THE IMPACT OF BUSINESS INTELLIGENCE ON CORPORATE PERFORMANCE MANAGEMENT: A STUDY OF EQUITY BANK

BY

NYABUTI RAYMOND

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

SUMMER 2018
THE IMPACT OF BUSINESS INTELLIGENCE ON CORPORATE PERFORMANCE MANAGEMENT: A STUDY OF EQUITY BANK

BY

NYABUTI RAYMOND

A Research Report Submitted to the Chandaria School of Business in Partial Fulfilment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY -AFRICA

SUMMER 2018
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: __________________________  Date: __________________________

Nyabuti Raymond (651218)

This report has been presented for examination with my approval as the appointed supervisor.

Signed: __________________________  Date: __________________________

Professor Peter M. Lewa

Signed: __________________________  Date: __________________________

Dean, Chandaria School of Business
COPYRIGHT

© 2018 Nyabuti Raymond Biko

ALL RIGHTS RESERVED. Any unauthorized reprint or use of this research proposal is prohibited. No part of study may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system without express written permission from the author and the university.
ABSTRACT
The purpose of this research was to investigate the influence of adoption of business intelligence on corporate performance management confined to the case of Equity bank Kenya. The research was guided by the following research questions: has the adoption of business intelligence influenced planning effectiveness? Has the adoption of business intelligence influenced the effectiveness of analytics? And has the adoption of business intelligence influenced product development effectiveness?

This study employed a descriptive survey research design. Descriptive survey research designs was used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification. The target population for this study was 1750 employees at Equity Bank limited. This comprised of Top, middle and low level Managers, all of whom in their structure are considered to be in the business level. This study used stratified sampling to select a total of 104 respondents from top level management, middle level management and lower level management staff. The main tools of data collection for this study was questionnaires. The data collected by the questionnaire was cleaned, edited, coded and entered into Statistical Package for Social Sciences (SPSS) which will also aid in the data analysis.

The findings on influence of adoption of business intelligence on planning effectiveness revealed that employees think that business intelligence system is useful. Findings also revealed that top executives take formal responsibility for the organization’s strategic business planning. Strategic planning is a top priority activity, performed on a regular basis. The findings based on influence of adoption of business intelligence on effectiveness of analytics. It was established that business intelligence brings real-time information to centralized repositories. Business intelligence facilitates connections and support analytics that can be exploited at all level within and outside the firm. The findings on influence of adoption of business intelligence on product development. Findings showed that product launches help increase sales revenue and expanding the customer base. The study also revealed that use of business intelligence in product development has increased order velocity and accuracy in the industry.

The study concluded that use of business intelligence system is useful during decision making, it helps the organization save time and money and also increases communication
among department. Strategic planning is a top priority activity, performed on a regular basis and top executives participate during strategic business planning. Secondly, Business intelligence brings real-time information to centralized source, business intelligence eases connections and support analytics that an organization can exploit. Lastly, through business intelligence equity band was able to better understand the key success factors in creating new products, discover new customer requirements, decreased the product failures, increased order velocity and accuracy in the industry and increase its market share.

The study recommends that there is a need for top executives to engage the low level employees inorder to fully incorporate them fully in strategic business planning. Use of business Intelligence enhance communication among departments. In order to realize the full potential in planning effectiveness. Secondly, manager should at any given time strive to make decisions based on analytics. This helps the firm in conflict resolution, optimization, justification, and computational complexity. Lastly, use of Business Intelligence in product development has increased order velocity and accuracy in the industry. This study also recommends that during this process all the employees in the various departments should be fully involved.

For future study a similar study should be carried out on the effectiveness of Business intelligence in the banking sector as a whole. This will enable for generalization of the study findings on the effectiveness of Business Intelligence in Strategic Marketing of banking Industry.
ACKNOWLEDGEMENT

I would also like to extend my gratitude to the entire staff of the school of business and at the United States International university for providing a conducive environment for developing my research project.

