BUSINESS PROCESS REENGINEERING ON THE PERFORMANCE OF REAL ESTATE PROJECTS IN NAIROBI CITY COUNTY, KENYA

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DECLARATION

This research project is my original work and has not been presented for a degree or other award in any other university. No part of this research project should be reproduced without authority of the author or/and Kenyatta University.

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LIST OF ABBREVIATIONS

BPR Business Process Reengineering
CAD Computer Assisted Design
KPDA Kenya Property Developers Association
KPI Key Performance Indicator
MIS Management Information System
NACOSTI National Council of Science and Technology
PID Project Initiation Document
PM Project Manager
PRINCE-2 Projects in Controlled Environment-2
SPSS Statistical Package for Social Science
OPERATIONAL DEFINITION OF TERMS

**Business Process Reengineering** - This is a major examination and fundamental restructure of existing business process to attain break through improvement in performance measures.

**Business Process** - This is a convectional interrelated tasks executed to realize a defined business outcome. Hence a process can be seen as those activities carried out to produce a specified output for a particular market or customer. It emphasizes on how work is done in an organization.

**Information Technology** - This is anything related to computing technology, such as networking, hardware, software, the internet or people working with these technologies.

**Project Management** - Refers to the planning, monitoring and control of all phases of the project and the enthusiasm of all those involved in it to achieve the aim of the project on time and to the specified cost, time, quality and scope.

**Project Performance** - This refers to how the project under real estate are doing or progressing. And is measured in terms of time, cost, scope and quality.

**Strategies** - These are large scale, future oriented plans interacting with the competitive environment to achieve an organizations’ objectives.
ABSTRACT

The global environment in which real estate projects are executed is very dynamic, hence calling for property developers to continuously improve their business processes to achieve the goals of successful project delivery. Real estate companies across the world have looked for ways and means of enhancing the success of the projects they undertake. However, this is not feasible especially because most real estate development companies are owner managed ventures and start-ups that are in the formative stages of their business cycle. This aim of the study was to establish the influence of implementation of business process reengineering on the performance of real estate projects in Nairobi, County. In addition, the study sought to evaluate the effect of strategies, processes, technology and people on the performance of real estate projects in Nairobi County. For the research methodology, descriptive research design was employed by the researcher. In this study, 68 real estate developers/project managers were targeted. A census of 68 project managers was done to obtain data on the study. Primary data was used, which was collected by use questionnaires. Analysis of quantitative data was done by use of SPSS. The descriptive statistics approach was adopted for analyzing and presenting the data in this research. Tables and figures were then used to present the analyzed data. The relationship existing between the dependent and independent variables was established with the help of simple regression analysis. The study established that there was significant positive relationship between strategies, people, technology, processes and project performance. The study recommends that relevant strategies should be put into place in order to enhance performance of real estate projects. The study recommends that for real estate projects to meet their intended use, there is need to implement proper guidelines. The study recommends that modern technology should be adopted as it helps in planning, designing and monitoring of the projects. The study finally recommends that there is need to equip relevant stakeholders with the relevant skills and knowledge on the importance of successful projects.
CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Project management is a practice essential for planning, organizing and controlling of both money-making and non-money making projects. New project management techniques arose about 50 years ago in the United States and have been changing time by time. Some of the industries that have fully experienced the change include; Defence and aerospace industry, computation industry and process engineering (Lock, 2007). On the other hand, Bittock (2012) defined project management as a way of planning, organizing and controlling resources to realize specific goals. The author goes further to state that it is a brief venture that has a noted beginning time and end time and guided by the deliverables. It is important to note that a project is undertaken to hit specific goals for beneficial change.

The true outlook of projects is totally different with business operations which keep of reappearing, lasting or semi-permanent tasks to bring forth products and services. In the current world, management of business and project is a bit different and as such requires uptake of diverse practical skills and administration strategies. The three basic principles of real estate projects are: a project involves a finite process with a definite start and end; a project needs to be actively managed to be successful and that all parties involved in a project need to be aware of their responsibilities. According to Muchungu (2012), success of a project is usually measured by the extent to which set objectives have been achieved. To hit the objectives of the project, effective planning is necessary and this is achieved through project management systems.
1.1.1 Project Performance

According to Hunger and Wheelen (2007) performance is the culmination closure of an activity. One of the major shortcomings of project management is to hit the set goals while respecting the set restrictions. The key shortcomings are the budget, time, scope, time and quality. The minor shortcoming is to optimize the allocation of necessary inputs and combine them to meet initial goals. A study findings by Mutijwaa and Rwelamila (2007) established that South Africa Infrastructural Department (SAID) is required to enhance performance through delivering projects on time, on budget and to better standards of quality. They related the shortcoming to lack of effective workers in these infrastructure departments and suggested for project managers to work on the on-going projects. In addition, the study revealed that infrastructural departments are not aware whether they were achieving the set goals and return on investment. Thus, the researchers suggested a means of evaluation to examine progress as a way of addressing these questions.

1.1.2 Business Process Reengineering

For organizations to keep on making profits in a very competitive market, they have to review and change their processes through effective implementation in their area of operation. Business process reengineering is a tactic under project management that was established in the early 1990s. The strategy focuses on analysing and designing workflows and practices within a firm. Business Process Reengineering focused to help firms basically re-organizes how they handle their work in order to enhance customer service, operational costs and become great competitors. Hammer & Champy (1993) indicated that the process of reengineering as "the fundamental rethinking and radical
redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed." Some of the ways through which businesses can be redesigned is through changing business strategies, current processes, information systems and the organization structure thus enhancing efficiency. Reengineering is executed when a firm reckons the current system is not efficient or important to the environment they are operating in is failing to contest with other companies.

BPR pursues to help organizations drastically restructure their firms. This is achieved by focusing on the ground-up design of the investment processes. Davenport (2010) argues that reengineering focuses a complete concentration on venture goals. Also, a venture process reengineering is termed as business process redesign, conversion of the business or managing change in the investment process.

Davenport and Short (2012) argues that strategy aspect should shield approaches within other areas under concern namely human resource strategy, organization strategy and technology strategy. The purpose of all ways has got to be performed with relevancy the dynamic market places the organization is engaged on and isn't targeted on internalities, however the external presumptions for flourishing engaged on markets. Further, channels should be modern and of importance to the firms’ vision, additionally on internal and external limitations, which means, that a reconsideration and definition of ways could be a presumption for more modification. Finally, the ways should be outlined in an exceedingly method that allows empathy and stimulate staff so as to align the workforce with them.
Business Process Reengineering is alterations of structure relationships between employers and the management into the interactive processes between them. Business Process Reengineering aims to interrupt radically the prevailing method structures and replace them by basic and innovative solutions. The useful structure may be a vertical structure during which there might exist barriers to separate the two. It's argued by some scholars that reengineering can't be led from bottom of firms as this may be obstructed by the firms’ boundaries. Business Process Reengineering stresses business procedures that are viewed as horizontal flows and cuts across organizational tasks. According to MacIntosh and Francis (2011), Business Process Reengineering process indicates the delays, errors and inefficiencies which are presented when passing information and work from on task to another.

Technology is taken as the key facilitator for traversing processes over serviceable and organizational borders and supports process guided organizations. Therefore, technology should be used as facilitator for the new firm but not a facilitator of the existing tasks. This entails making use of modern technology which entail groupware as well as modern methods of for using them and adoption of technological changes that influence the future. Some scholars take technology as the major facilitator of BPR.

However, BPR has not resulted as its supporters were expecting. Davenport and Short (2010) argues that this could be as a result of failure to acknowledge factors related to technology and emphasized that creating alertness of the competitiveness of technology can influence the business redesign process. Technology is said to speed work traditionally but do not transform it and Business Process Reengineering is associated with using technology to do handle things separately. Therefore, technology plays a great
role in BPR. Proper adoptions of Information Technology improve the competitiveness of firms. Lack of proper adoption of technology may create challenges to respond to the fast changing business environment. For an organization to achieve a successful BPR, technology should be adopted to reengineer the process rather than speed up the process.

Davenport (2013) stresses that effective organizational and human resource influences the success of reengineering programmes. Human activity system is the major factor that requires reengineering in an organization. It has been revealed that top management support for reengineering efforts is a real change agent. In addition, aligning work force with the strategies set up, addressing the adaptable culture and environment contexts with the organization enhance success BPR. Further, abolishing hierarchies in an organization empowers other employees’ in making them contribute in decision making. This call for training and education from the top leadership in a firm that people are able to take responsibility.

1.1.3 Performance of Real Estate Projects in Nairobi City County

According to an internal publication of Acorn Group Limited (unpublished); real estate projects in Nairobi are divided into 5 main themes. These include master planned developments, residential, retail malls, hotels, commercial offices and site and service schemes. A 2016 report by Dyer and Blair investment bank that the real estate sector records growth at 0.8x GDP (7.9% of the GDP). However, the report further shows that the real estate sector growth and private sector construction activity assumes a negative correlation with interest rates. Further, the report indicated that there was poor
performance in growth on rates associated with commercial office rental increased by 7% in 2014-2015. This was quite lower than the 13% escalation noted in 2013-2014.

In retail, Nairobi was estimated to have 4.9 million square feet of shopping centre space by 2017F with two large malls due to opening of Two Rivers and Rosslyn Rivera) and that of Garden City. In residential sub-sector still experiences a lower supply due to the high interest rates of 15%. Supply of approximately 5,000 apartments was done in 2016 compared to 1,700 units in 2015. In regard to serviced apartments, Nairobi has been developing over time with a total supply of approximately 2,100 units in 2015 increased from around 1,000 units by 2003.

Nairobi has witnessed sustained growth since 2002. There is increasing over-supply in several areas of the Nairobi commercial and residential real estate market. Apartments, offices and malls have also been experiencing high level of vacancy as supply continues to outstrip demand. However, a 2014 report by African Population and Health Research Center indicated that Nairobi County has a major housing supply problem that is underscored by the fact that more than half the population of Nairobi lives in poor quality slum dwelling. This is due to the few options of affordable and social housing options in Kenya. In other words, Nairobi County has a housing supply problem in which the supply of expensive housing for middle-income and upper-income earners is increasingly rapidly and beginning to outstrip demand while as the supply of low-cost affordable housing for low income earners is much lower than demand, (UN-Habitat Report, 2004).
1.2 Statement of the Problem

Many studies have been conducted globally on the subject of business process reengineering, (Gouranourimi, 2012), and locally (Magutu et al., 2010). Murimi (2007) investigated the Effects of Business Process Reengineering on Service Delivery and noted that business process reengineering had translated to improved service delivery to customers. He has also been noted that previous studies carried out concentrated on BPR implementation and not on the effects of the same. The global environment in which real estate projects are executed is very dynamic, hence calling for property developers to continuously improve their business processes to achieve the goals of successful project delivery. The local scenario is that there is scanty information available on the effects of business process reengineering on the performance of real estate projects in Nairobi County.

