- Planning and scheduling vendor delivery time.
- Financial Accounting
- Tracking unit availability, outgoing and reserved tenancy.
- Maintenance management
- Versatile financial accounting and reporting tools

iii. Property Plus:

Described by IFCA as a comprehensive property management software covering campaign management, tenancy administration, customer services management, billing and building maintenance. Features include:

- Sales automation. This module maintains an enterprise wide centralized prospective tenant's database.

- Tenancy Management. Multiple tenancies, staggered billing and predefined rentals schedules can be easily configured and integrated to the accounts receivable.
- Ownership management. The software keeps track of details of all unit owners, and billings
- Maintenance Management – Preventive work orders can be raised automatically triggered by date or meter reading.
- Diary scheduling. Ensures that standard activity is executed.

iv. MDA Property Systems

This is a property management program developed in South Africa and has the following unique features:

- Store email and web addresses
- Import tenant receipts from electronic bank statements
- Retrieve electricity, water and other service charges electronically from meter reading companies and bill tenants automatically

v. The Lizard

This program was developed by Kabogo Ndegwa (2001) as a final year degree project. Based on a database characterized by a series of tables and reports, the program is able to carry out the following functions:

- Check landlord / tenants / property details
- Check / update status of services

- ❖ Calculate service charge on a property
- ❖ Make rent payment and issue receipt
- ❖ Check outstanding balances

The strengths of the system include effective storage and organization of large amounts of data, event scheduling, accuracy in rent arrears calculations and commission calculation. The programme also increases data integrity as duplication is eliminated and increases security as access to information is restricted.

2.6 Advantages and Disadvantages of Information Technology.

Firstly, information technology reduces the space needed for storage as opposed to manual filing systems. Ease of retrieval of information by use of powerful search facilities and non-fading of electronically stored documents is another advantage. In a country such as Kenya manually filed documents are also destroyed by humidity and insects. Other advantages include speed in transactions, communications and calculations and data integrity and security. Flexibility in manipulation of data and avoidance of duplication of data is made possible as common details are automatically reflected through all related screens. Use of IT can result in overall increased efficiency and productivity and reduced costs.

The shortfall of total dependence on IT is that technology can sometimes fail causing the loss of vital information. "People trust IT to generate vital documents but prefer to keep paper copies of the finished product because they don't trust the IT systems not to lose them" (CEM, 2002). For example, a computer may crash due to viruses or

power surges and cause information to be lost or not to be accessible as and when needed. These additional costs impact on finances. Furthermore, there are other costs of installation, maintenance and training. Dixon (1998) argues that many surveyors have reservations on adoption of IT due to uncertainty about its value and perceived high costs. It is indeed difficult to quantify the benefits of IT and compare them to the costs.

2.7 Value of IT and its impact on work

Modern information and communications technology (ICT) has brought infinite possibilities of producing goods and services faster, better and cheaper. New ways of processing information and communicating have fuelled a host of organizational trends designed to release value and encourage efficiency: globalisation, multi-functional teams, strategic mergers and the effective management of knowledge (Ledger, CSM 3.2000). Information technology and telecommunications have been altering the nature of work for a long time now. Neville Lunness (2003) explains that it's not always clear whether work practices change and buildings and IT systems follow, or whether work practices change to make the most of new possibilities made available by new developments in the buildings and IT systems. IT is already resulting in many traditional processes previously undertaken by professionals now being carried out by technicians.

The increase in computational power will continue to have a huge impact in the property sector. This is because it allows collection of such a huge quantity of data, the quantity of data is increasing, and there is an increased requirement that we

provide data which is fit for the purpose. Observation techniques are also changing and subjective decisions need to be taken on what data to collect and use (Johnson, 2000).

In general both IT and buildings need to be capable of supporting today's business requirements in a rapid and equally cost – effective manner.

The challenges that arise from the use of IT thus include:

- Need to find the right balance between sharing information and controlling it for competitive advantage (Gordon, 2000)
- Marshalling the right facts for analysis and production of advice that truly adds value. RICS president once said that "There exists 317 years of information if you look at each page for 1 second. How can professionals retain the respect of a population that has this information at its fingertips?"(CSM, 2000)
- Dealing with rapid evolution and change of IT and its implications. For example it is important to know when emails are binding especially where digitised signatures are concerned.

2.8 Strategies to support beneficial use of IT

The biggest challenge is creating a culture that encourages and rewards the sharing of information. Currently, many people hold the view that knowledge is power and believe that the more they keep knowledge to themselves, the more they will be protecting their power and position (Dixon, 1998). Determining which system could be

the most helpful, is not a problem of technology but of business strategy (Rudland, 2000). A thorough understanding of the company's own business processes must be reflected in the IT systems used. It is useless to have IT in a property management firm if it does not help at all in easing and speeding tasks of property management. Although ICT posseses the capabilities of changing work and employment patterns, it is organizational cultures and practices that will determine whether such capabilities are realized (Dixon et al, 2005) . Disorganised or unfocused implementation would not serve to increase efficiency and productivity.

Below are strategies that property managers could consider in order to support the beneficial use of IT.

2.8.1 Innovation in firms

Innovation is defined as the effective generation and implementation of a new idea which enhances overall organizational performance. Fragmented, unfocused innovation can lead to initiative fatigue and a waste of resources.

Barett and Sexton (1999) observe that in as much as there is no single correct way to ensure innovation in any firm due to differences in needs and capabilities, the following generic issues are important for successful implementation.

1. Climate – Practices must be supportive and accept risk
2. Direction - Successful innovation needs vision and should be integrated with the firm's strategic objectives. Rudland (2000) suggests that a series of workshops can be held to examine how the staff works individually and as teams and what information needs they have. This would enable a computer programmer to

capture their needs and incorporate them into the design of the management program

3. Commitment - Innovation needs senior management support and an appropriate allocation of resources
4. Knowledge management – Innovation should draw on the existing resources of a firm and its suppliers.

2.8.2 Learning Organisations

To be truly competitive in future, firms will need to re-examine and reengineer their business process and relationships according to the online environment (Rudland, 2000). For IT to permeate successfully into organisations, the organisations must encourage learning within the company by:

- Providing a learning climate whereby experimentation and learning from failure is acceptable, after all, IT is a relatively new area which keeps evolving at a very fast pace.
- Encouraging inter-company learning even from competitors
- Offer self-development opportunities for all for example knowledge and skills advancement in form of CPD (Continuous Professional Development)
- Enabling participative policy making
- Offering rewards and incentives.

2.8.3 *Training for IT and Quality Management*

In all professional offices, quality management is important with the ultimate in quality certification being ISO (International Standards Organisations). In the use of information technology, quality must be assured due to the several dilemmas that face the property manager in terms of what information to pick out of the seas of information made available by the internet, the rapid evolution of IT software and high expectations of a sophisticated clientele. The basic elements that the property managers must try to achieve are:

- Application of quality in all activities
- Involvement of all staff concerned
- Consistency in achieving quality
- Establishment of benchmarks and standards
- Sharing of knowledge

Property managers should be trained in IT. The costs of such an exercise would definitely be overshadowed by the benefits to be accrued from its use. Further property management software is user friendly such that once one is familiar with the basic programmes, the new improvements/latest software can be easily adopted and costs minimized.

2.9 Cost of IT

The cost of IT includes purchasing and maintenance of equipment, training of manpower and internet connectivity. A preliminary survey by the author indicated the following charges related to the use of IT in property management in Nairobi.

Wireless *Internet Connectivity* costs approximately Ksh 80,000 for installation of a reliable wireless service (32/128 kbps or 64/128 kbps) plus an additional Sh 10,000 – 25,000 monthly charges. Fibre optics on the other hand costs approximately Ksh 24,000 for installation plus a monthly charge of about Kshs 15,000.

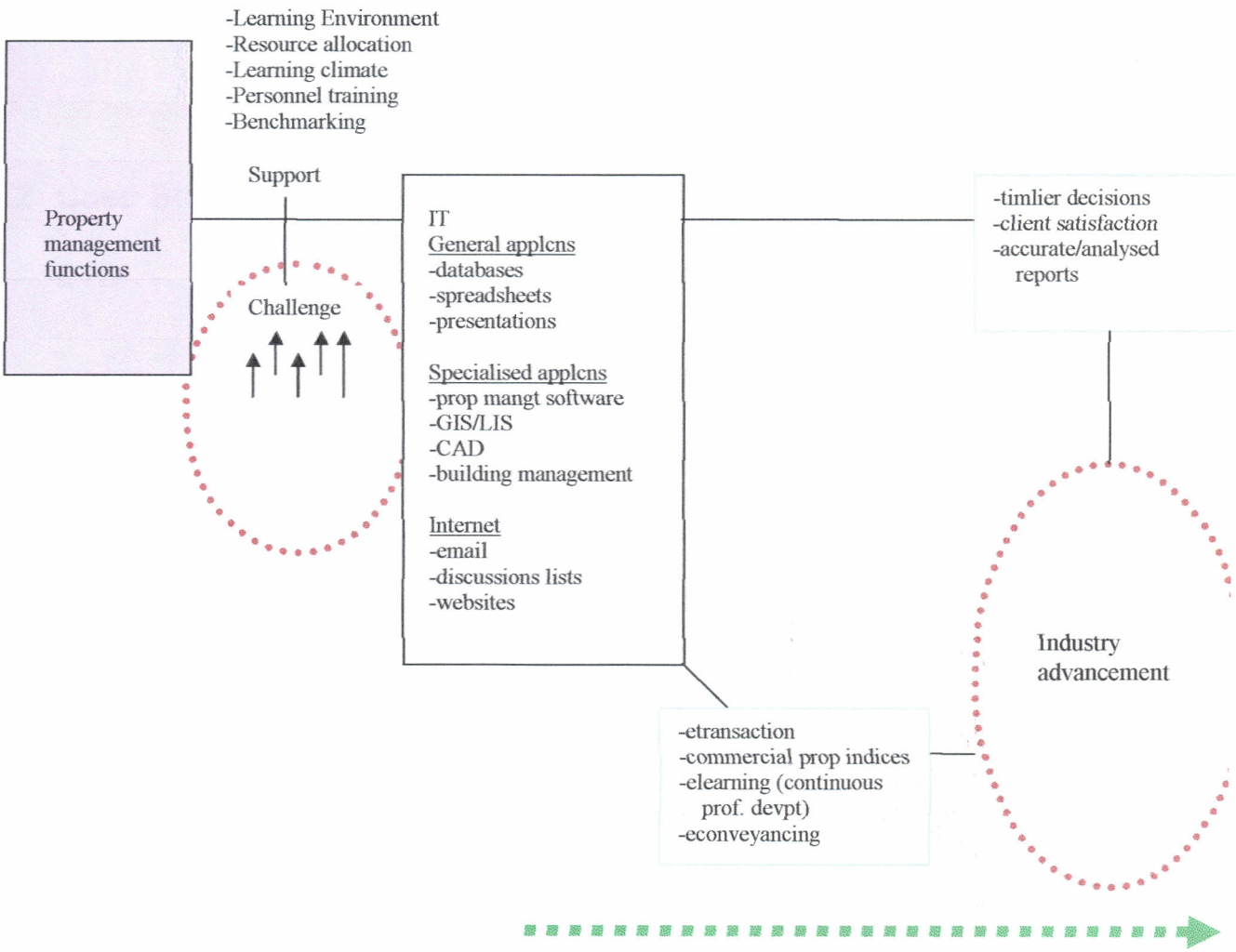
Equipment purchasing ranges from Ksh 30,000 for locally assembled computers to Ksh 80,000 for the higher end computers. *Software* installation licenses are purchased at an average price of USD 300 (Ksh 24,000) per application and that price is exclusive of training the end users. Periodical training of users is required to ensure that the most competent of operators as well as the latest softwares are being used.