First I would like to thank My supervisor Professor Peter Lewa for his unending support and guidance that has helped me complete this report. Special thanks also go to all my classmates, who were a constant source of encouragement and a useful resource for solving problems faced during the course of my proposal development.
DEDICATION

Dedicated to my family. Thank you for the support during the course of my research.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>STUDENT'S DECLARATION</td>
<td>ii</td>
</tr>
<tr>
<td>COPYRIGHT</td>
<td>iii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>iv</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>vi</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xi</td>
</tr>
<tr>
<td>ABBREVIATION AND ACRONYMS</td>
<td>xii</td>
</tr>
<tr>
<td>CHAPTER ONE</td>
<td>1</td>
</tr>
<tr>
<td>1.0 INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Background of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Statement of the Problem</td>
<td>3</td>
</tr>
<tr>
<td>1.3 Purpose of the Study</td>
<td>4</td>
</tr>
<tr>
<td>1.4 Research Questions</td>
<td>4</td>
</tr>
<tr>
<td>1.5 Importance of the Study</td>
<td>4</td>
</tr>
<tr>
<td>1.6 Scope of the Study</td>
<td>6</td>
</tr>
<tr>
<td>1.7 Definition of Terms</td>
<td>7</td>
</tr>
<tr>
<td>1.8 Chapter Summary</td>
<td>8</td>
</tr>
<tr>
<td>CHAPTER TWO</td>
<td>9</td>
</tr>
<tr>
<td>2.0 LITERATURE REVIEW</td>
<td>9</td>
</tr>
<tr>
<td>2.1 Introduction</td>
<td>9</td>
</tr>
<tr>
<td>2.2 Influence of Adoption of Business Intelligence on Planning Effectiveness</td>
<td>9</td>
</tr>
<tr>
<td>2.3 Influence of Adoption of Business Intelligence on Effectiveness of Analytics</td>
<td>13</td>
</tr>
<tr>
<td>2.4 Influence of Adoption of Business Intelligence on Product Development Effectiveness</td>
<td>18</td>
</tr>
<tr>
<td>2.5 Chapter Summary</td>
<td>22</td>
</tr>
<tr>
<td>CHAPTER THREE</td>
<td>23</td>
</tr>
<tr>
<td>3.0 RESEARCH METHODOLOGY</td>
<td>23</td>
</tr>
<tr>
<td>3.1 Introduction</td>
<td>23</td>
</tr>
<tr>
<td>3.2 Research Design</td>
<td>23</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 3.1: Population 25
Table 3.2: Sample Size 25
Table 4.1: Response Rate 29
Table 4.2: Descriptive Statistics of Business Intelligence 31
Table 4.3: Descriptive Statistics of Planning Effectiveness 32
Table 4.4: Descriptive Statistics of Planning Effectiveness 33
Table 4.5: Descriptive Statistics on Effectiveness of Analytics 34
Table 4.6: Descriptive Statistics of Business Intelligence and Effectiveness of Analytics 35
Table 4.7: Descriptive Statistics of Product Development Effectiveness 36
Table 4.8: Descriptive of Business Intelligence and Product Development Effectiveness 37
Table 4.9: Correlation Analysis between Business Intelligence and other Factors 37
Table 4.10: Model Summary of Business Intelligence and other Factors 38
Table 4.11: Anova Between Corporate Performance and Other Factors 38
Table 4.12: Coefficient of Corporate Performance and Other Factors 39
LIST OF FIGURES

Figure 4.1: Gender 29

Figure 4.2: Age bracket 30

Figure 4.3: Highest Education Level 30

Figure 4.4: Working Experience 31
<table>
<thead>
<tr>
<th>ABBREVIATION AND ACRONYMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BI</strong> : Business intelligence</td>
</tr>
<tr>
<td><strong>CBK</strong> : Central bank of Kenya</td>
</tr>
<tr>
<td><strong>CPM</strong> : Corporate Performance Management</td>
</tr>
<tr>
<td><strong>CRM</strong> : Customer Relationship Management</td>
</tr>
<tr>
<td><strong>ERP</strong> : Enterprise Resource Planning</td>
</tr>
<tr>
<td><strong>KSH</strong> : Kenya shillings</td>
</tr>
<tr>
<td><strong>NPD</strong> : New Product Development</td>
</tr>
<tr>
<td><strong>OLAP</strong> : Online Analytical Processing</td>
</tr>
<tr>
<td><strong>PWC</strong> : Price Waterhouse Coopers</td>
</tr>
<tr>
<td><strong>R&amp;D</strong> : Research and Design</td>
</tr>
<tr>
<td><strong>ROI</strong> : Return on Investment</td>
</tr>
<tr>
<td><strong>U.S</strong> : United States</td>
</tr>
<tr>
<td><strong>UAE</strong> : United Arab Emirates</td>
</tr>
</tbody>
</table>
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Problem