In Kenya, project management remains underdeveloped in the real estate industry (Gwaya et al., 2014). In their research, they further indicated that in every 100 projects undertaken in Kenya, 73 of the projects experienced delays and 38 of the 100 projects suffered cost overruns. This shows that there is waste of natural resources. According to Gichunge (2000) notes that poor implementation of the methodology is the major source of time and cost risks in construction projects. This occurs in 73.50% of the construction projects and 38.20% is accounted by defective construction materials (Gwaya et al., 2014). According to a study done by Kenya Property Developers Association (2013) shows that there is inadequate performance of construction projects in Kenya. In Kenya, time and cost performance is poor to the extent that over 70% of the construction projects started are likely to deteriorate in time with a scale of over 50%. Further, 50% of the
projects are likely to intensify in cost with a scale of over 20%. Studies have revealed that both the cost performance and time performance are worse (Masu, 2006).

Critical among the solutions is to re-look at the process of implementation of real estate projects, specifically adopting a methodology where problems arising in the project are noted early and corrective action taken. The other solution is to adopt technological initiatives that enable developers to track progress of the project from a cost and time perspective. Change management is also critical to ensure that changes in the project are introduced in a controlled and coordinated manner; by implementing change control procedures. It is against this backdrop that this study sought to establish how business process reengineering influences the performance of real estate projects in Nairobi County.

1.3 Objectives of the Study

1.3.1 General Objective
The general objective of the study was to assess how implementation of business process reengineering influence the performance of real estate projects in Nairobi County.

1.3.2 Specific Objectives
The specific objectives of the study were:

i) To examine how strategies influence the performance of real estate projects in Nairobi County.

ii) To assess the effect of processes on the performance of real estate projects in Nairobi County.

iii) To evaluate the effect of information technology on the performance of real estate projects in Nairobi County.
iv) To establish the effect of people on the performance of real estate projects in Nairobi County.

1.4 Research Hypothesis.

The research was guided by the following research hypothesis

i) $H_{01}$: Strategies have no statistical significant influence on performance on performance of real estate projects in Nairobi County.

ii) $H_{02}$: Processes have no statistical significant influence on performance on performance of real estate projects in Nairobi County.

iii) $H_{03}$: Information technology has no statistical significant influence on performance on performance of real estate projects in Nairobi County.

iv) $H_{04}$: People have no statistical significant influence on performance on performance of real estate projects in Nairobi County.

1.5 Significance of the Study

The research study will be of key benefit to the stakeholders below:

The study will benefit academic scholars and researchers who seek to know more about the effects of business process reengineering on the successful delivery of real estate projects. It will serve as a future source of secondary data on research studies in this particular area. It will also be of great help to the owners and managers of companies playing in the real estate sector of the Kenyan economy. Company owners and managers will manage to review and monitor the business process continually to certify that they are aligned with the key goal of meeting customer needs.

The study will also be of use to the government agencies in the area of formulating policies to streamline project management; specifically, real estate projects.
1.6 Scope of the Study

Business process reengineering is a wide subject. Whilst there are many other factors that may affect the successful delivery and performance of real estate projects, the study will only be confined to BPR and performance of real estate projects in Nairobi County, Kenya. Despite the fact that there are many components of Business Process Reengineering that influence real estate projects, this study was limited to four variable; strategies, processes, technology and people. This study also only focused on the real estate sector. In addition, the study targeted the project managers involved in the implementation of real estate projects in Nairobi County. This study was carried out between the months of November 2017 and June 2018.

1.7 Limitations of the Study

This study focused on project managers in the real estate project sector and did not cover other stakeholders such as engineers. Also, given the fact that most of construction companies are site based, finding time for employees to fill the questionnaires was challenge because most of them are paid based on work done. This call for a lot lobbying to ensure the questionnaires are filled within the stipulated time in order to analyze the study as planned.

In this study, the key assumption of this study is that the participants gave reliable answers to the queries asked. The scholar also assumed that the participants cooperated, by their willingness and actual involvement in giving response for the study. The researcher also assumes that the study findings, conclusions, and the recommendations were of great benefit towards gaining a competitive advantage of the organizations in the real estate industry.
1.8 Organization of the Study

In this study, five chapters were used to outline the study. The first chapter entailed research background, statement of the problem, objectives of the study, that is, both general objective and specific objectives, questions related to the study, importance of carrying out the study and research limitations. In chapter two, the study outlined the review of the literature that is both review on theories and other related studies. In addition, the chapter two outlined summary of the literature review and gaps to be addressed by the study.

Further, this chapter provided the conceptual framework. Chapter three focused on the research design, target population, sampling design, data collection tools, collecting procedures and finally, the way to analyze the data and presenting it. Chapter four consisted of data analysis and interpretation at the same time as chapter five consisted of summary conclusions, recommendations and suggestions for further research studies.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

2.2 Theoretical Review

There have been numerous research studies done in the area of corporate performance in relation to business process reengineering. Various attempts by authors and scholars have attempted to link business performance and business process reengineering. This study will be reinforced by two theories which are Resource Based View Theory and Dynamic Capabilities Theory

2.2.1 Resource based view theory

Key theorists who have contributed to the development of resource based view theory include: Jay (2013), George (2011) and Prahalad (2003). The Resource Based View (RBV) argues that the competitiveness of a firm is achieved through deliverance of superior value to customers (Musya, 2013). The businesses must strategically identify and utilize resources of a firm in order to sustain competitive advantage (Collier, 2013). The RBV theory argues firms have three classifications of resources that are organizational capital, physical capital and human capital (Mutuvi, 2013). The other critical component of the RBV theory is the concept of capability. A capability is a ability for a number of resources to perform a stretch task of an activity. Each firm is a group of unique resources and proficiencies that provides the basis for its strategy and the primary source of its returns (Kavoo, 2013). In the context of the BPR processes within the real estate industry, the firms must reorganize the physical capital, human capital and organizational capital with a view of optimally utilizing their resources to achieve the organizational and operational performance objectives.
In the Resource-Based Theory, business capabilities and resources such as organizational and managerial expertise, human capital and management of knowledge have the ability to result to value when strategy is matched with such resources (Miller, 2006). According to the theory, economic value of a firm is created by not merely matching with other organizations but by coming up with services and products that have the same or greater benefits at a cost that is lower or same as the competition.

2.2.2 Dynamic Capabilities Theory

In relation to paper Dynamic Capabilities and Strategic Management, Dynamic Capabilities Theory is termed as the organizations’ capability to incorporate, build, and reconfigure inner and external proficiencies to address fast varying surroundings (Teece, Pisano & Shuen, 1997). The dynamic capabilities theory is based on the notion that the business world is characterized hyper competition (Bartai, 2014). For the firms to gain and sustain superior performance, they must strive to continually rearrange their internal resources and capabilities that is dynamic capabilities (Ndaru, 2014). In this context, the dynamic capabilities are defined as an organization’s tactic to persistently include, redesign, renew, and re-form all resources in response to vibrant and fast changing market environments in order to attain and sustain competitive advantage (Kulundu, 2014). The BPR process enables the firms to create dynamic capabilities through the reorganization of the available resources to ensure optimum performance.
2.3 Empirical Review

2.3.1 Strategies and Performance

Further, Mitchell and Zmud (2012) carried out a study to assess the association between Business Process Reengineering combined with IT infrastructure strategy and organization performance. The employed a case study research designs. Further, the study targeted 43 Business Process Reengineering projects. Three types of strategy postures, that is, imposed, proactive and reactive were adopted to operationalize both BPR strategy and IT strategy. Proactive strategy Business Process Reengineering is an intentional strategy that forestalls an inventive process to enhance competition in present and future BPR requirements. On the other hand, reactive Business Process Reengineering strategy is an intentional tactic that the firm picks to adopt a known process advanced elsewhere. The study findings of Mitchell et al., (2012) established that pro-active IT strategy enhance high performance. The Business Process Reengineering literature stresses the significance of supporting the Business Process Reengineering program with the wholesome firms’ strategy.

Maull, Tranfield and Maull (2013) carried out a study on 33 organizations in UK. The study adopted a survey research design to carry out the study. The study established that comparative mature BPR implementations adopted a strategic focus trailed by a process-focused BPR. Initial findings shows that leaders at times avoid the tendency towards slow BPR maturity by bringing forth a strategic sense at earlier stage of implementation. This makes an organization to get a mature BPR programme in a more quick way. According to Maull et al., (2013) research results suggest that firms should emphasize on strategy and process focused Business Process Strategy to realize dramatic progress/growth.
Further, Sarang (2013) did a study on the implementation of BPR. The study focused on retail banking sector in India. The study focused; to determine the similarities and differences between business process management and BPR, whether BPR can be successfully be implemented in banks and evaluate whether BPR can be applied as a route to achieving effectiveness in the banking sector. The study adopted exploratory research design. The study targeted group of analysts who included team leaders, junior management, middle management and senior management in the bank. The study established that the BPR in the banking sector involve the change of technology and workflow processes.

Onchana (2012) examined the relationship BPR and provision of services in the civil service. The case study was focused in the Ministry of Lands. The study had four research objectives, that is, to determine the effect of technology on BPR at the Ministry of Lands, and to assess the effects of organizational resources on BPR at Ministry of Lands. Others are to determine the effect of performance contracting on BPR at the Ministry of Lands and to find out the effect of customer demands on business process reengineering at the Ministry of Lands. The study didn’t use a specific theoretical framework. The study utilized the descriptive research design. The study used the Ministry of Lands employees as the target population and a sample size of 86 respondents. The results indicated that BPR processes at Ministry of Lands took several forms such as total transformation, Partial transformational and reshaping of business processes and systems. The reasons for undertaking the processes included increase in the demand for products.
2.3.2 Processes and Performance

Grover (2015) carried out a study on the implementation of Business Process Reengineering. This field research seeks empirically to explore the problems of implementing reengineering projects and how the severity of these problems relates to BPR project success. The study adopted a survey design. The severity of each problem was then rated by those who have participated in reengineering in 105 organizations. The study established that the significance of change management in Business Process Reengineering is implementation success. The study findings also established that addressing challenges in technological competence and project planning are important, but not satisfactory, circumstances for reengineering success. In addition, the challenges associated to project management and training human resource for the redesigned process are highly associated to project realization. In order to succeed with Business Process Reengineering implementation, Grover recommended that organizational change be basically looked after and attention to be paid to background factors. Some of these factors include; leadership support and technological know-how as well as elements that are related directly to the conduct of the project.