2.10 Summary of Conceptual framework

This chapter has outlined main themes that form the basis of this research. The property management functions and routines are seen to be carried out to achieve a certain objective and maximize gains whether financial or otherwise. In carrying out these functions, the application of IT in its various forms (general and specialized applications; internet) is beneficial in improving timeliness, effectiveness, client satisfaction and overall productivity. However, the achievement of these advantages by property managers is dependent upon the support given to them by their firms. The creation of a learning environment, provision of benchmarking, adequate resource allocation and personnel training go a long way in ensuring that the benefits that IT has to offer are fully reaped. Of course, there are constant challenges that property managers try to overcome in their efforts to implement IT systems. These include costs of equipment and training, lack of industry policy, difficulty in quantifying benefits

among others. All the variables above act together to try and match rising expectations of clients and the global property industry and eventually leads to industry advancement. Fig 6 below depicts the conceptual framework pictorially.

Figure 6: Conceptual Model



Source: Author's own construct

CHAPTER 3: THE CASE STUDIES- DATA PRESENTATION

3.1 Introduction

This Chapter introduces the three case studies, giving details on all relevant background information. The organization, their key objectives and property holdings are outlined.

3.2 Case Study 1: International Bank - BARCLAYS BANK OF KENYA LTD

3.2.1 Background information

Barclays Bank of Kenya Ltd opened its first branch in Kenya, at Mombasa, ninety years ago. In financial circles Barclays Bank is one of a select group popularly known as the Big Three, the other two being Standard Chartered and Kenya Commercial Banks. In the past few years the bank has come into the limelight for announcing phenomenal profits. The 2006 annual report of the bank announced a Ksh 6.47 billion profit before tax, an increase of 19 per cent over the previous year (Barclays Bank of Kenya, 2006).

3.2.2 Property Holdings

Assets held by the bank in the form of property fall into two categories: freehold and leasehold interests in real estate and the properties managed on behalf of Barclays Staff Pension Fund (BSPS). The bank also has a large portfolio of mortgages held as security for loans given to customers. Indeed, the latter forms the core of a commercial bank's business, and the industry aggregate of some Ksh390 billion in advances in loans(largely in the form of mortgage securities) held by Kenyan banks representing 50 per cent of total assets and an essential component of the country's financial system. The bank can, when called upon to do so, manage property as trustee for a client, or even put assets, including property, under administration. In short there are many ways in which Barclays deals with real estate in the course of its day-to-day business. This study is, however, only interested in the actual "bricks and mortar" held and managed by the bank in the first two categories.

The bank has an extensive and varied branch network. The latest branches were opened in 2006 in Mbale, Voi, Garissa and Ngong. The decision whether or not to extend the branch network to remote towns and villages is driven not merely by potential business but also by competition, and the search for prestige, influence and political considerations. The branch infrastructure itself has to be responsive to a variety of needs and lifestyles according to the clientele profile and according to the changing profile of expectations. In an effort to be "trendy" the bank has to refit premise from time to time.

The property portfolio is diverse and includes both modern and historic buildings. The Loita Street headquarters building, known as Barclays Plaza, is itself an iconic property dominating the western edge of the CBD skyline, with its blue-tinted glass and mosaic facades, and a shopping emporium on the ground floor. Among the tenants is Kenya Airways, a leading hairdressing salon, a restaurant; a sports equipment shop; an oriental carpet showroom; and a cell-phone retailer. Then there is Market Branch is housed in an owned building in the traditional stone-and-tile colonial genre. Similar buildings could be found in the bank's list of branches in other towns. This variety suggests that the bank values its position in Kenya's history as maintaining such obsolete properties would normally be unduly expensive.

The book value of property and equipment held by the bank has risen from Ksh1,427 billion in 2002 to Ksh1.613 billion in 2006, representing a 13% rise. The official estimated value of the pension fund portfolio is Kshs 2 billion.

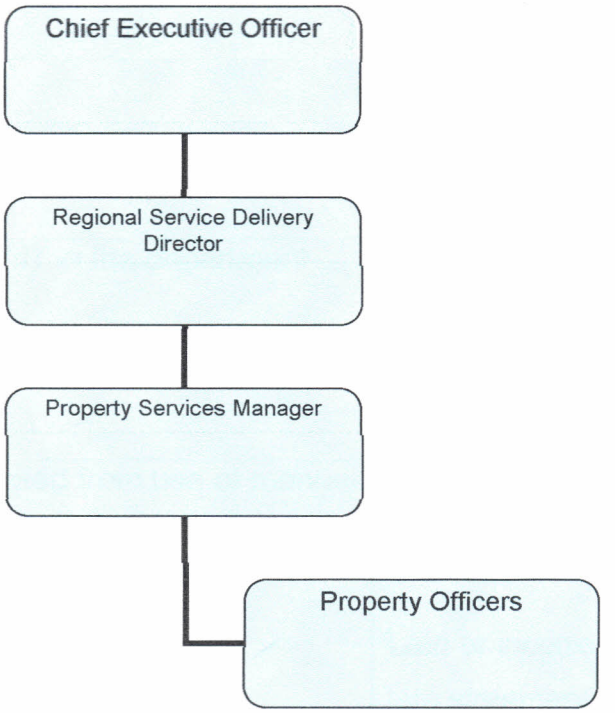
3.2.3 Organisation of the Property Section

The property services department at Barclays Bank comprises 12 staff members with varied qualifications all related to property. There are property managers, administrators, engineers and environmentalists all of whom work together on property issues. The bank's Property Services Manager is responsible for the oversight of real estate matters in the company. He reports to the Regional Services Delivery Director, who in turn is responsible to the CEO (see fig 6). There are several property services

officers in the department, some of whom are housed in the corporate headquarters in Nairobi city centre.

A Board of Trustees assisted by a management committee oversees the asset portfolio owned by Barclays Bank Staff Pension Fund. The management committee commissions property agents when need arises.

Figure 7:Organisational structure of the Barclays Bank Property Services Department



(Source: Field survey, 2006)

3.2.4 IT as a property management tool in Barclays

Out of the 12 staff working in the property section, the head (property services Manager) and 4 other members were interviewed (selected randomly based on availability), representing a sample size of 41% of the total population. The staff hold degrees and higher diplomas in real estate related fields including building technology,

land economics, engineering, environmental science. Some have certificate and diploma level training in IT.

The interviews and discussions and questionnaire results with Barclays staff indicate the following results:

Table 2: The Use of IT in Barclays Bank

Perceived relevance of IT	100% of the respondents felt that IT was very relevant in the following functions: Rent invoicing Lease admin Accounting for service charge While 20% of respondents felt that IT was fairly relevant in maintenance and risk management
Current uses of IT in the department	All respondents used IT for rent invoicing, lease preparation, maintaining a diary for repair works, budgeting, storage of correspondence and preparation of reports
Inefficiencies noted from use of manual systems	The results were as follows: **Inefficiency** **% of respondents citing inefficiency** Late or incorrect invoicing 40% late statements 40% delayed lease renewals, 40% lost correspondence & misfiled records 100%
Computer applications used for property management	Different respondents use the following programmes to varying degrees: Wordprocessing, spreadsheets, graphics and presentations, databases, internal networks and emails.
Internet use	➢ All respondents confirmed that no e-marketing activities undertaken

	➢ 80% view the biggest challenge is seen as the operational security and adding value to the vast amount of information available on the internet. ➢ limited use of internet in getting market updates with 20% of the staff getting/ accessing updates especially from Knight Frank ➢ 40% of respondents use the internet to keep abreast with updates from professional associations
Specialised programmes	Specialised programmes were used by those in specialized fields. 2 programmes were pointed out as follows: ➢ Limited use is being made of contact management software. ➢ Computer aided design (CAD)

Challenges

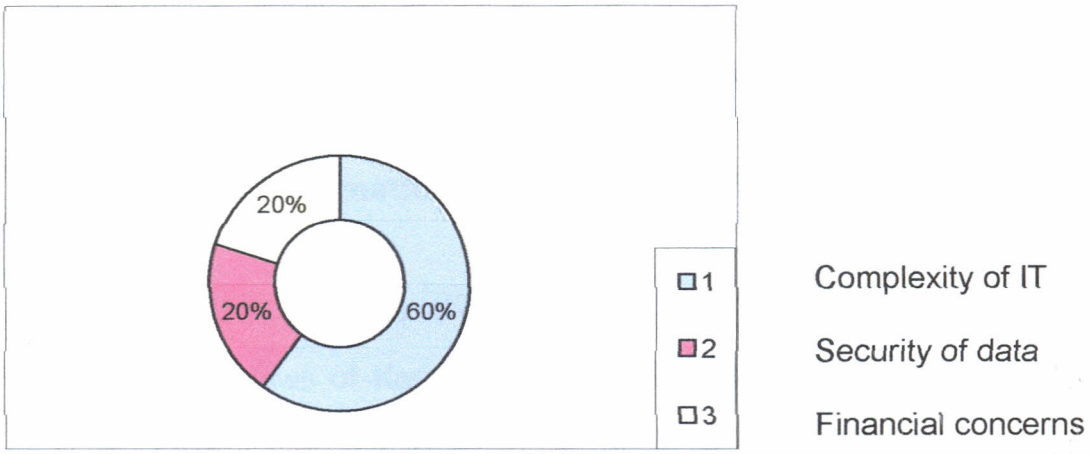
In as much as IT has enabled prompt action in response to issues, security of information is seen as the biggest challenge as expressed by all respondents while 80% of respondents emphasized that training was important in implementing an IT based management system.