Before the 20th century, companies could not comprehensively gather and analyze data. In the 1970s, Decision support systems were introduced to the market. These support systems helped tactical managers make decision and only provided information for a particular department. This limitation led to the introduction of executive support systems in the 1980s. The executive support systems summarized information from different departments and provided dashboards for executives. This was normally a summary of the transactions that the business has been involved in.

By 1990, business intelligence systems were introduced. These systems unlike the executive support systems combined data from different sources and provided reports on how the organisation was doing in different aspects of operations. With the introduction of business intelligence systems, Customer relation management systems also improved. The early versions of business intelligence systems included customer management components. These systems were mainly focused on helping organizations gather as much information as possible about their customers (O'Brien, 2005).

The introduction of these new technologies and the adoption of advanced management techniques improved the planning, analysis and reporting functions of business (Alter, 2001). These new developments led to the rise of the concept of corporate performance management, an integrated methodology that formed part of strategic planning and management (Alter, 2001).

In 2001, Gartner research introduced the concept of corporate performance management. The concept defines the methodologies, metrics, systems and processed used to monitor and manage the business performance of an enterprise (Scheer, Jost, Heb & Kronz, 2005). There are three levels of corporate performance management. The client, application and data levels. The client level includes the end consumers of the insights and reports generated by the application. The application level will include business analysts, statisticians and performance management specialists. The data level will include information technology support staff and data scientists.
In today’s turbulent, unpredictable and competitive global business environments, organizations have to be ahead of the competition through continuously measuring, monitoring, and analyzing their corporate performance (Vuksic et al., 2013). One approach to measuring performance adopted by many organization is the utilization of Corporate Performance Management (CPM) systems. Corporate performance management also referred to as enterprise performance management or business performance management, can be described as a combination of technology and management practices that allow a business to monitor business performance (Frolick & Ariyachandra 2006).

Growing interest in Business Intelligence in enterprises has engrossed the attention of academics who have scrutinized, among other topics, the influence of business intelligence on operational processes (Elbashir et al., 2008), success issues for Business Intelligence initiatives in modern day corporates, (Yeoh & Koronios 2010), best practices in BI (Wixom & Watson 2010), and business intelligence maturity models (Dinter, 2012; Lahrmann et al., 2011). Nevertheless, there are still sparse studies that explicitly explore the impact of business intelligence on corporate performance management.

The banking industry in Kenya is a major driver of economic development. By providing crucial financial services such as money transfers, and allowing both savers and borrowers to come together in a well-organized structure, the sector is strong determinant of economic development and long-term sustainability. The Kenyan banking industry is considered the fastest growing and most stable in East Africa and one of the most mature in Africa. Between 1980 and 2000, Kenya’s banking sector was characterized by major financial upheavals, rampant corruption and political hegemony that led to the collapse of a number of banks while others went into receivership (CBK, 2016).

Since 2000 however, the government, through the central bank of Kenya has instituted tough measures to better regulate the industry. These measures have seen a good measure of stability in the industry that has led to the rise of dominant banks and increased innovation in the sector. As of December 2016, there were 43 registered banking institutions. 42 commercial banks and one mortgage lender. Gross loans stood at KSH 2.229 trillion and total assets stood at KSH 3.75 trillion. Customer deposits grew by 5.9% from 2015 to stand at KSH 2.62 trillion mainly driven by innovations in mobile
banking services and agency banking. This meant that Kenya banks were able to reach more of the population than ever before (CBK, 2016).

Kenyan commercial banks are classified into three peer groups using a weighted composite index that comprises net assets, customer deposits, capital and reserves, number of deposit accounts and number of loan accounts. A bank with a weighted composite index of 5 percent and above is classified as a large bank. A medium bank has a weighted composite index of between 1 percent and 5 percent while a small bank has a weighted composite index of less than 1 percent (CBK, 2016). As of December 2016, there were 8 large banks in Kenya with a market share of 65.32 percent, 11 medium banks with a market share of 25.90 percent and 20 small banks with a market share of 8.77 percent (CBK, 2016).