Sarlak (2012) examined Towards Systematic Approach for Business Process Reengineering: Addressing Organizational Behavior Challenges. The objectives of the study included identification of basic phases in effecting BPR in organizations and the determination of the association between BPR and organizational performance dimensions in organizations. The study established that effective execution of the BPR was implemented via six phases which are benchmarking, preparation, development and transformation, assessment and solution phases. The BPR was established to have an
effect on the organizational performance that is productive, quality product and cost of production.

In United Kingdom, Allen and Fiefield (2009) examined the applicability of BPR in higher education institutions. The study also looked at the factors that influence change process of BPR. The study employed a case study design. Five selected universities were targeted in this study. The study gathered data by use of interviews guides. The information was sourced from project partakers from the universities going through Business Processes Reengineering programs. From the study findings, a number of factors were identified as a challenge in implementation of Business Process Reengineering. Some of these factors include; business process improvement, organizational transformational, senior management approval, institutional policies and entrenched values, inertia, complex information requirements, academic freedom, failure to reengineer human resources, IT driven change and maintaining and status quo.

In Nigeria, Awolusi and Onigbinde, (2014) examined Assessment of Critical Success Factors of BPR. The study was conducted in Oil and Gas Industry. The objective of the study was to assess the effects of the CSFs and BPR on the operational and the performance of organization. In addition, the study examined the influence of the operational performance on the organizational performance. Data was collected through a questionnaire and proportionate sampling method was used. The study found out that the factors that were critical in the Business Process Reengineering included; support from the management and competence, management change system and culture, structure of the organization, project planning and management respectively.
2.3.3 Technology and Performance

In New Zealands, Balaji (2014) carried a study on BPR in Tertiary Institutes. The objective of the study was to understand dynamics of process reengineering and execution in the institute. The study adopted a case study research design to carry out the study. In addition, the study adopted semi structured interview to collect data from staff of the targeted institutions. The study established that use of internal staff to facilitate Business Process Reengineering efforts led to higher level of organizational commitment to manage the process in the different institutions. This was also established to play a key role in its success. In addition, the study found that Information Technology play a critical factor for the success of Business Process Reengineering. In addition, Balaji (2014) indicates that Business Process Reengineering is a vital tool that is available for any tertiary education institution to enhance efficiency and performance.

According to Goksoy, Ozsoy and Vayvay (2012), Information Technology is a major way to enhance reliable organization redesign via process reengineering in organizations. Information Technology plays a key role in Business Process Reengineering as it provides office computerization, provides flexibility in manufacturing, supports rapid and paperless transactions, allows the business to be conducted in different locations and enhances quick delivery to customers (Zigiaris, 2014). According to Rajesh, Gupta and Singh (2013) having a reliable IT infrastructure is major element in BPR implementation. From the study findings, some of the factors that were noted to enhance building of an effective IT infrastructure for business process include; effective overall system architecture, proper installation of IT components and flexible IT infrastructure.
Magutu (2010) carried out a study to determine the association between innovation and employee performance. The study established that a significant influence of managerial and innovation in technology on employee performance. The study established that for an organization to attain operational efficiency, it has to adopt reengineering process. To enhance business efficiency, process change initiatives reduce time and cost to conduct business. According to Koehler (2012), novel opinions about conducting a business may be expensive initially but they have long-term effect on performance measures. Sarkar and Singh (2013) carried out different types of innovation for instance, technology innovation, process innovation and product innovation to assess their impact on organizational performance. The findings depicted a significant influence of innovation on performance of employees.

Luftman and Ben-Zvi (2012) carried out a study on the impact of product and Reengineering Process as a determinant of employees’ performance in Kenya Forest Service in process innovation on employee performance. The research uses Partial Least Squares (PLS) to statistically validate the construct using a dataset covering over 3000 global participants including nearly 400 Fortune 1000 companies. From the study findings, the literature shows a positive influence of business process efficiency on employee performance and proficiency. Reengineering process enhances existence of all businesses as it entails what it produces and delivers. It is important for every firm to identify key business processes and excel at them to achieve strategic goals and long-term viability. The efficiency of reengineering processes has a significant, positive impact on quality and productivity (Luftman & Ben-Zvi, 2012).
2.3.4 People and Performance

In Ethiopia, Debela and Hagos (2011) carried out a study on design and process reengineering. The study was carried out in 4 public organizations. The study adopted mixed method research design. The study established that great performance have been achieved in terms of transparency, efficiency, minimizing corruption and mission effectiveness. However, the targeted organizations faced challenges in technological, material capacities and human in the implementation of Business Process Reengineering.

In addition, Debela et al., (2011) suggested that the government of Ethiopia might needs to exert greater effort to change the attitude of public servants. In addition, political leaders employed an all-inclusive and cohesive approach in using reform tools and deliberate approach in using reform tools and consider mission differences.

According to Carmeli and Tishler (2014) established that managerial capabilities, perceived organizational reputation, human capital and organizational culture have a significant impact on organizational service performance. Further, Pablo (2013) established management of internal capabilities and resources, utilization and identification had an effect on enhancing organizational service performance. Further, Bryson, Ackermann and Eden’s (2012) did a case study and established effective utilization of competencies in strategy formulation enhances organizational success. Based on their observations, the importance of identification, exploitation, development, and protection of organizational competencies for better organizational effectiveness (Bryson et al., 2012).
In Singapore, Thong, Yap and Seah (2010) carried a study on business process reengineering in the public sector. The study was a case study of Housing Development Board. The study emphasized on the importance of retentive and reengineering team until completion; the reengineering human resource competency in change management. The study also, emphasized on the role of Information Technology in Business Process Reengineering, functions in an organization to redesigned, employee empowering and monitoring and improving Business Process Reengineering outcome. Northern Ireland, McAdam and Donaghy (2012) carried out a study on Business Process Reengineering implementation of a health care service organization. From the study findings, commitment, top management support and understanding of Business Process Reengineering enhance project success. In their study, they study indicated the role of management support and choosing a reengineering team with an appropriate level and type of knowledge and skill.

In Italy, Ongaro (2014) conducted a study on process management in the public sector. The study targeted one-stop shops in Italy. From the study findings, Business Process Reengineering implementation leads to customer satisfaction. This is achieved through a reduction in license issuing time and increased responsiveness to customers. The study suggested the importance of deploying adequate resources and selecting a competent reengineering team. Also, Moynihan and Pandey (2015) established that managers do indeed matter to public organization performance. Specifically, the study results show that leaders of public organizations could improve the performance of the organization. This is achieved through setting clear and well-communicated goals, decentralizing the
decision making authority and empowering lower-level employees. In addition, it is achieved through developing a performance-based culture.

2.4 Business Process Reengineering and Project Performance

The four basic elements that make a project successful entail; money, resources, time and scope. It is important to note that all these elements are interconnected and must be managed effectively (Reh, 2001). However, the fourth element (project scope) is the most important and it the first and last task for a successful project manager. Project scope is entails what a project is supposed to accomplish and the budget of money and time that has been created to realize the objectives of the project. It is unconditionally authoritative that any change to the scope of the project have a matching change in budget, either time or resources.

Changes in scope take place in the form of scope creep. According to Turner (2008), scope creep is the piling up of small changes which are manageable, but in aggregate are important. Therefore, it is important for a project manager to make sure any regarded change no matter how small is joined by approval for a change in budget or schedule or both. Without proper project scope, effective management of resources, time and money end up difficult. Clear identification of project scope ushers in management of timeline and budget and managing project resources. Some of the project management resources include; people, equipment and material needed to complete the project.

Management of resources assigned to the project must be effectively managed by the project manager. This kind of management entails labour hours of the designers, the testers, the builders, project inspectors. This also entails management of labour
subcontractors. Nevertheless, management project resources regularly entails more than management.

The project manager must also manage the equipment used for the project and the material needed by the people and equipment assigned to the project (Bredillet, 2008). Project management ensures that one knows what needs to be done, when and how to be done. In addition, project management motivates them to take ownership in the project as well. Kennedy (1994) argues that time management is a major skill for a project manager who flourish in realizing project schedule stays within their project budget. One of the major factors that lead to over-shot project budget is failure to have schedule management.

It is important to note that a project can be broken down into a number of tasks that have to be performed. A project manager has to be in a position to prepare project schedule. This is achieved through figuring out what tasks are, the period they will take, resources they require and the order into which they should be handled. Omitting a task leads to incompletion of a project. Underestimating the length, time and amount of the resources to accomplish a project leads to miss meeting a schedule. Committing a mistake during sequencing tasks leads to schedule failure.

Listing all tasks that need to be handled in order makes a project schedule. In addition, the duration should be assigned to each task and all the resources required allocated. According to Jackson (1997), predecessors’ determination needs to be outlined through identifying the activities that must be completed before and successors. Lack of enough
resources in terms of human, money and time leads to difficulty in managing a project. Therefore, the activities have to be coincided that they take place time at the same time.

In some instances, a float may occur; where some activities appears a little flexibility in their required start and finish date. Other activities may have a zero float as they have no flexibility. A line through all activities with zero floats is defined as the critical path. According to Clemmer (1994), all activities that along this path can be multiple, parallel paths must be completed on time for the project to be completed in time. For a manager to manage the critical path, time management is a key item to consider.