According to management the main reasons for the general low level of use of IT in property management in Nairobi were (in order of importance):

1. complexity of IT and fast advancement, and equally, resistance to change and preference to traditional ways with 3 out of 5 (60%) of respondents citing this as the main challenge
2. risk of losing data due to viruses, power surges, etc according to 20% of respondents
3. financial concerns as expressed by 20% of respondents

The Lack of standardization of software was not relevant in determination of the pace of adoption of IT.

Figure 8:Main challenges in adoption of IT in property management of commercial properties in Nairobi as expressed by BBK



3.2.5 Envisaged Improvements

Training efforts include basic applications (e.g. Ms Office) and diploma level training in information management systems. Staff training is in progress and e-learning has been set up. 60% of respondents felt that in order to support innovations the company senior management has not only shown commitment but also allocated resources for

the cause and also encouraged a learning climate. They are supporting self development opportunities for acquiring knowledge and skills advancement. In addition, discussions are going on regarding quality benchmarking for IT outputs. The heads of property management recognize that there is room for improvement and that available staff and infrastructure are under-utilised. Although there were no innovations reported, discussion on specialist or dedicated property management software revealed that plans were underway to develop a tailor-made programme.

3.3 Case Study 2: Public Corporation - KENYA REVENUE AUTHORITY

3.3.1 Background Information

The Kenya Revenue Authority (KRA) was established by an Act of Parliament, Chapter 469 of the laws of Kenya, which became effective on 1st July 1995. The Authority is charged with the responsibility of collecting revenue on behalf of the government of Kenya.

A Board of Directors, consisting of both public and private sector experts, makes policy decisions to be implemented by KRA Management. The Chairman of the Board is appointed by the President of Kenya and the CEO by the minister of finance.

"Assessment, Collection, Administration and Enforcement of laws relating to revenue" is seen by the authority as its reason for existence (www.kra.go.ke).

The authority has a wider role in the national economy than merely assessing and collecting public revenues. It is expected to administer and to enforce written laws pertaining to assessment, collection and accounting for all revenues; advise on matters pertaining to the administration and the collection of revenue under written laws; and enhance efficiency and effectiveness of tax administration among other functions (www.kra.go.ke).

3.3.1.1 Organisation of the Property Section

In terms of revenue collection and other support functions, the authority is divided into the following divisions:

- Customs Services
- Domestic Taxes
- Road Transport
- Support Services

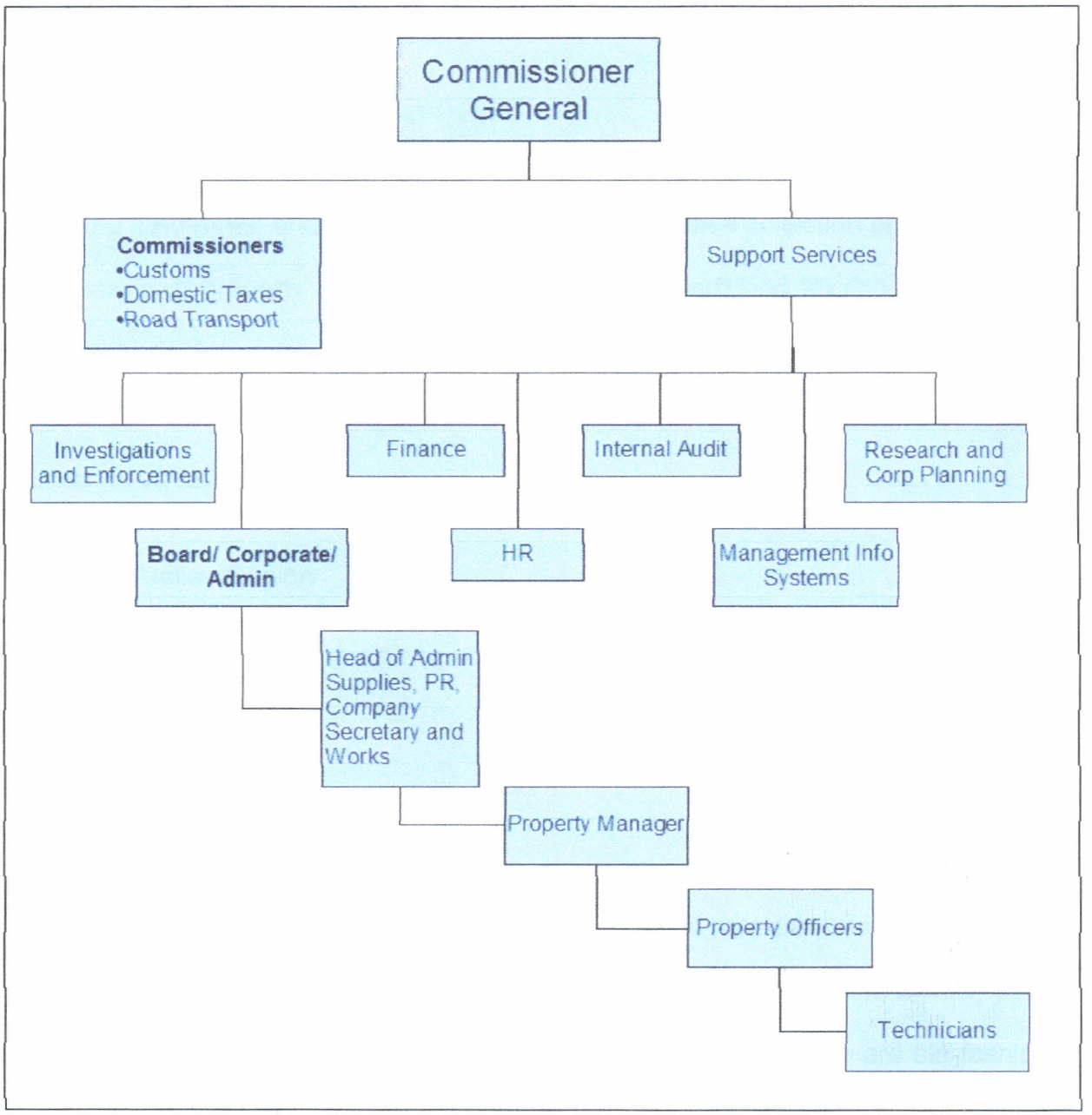
Each division is headed by a Commissioner. In addition to the four divisions the authority has seven service departments that enhance its operational efficiency. These are as follows:

- Investigations and Enforcement Department
- Human Resources Department
- Finance Department
- Board, Corporate Services and Administration Department

- Internal Audit Department
- Management Information Services Department
- Research and Corporate Planning Department

Real estate comes under the Board, Corporate Services and Administration Department, which has four sections i.e. Administration, Supplies, Public Relations, Company Secretary and Works (see organogram in fig. 9)

Figure 9:Organizational Structure of the KRA



Source: Author's Construct

Staff working in the Property Section consists of a Property Manager assisted by property officers and below them are the technicians. The officer in charge of Nairobi properties is called Facilities Manager, owing to the increased scope, complexity and prestige of his job.

3.3.2 *Property Holdings*

KRA is involved in real estate in various ways including its new responsibility of collecting land rents, and its main mandate which includes collection of income tax on revenues from property (whether let or owner occupied) and levying other property based taxes. However, they also have their own property holdings which are the subject of this study. As a government agency that runs its operations, KRA has offices in five regions namely:

- Rift Valley Region
- Western Region
- Southern Region
- Northern Region
- Central Region

In each of those regions the authority occupies or owns property, ranging from its top-of-the-range headquarters in Nairobi's Times Towers to the humble border post in Malaba, or Mandera. They have their offices in 47 locations. Some are old-fashioned buildings, such as the Customs House on Lamu's waterfront. Outside Nairobi, Mombasa has the biggest investments, taking into account it is a large and busy port with sizeable customs administration and warehousing facilities. Times Tower on the other hand is a state of the art sky-scraper on Harambee Avenue, on the southern edge of the CBD.

Although the authority has five operational regions, the Property Manager has for his purposes divided the portfolio under his care into only three regions, namely Southern, Nairobi and Western. He has seventeen staff (some of whom were interviewed) including those responsible for the maintenance and repair of 1700 housed staff. Security and cleaning services are however outsourced. Nearly all their properties are owner-occupied, but it is the policy to let out canteen space to private caterers. At some locations, KRA is a tenant.

It has however proved difficult to obtain precise details of the property portfolio, contrary to what one would have expected from a department dedicated to accuracy in numbers and money matters.

3.3.3 IT as a property management tool in KRA

The property manager who heads the property department was interviewed along with 5 of his staff. Most other officers are posted in various location away from Nairobi but the systems in place are more or less similar in all stations. The interviews and discussions, together with the questionnaires revealed the following information as tabulated below (table 3):

Table 3: The Use of IT in KRA

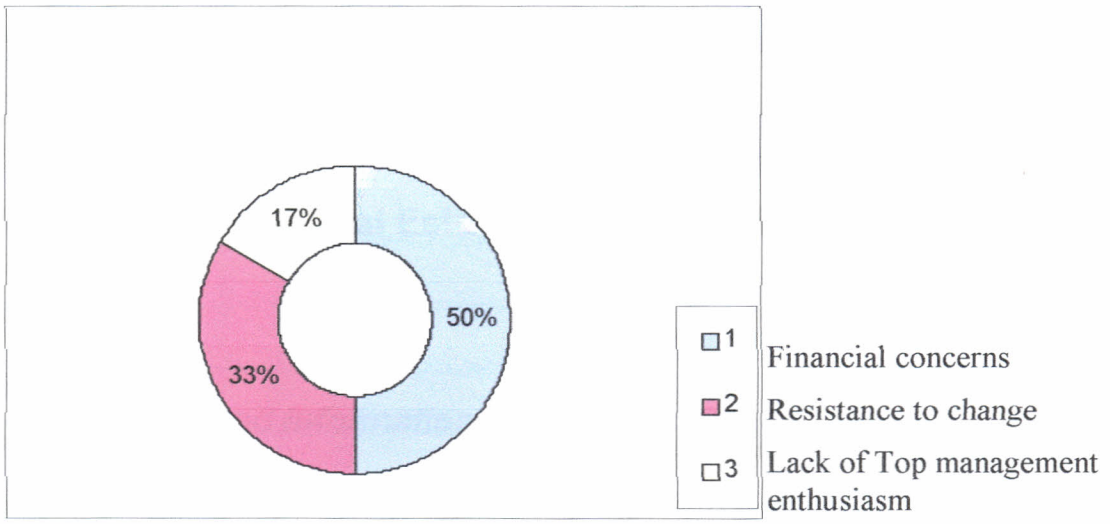
Perceived relevance of IT	➢ All interviewed saw IT as being very relevant mainly in maintenance (hastens notification of and response to repair works) and

	➢ Fairly relevant in other areas of property management.
Current uses of IT in the department	Rent invoicing, lease preparation, maintaining a diary for repair works, budgeting, storage of correspondence and preparation of reports
Inefficiencies noted from use of manual systems	83% of respondents cited the following inefficiencies of manual systems: late or incorrect invoicing, delayed lease renewals, lost correspondence and misfiled records; and late response to maintenance. The remainder 17% could not notice the inefficiences
Computer applications used for property management	The different staff use various programmes (software) as follows: **Application** **% of respondents using programme** Wordprocessing, 100% Spreadsheets 100% graphics and presentations, 66% databases, 50% internet, internal networks and emails. 100%
Use of internet & networking	➢ Uses the internet for communication only (through email) ➢ Networking between offices is very useful
Specialised programmes	➢ Computer aided design (CAD) is used by the maintenance technicians.
Challenges Internally the challenges experienced are as follows: ➢ getting top management to feel the urgency has been a tough task still in progress. ➢ Some staff have become complacent with the use of current systems and have	

been a difficult to encourage to take up courses and embrace IT systems.