Activities can be added or removed from the critical path as conditions change during the implementation phase of the project. Another critical element the project managers ought to have is managing the budget. A project manager can be evaluated on his or her ability to complete a project within a given project budget. However, it’s an activity that requires the project to be managed effectively therefore, the concentration should be on critical ones (Reh, 2001).
## 2.5 Summary of Literature Reviewed and Research Gaps

### Table 2.1: Research Gaps

<table>
<thead>
<tr>
<th>Author &amp; Year</th>
<th>Research Title</th>
<th>Variables</th>
<th>Methodology</th>
<th>Findings</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitchell &amp; Zmud (2012)</td>
<td>Innovation Implementation: Overcoming the Challenge</td>
<td>Technology position and planning mode</td>
<td>descriptive design</td>
<td>Deliberate pro-active BPR and IT strategy enhance organization performance</td>
<td>The context was in USA. This study focuses in Kenya</td>
</tr>
<tr>
<td>Maull, Tranfield &amp; Maull (2013)</td>
<td>Factors characterising the maturity of BPR programmes</td>
<td>Strategy, process and cost</td>
<td>Survey design</td>
<td>Adopting strategies in implementation of BPR fastens the process</td>
<td>The context was on organizations in United Kingdom</td>
</tr>
<tr>
<td>Sarang (2013)</td>
<td>Implementation of Business Process Reengineering in the Retail Banking Sector in India</td>
<td>Business Process Management</td>
<td>Exploratory research design</td>
<td>Business Process Reengineering in the banking sector enhance performance</td>
<td>There was a scope gap as the study took place in India but this study will take place in Kenya. Also, the study was carried out in the banking sector but this study will take place in Real estate sector in Kenya</td>
</tr>
<tr>
<td>Onchana (2012)</td>
<td>Effects of business process reengineering in the provision of services in civil service: case</td>
<td>Technology, organizational resources, performance contracting and customer demands</td>
<td>descriptive research design</td>
<td>Implementation of BPR improved service delivery in the Ministry.</td>
<td>The study focused on organizational resources, performance contracting and customer demands while the current study focused on strategies,</td>
</tr>
<tr>
<td>Study</td>
<td>The study found</td>
<td>There is a scope gap as the study was carried out in USA but this study will be carried in Kenya. Also, there was a contextual gap as this study did not look at the management support.</td>
<td></td>
<td></td>
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<tr>
<td>--------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grover (2015) The implementation of Business Process Reengineering</td>
<td>BPR implementation can be successful if one pays attention to management support and technological competence.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sarlak (2012) Systematic Approach for Business Process Reengineering: Addressing Organizational Behavior Challenges</td>
<td>BPR influences Organizational performance</td>
<td>There is a scope gap as the study was carried in Tanzania but this study took place in Kenya. Also, there was contextual gap as the study looked at the six faces of BPR implementation but this study looked at the strategies, processes, technology and people.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allen &amp; Fiefield (2009) Reengineering change in higher education</td>
<td>BPR project findings showed the degree of changes sought from a BPR project</td>
<td>The study looked at different factors compared to the current study. Further, the study took place in UK.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authors</td>
<td>Title</td>
<td>Focus</td>
<td>Methodology</td>
<td>Findings</td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Awolusi &amp; Onigbind, (2014)</td>
<td>Modelling critical success factors of business process reengineering and business performance of Nigerian oil and gas companies</td>
<td>Change of management system and culture, organizational structure, IT infrastructure, management support and competence and project planning</td>
<td>A case study design</td>
<td>Business Process Reengineering have an effect on business performance but this study took place in Kenya. There was a scope gap; the study was conducted in Nigeria but this study was conducted in Kenya. There was also contextual gap as this study will look at strategies and processes which were not considered in the previous study.</td>
<td></td>
</tr>
<tr>
<td>Goksoy, Ozsoy &amp; Vayvay (2012)</td>
<td>Business process reengineering: strategic tool for managing organizational change an application in a multinational company</td>
<td>Top management commitment and support communication, communication with employees</td>
<td>A case study design</td>
<td>Top management support, communication with employees, team working and information technology. There is scope gap as this study was conducted in Turkey but the current study will be conducted in Kenya.</td>
<td></td>
</tr>
<tr>
<td>Balaji (2014)</td>
<td>Reengineering an Educational Institute: a Case Study in New Zealand</td>
<td>Information technology, management commitment</td>
<td>A case study design</td>
<td>IT is a key factor in success of Business Process Reengineering. There was a scope gap as the study was carried out in New Zealand but this study took place in Kenya.</td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Title</th>
<th>Methodology</th>
<th>Findings</th>
<th>Scope Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luftman &amp; Ben-Zvi (2012)</td>
<td>Reengineering Process As A Determinant of Employees performance In Kenya Forest Service</td>
<td>Technological innovation &amp; Reengineering process</td>
<td>A descriptive survey design. The study findings indicated that technological innovations are essential for organizational performance.</td>
<td>The study was carried out in the Kenya Forest Service but the current study was conducted in real estate sector. Both studies also looked at different objectives.</td>
</tr>
<tr>
<td>Carmeli &amp; Tishler (2014)</td>
<td>The relationships between intangible organizational elements and organizational performance</td>
<td>Managerial capabilities, human capital, internal auditing, labor relations, organizational culture, and perceived organizational reputation</td>
<td>A descriptive survey design. Managerial capabilities, human capital, perceived organisational reputation and organisational culture impact organizational performance positively.</td>
<td>There was a scope gap as the study took place in Israel but this study took place in Kenya.</td>
</tr>
<tr>
<td>Thong, Yap and Seah (2010)</td>
<td>Business Process Reengineering in the Public Sector: The Case of the Housing Development Board in Singapore</td>
<td>Information technology, process design</td>
<td>A case study design. The study found that Information technology empowers employees and BPR outcome.</td>
<td>There was a scope gap as the study took place in Singapore.</td>
</tr>
</tbody>
</table>
2.7 Conceptual Framework

---

**Independent Variables**

- Strategies
  - Communication strategy for BPR
  - Adoption of PRINCE-2
  - Restructuring Organization

- Processes
  - Project Master Programming
  - Project budgeting
  - Project scope management
  - Quality Management

- Information Technology
  - Project Management Software
  - Investment in MIS
  - Computer Assisted Design
  - Adoption of automation

- People
  - Level of employee training
  - ii) Level of employee innovation
  - iii) Empowering people with decision making

---

**Intervening Variable**

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**Dependent Variables**

- Project Delivery/Performance
  - Time frame
  - Cost
  - Number of new projects
  - Client satisfaction

---

**Figure 2.1: Conceptual Framework**

*Source: Researcher (2018).*
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The data analysis chapter presented the analyzed data, results and discussed the findings. The research was guided by the objective to establish the effects of implementation of business process reengineering on the performance of real estate projects in Nairobi County. In addition, the study sought to examine how strategies, processes, technology and people on performance of real estate projects in Nairobi County. The results of this study were presented in form of tables and graphs.

3.2 Research Design

This study used a descriptive survey. The choice of this technique was preferred because it is agreed that survey is a great tool that takes into consideration issues such as design and economy (Cooper & Schindler, 2000), additionally it considers quick collection of data and the ability to understand the studied population. This is meant to establish the strategy implementation approach by cement companies in Kenyan their environment and the challenges and constraints experienced through the implementation process. Nyang’o (2007), views it as a systematic inquiry of an event of more than one event that is used to describe the phenomenon under interest.” The choice of this technique was preferred because it is agreed that survey is a great tool that takes into consideration issues such as design and economy.

3.3 The Target Population

The population of the study was real estate property developers in Nairobi County. Nairobi County has a total of 68 real estate property developers. The listing of real estate projects in the County was obtained from Kenya Property Developers Association
(KPDA); where the data was attached as part of the appendix. The researcher targeted the project managers working for the property developers to provide responses to the study. Their response would reflect the effect of business process reengineering on the successful implementation of real estate projects.

3.4 Sampling Strategy

The researcher carried out a census. A census of 68 project managers was done to obtain data on the study. The sample size was 68 project managers of real estate projects in Nairobi County.

3.5 Data Sources and Collection Techniques

Primary data was collected by means of questionnaire. Data was collected through drop and pick latter method. The questionnaires were then collected after two days. Project managers were given the questionnaires as the main tool for data collection. The questionnaire consisted of guided questions on a Likert scale to obtain participant’s preferences or degree of agreement with a set of statements. Both open ended and close ended questionnaires were used for this research. The questionnaires were administered in person; by research assistants with direct supervision of the researcher.

3.5.1 Pilot Test

Data in this study was piloted using a proportion of the sampled population. According to Mugenda and Mugenda (2003), a sample size of 1% to 10 % was adequate for piloting purposes. This study utilized 10 questionnaires for piloting purposes.
3.5.2 Validity

Orodho (2009) define validity as how meaningful or accurate the inferences based on the research findings are. Expert judgment was used to determine the research instrument validity. Supervisors and experts in this field of study gave their judgment ensuring there was no bias in the different questions used in the questionnaire. Validity also helped to ascertain the research feasibility and to ensure the methods used and the questionnaires concepts were working. A pilot study was therefore carried out to improve the research instruments. The questionnaires were pretested using Nairobi County which is not included in the final study. The pretesting exercise was meant to enable the researcher to establish the content validity and the reliability of the questionnaires.

Koech (2015) indicates that there exist four types of validity which include face, content, construct and criterion related validity. The study’s content validity was determined by use of three experts in the project sustainability field who were requested to give the questionnaire rating in regard to how well they questionnaires measured what it was intended to measure. Using the content validity index the data collection instrument was found to be valid as it successfully measured what it was intended to measure. After this test the questionnaire was reviewed and updated. To allow for criterion and face validity the questionnaire was written in accordance to the recommendations of other research studies including those from Organization for economic co-operation and development 2008 (Zhou, Keivani, & Kurul, 2013).
3.5.3 Reliability

According to Kothari (2011) reliability is the extent to which a research instrument gives consistent results after more than one trial. In this regard a score given by one trial is compared to other scores given in another trial when the same instrument is in use (Mugenda & Mugenda2003). The Alpha (Cronbach) method was used as a measure of reliability. The questionnaires were grouped into two groups using the odd and even numbers. This method uses then average inter-item correlation. If the results showed a large alpha value such as 0.5 this is a high consistence level and the reverse shows a low consistency level.

3.6 Data Analysis and Presentation

After the data was collected the questionnaires were picked and changes were made to ensure they were complete. The data as later coded and the Statistical package for social sciences (SPSS Version 22) used for analysis. The researcher ensured that this data was accurate, complete and in line with other study information. It was also arranged and entered in uniform allowing for easy coding and tabulation. Both inferential and descriptive statistics were used. Descriptive statistics saw the use of frequencies in percentage forms. Measurers of dispersion and central tendency used included standard deviation and mean. The analysis findings were organized and presented in form of bar graphs, pie charts and tables. Inferential statistics on the other hand showed the existing relationship and the extent of these relationships between the dependent and independent variables. Regression analysis was used to come up with more generalized conditions of the data collected.
Data analysis was also conducted using inferential statistics. The data was analyzed using regression analysis to determine the relationship between the dependent and the independent variables. The study attempted to establish whether the independent variables (effects of business process reengineering) predict the dependent variables (project performance). Regression analysis was used to establish the relationship between the independent variables (predictor) and the dependent variable (response) and measure the strength of the relationship based on a regression model. Also Correlation analysis was used to determine the strength of the relationships. The regression model cited below was used for the study.

The regression analysis took the following model:

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e_1 \]

\( Y = \) Project Performance

\( \alpha = \) Autonomous factors

\( X_1 = \) Strategies

\( X_2 = \) Process

\( X_3 = \) Technology

\( X_4 = \) People

\( \beta_1 = \) Coefficient for strategies

\( \beta_2 = \) Coefficient for process

\( \beta_3 = \) Coefficient for technology

\( \beta_4 = \) Coefficient for people

\( \beta_5 = \) Coefficient for the moderating variable

\( e = \) Error term
3.7 Ethical Considerations

Before collecting data, ethical considerations were considered. The researcher sought for a research permit from Kenyatta University. Also, the researcher proceeded to obtain a research permit from National Council of Science and Technology (NACOSTI). After collection of data, confidentiality of data gathered was assured to ensure that the research conforms to the overall ethical requirements. Motive of conducting the research was also explained to the targeted population and. Also, the researcher assured the respondents that information collected was for academic purpose only.
CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents analysis and interpretations of the research findings in line with the study objectives. The general objective of this study was to examine the effects of implementation of business processes reengineering on the performance of real estate projects in Nairobi County. Further, the study sought to establish the influence of strategies, processes, technology and people on the performance of real estate projects. Charts, tables and graphs were used to present the study findings.

4.2 Response Rate

Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered</td>
<td>68</td>
<td>100%</td>
</tr>
<tr>
<td>Returned</td>
<td>56</td>
<td>82.35%</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)

The sample size in this survey was 68 project managers working for the property developers in projects execution. The researcher distributed the questionnaires to all the anticipated respondents of the study out of which 56 responses were acquired. Mugenda and Mugenda (2003) indicates that for generalization a return rate of 50% is enough to go ahead with analysis or to come up with a report, a 60% response rate is termed as good, while a response rate of above 70% and above is termed as excellent. The high return rate can be said to be due to the data collection procedure and persistent following by the researcher. Use of drop and pick method enabled the respondents to have enough duration to fill and return the questionnaire.
4.3 Reliability Results

The scholar considered a group of 10 respondents from real estate developers from Nairobi County to form a pilot group. In addition, the researcher used Cronbach alpha as a measure of internal consistency to test internal dependability of the research tool. A higher score depicts the high level of reliability of the generated scale. According Nunnaly (1978) argues that 0.7 is an acceptable reliability. The results were as shown in Table 4.2

Table 4.2: Cronbach’s Alpha Value

<table>
<thead>
<tr>
<th>Construct</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies</td>
<td>0.766</td>
</tr>
<tr>
<td>Processes</td>
<td>0.774</td>
</tr>
<tr>
<td>Technology</td>
<td>0.853</td>
</tr>
<tr>
<td>People</td>
<td>0.870</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)

From the findings, the scale was adequate for this study. In relation to the results from the pilot test, the research tool was modified and a final copy developed. Results further show significance in all scales, through having an alpha above the prescribed threshold of 0.7. The highest reliability was indicated by people (\(\alpha=0.870\)) followed by Technology (\(\alpha=0.853\)), while Processes and Strategies were much lower at (\(\alpha=0.774\)) and (\(\alpha=0.766\)) in that order. Findings showed that the research tools was reliable and was used for carrying out the study.
During the pilot study, the researcher studied four variables. From the results, strategies scale was established to have 0.766 Alpha values, processes influence had 0.774 Alpha value, technology influence had 0.853 Alpha value and people influence had 0.870 Alpha value. According to Mugenda and Mugenda (2003), acceptable reliability should have co-efficient of 0.6-07. Further, the author argued that coefficient of 0.8 indicates good reliability. Therefore, this infers that the research tool used in this study was reliable.

4.4 Background Information

Background information of this study entailed; gender, highest level of education attained, their age bracket, the respondents’ length of continuous service with the real estate company and determining whether the respondents’ company had adopted business process reengineering.
4.4.1 Gender of the Respondents

The study sought to determine the gender of the participants. The results were as shown by the figure 4.1.

![Respondents' Gender Pie Chart](image)

**Figure 4.1: Respondents’ Gender**

**Source: Research Data (2018)**

Results show that majority (69.6%) of the respondents were males while minority (30.4%) were females. This implies that both men and women contributed to the research and their views were considered vital in the study. This also implies that real estate developing is mostly dominated by males.
4.4.2 Distribution of the respondents by academic qualifications

The study sought to determine the highest academic qualifications of the participants.

The results were as shown by Figure 4.2

![Bar Chart]

**Figure 4.2: Distribution of the respondents by academic qualifications**

*Source: Research Data (2018)*

Figure 4.2 shows that most 46.4% of the project managers had a bachelor’s degree 35.7% of the respondents had master’s degree and 17.9% had attained certificate/diploma. This depicts that all the project managers had acquired the minimum education requirement to enable to perform in their duties.
4.4.3 Distribution of the respondents by age

The respondents were requested to indicate their age. The results were presented by figure 4.3

![Age Bracket graph]

**Figure 4.3: Age Bracket**

**Source: Research Data (2018)**

According to the findings, 48.2% of the respondents were of the ages 31-40 years. The project managers who were below 30 years of age and those that were aged above 50 years were found to be 17.9% in each case and 16.1% of the respondents were aged 41-50 years. This implies that the respondents were able to understand the objective of the study. Besides, the study established that this age group was relevant as it could give independent and personal experiences on implementation of business processes reengineering and the influence on performance of real estate projects.
4.4.4 Distribution of the respondents by their length of service

The respondents’ were asked to indicate the length of service in real estate companies. The results were as shown by Figure 4.4.

Figure 4.4: Length of Service

Source: Research Data (2018)

According to the findings, 60.7% of the respondents indicated that they had served for over 10 years, 21.4% had served less than 5 years and 17.9% of the respondents had served for 5-10 years. This implies that the project managers had served long enough to give reliable information that was vital to this study.
4.4.5 Adoption of business process reengineering

Further, the study sought to determine whether the companies involved in the study had adopted business process reengineering. The results were as shown by figure 4.5

![Adoption of business process reengineering](image)

**Figure 4.5: Adoption of business process reengineering**

**Source:** Research Data (2018)

From the findings, majority (91.1%) of the respondents had adopted business process reengineering while 8.9% of the companies indicated otherwise. This shows that majority of the companies that participated in this study had the required information.

4.5 Influence of strategies on performance of real estate projects

The study sought to assess the influence of strategies on performance of real estate projects. Participants were to indicate their level of agreement on various statements related to influence of strategies.
Table 4.3: Strategies influence on performance of real estate projects

<table>
<thead>
<tr>
<th>Strategy Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear communication strategy influences the success of BPR</td>
<td>56</td>
<td>3.804</td>
<td>1.052</td>
</tr>
<tr>
<td>Adoption of PRINCE-2 Methodology helps in the success of BPR</td>
<td>56</td>
<td>3.607</td>
<td>1.155</td>
</tr>
<tr>
<td>Restructuring the Project Company to make it more efficient helps in the success of BPR and real estate projects</td>
<td>56</td>
<td>4.125</td>
<td>1.096</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>56</td>
<td>3.845</td>
<td>1.101</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)

From the findings, the respondents agreed that restructuring the project company to make it more efficient helps in success of business process reengineering as shown by mean of 4.125 and standard deviation of 1.096. This is supported by Herzog, Tonchia and Polajnar (2013) who argued that strategy alignment and measurement of the process influence BPR project success positively. Further the respondents agreed that clear communication strategy influences the success of business reengineering processes as shown by mean of 3.804 and standard deviation of 1.502. Also, the respondents were undecided on whether adoption of PRINCE-2 methodology helps in the success of business process reengineering as shown by mean of 3.607 and standard deviation of 1.155.

Further, the respondents were asked to indicate how strategies affect project performance in real estate projects. The respondents indicated that initiating risk management strategies at the planning stage led to construction success as many projects were able to
achieve project time, cost, quality, safety and environmental sustainability objectives. This concurs with Maull, Tranfield and Maull’s (2013) who suggest that firms should be strategy-focused and process-focused BPR for them to realize significant improvements.

4.6 Effect of processes on the performance of real estate projects

The second objective of the study sought to determine the influence processes on success of BPR and real estate projects. Study participants were to show their level of agreement on statements on process aspects.

Table 4.4: Effect of processes on the performance of real estate projects

<table>
<thead>
<tr>
<th>Process Description</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing of a project master program affects the success of BPR and real estate projects</td>
<td>56</td>
<td>3.946</td>
<td>1.354</td>
</tr>
<tr>
<td>Accurate Project budgeting affects the success of BPR and real estate projects. A project budget should be prepared before undertaking the project to monitor project costs.</td>
<td>56</td>
<td>3.607</td>
<td>1.186</td>
</tr>
<tr>
<td>Project scope management is a critical process in the successful implementation of real estate projects. Actual project scope should be periodically be compared against the approved project scope.</td>
<td>56</td>
<td>2.571</td>
<td>1.024</td>
</tr>
<tr>
<td>Quality Management plays a critical role in the success of real estate projects</td>
<td>56</td>
<td>3.607</td>
<td>0.928</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>3.433</td>
<td>1.123</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)
The respondents agreed with a mean of 3.946 and standard deviation of 1.354 that developing a project master program affects the success of BPR and real estate projects. This concurs with Scott-Morton (2011) who indicated that Business Process Reengineering projects stimulates change and bring together innovative processes and styles at work. Further, the respondents agreed with a mean of 3.607 and standard deviation of 1.186 that accurate Project budgeting affects the success of BPR and real estate projects and that a project budget should be prepared before undertaking the project to monitor project costs. In addition, the respondents agreed with a mean of 3.607 and standard deviation of 0.928 that Quality Management plays a critical role in the success of real estate projects. However, the respondents disagreed with a mean of 2.571 and standard deviation of 1.024 that project scope management is a critical process in the successful implementation of real estate projects. Actual project scope should be periodically be compared against the approved project scope.