However, on a more general note, the seemingly backward position of IT use in the local scenario was attributed to first, financial limitations and secondly to resistance to change and preference for traditional ways

Figure 10: Main challenges in adoption of IT in Nairobi as expressed by KRA



3.3.4 Envisaged improvements

There is an avowed commitment by senior management to support IT and to that end make appropriate allocations of resources, and provide a learning climate within the organization. The head of the department for instance, is aware of the potential of IT in increasing management productivity and is attracted most by the instantaneous tracking of various property management indicators in dispersed locations. The department in general (as voiced by the interviewees and respondents) regrets that no advantage is taken of other software related to property management, such as

building management systems, GIS/LIS and property development software. It is also the intention to offer self-development opportunities for example in knowledge and skills advancement. The vision of the Property Management department as stressed by the head of department sees quality benchmarking of outputs from IT as very important. This means that recent efforts to prepare staff for the transition will soon bear fruit. The target staff/computer ratio that they envisage to achieve is 1:1, and employees can claim a refund of up to eighty per cent of fees paid to training colleges.

3.4 Case study 3: Real Estate Consultancy Firm – KNIGHT FRANK

3.4.1 Background Information

This case study is concerned with the business of the Kenyan arm of the Knight Frank conglomerate. Since its inception in 1998, Knight Frank Kenya has grown to become a market leader in East Africa, offering a full range of agency, property management, valuation, professional and consultancy services. This limited company, a joint venture with First Chartered Securities, forms part of the Knight Frank Global Network.

Knight Frank Research provides strategic advice, forecasting and consultancy services to a wide range of commercial and residential clients including developers, investors, financial and corporate institutions. On its website, Knight Frank views itself as a world renowned, UK headquartered global property consultancy and a unique global force in property transactional, management and advisory services. Its global network encompasses more than 165 offices in 36 countries across six continents and

they pride themselves as having over 5,300 experienced professionals handling some £18.3 billion (US$£36.1 billion) worth of commercial, agricultural and residential real estate annually. They advise clients ranging from individual owners and buyers to major developers, investors and corporate tenants. They argue that their strong local presence in established and emerging markets around the world, combined with powerful central research and intelligence-sharing, enable them to identify opportunities for clients to maximise value in every aspect of their property dealings. (www.knightfrank.com)

3.4.2 Property Portfolio

Knight Frank Kenya currently manages over 360 prime market flats and over 650,000 square feet of commercial property, controlling the upper end of the residential and commercial markets in Kenya. This amount of commercial space represents a substantial investment and could be worth anything from Ksh 2.5 to Ksh 3.0 billion at the prevailing market rates. The portfolio is diverse in terms of location, type, ownership and occupancy.

Their clients include Insurance Company of East Africa, British High Commission, Lion of Kenya Insurance Company, Citibank, Mobil Oil Pension Fund, Embassy of Switzerland, Mitchell Cotts, Embassy of France, Kenya Ports Authority, Old Mutual Insurance Company, Rayshian Holdings Limited, Iberafrica, Red Cross, Kencell, Safaricom, Embassy of Korea, PricewaterhouseCoopers, Plan International, Barclays Bank, Embassy of Japan, NIC Bank, Schindler, CDC Capital Partners, Lonrho Africa, Embassy of the United Stated of America, CARE International, Aventis, Toyota East

Africa, Housing Finance, Nation Media Group, Cussons & Company. Among the latest properties under KFK's management is Nakumatt Westgate, a new shopping mall in Westlands area of Nairobi. It is apparent that KF has extensive connections among transnational and diplomatic missions, and therefore enjoys a significant edge over other estate management firms.

3.4.3 Organisation of the property departments

KF has four major departments as follows: Property management, Property Agency and Property Valuation. There is also a section of the firm that is dedicated to research work especially on current market trends. The property management department has senior managers, property officers, caretakers and some technicians. The Agency department on its part is also categorised into commercial agency and residential agency. The firm is highly departmentalised and staff do not ordinarily transverse the departments in terms of tasks carried out or duties assigned.

3.4.4 IT as a property management tool in KF

The following information set out in table 4 was collected from Knight Frank regarding the use of IT in property management as expressed by representatives of the IT and Property Management Department together with two property officers.

Table 4: The Use of IT in Knight Frank

Perceived relevance of IT	➢ Very relevant in rent invoicing, lease administration and service charge accounting. ➢ Fairly relevant in maintenance and risk management
Current uses of IT in the department	Rent invoicing, lease preparation,

	maintaining a diary for repair works, budgeting, storage of correspondence and preparation of reports, contact management.
Inefficiencies noted from use of manual systems	Late or incorrect invoicing, late financial statements to landlord, lost correspondence and misfiled records. A good IT system is seen as capable of reducing these inefficiencies. The property manager reported that the systems they have in place have helped to reduce such inefficiencies.
Computer applications used for property management	All interviewees confirmed that the following programmes are in use. Wordprocessing, spreadsheets, graphics and presentations, databases, internet, internal networks and emails.
e-marketing	Discussions reveal that: ➢ Elaborate use of e-marketing in Agency Department by advertising their properties through their website. They Boast of many property enquiries initiated through the internet ➢ Finalisation of deals however mostly take place in their offices with clients preferring face to face negotiations and actual viewings of properties as opposed to 3dimensional virtual tours.
Internet use and networking	All respondents disclosed that they benefit from e-resources of RICS (Royal Institution of Chartered Surveyors) and ISK (Institution of Surveyors of Kenya) and keeps abreast with updates from these and professional

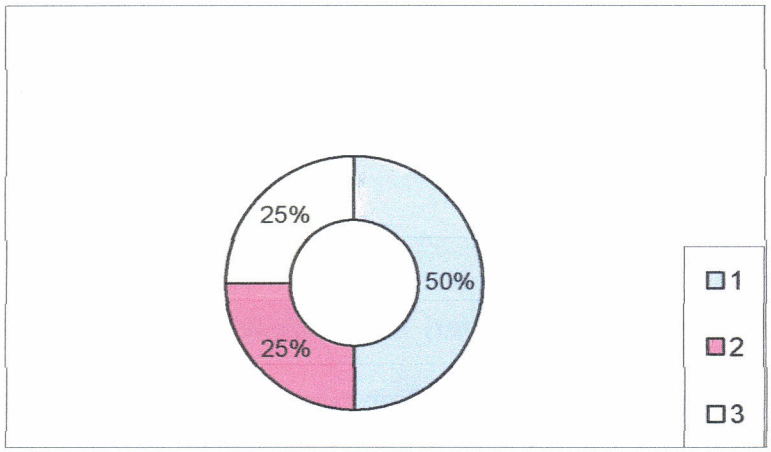
	associations ➢ 2 of the key staff also participates in discussion groups with other property managers ➢ Networks with other professionals within the firm (locally and internationally) and the property sector in general.
Specialised programmes	➢ KF has Property management software – tailor made programme which carries out most routine management tasks and is suited to their needs. ➢ Contact management software. ➢ Computer aided design (CAD) is used by their technical team
One time or periodic costs of training *personnel*, *software* costs and equipment maintenance	➢ No data was available on costs due to sensitivity and high *departmentalization.* However, both the property manager and IT department representative felt that the benefits accrued justified the costs.

Challenges:

The property department feels that the use of specialist property management software in Nairobi generally is discouraged by a number of drawbacks. These include (listed in order of importance):

1. High expense
2. Need to adapt to local conditions, inflexibility, and unfriendliness to the user
3. Scarcity (i.e. poor availability in the market)

Figure 11: Main challenges in adoption of IT in Nairobi as expressed by KF



Generally the benefits that seem to attract the firm are easier/faster communication and data sourcing. According to one property officer, "IT has enabled faster in depth analysis of expenditure, higher accuracy of forecasts for budgeting, and most importantly, faster communication."

3.4.5 Envisaged Improvements to overcome challenges

Training efforts at KF is mainly carried out in house. The firm encourages and sponsors in-house training mainly by the IT department on whom they rely on very heavily to guide them in using software as well as for technical backup. However, there is a commitment by senior management to support IT and provide a learning climate. Further, there is a general awareness especially by the heads of departments including property management and IT department that the potential of IT is not fully exploited. While they are honest and do not boast of any innovations, they do visualise a good future, since "everyone is literate". At the moment the ability of all staff to use various available packages is limited. The goal, as voiced by a senior property

CHAPTER 4: COMPARATIVE ANALYSIS & SUMMARY OF STUDY FINDINGS

4.1 Introduction

This Chapter compares the three case studies then gives an overview of the summed up findings.

4.2 Extent and Use of IT in the Commercial property sector

All three case studies use IT to varying extents. At a minimum, they use standard or conventional software packages which they find adequate for the daily routines such as budgeting, tenant rolls/ databases, arrears tracking, managing the outgoing and other ownership obligations. They all agree that main functions of property management are all made easier by use of IT. Barclays bank staff uses basic computer applications including word, databases, spreadsheets and email. KRA, in addition to these software, also makes use of Computer aided design by technicians. Knight Frank goes a step further to make use of a tailor made programme for property management. The variations are noticeable, but not very big.

The use of the internet and networking is seen as being important Knight Frank especially for e-marketing together with full internet access for e-marketing. KF also network with other professionals mainly through professional associations and

discussion lists. BBK property department on its part, uses the internet mainly for communication.

From the discussions and interviews that were held, it can easily be inferred that the pace at which IT is adopted depends a lot on the role that property plays in the organization.