In addition, the participants indicated other ways in which processes affect the success of real estate projects. The respondents indicated that only after the information flows profitable projects are achieved. Sarlak (2012) notes that BPR have a positive effect on the organizational performance that is productivity, product quality and production cost. The respondents also indicated that at the point where project partakers understand the process, efficiency of the project development is achieved. Further, the respondents indicated that project managers who attempt to model the development process are likely to finish working on the project in the stipulated time. This concurs with Champy (2010) who indicated effective process and system management is equally important and should embrace best practice.
4.7 Effect of technology on the performance of real estate projects

The third objective of the study sought to determine the influence of technology on performance of real estate projects. The respondents indicated their level of agreement as shown by table 4.5

Table 4.5: Effect of technology on the performance of real estate projects

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A project Management software is important in the</td>
<td>56</td>
<td>2.571</td>
<td>0.783</td>
</tr>
<tr>
<td>success of real estate projects. This software</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>must be used to actively manage the project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A management information system is important in</td>
<td>56</td>
<td>3.750</td>
<td>0.858</td>
</tr>
<tr>
<td>the successful delivery of real estate projects.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This is essentially responsible for generating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>project reports</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Aided Design (CAD) is critical for the</td>
<td>56</td>
<td>4.268</td>
<td>1.228</td>
</tr>
<tr>
<td>successful delivery of real estate projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response time and costs should be reduced by</td>
<td>56</td>
<td>3.393</td>
<td>0.824</td>
</tr>
<tr>
<td>automation. This is important for the success of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>real estate projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>56</td>
<td>3.496</td>
<td>0.923</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)
From the research findings, the respondents agreed that Computer Aided Design (CAD) is critical for the successful delivery of real estate projects as shown by a mean of 4.268 and standard deviation of 1.228. In addition, the respondents indicated that a management information system is important in the successful delivery of real estate projects. This is essentially responsible for generating project report and this was shown by mean of 3.750 and standard deviation of 0.858. However, the respondents were undecided on whether response time and costs should be reduced by automation as it is important for the success of real estate projects as shown by mean of 3.393 and standard deviation of 0.824. The respondents disagreed that a project Management software is important in the success of real estate projects. This software must be used to actively manage the project as shown by mean of 2.571 and standard deviation of 0.783.

Further, the respondents were asked to indicate other ways in which technology affect the success of real estate project. The respondents indicated that the way properties are conceived and build; the way they are researched, marketed and sold and what they offer to tenants have been facilitated by modern technology. This concurs with Bhuvaneswari (2013) who argue that IT plays an important role in the application of business process reengineering in organizations.

The business applications of social media are also growing; with networks increasing disinter mediating buyer and seller relationships and replacing corporate websites. Also, the respondents noted that cutting-edge architects are crowdsourcing solutions to design and engineering problems as well as collect stakeholder feedback. Goksoy, Ozsoy and Vayvay (2012) argue that use of IT as an enabler of change facilitates effective organization redesign. The ability to access information remotely. Whether you’re selling
real estate, checking comparable, documenting a property’s condition, or checking on lender documentation, chances are good that you can find, access, and react to inquiries and information without ever setting foot in an office or making a phone call. In addition, they argue that transaction timelines can be simplified and shortened.

4.8 Effect of people on the performance of real estate projects

The fourth objective of the study sought to determine the influence of people on performance of people on performance of real estate projects. The results were as shown by table 4.6.

**Table 4.6: Effect of people the performance of real estate projects**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of education and training of employees affects the successful implementation of real estate projects</td>
<td>56</td>
<td>4.286</td>
<td>1.217</td>
</tr>
<tr>
<td>Level of innovation by employees affect the successful implementation of real estate projects</td>
<td>56</td>
<td>4.196</td>
<td>1.341</td>
</tr>
<tr>
<td>Staff empowerment with decision making authority affects the success of real estate projects</td>
<td>56</td>
<td>4.464</td>
<td>0.785</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>56</td>
<td>4.316</td>
<td>1.114</td>
</tr>
</tbody>
</table>

*Source: Research Data (2018)*
From the results, the respondents strongly agreed that Staff empowerment with decision making authority affects the success of real estate projects as shown by a mean of 4.464 and standard deviation of 0.785. This concurs with Goksoy et al. (2012) who argue that new process skills, policies entitled to human resources and job motivation are some of the important human resource enablers. Further, the respondents agreed that the level of education and training of employees affects the successful implementation of real estate projects as shown by mean of 4.286 and standard deviation of 1.217. Also, the level of innovation by employees affects the successful implementation of real estate projects as shown by mean of 4.196 and standard deviation of 1.341. Brown (2014) indicated that Business Process Reengineering is associated to realization of human resource policies success. In addition, the study sought to determine other ways in which people affect the success of real estate projects. The respondents indicated that some of variables contractors should have in experience, site management, supervision and involvement in subcontracting as they all influence the outcome of the projects. Project managers’ high competence is a key factor influencing project planning, project scheduling and communication. Team spirit is also another critical aspect that enhances successful achievement of a project.
4.9 **Business process reengineering and project Performance**

The study sought the level of agreement on various aspects related to BPR. The results were as shown by table 4.7

**Table 4.7: Project Performance**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business process reengineering enable projects to be delivered at the budgeted cost or lower cost</td>
<td>56</td>
<td>3.643</td>
<td>0.883</td>
</tr>
<tr>
<td>Business process reengineering leads to better coordination in projects</td>
<td>56</td>
<td>3.571</td>
<td>1.093</td>
</tr>
<tr>
<td>BPR enables effective communication with various project stakeholders</td>
<td>56</td>
<td>3.393</td>
<td>0.985</td>
</tr>
<tr>
<td>BPR enables employees develop logical and creative solutions to problems</td>
<td>56</td>
<td>3.554</td>
<td>1.361</td>
</tr>
<tr>
<td>All employees work with other employees effectively</td>
<td>56</td>
<td>3.839</td>
<td>0.869</td>
</tr>
<tr>
<td>BPR enables setting of realistic project performance measurements</td>
<td>56</td>
<td>4.107</td>
<td>1.090</td>
</tr>
<tr>
<td>Results in clear project performance management plan for projects</td>
<td>56</td>
<td>3.875</td>
<td>0.955</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>56</td>
<td>3.712</td>
<td>1.304</td>
</tr>
</tbody>
</table>

*Source: Research Data (2018)*

Results showed that BPR enables setting of realistic project performance measurements as indicated by mean of 4.107 and standard deviation of 1.090. The study further agreed
with a mean of 3.875 and standard deviation 0.955 that results in clear project performance management plan for projects. Also, the respondents agreed with a mean of 3.839 and standard deviation of 0.869 that all employees work with other employees effectively. Further, the respondents agreed with a mean of 3.643 and standard deviation of 0.883 that business process reengineering enable projects to be delivered at the budgeted cost or lower cost. In addition, the respondents agreed with a mean of 3.571 and standard deviation 1.093 that business process reengineering leads to better coordination in projects. They also agreed with a mean of 3.554 and standard deviation of 1.361 that BPR enables employees develop logical and creative solutions to problems. However, the respondents were neutral with a mean of 3.393 and standard deviation 0.985 that BPR enables effective communication with various project stakeholders.

Further, the respondents were asked to indicate how they perceive the effect of BPR on the performance of real estate projects in their respective companies. The respondents indicated that business process reengineering would change the work methods and approach to problem solving. The respondents also noted that Business Process Reengineering must be well prepared. This can be achieved through including employees in undertaking activities to improve their confidence, raising employee awareness, having activities for team members and preparing employees and making them understand the aims of production.

4.10 Inferential Statistics

4.10.1 Correlation Analysis

According to Stigler (2002), a Pearson product-moment correlation assess dependence between two variables X and Y. The result gives values between +1 and −1 inclusive. In
In this case, 1 indicates total positive correlation, 0 indicates no correlation, and -1 indicates total negative correlation. He further demonstrates that p-value less than 0.05 level of confidence can be considered statistically significant.

As presented in Table 4.8, a Pearson correlation was carried out to show the relationship between business process reengineering and project performance of real estate projects.

**Table 4.8: Correlation between the Dependent and the Independent Variables**

<table>
<thead>
<tr>
<th></th>
<th>Project Performance</th>
<th>Strategies</th>
<th>Processes</th>
<th>Technology</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Performance</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>N</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td><strong>Strategies</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>N</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td><strong>Processes</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>N</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>N</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td><strong>People</strong></td>
<td><strong>Pearson Correlation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>N</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
<td>56</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

**Source:** Research Data (2018)
The study results revealed that there is significant association between strategies and project performance as indicated by a correlation co-efficient of 0.700 and a p-value of 0.000 which is less than 0.05. Results further depict a significant association between processes and project performance as shown by a correlation of 0.591 and a p-value of 0.000 which is less than 0.05. In addition, the findings depict positive association between technology and project performance as shown by a correlation of 0.663 and a p-value of 0.000. Finally, the study showed significant association between people and project performance as shown by correlation of .867 and p-value of 0.000.

4.10.2 Regression Analysis

Multiple regression model was used to depict weight of the association between strategies, processes, technology, people and project performance

Table 4.9: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.926a</td>
<td>0.857</td>
<td>0.845</td>
<td>0.32081</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)

The R-squared is the variance part found in performance of real estate projects which is described by the strategies, processes, technology and people. The value of the R-squared in this study was 0.845 showing that stratégies, processes, technology and people can explain 84.5% of the dependent variable. This indicates that the other part of the dependent variable is explained by factors that are not part of the current study.
Analysis of variance was used to assess whether the model was fit for the collected data. According to the research findings, the p-value was shown to be 0.000, which is less than 0.05. This is a prove that the model used was reliable in determining how the independent variables (stratégies, processes, technology and people) influence Project performance in the real estate sector in Kenya. Further, the F-calculated (76.138) value was higher than the F-critical (2.47) and this indicates that the model was fit in looking into the effect of strategies, processes, technology and people on project performance.

Table 4.11: Regression Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>2.353</td>
<td>0.307</td>
</tr>
<tr>
<td>Strategies</td>
<td>.533</td>
<td>.130</td>
</tr>
<tr>
<td>Processes</td>
<td>-.461</td>
<td>.139</td>
</tr>
<tr>
<td>Technology</td>
<td>.411</td>
<td>.092</td>
</tr>
<tr>
<td>People</td>
<td>.454</td>
<td>.053</td>
</tr>
</tbody>
</table>

Source: Research Data (2018)
Based on this table, the equation for the regression line is:

\[ Y = 2.353 + 0.533X_1 - 0.461X_2 + 0.411 + 0.454X_4 \]

According to the findings, Strategies (B=0.533, P=0.000), Processes (B= -0.461, p=0.002), Technology (B=0.411, p=0.000) and People (B=0.454, p=0.000) were all significant in predicting the performance of real estate projects in Nairobi as all the p values were less than 0.05. The resulting regression equation was:

\[ Y = 2.353 + 0.533X_1 - 0.461X_2 + 0.411 X_3 + 0.454X_4 + e \]

Where \( Y = \) Performance of real estate projects, \( \beta_0 = \) Constant, \( \beta_1, \beta_2, \beta_3 \) and \( \beta_4 = \) Coefficients of determination of the independent variables, \( X_1 = \) Strategies, \( X_2 = \) Processes, \( X_3 = \) Technology, \( X_4 = \) People. This implied that all independent variables positively affected the performance of real estate projects in Nairobi.