Adoption of IT in the various core sectors of the case studies has been very swift, with both KRA and BBK keeping up with latest software in their respective fields.

Barclays bank for instance sees no point in investing in expensive software for a peripheral business activity which generates adequate results from basic IT systems.

Since the property department is merely a service department and not the core business of a financial institution, its ability to fight for resources and board's attention is more limited. This means that it would be one of the last to receive the benefits of any modernization effort or IT improvements. This assertion is borne out of the slow pace in which the department has adopted property management software and similar electronic approaches and from direct discussions with staff.

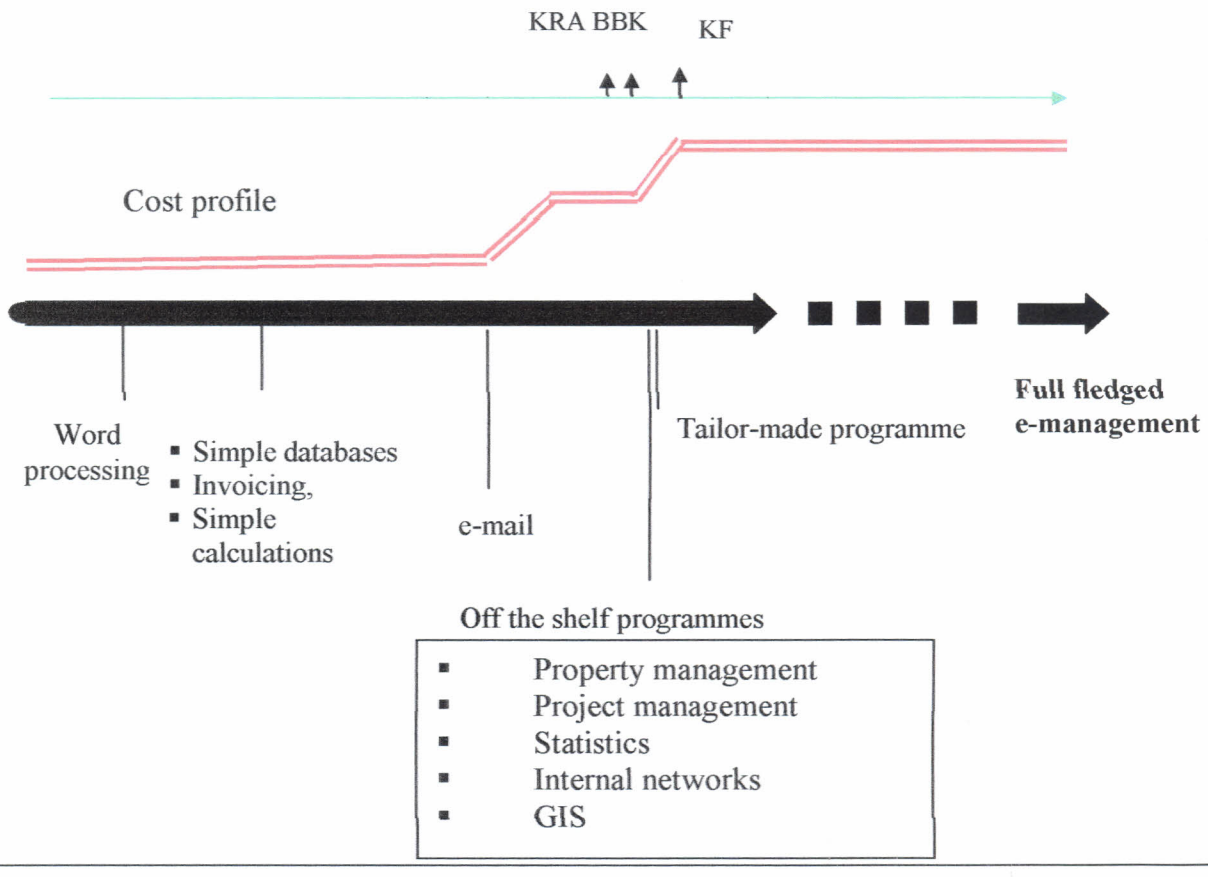
As a public corporation, KRA is forced by circumstances to introduce change at a slower pace than would be possible in a private company. KRA's has found it relatively easy to achieve its main mission of maximizing tax collection without wholesale modernisation. The property sections therefore lags behind the other departments in adopting new technology. In fact it was not possible to get much useful

information on sophisticated or advanced uses of IT and there was an air of suspicion on the part of staff, wary of information getting out which could put them in trouble.

KF's approach to using IT is very different from that prevalent in the two organisations discussed previously, since property is the sole business of this firm. Because it is the custodian of a large portfolio belonging to a variety of profit driven private sector landlords, some of them international corporations, the firm tries to employ the latest management techniques. Their international links also make it easier for them to access state of the art software, subject of course to cost limitations and relevance to the local market.

Drawing from the field investigations, the general direction that the property management of commercial property is taking is shown in Figure 12 below with the estimated levels of the case studies marked.

Figure 12: The development trends of commercial property management



Source: author's own construct

4.3 Challenges faced by Property Managers

The three case studies ranked the challenges experienced in the use of IT differently. According to the 3 case studies, the challenges that were experienced by the wider commercial property management sector in Nairobi can be summarized as follows, in order of importance:

Table 5: Ranking of challenges experienced in adoption of IT

Rank	challenge	KF	KRA	BBK	average % from 3 case study findings
1	➢ Financial concerns – costs of equipment, training and software/ connectivity	50%	50%	20%	**40%**
2	➢ Complexity and fast advancement of IT	0%	0%	60%	**20%**
3	➢ The inflexibility of software and need to modify software to adapt to local conditions, as well as scarcity of the same	50	0%	0%	**16.7%**
4	➢ Complacency among staff who have tended to lean towards preserving traditional systems and work methods	0%	33%	0%	**11%**
5	➢ Ensuring security of information and minimising the risk of losing data due to viruses, power surges, etc	0%	0%	20	**6.6%**
6	➢ Getting top management to feel the urgency and appreciate the benefits of IT would go beyond the property departments. There is limited appreciation of the fact that IT in property management can indeed play a part in achieving overall company objectives. This has been a tough task still in progress.	0%	17	0%	**5.7%**
		100%	100%	100%	**100%**

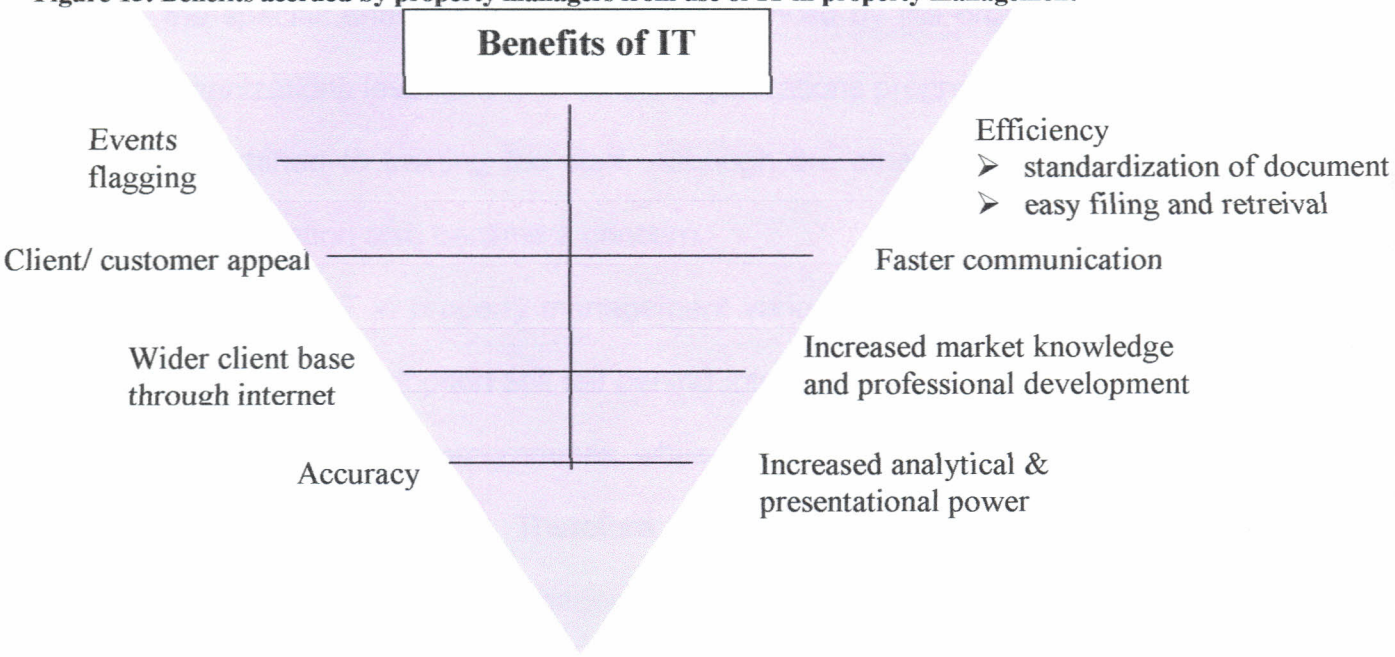
The study findings revealed that, as the organizations embrace IT, the challenges facing them also evolve and change according to the level of IT use attained. The specific ones that were experienced in their existing levels of IT use as shown in fig 12 above included (in order of importance):

1. Training
2. costs
3. security of information
4. resistance to change
5. top management support

4.4 Perceived benefits

Benefits cited include quick preparation of standard documents such as leases or letters of offer; flagging of time-bound events (rent reviews, renewals, reporting deadlines, maintenance schedules and so on); and attractive presentations to decision making committees or (in the case of KF) clients. Financial reporting is also facilitated by IT. A summary of the benefits are illustrated in Fig 13 below:

Figure 13: Benefits accrued by property managers from use of IT in property management



Source: author

4.5 Hypothesis testing

The hypothesis of this study was that financial concerns, fast advancement and complexity of IT together with conservative attitudes cause the low level of use of IT. The study findings showed that these are indeed the main reasons (see table 5 above) with 40% of all respondents citing financial costs as a primary concern. The complexity of IT and the inflexibility of software to adapt to local conditions follow at second and third place respectively with averages of 20% and 16.7% respectively. However, the study also revealed that, in addition to these three challenges, there are a number of variables that act together to determine the level of use. These include the laxity of staff to enthusiastically embrace IT in property management, the security of information and the support and commitment of top management.

Further, the specific challenges that were experienced by the organizations evolved with the organizations level of use of IT. As organizations progress in their IT use, the emphasis is shifted to training the staff. Although the other challenges still persist, security of information also became a concern.

The level of use of IT in property management varied within the three case studies. Although the levels of adoption still fell behind international paces, Knight Frank was already using tailor-made programmes while Barclays Bank was ahead of Kenya Revenue Authority (see fig 12). Therefore, we cannot generalize on the low level of use in the commercial property management in Nairobi. Some sectors are progressing and rapidly embracing various technology but are faced with challenges which they must overcome.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter draws inferences from the main findings of the study and gives an overview of the study. It further puts forth recommendations and ends by listing new research directions in areas that emerged in the course of this study.

5.2 Study conclusions

We started this study by asking the question, is IT use in commercial property management in Nairobi as advanced as it should be considering current international trends in the business? Is it consistent with the latest international thinking? A wide ranging review of current methods and research at the international level was made in Chapter 2 and this was followed by an assessment of the Kenyan situation through the vehicle of case studies and summary of findings.

The conclusions that can be drawn from the study include the fact that property holdings in the hands of both private and public owners are becoming increasingly complex in terms of diversity, mode of construction and legal and logistical arrangements for their occupation and use. This commercial property sector is being harmed by slow progress in adopting the latest available information systems for routine tasks as well as the more sophisticated functions such as statistical analysis,

valuation, investment portfolio planning, maintenance and security monitoring. Market monitoring and general professional development are also stagnated. This has had a negative effect on industry performance and growth.

However, information technology is being adapted albeit at a slow pace. Some sectors are progressing faster than others, probably with the real estate professional management agencies being in the forefront. A variety of branded software products are available in the market, some originating locally and others imports from Europe and North America. South Africa has also produced several interesting programmes, being driven by a large and thriving property investment market . However good these products may be, they need to be supported by IT strategies at the firm or even industry level, by an innovative and enterprising spirit, and by a willingness to learn. Quality management and effective training programmes are key to success and achieving full fledged e-management in the sector. Top level commitment to integrate IT into the overall business strategy and appreciation of the role that IT plays in the overall achievement of the companies goals are important. Lack or limited provision of the above enabling environment has meant that IT use in property management locally still lags behind. The way an organization views property (or the role it plays in the organization – either as support or core business) will determine the speed at which technology is adopted and resources allocated. Variations in corporate attitudes towards property are reflected in management practices. Property departments remain supplementary appendages which do not advance, technologically, at the same pace as the other departments.

Factors which have prevented or delayed the adoption of advanced IT infrastructure include:

- the perceived high cost of equipment, software, maintenance and personnel training;
- relative complexity of new systems compared to the old and fast advancement of IT
- The inflexibility of software and need to modify software to adapt to local conditions, as well as scarcity of the same
- conservative view of property management and how techniques are changing and improving internationally;
- Ensuring security of information
- Getting top management support and commitment

5.3 Recommendations

Strategies concentrate on five aspects, namely raising awareness and getting high level commitments, increasing the amount of available resources, improving the human resources base within the company, modernizing the technical facilities, and installing better working and supervisory methods.

1. High Level Commitment & resource allocation: Awareness raising on the benefits of IT among these managers can help in getting them interested in investing in the development/ adoption of state-of-the-art facilities. Holding of seminars by professional institutions and software dealers/ designers to create awareness would help.

2. Human Resources: Establishing a learning environment is seen to be essential in order to encourage staff to improve their IT skills. Employers should provide the necessary support with assistance with study leave/ hours, tuition fees, rewards for successful completion of courses. Innovations should also be encouraged by for instance having awards and recognition by the different players in the real estate industry for different levels of innovations

   Learning institutions that train in property management as well as IT should also be at the forefront in introducing different programmes that encourage innovation using IT in order that trained manpower, that is ready to experiment, innovate and adapt is released into the market.

3. Facilities: Visions of an improved IT environment should be accompanied by upgraded equipment, software and connectivity. The organizations should provide these facilities in order for their staff benefit from faster communication, access to large pool of data, wider networking and expanded market potential. The government and regulators of the IT industry should strive to make services and equipment more affordable. The advent of the undersea fibreoptic cable in Kenya for instance is envisioned to bring a "new dawn" in internet connectivity speed at competitive prices. This will enable greater exposure of property managers to the latest international thinking and allow faster communication and access to data. This will help in addressing the financial

constraint. Although import taxes on equipment were waived, software licences by programmers discourage purchase, especially considering that regular updates are inevitable. The government could subsidise on these in order that manufacturers/ programmers can reduce licence charges. Local programmers would especially benefit from this incentive and this would promote patentability and marketability of local software.

4. Methods: The need for innovation, discipline and benchmarking by firms is very important. Organisations that introduce IT into their property management systems must pay attention to controlling quality by setting targets and quality standards.

5. Professional institutions should play their part in encouraging property professionals to embrace technological advancements. The continuous professional development requirements of the Institution of surveyors of Kenya for instance should encourage e-learning and look into establishing e-libraries, discussion lists and so on to enhance professional development of their membership. These institutions should strive to spearhead and support projects such as the Krex initiative (which aims at developing a database of real estate investment indices) and other projects which take advantage of technological advancements by practical example and ratification if its membership is to follow suit. They should also ensure that they have input in IT policies and

guidelines like the e-bill and push for regulations to guide e-transactions, e-titles and so on

6. Software designers and sellers should also do their part by making their products more accessible both in financial and intellectual terms. Negotiations could be carried out at the level of professional associations who could hold seminars to enlighten property managers on the availability and benefits of certain software. This will assist in standardization of these programmes (tailormade or modified to suit local conditions) and perhaps a reduction of prices due to mass purchase.

5.4 Areas for Further Research

There are several areas in which further research must be undertaken in the effort to achieve more beneficial use of IT in the commercial property sector. Below are some areas as indicated by this research:

- Raising awareness of the potential of advanced digital systems in all areas of asset management. How can more advanced uses of IT be promoted? Would it need better education (at all stakeholder levels), financial incentives (lower costs, tax reliefs, subsidy interventions), encouragement or even mandatory standards set by professional associations, or national policy interventions?

- Finding out what are the latest technical innovations in building technology and how relevant they are to Kenyan practice. The benefits to be reaped from

recent advances in say smart buildings, surveillance systems and even robotics should be investigated.

- Other ICT marketing techniques including mobile marketing of real estate including blue tooth technology and bulk texting.

- Investigating impediments to registration of leases, assignments and other transactions through e-conveyancing and digital searches.

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THE APPLICATION OF INFORMATION TECHNOLOGY IN PROPERTY MANAGEMENT OF COMMERCIAL BUILDINGS IN NAIROBI

QUESTIONNAIRE TO PROPERTY MANAGERS

Information technology has been defined as the science or practice of collecting, storing, using and sending out information by means of computer systems and telecommunications.

Kindly give brief details of your management portfolio

Areas amenable to information technology

1. **In your opinion, how relevant is the use of IT in carrying out the following tasks of property management? (Please indicate relevance using key below)**

    1. Very relevant
    2. Fairly Relevant
    3. Irrelevant

    Marketing
    Rent invoicing and collection
    Lease administration
    Accounting for service charge
    Maintenance
    Risk Management& insurance

2. **What are the areas of property management in which your firm uses IT?**
    - rent invoicing and collection
    - lease preparation and renewals
    - diary for repairs and maintenance
    - landlord and tenant contact management
    - budgeting and cahflow record keeping
    - typing and storage of correspondence
    - preparation of property reports with images
    - Other _____
    - _____
    - _____

3. **Which of the inefficiencies below can you relate to the use of manual systems of property management/ lack of IT?**
   Late or incorrect invoicing of tenants
   Late statements to landlords
   Delayed maintenance services
   Delayed lease renewals
   Lost correspondence and misfiled records

3b. **Has the use of IT impacted in any way on reducing the above inefficiencies?**

_____
_____
_____
_____

4. **What specific programs do you use in carrying out the property management functions? (Please tick as appropriate)**
   - wordprocessing e.g. Microsoft word
   - spreadsheets
   - graphics and presentation
   - database management
   - internet
   - Internal networks within the firm
   - Email
   - Tailor made programme
   - Off the shelf programme (please name)_____

5. **Do you make use of any of the following programs which are related to property management ?**
   * contact management software
   * computer aided design
   * building management system
   * GIS and LIS software
   * Development software
   * Others please (specify)_____
     _____
     _____

6. **Do you benefit in any way from participation in:**

   * Property management discussion lists over the internet with other property managers or

   * Professional association websites/ resource centres e.g. RICS/ ISK

If so, please specify which one and how they are useful/useless in improving property management.

e-marketing

7. **Do you conduct e-marketing?**
   If so, how do you gauge response from your website and email marketing in terms of a percentage of total sales and lettings? Please tick
   Negligible
   5-10%
   10-25%
   25-40%
   40-50%
   over 50%

8. **Does your e-marketing feature the following? (please tick)**

   - Website (please name)
   - Digital photos,
   - 3D (three dimensional) topographical representation
   - 360 degree panoramas of interior
   - Space allocation using CAD
   - Electronic conveyancing search
   - Property availability searches

9. **What is the biggest challenge of internet use for marketing and management (Please rank from biggest challenge 1 to least –5)**
   - email security problem
   - lack of personal touch in dealing with clients
   - marshalling the right facts from the abundant information for advice that truly adds value
   - Other (please specify)_____
     _____
     _____
     _____

The nature of use of real estate management software

10. **Do you have a specific property management program installed in your computer systems?**

If yes, what functions does it perform?
- Diary scheduling
- Comprehensive tenancy tracking
- Financial accounting
- Ownership management
- Rent invoicing and tracking balances
- Budgeting for outgoings and
- Lease administration
- Alerting on maintenance and repair
- Others _____

- _____
- _____
- _____

11. **What are the advantages of the software as opposed to using manual system or general programs not specific to property management?**

_____
_____
_____
_____
_____
_____

12. **In your opinion what are the main drawbacks of property management software that discourage their use? (kindly rank in order of importance 1-5 (1- most important to 5 – least important)**
    - Inflexibility to adopt to local requirements
    - Not user friendly – complex to use and understand
    - Too expensive
    - No exposure and marketing of the programs (non-availability)
    - The need to tailor make it in order to suit local conditions.
    - Other _____

General benefits and costs of IT in Property Management

13. **What general benefits do you realize the following general benefits from use of IT in you property management and marketing activities?**
    Easier/ faster communication
    data sourcing
    data presentation
    data analysis
    less storage space for files
    ease of retrieval of files
    data integrity and security
    others (please specify)_____
    _____
    _____
    _____

14. What are the average monthly/ annual costs and frequencies of the following exercises carried out on the IT equipment /staff?