According to the findings, a constant of 2.353 was obtained, implying that if all the factors under study are held constant, a unit increase in strategies would change performance of real estate projects would be 0.533 units. This agrees with Maull’s (2013) findings which indicate firms should have a strategy-focused and process-focused Business Process Reengineering to realize success. When all the factors are held constant, a unit change in processes would change performance by -0.416 units. Champy (2010) notes that effective process is equally important for a firm to realize success. When all the factors are held constant, a unit increase in technology would increases performance of real estate projects by 0.411 units. This agrees with Bhuvaneswari (2012) that Information Technology enables or constrains successful Business Process Reengineering. Further, the study established that when all factors are held constant, a
unit increase in people would increase performance of real estate projects by 0.454 units. This concurs with Goksoy et al. (2012) who argues that human factor plays a key role in the daily operations, performance and success of organizations. From the results we conclude that strategies was influencing project performance most, followed by people, technology and processes.
CHAPTER FIVE: SUMMARY OF THE FINDINGS, CONCLUSIONS AND
RECOMMENDATIONS

5.1 Introduction
The chapter sought to answer the research questions. It also included the conclusion and recommendations in regard to the findings of the research.

5.2 Summary of the Findings
The study established that there is a great effect of factors associated on business process reengineering on the performance of real estate projects. The study established that strategies, processes, technology and people have a positive significant influence on performance of real estate projects.

5.2.1 Strategies and performance of real estate projects
The first objective of the study was to find out the influence of strategies on performance of real estate projects in Nairobi County, Kenya. The study established that restructuring the project company to make it more efficient helps in success of business process reengineering. Further the study revealed that clear communication strategy influences the success of business reengineering processes. However, the study established that the project managers were not sure on whether adoption of PRINCE-2 methodology helps in the success of business process reengineering. Further, the study established that strategies affect project performance in real estate projects and that initiating risk management strategies at the planning stage led to construction success as many projects were able to achieve project time, cost, quality, safety and environmental sustainability objectives. Initiating Business Process Reengineering was established to influence project success. Further, the study established that risk assessment impacts acquisition of risk
moderating of risks associated with projects and that risk evaluation impacts sharing of information on risk management. This in turn leads to completion of real estate project in time.

5.2.2 Processes and performance of real estate projects

The second objective of the study sought to determine processes on performance of real estate projects. The study revealed that developing a project master program affects the success of BPR and real estate projects. Further, study established that accurate project budgeting affects the success of BPR and real estate projects and that a project budget should be prepared before undertaking the project to monitor project costs. In addition, Quality Management plays a critical role in the success of real estate projects. However, study established that project scope management was not a very critical process in the successful implementation of real estate projects but insisted that actual project scope should be periodically be compared against the approved project scope. Further, the study revealed that information flows and association between tasks and the iteration in the development process lead to more profitable real estate projects. Process reduces risk and improves project development efficiency. BPR was established to have significant impact on project performance. Modelling of development process facilitates finishing the project within the stipulated time.

5.2.3 Technology and the performance of real estate projects

The third objective of the study sought to determine the impact of technology on performance of real estate projects in Nairobi County. The study established that Computer Aided Design (CAD) is critical for the successful delivery of real estate projects and that a management information system is important in the successful
delivery of real estate projects. The study revealed that response time and costs were very important for the success of real estate projects. However, the study established that a project Management software was not very important in the success of real estate projects. Other ways in which technology affect success of real estate project involved enhancing research, marketing and selling of the projects. This include; enabling people to work together: Personal Computers are installed in one area and in most cases, they are part of Local Area Network or even Wide Area Network which connect teams to allow virtual collaborative work and helps to integrate business Technology also plays an integral part in mediating buyer and seller relationships and replacing corporate websites. Also, crowdsourcing solutions to design and engineering problems as well as collect stakeholder feedback is another technological feature adopted by project managers.

5.2.4 People and the performance of real estate projects

The fourth objective of this study was to assess the influence of people on performance of real estate projects in Nairobi County, Kenya. The study revealed that Staff empowerment with decision making authority affects the success of real estate projects and that the level of education and training of employees affects the successful implementation of real estate projects. The human factor plays an important role in the daily operations, performance and success of organizations. In addition, the study established that the level of innovation by employees affects the successful implementation of real estate projects. Further, the study established that experience of the project managers is vital in performance of real estate projects. High competence and team spirit are also factors that are critical affecting project planning, scheduling, and communication and are ingredients for the successful completion of a project.
5.3 Conclusion

The study established that there is a significant positive relationship between strategies and project performance as depicted a significant p-value of 0.000. Clear communication and restructuring the project company enhance efficiency in regard to project performance. Adoption of PRINCE-2 Methodology enhances successful implementation of Business Process Reengineering, however not to a great extent. The study also concludes that risk management strategies are vital for any real estate project to succeed.

The study further concludes that there is a positive significant relationship between processes and project performance as shown by a p-value of 0.002. Master programs are of great importance when implementing BPR and it is important to consider project budget as it influences success of BPR. However, the study concludes that project management is not a very critical factor to consider while implementing BPR. Improved understanding is also one of the critical factors that determining success of project performance.

In addition, the study concludes that there is a positive significant relationship as shown by a p-value of 0.000 between technology and project performance. Adoption of a Computer Aided Design enhances successful delivery of real estate projects. Management information system is responsible for generating project report. Technology also enables the architectures to crowd source for solutions to design and engineering problems which makes it easier to deliver the project in time as stipulated in the master plan.
The study concludes that there is a positive significance relationship as depicted by p-value of 0.000 between people and project performance. Staff empowerment with authority and access to education and training influences successful implementation of real-estate projects. Innovation level of human capital influence performance of real estate projects. Experience in site management, supervision and involvement in subcontracting are other important qualities that project managers should have for them to succeed in implementation of real estate projects. The competence of the project managers affects project planning and execution of the projects.

5.4 Recommendations

From the study findings and conclusions, it is clear that strategies affect project performance. The study recommends that concerned stakeholders should ensure that various aspects of strategies are well focused to enhance project success in real estate developments. This would involve looking at different types of strategies to adopt with regard to timing, risks, proper methods, time forecasting and proper factors that should be considered to enhance success. This would ensure that real estate projects are completed within the stipulated period.

In addition, the study recommends that for real estate projects to meet use requirements there is need for initiating proper guidelines with regard to process for deciding on formulating a project. Final objectives should be documented and approved how the developers needs in order of priority and involvement of relevant beneficiary.

The study established that there was a significant relationship between technology and project performance. The study recommends that the relevant stakeholders should adopt
current technology as this would lead to effective way of planning, implementing and monitoring of the projects. Adoption of technology for designing, communicating, executing and monitoring will enhance successful delivery of real estate projects. Communication technology will support out local team to seek more information around the world from experienced developers. This will lead to delivering of competitive projects within the stipulated time.

The study finally recommends that all the relevant stakeholders involved in project implementation should be equipped with the relevant skills and knowledge in order to enhance their performance. This would enhance future ability to meet the planning, implementing and monitoring of projects, technological factors as well as community needs.

5.5 Suggestions for further studies

The current study concentrated in the real estate companies in Nairobi County. The researcher recommends that a similar study should be carried out in other counties as well and compares results with those of Nairobi County. The researcher also recommends that a similar study could be carried out but looking at other factors that were not studied in this research.
REFERENCES


65

Kotler, J. (2006), How to Succeed at Reengineering, MCB University press, Management Decision


APPENDICES

Appendix 1: Letter of introduction

Date: ____________________

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

REF: REQUEST FOR COLLECTION OF DATA

I am Julius Muema Kavita, Reg. No. D53/CTY/PT/21570/2012, a post-graduate student at the School of Business, Kenyatta University. I am conducting a research project entitled “Business process reengineering and performance of real estate projects in Nairobi County”.

You have been selected to form part of this study project. Kindly assist by filling in the attached questionnaire. The information given will be treated with strict confidence and will be purely used for academic purposes. It’s not mandatory to indicate your name or personal details on the questionnaire.

A copy of the final report may be availed upon request.

Your assistance and cooperation will be highly appreciated.

Yours Sincerely,

Julius Muema Kavita
(Student) D53/CTY/PT/21570/2012

Ms. Gladys Kimutai
Lecturer
Dept of Management Science
Kenyatta University
Appendix 2: Questionnaire

Important Information:

This questionnaire is meant to collect data on the effect of business process reengineering on the performance of real estate projects in Nairobi County. The information provided in this questionnaire will be used for research purposes only and will not be divulged or availed to any unauthorized person.

Please take a few minutes to complete the survey.

Kindly tick the correct answer in the boxes provided against each question.

Please give answers in the spaces provided and tick (√) in the box that matches your response to the questions where applicable.

Section A: Demographic Profile

1) Name of the respondent (Optional):

2) Gender Male ( ) Female ( )

3) Highest level of education attained?
   a) Primary ( ) b) Secondary ( ) c) Certificate/Diploma ( )
      d) Bachelors Degree ( ) d) Masters Degree ( )

4) What is your age bracket? (Tick as applicable)
   a) Under 30 years ( ) b) 31 – 40 years ( ) c) 41 – 50 years ( )
      d) Over 50 years ( )

5) Length of continuous service with the real estate company?
   a) Less than five years ( ) b) 5-10 years ( ) c) Over 10 years ( )

6) Has your company adopted business process reengineering?
   Yes ( ) No ( )

Section B: Strategies

7) This section is about the strategies adopted in business process reengineering and how they affect the performance of real estate projects. To what extent do you agree that strategies adopted in business process reengineering affect the success of real estate projects?
Please tick (✓) the space corresponding to the correct answer

Scale: Strongly Disagree=1, Disagree=2, Undecided=3, Agree=4, Strongly Agree=5.

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Clear communication strategy influences the success of BPR</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>(b) Adoption of PRINCE-2 Methodology helps in the success of BPR</td>
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<tr>
<td>(c) Restructuring the Project Company to make it more efficient helps in the success of BPR and real estate projects</td>
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</tbody>
</table>

How else do processes affect influence project performance in real estate projects?

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Section C: Processes

8) This section touches on processes, and how they affect the success of BPR and real estate projects. To what extent does the adoption of the right processes contribute to the success of real estate projects?

Please tick (✓) the space corresponding to the correct answer

Scale: Strongly Disagree=1, Disagree=2, Undecided=3, Agree=4, Strongly Agree=5.

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Developing of a project master program affects the success of BPR and real estate projects</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(b) Accurate Project budgeting affects the success of BPR and real estate projects. A project budget should be prepared before undertaking the project to monitor project costs.</td>
<td></td>
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<tr>
<td>(c) Project scope management is a critical process in the successful implementation of real estate projects. Actual project scope should be periodically be compared against the approved project scope.</td>
<td></td>
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<tr>
<td>(d) Quality Management plays a critical role in the success of real estate projects</td>
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</tbody>
</table>

In what other ways do processes affect the success of real estate projects?

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70
Section D: Technology

9) This section deals with technology. Listed below are the technology factors that affect project performance in real estate companies. In your opinion, to what extent do you think each factor affects the performance of the projects.

Please tick (✓) the space corresponding to the correct answer

Scale: Strongly Disagree=1, Disagree=2, Undecided=3, Agree=4, Strongly Agree=5

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) A project Management software is important in the success of real estate projects. This software must be used to actively manage the project</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(b) A management information system is important in the successful delivery of real estate projects. This is essentially responsible for generating project reports</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>(c) Computer Aided Design (CAD) is critical for the successful delivery of real estate projects</td>
<td></td>
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<tr>
<td>(d) Response time and costs should be reduced by automation. This is important for the success of real estate projects</td>
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</tbody>
</table>

In what other ways does technology affect the success of real estate projects?

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Section E: People

10) This section touches on people involvement in the implementation of BPR and real estate projects. To what extent do you agree that people influence the success of real estate projects?

Please tick (✓) the space corresponding to the correct answer

Scale: Strongly Disagree=1, Disagree=2, Undecided=3, Agree=4, Strongly Agree=5.

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Level of education and training of employees affects the successful implementation of real estate projects</td>
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<tr>
<td>(b) Level of innovation by employees affect the successful implementation of real estate projects</td>
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<tr>
<td>(c) Staff empowerment with decision making authority affects the success of real estate projects</td>
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</tbody>
</table>
In what other ways do people affect the success of real estate projects?

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11) To what extent has the adoption of business process engineering influenced the performance of projects in your company?

Please tick (✓) the space corresponding to the correct answer

Scale: Strongly Disagree=1, Disagree=2, Undecided=3, Agree=4, Strongly Agree=5

<table>
<thead>
<tr>
<th>Business process reengineering and project performance</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Business process reengineering enable projects to be delivered at the budgeted cost or lower cost</td>
<td></td>
<td></td>
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<tr>
<td>(b) Business process reengineering leads to better coordination in projects</td>
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<tr>
<td>(c) BPR enables effective communication with various project stakeholders</td>
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<td></td>
<td></td>
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<tr>
<td>(d) BPR enables employees develop logical and creative solutions to problems</td>
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<tr>
<td>(e) All employees work with other employees effectively</td>
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<td></td>
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<tr>
<td>(f) BPR enables setting of realistic project performance measurements</td>
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<tr>
<td>(g) Results in clear project performance management plan for projects</td>
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</tbody>
</table>

12) Please describe how you perceive the effect of business process reengineering on the performance of real estate projects in your company.

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Thank you taking time to complete the questionnaire.
### Appendix 3: Sample Size Table

**Required Sample Size**

from: *The Research Advisors*

<table>
<thead>
<tr>
<th>Population Size</th>
<th>Confidence = <strong>95.0%</strong></th>
<th>Confidence = <strong>99.0%</strong></th>
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<tr>
<td></td>
<td>5%</td>
<td>3.50%</td>
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<td>10</td>
<td>10</td>
<td>10</td>
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<td>20</td>
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<td>269</td>
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<tr>
<td>1,000</td>
<td>278</td>
<td>440</td>
</tr>
</tbody>
</table>
Appendix 4: Research Permit

THIS IS TO CERTIFY THAT:

MR. JULIUS MUEMA KAVITA
of KENYATTA UNIVERSITY, 43844-100
NAIROBI, has been permitted to conduct
research in Nairobi County

on the topic: EFFECTS OF BUSINESS
PROCESS RE-ENGINEERING ON THE
PERFORMANCE OF REAL ESTATE
PROJECTS IN NAIROBI COUNTY

for the period ending:
19th April, 2019

Permit No: NACOSTI/P/18/67405/22387
Date Of Issue: 19th April, 2018
Fee Received: Ksh 1000

-----------------------------------------------------
Applicant’s
Signature

-----------------------------------------------------
Director General
National Commission for Science,
Technology & Innovation
## Appendix 5: List of Property Developers in Nairobi County

<table>
<thead>
<tr>
<th>NO.</th>
<th>COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Home Afrika Ltd</td>
</tr>
<tr>
<td>2</td>
<td>Fort Properties Ltd</td>
</tr>
<tr>
<td>3</td>
<td>Jingcheng Management Ltd</td>
</tr>
<tr>
<td>4</td>
<td>Prodigy Properties Ltd</td>
</tr>
<tr>
<td>5</td>
<td>Kings Developers ltd</td>
</tr>
<tr>
<td>6</td>
<td>Graceland developers Ltd</td>
</tr>
<tr>
<td>7</td>
<td>Butterfly Properties Ltd</td>
</tr>
<tr>
<td>8</td>
<td>Athena properties ltd</td>
</tr>
<tr>
<td>9</td>
<td>Taj Mall limited</td>
</tr>
<tr>
<td>10</td>
<td>Hello properties</td>
</tr>
<tr>
<td>11</td>
<td>Royal properties developers ltd</td>
</tr>
<tr>
<td>12</td>
<td>Dream Properties Limited</td>
</tr>
<tr>
<td>13</td>
<td>Euro Homes Limited</td>
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<tr>
<td>14</td>
<td>Ideal Properties Developers Ltd</td>
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<tr>
<td>15</td>
<td>International house ltd</td>
</tr>
<tr>
<td>16</td>
<td>Cretum Properties Ltd</td>
</tr>
<tr>
<td>17</td>
<td>Danville Ventures</td>
</tr>
<tr>
<td>18</td>
<td>Dinara Developers Ltd</td>
</tr>
<tr>
<td>19</td>
<td>Fairdeal Properties</td>
</tr>
<tr>
<td>20</td>
<td>Kawaken holdings ltd</td>
</tr>
<tr>
<td>21</td>
<td>Kings pride</td>
</tr>
<tr>
<td>22</td>
<td>Kivuli Ventures LTD</td>
</tr>
<tr>
<td>23</td>
<td>Liberty Homes Kenya ltd.</td>
</tr>
<tr>
<td>24</td>
<td>Nyumba bora ltd</td>
</tr>
<tr>
<td>25</td>
<td>Riayn developers ltd</td>
</tr>
<tr>
<td>26</td>
<td>Elsek Group of Companies</td>
</tr>
<tr>
<td>27</td>
<td>Jamii Bora Company</td>
</tr>
<tr>
<td>28</td>
<td>Zenith Homes Management Ltd</td>
</tr>
<tr>
<td>29</td>
<td>HK Builders Kenya</td>
</tr>
<tr>
<td>30</td>
<td>Suraya Property Group Limited</td>
</tr>
<tr>
<td>31</td>
<td>Taurus Consortium Limited</td>
</tr>
<tr>
<td>32</td>
<td>Peace Properties Ltd</td>
</tr>
<tr>
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<td>Petu Property Group Ltd</td>
</tr>
<tr>
<td>34</td>
<td>Kitusuru Country Homes</td>
</tr>
<tr>
<td>35</td>
<td>House Mart (Kenya)</td>
</tr>
<tr>
<td></td>
<td>Company Name</td>
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<td>-----------------------------------</td>
</tr>
<tr>
<td>36</td>
<td>Erdemann Property Ltd</td>
</tr>
<tr>
<td>37</td>
<td>Edenville Chinese Developers</td>
</tr>
<tr>
<td>38</td>
<td>PDM (Kenya) Ltd</td>
</tr>
<tr>
<td>39</td>
<td>Athena Properties Ltd</td>
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<td>40</td>
<td>Magnus Contracting</td>
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<td>41</td>
<td>Spartan Developers</td>
</tr>
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<td>42</td>
<td>Walnut Properties Ltd</td>
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<td>43</td>
<td>Kenya Prime Properties Ltd</td>
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<td>Janbo Holdings Ltd</td>
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<td>Pam Golding Properties</td>
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<td>GROHE - East Africa</td>
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<td>Cytonn Investments Management Ltd.</td>
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<td>48</td>
<td>Kenya Building Society Ltd</td>
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<td>Kings Developers Ltd</td>
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<tr>
<td>50</td>
<td>Limojade Management Ltd</td>
</tr>
<tr>
<td>51</td>
<td>Vishwa Developers Ltd</td>
</tr>
<tr>
<td>52</td>
<td>Superior Homes Kenya</td>
</tr>
<tr>
<td>53</td>
<td>Mentor Management Limited (MML)</td>
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<td>54</td>
<td>Optiven Limited</td>
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<td>55</td>
<td>Manrik Group</td>
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<tr>
<td>56</td>
<td>Panda Development Company Ltd / Aberdare Golf RESORT</td>
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<td>57</td>
<td>Natureville Homes</td>
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<td>58</td>
<td>Pediment Developers</td>
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<td>59</td>
<td>AMS Properties Ltd</td>
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<td>60</td>
<td>Blueline Properties Ltd</td>
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<tr>
<td>61</td>
<td>County Home Developers Ltd/Runda View Ltd</td>
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<tr>
<td>62</td>
<td>Trident Estates Limited</td>
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<tr>
<td>63</td>
<td>SJR Properties Ltd / Sky Management</td>
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<td>64</td>
<td>Acorn Group Limited</td>
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<td>Chigwell Holdings Limited</td>
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<td>Kzanaka Limited</td>
</tr>
<tr>
<td>67</td>
<td>Oak Park Properties Ltd</td>
</tr>
<tr>
<td>68</td>
<td>Property Managers Ltd</td>
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</table>