Exercise	Cost	Frequency (no. of times per month/ year)
Maintenance and repair		
Updating of software		
Internet / website subscription and updating costs		
Annual software costs		
Personnel training		

15. What in your opinion is the main cause of rudimentary use of IT in management of commercial buildings in Nairobi (please rank 1 – 5 in order of importance)

- Lack of standardization of software
- Financial concerns
- Complexity of IT and fast advancement
- Attitude to resist change and preference of traditional ways
- Risk of losing data due to viruses, power surges etc

Strategies to support beneficial use

16. What is the extent of training in IT of the property manager

- None
- basic (Ms Office)
- Intermediate – Information Management system diploma
- IT specialist (degree in IT or GDS)

17. Does the firm sponsor, encourage or train staff in IT? Please elaborate

_____

_____

_____

_____

18. **Which of the following strategies are implemented in the firm to support innovations and beneficial use of IT?**

- Commitment by senior management to support IT
- appropriate allocation of resources
- provision of a learning climate
- offer self development opportunities for example knowledge and skills advancement
- quality benchmarking on output from IT
- Other_____

_____

_____

19. **How do you compare the current capacity of IT in use to the potential capacity?**_____

_____

_____

b. **What IT innovations can the firm boast of in the field of Property Management?** Kindly state whether the innovations were **initiated** within the company or **implemented** by the company from the wider choice of innovations in the market.

_____

_____

_____

c. **How do you visualize the future of IT in your firm?**

_____

_____

_____

_____

20. <u>Challenges faced</u>

What challenges and/ or challenges do you encounter in your day to day use of information technology when managing/ marketing properties in your portfolio?

_____

_____

_____

_____

_____

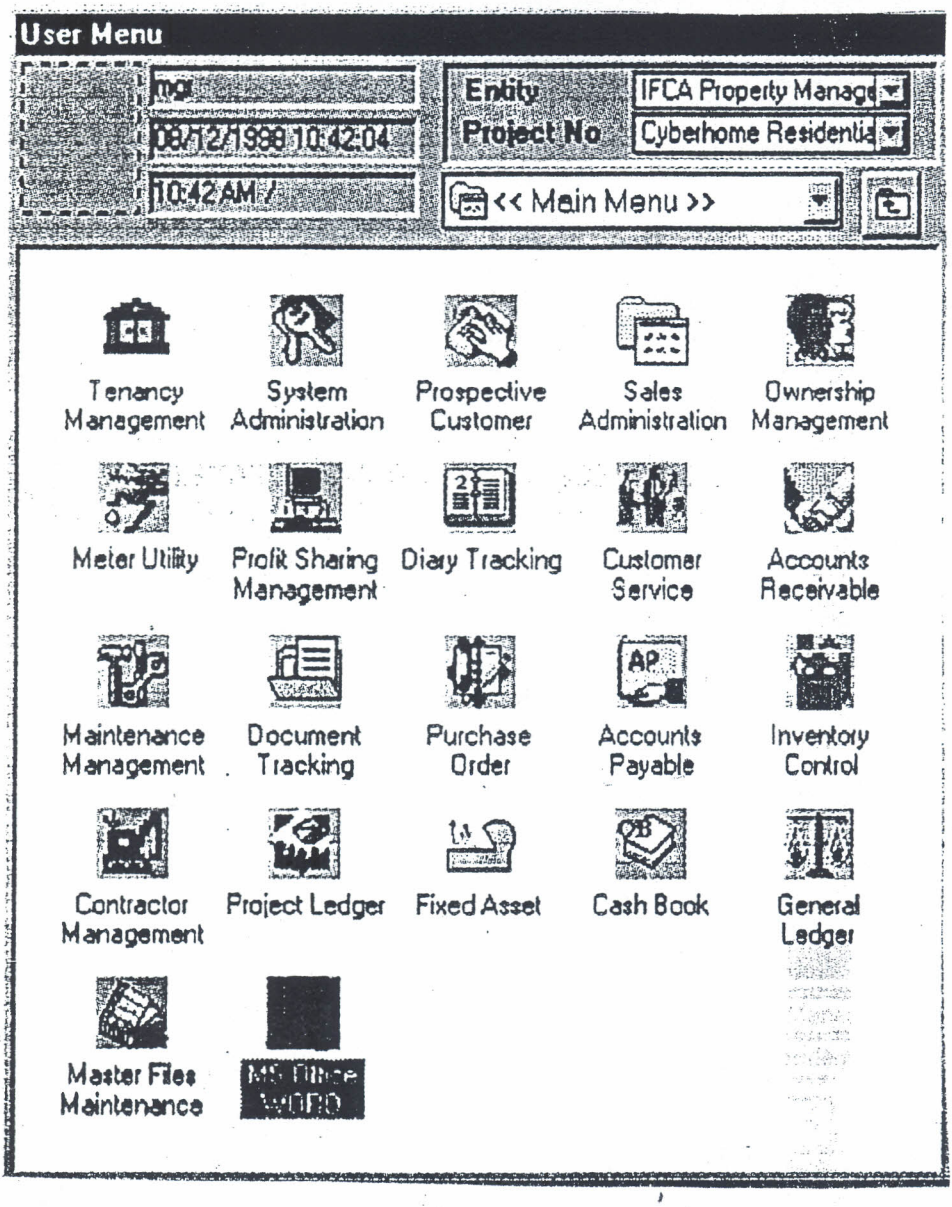
_____

_____

Recommendations

21. **Kindly give your recommendations for efficient/ beneficial use of IT in property management**

Appendix 2: Example of Management Programme User menu



Appendix 3 : Example of Property Index: South Africa Property Index (SAPIX)

% per year market standing investments only

	1995	1996	1997	1998	1999	2000	2001	2002	Annualised over: 8 years
Total Return									
Retail	16.9	17.2	23.0	9.1	17.9	10.4	13.4	11.0	14.8
Office	14.7	9.9	12.8	1.8	9.5	12.7	7.8	5.1	9.2
Industrial	13.5	17.9	16.8	2.1	8.3	7.1	7.5	8.8	10.1
Other	15.2	16.9	18.1	5.1	24.9	16.6	10.0	20.5	15.8
All Property	15.3	14.1	17.5	5.1	13.7	11.2	10.6	9.5	12.0
Retail	7.9	7.5	12.8	-0.2	8.0	0.6	3.4	1.8	5.1
Office	6.4	1.3	3.8	-7.6	-1.5	1.4	-3.2	-5.0	-0.7
Industrial	2.7	6.8	6.1	-6.2	-3.2	-4.5	-4.5	-3.4	-1.2
Other	4.7	6.3	7.1	-4.1	14.2	5.9	0.4	7.9	5.2
All Property	6.3	4.6	7.7	-4.3	3.1	0.6	0.1	-0.5	2.1
Retail	9.0	9.8	10.2	9.3	9.9	9.7	10.0	9.2	9.6
Office	8.3	8.6	9.1	9.2	11.0	11.3	10.9	10.1	9.8
Industrial	10.9	11.2	10.6	10.3	11.4	11.6	12.0	12.2	11.3
Other	10.5	10.6	11.0	9.2	10.7	10.7	9.6	12.6	10.6
All Property	9.1	9.5	9.8	9.4	10.5	10.6	10.5	9.9	9.9
Retail	-3.7	17.1	20.1	8.2	10.4	6.2	7.3	6.7	8.8
Office	9.9	13.3	11.1	5.2	12.1	-0.1	0.2	-3.2	5.9
Industrial	13.5	9.0	9.0	4.2	5.9	-1.4	0.2	-3.3	4.5
Other	10.8	7.5	21.0	3.6	9.6	5.6	5.9	34.2	11.9
All Property	7.6	13.7	14.4	6.3	10.5	2.6	3.6	3.6	7.7
Retail	8.0	8.6	8.5	8.7	8.8	9.2	9.2	8.5	..
Office	7.5	8.1	8.4	9.5	10.5	10.5	10.7	10.1	..
Industrial	10.0	9.9	9.5	10.2	11.2	11.4	11.9	11.9	..
Other	9.5	9.5	9.7	9.1	9.1	9.6	9.1	11.0	..
All Property	8.1	8.6	8.6	9.2	9.7	10.0	10.0	9.4	..
Retail	8.4	10.0	10.5	13.0	14.6	17.8	20.4	25.6	..
Office	10.9	11.7	12.2	12.0	12.9	14.6	15.5	17.3	..
Industrial	2.3	2.6	3.0	3.2	3.7	4.4	5.0	4.9	..
Other	2.8	3.4	6.4	7.0	6.2	6.3	5.1	8.7	..
All Property	6.9	8.0	8.5	9.4	10.3	12.3	13.7	15.5	..
All Property	15.3	14.1	17.5	5.1	13.7	11.2	10.6	9.5	12.0
Equities	8.6	9.1	-4.4	-9.7	59.9	-0.1	28.3	-8.1	8.5
Property trusts	11.7	-8.4	19.0	4.5	49.0	24.9	7.7	20.6	15.1
PLS Companies	6.0	-8.5	10.2	-4.4	58.2	27.2	19.1	19.9	14.4
Bonds (10 yr)	33.8	4.8	30.5	4.1	28.5	19.2	17.7	15.1	18.7
Cash	14.6	16.3	17.2	17.8	15.7	10.9	10.6	11.5	14.3
Inflation Rate	8.6	7.4	8.6	6.9	5.2	5.3	5.7	10.1	7.2
Rand/$ Rate	3.6	4.3	4.6	5.5	6.1	6.9	8.6	10.5	..
Rand/Euro rate	..	..	..	..	6.5	6.4	7.7	9.9	..

Lease Schedule

G0220030 - Capital Motors Limited

Parties

Owner / Lessor	A N Other Pension Fund	Represented By	Mr Owen McTavish	Capacity	Director
Tenant / Lessee	Capital Motors Limited	Represented By	Mr William Regan	Capacity	Director
List/Trading As	Capital Motors Limited				
Domicile	137 Old Main Road, Pinetown, 3610				
Postal	137 Old Main Road, Pinetown, 3610				

Premises

Property	Gustav Voigts Centre	Stand No		Township	Pinetown
Address	137 Old Main Road, Pinetown, 3610				

Accommodation Type	Unit No	Area	No of Units / Bays	Further Description	PQ	Section No
Motor Parking: Covered	Retail C 09-12	800.00	4	Showroom C Bays 09 to 12		
		800.00	4			

Terms

Lease Starts	01/01/2000	Lease Ends	31/12/2004	Period in Months	60	Indefinite Thereafter	No
Occupation Date	01/01/2000					Notice Period (in months) for Indefinite Leases	

Option Details

Option Period (in months)	60	Exercise By	31/08/2004	But No Earlier Than	30/04/2004
Premises Subject to Other Tenant's Option or Option over Additional Space	No			Enforceable	No
Conditions					

Permitted Usage

Base Rentals

Rental Type	Tax	From Date	To Date	Monthly Amount	Monthly Rate	Escalation %	Remarks
Rent	Output Tax	01/01/2000	31/12/2000	18,000.00	22.50	11.00	
		01/01/2001	31/12/2001	19,980.00	24.98	11.00	
		01/01/2002	31/12/2002	22,177.80	27.72	11.00	
		01/01/2003	31/12/2003	24,617.36	30.77	11.00	
		01/01/2004	31/12/2004	27,325.27	34.16	11.00	
Rent - Covered Par	Output Tax	01/01/2000	31/12/2000	500.00	125.00	11.00	
		01/01/2001	31/12/2001	555.00	138.75	11.00	
		01/01/2002	31/12/2002	616.05	154.01	11.00	
		01/01/2003	31/12/2003	683.82	170.96	11.00	
		01/01/2004	31/12/2004	759.04	189.76	11.00	

Recoveries

Notes

Recovery	Tax	Type	Percentage	Review	Ext Meter	Int Meter
	From Date	To Date	Monthly Amount	Monthly Rate	Escalation %	Remarks
Rates	Output Tax	% of Expense Increase	19.41			
	01/01/2000	31/12/2000	540.00	0.68	0.00	
Insurance	Output Tax	% of Expense Increase	19.41			
	01/01/2000		800.00	1.00	0.00	
Refuse	Output Tax	% of Expense	19.41			
	01/01/2000		0.00		0.00	
Operating Costs	Output Tax	Fixed				
	01/01/2000	31/12/2000	1,760.00	2.20	0.00	

Appendix 5: Replacement Value Schedule

Construction Types	Description	Rate	Factor	Area	Units	Cost
Shops - Grade A	Shops - Large	3,500.00	1.00	60.00	4	210,000.00
Shops - Grade B	Shops - Medium	3,200.00	1.00	40.00	5	128,000.00
Residential - Grade A	Flat	1,800.00	1.00	100.00	2	180,000.00
Residential - Grade B	Flat	1,500.00	1.00	80.00	5	120,000.00
Residential - Grade C	Flat	1,300.00	1.00	75.00	3	97,500.00
	Total Construction Area & Cost			355.00		**735,500.00**
	Add:					
	Professional Fees		5.00%			36,775.00
	Demolition & Site Clearance		12.00%			88,260.00
	Regional Variance Factor		5.00%			36,775.00
	Inflation Adjustment for Year		10.00%			73,550.00
	Total Re-instatement Cost (Insurance Value)					**970,860.00**
	Less: Depreciation		15.00%			145,629.00
	Total Depreciated Cost					**825,231.00**
	Add: Land Value (Rate * Area)	250.00		1,105.00		276,250.00
	Total Replacement Value Estimate					**1,101,481.00**
	Excluding Demolition & Site Clearance		12.00%			1,013,221.00

Property		Tenant		Age	Accounts Contact	Telephone	Balance B/f	Receipts	Adjustments	Arrears B/f	Rentals	Recoveries	Balance C/f	Receipts	Adjustments	Current	Notes
	Controlling Office/ JG																
	<None>																
B001	Sample Property	B001018 0	The Green Pig	120+	Colin Venter	031-573 1250	185,071.84	0.00	-226.33	184,845.51	0.00	0.00	184,845.51	0.00	0.00	184,845.51	
B001	Sample Property	B001019 0	Inn on the Rocks	120+	Wolgunathan Reddy	0825679667	179,955.73	0.00	303.94	180,259.67	12,512.82	6,652.03	199,424.52	0.00	0.00	199,424.52	Deposit: R15,000.00
B001	Sample Property	B001017 0	Anjovannes	120+	Antonio Nero	031-564 8663	115,214.48	0.00	2,936.64	118,151.12	0.00	0.00	118,151.12	0.00	0.00	118,151.12	
B001	Sample Property	B001011 0	Mica Durban North	30	Michael Sage	031-563 6765	31,542.25	-31,542.25	0.00	0.00	22,475.99	11,109.53	33,585.52	0.00	0.00	33,585.52	Last Receipt: 13/02/2021 Deposit: R22,500.00 5/2 Per Caroline-usually deposits by 7th-accepted-will call back tomorrow if advise further 7/2 Depositing 11th- 12/2 Caroline depositing this morning-will fax proof
B001	Sample Property	B001001 0	Lights by Quibell	60	Peter & Karen Quibell	031-563 2669	30,754.07	-12,000.00	0.00	18,754.07	15,954.17	2,063.86	36,772.10	0.00	0.00	36,772.10	Last Receipt: 09/02/2021 Deposit: R12,000.00 20/11 Paying R12 000 per month until outs bal RE: Shop 1 is settled- Re-locating to shop 13 1/2 Karen will pay by 5th-ok per MA
B001	Sample Property	B001008 0	Foodies	Curr	R A Cunha	031-564 8954	18,855.11	-18,855.11	0.00	0.00	13,764.69	5,090.42	18,855.11	0.00	0.00	18,855.11	Last Receipt: 01/02/2021 Deposit: R13,500.00
B001	Sample Property	B001024 0	C P Home	120+	Andre Ungerer	(031) 579-3639	16,719.55	0.00	-4,917.11	11,802.44	0.00	625.16	12,427.60	0.00	1,500.00	13,927.60	Last Receipt: 20/11/2020 Legal File
B001	Sample Property	B001007 0	Kentucky Fried Chicken	Curr	Mr N Naidoo	031-368 2765	15,601.00	-15,601.00	0.00	0.00	15,601.00	0.00	15,601.00	-15,600.00	0.00	1.00	Last Receipt: 24/04/2013
B001	Sample Property	B001004 0	Poolware	Curr	Graham Calder	031-563 5657	14,430.19	-14,430.19	0.00	0.00	11,823.37	2,606.82	14,430.19	0.00	0.00	14,430.19	Last Receipt: 29/01/2021 Deposit: R10,000.00
B001	Sample Property	B001013 0	Straffords Furniture	Curr	Gavin Maitre	031-562 8468	13,574.07	-13,574.07	50.00	50.00	2,834.82	1,434.48	4,319.30	0.00	0.00	4,319.30	Last Receipt: 14/02/2021 Deposit: R10,000.00 12/2 Bronwyn depositing this morning-will fax proof
B001	Sample Property	B001010 0	Northgate Liquors	Curr	Dheva / Trevor	031-573 2233	8,846.09	-8,846.09	0.00	0.00	7,728.33	1,945.80	9,674.13	0.00	0.00	9,674.13	Last Receipt: 01/02/2021 Deposit: R8,550.00
B001	Sample Property	B001009 0	Precision Lazer Engraving	Curr	Patrick Macquet	031-563 5833	8,659.70	-8,659.70	0.00	0.00	6,769.82	1,889.88	8,659.70	0.00	0.00	8,659.70	Last Receipt: 01/02/2021
B001	Sample Property	B001014 0	Heather Van Der Berg	120+	Heather Van Der Berg	031-863 4605	7,017.99	-703.10	703.10	7,017.99	0.00	0.00	7,017.99	0.00	0.00	7,017.99	Last Receipt: 12/02/2021
B001	Sample Property	B001023 0	Scooters	60	Barry Nel	031 572-4913	6,733.93	-6,733.93	1,435.15	1,435.15	5,927.82	1,052.41	8,415.38	0.00	0.00	8,415.38	Last Receipt: 01/02/2021 Deposit: R21,000.00
B001	Sample Property	B001002 0	B & H Hair Design	Curr	Brenda Dewar	031-5620325(h)	6,510.59	-6,510.59	0.00	0.00	5,687.33	823.26	6,510.59	0.00	0.00	6,510.59	Last Receipt: 10/02/2021 Deposit: R4,000.00 082 8834799
B001	Sample Property	B001022 0	Mervin Henry Gershanov	60	Mervin Gershanov	031 563-9142	4,422.20	499.00	-351.00	4,570.20	2,961.81	1,233.39	8,765.40	0.00	0.00	8,765.40	Last Receipt: 05/02/2021 Deposit: R4,500.00 19/2 Per tenant BG received-date incorrect-will revert once date amended-should be next few days
B001	Sample Property	B001012 0	Kumon Maths and English	Curr	Tracey	031-564 7312	3,910.20	-3,910.20	0.00	0.00	2,596.37	1,313.83	3,910.20	0.00	0.00	3,910.20	Last Receipt: 06/02/2021 5/2 Left message to return call
B001	Sample Property	B001006 0	First National Bank ATM	Curr	John Holland	031-369 5824	1,171.90	-1,171.90	0.00	0.00	1,158.70	13.20	1,171.90	0.00	0.00	1,171.90	Last Receipt: 05/02/2021
							668,990.89	-142,039.13	-65.61	526,886.15	127,797.04	37,854.07	692,537.26	-15,600.00	1,500.00	678,437.26	Outstanding %: 100.54
							668,990.89	-142,039.13	-65.61	526,886.15	127,797.04	37,854.07	692,537.26	-15,600.00	1,500.00	678,437.26	Outstanding %: 100.54
						Grand Totals	668,990.89	-142,039.13	-65.61	526,886.15	127,797.04	37,854.07	692,537.26	-15,600.00	1,500.00	678,437.26	Outstanding %: 97.96

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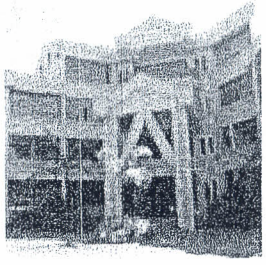

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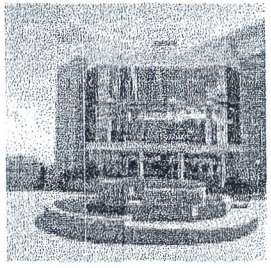

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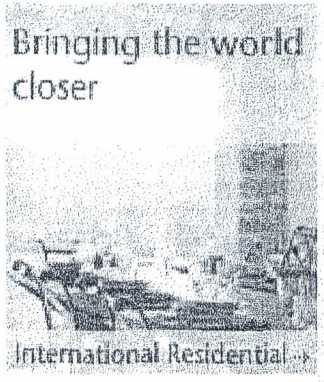

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Property of the Week

Parklands, Suswa Road

Well maintained 9No. 3 bedroom maisonette with the following highlights:Verandah, lounge cum dining, fitted kitchen with store, master with in built wardrobes & ensuite(Bathtub,WC & WHB), 2No. bedroom with in built in wardrobe(1 bedroom with balcony).Extra facilities include garden, tarmac parking & perimeter wall with one access gate, enhancing security.

more details...
(listed by Villa Care Limited)

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