Equity bank is one Kenya’s 8 large banks as per Central bank of Kenya statistics and the second largest bank in terms of markets share after Kenya Commercial bank with 10% of the market. It was started in 1984 as Equity Building Society and was initially a provider of mortgaging financing to the majority of the Kenyan population that fell into the low-income bracket. The bank was declared technically insolvent in 1993, but managed to transform itself into a rapidly growing microfinance and commercial bank. The bank has consistently outperformed its peers in the sector for the last 10 years culminating it record profits in 2014. The bank has remained one of the most innovative in Kenya and currently operates the widest branch and agency banking network of any Kenyan bank. This is in addition to its expansion to the East African region. This has been recognized by the numerous award the bank has received. In 2016, for example, it was named Africa’s ad Kenya’s best bank in the Euromoney awards of excellence in 2016 (Equity Bank, 2017).

1.2 Statement of the Problem

The banking sector in Kenya has in the past 10 years experienced tremendous growth and stability. However, it has not been without its challenges. The emergence of mobile money, especially Safaricom’s M-pesa presented an unprecedented challenge to the traditional players in the banking sector. However, while some of the players faded and lost market share, Equity bank Kenya continued to thrive. Its business model; where it targets the bottom of the pyramid has been the subject of many studies in trying to understand its unprecedented growth, since its listing at the Nairobi stock exchange in
2006. Equity bank however employs another strategic resource as part of its business operations; Business intelligence (Equity Bank, 2017).

Business intelligence can be viewed as a broad category of software applications and tools that extract and transform data from operational source systems, facilitate data visualization and enable end users to select subsets of data based on different dimensions such as time and region (Chen et.al., 2012). Equity bank crafted its business intelligence strategy in 2010 and was the first bank in Kenya to implement such a solution. In so doing, it created a data warehouse that enabled it better understand its operations, business processes, and operational process efficiency. This has enabled the organization to better streamline its operational efficiencies, better understand its customers, provided valuable insights in the product development process and the marketing and sales strategies.

The aim of this research was to scrutinize the influence of commonly used Business Intelligent technologies on corporate performance management, in particular the CPM-related management practices which include planning, measurement, and analysis. This study therefore investigated the influence of business intelligence initiative adoption on the effectiveness of the CPM-related management practices with a focus on Equity bank Kenya.

1.3 Purpose of the Study

The purpose of this research was to investigate the influence of adoption of business intelligence on corporate performance management confined to the case of Equity bank Kenya.

1.4 Research Questions

1.4.1 Has the adoption of business intelligence influenced planning effectiveness?
1.4.2 Has the adoption of business intelligence influenced the effectiveness of analytics?
1.4.3 Has the adoption of business intelligence influenced product development effectiveness?

1.5 Importance of the Study

The successful execution of business strategy is of paramount importance for an organization’s survival in an increasingly turbulent and competitive business
environment. However, most organizations struggle with the management and control of strategic implementations. Corporate performance management, sometimes referred to as business performance management, enables an organization to monitor and effectively control its strategic implementation by actively getting feedback on its performance.

1.5.1 Equity Bank
The discoveries of the research will be valuable to Equity bank and will help the management in establishing whether the set up business intelligence are effective for the operation of the bank.

1.5.2 Senior Managers
Business intelligence solutions are intended to systematically report on corporate performance. Business intelligence solutions are not composed of one particular system, but include a number of different technology components. Online Analytical Processing (OLAP) allows users and managers to drill down or through on data and view from different perspectives. For example, a user might examine sales of a particular service or product and proceed to drill down by region, customer segment, or time frame to better understand the sales data. This multi-dimensional exploration of performance data is complemented by business intelligence components that facilitate the distribution of online reports on corporate intranets as well as executive dash boards and performance score cards. Reports will in most cases feature data needed by managers while the executive dashboard and score card will provide summarized information regarding company format in an easy to understand visual format that permits for variance analysis by decision makers.

1.5.3 Corporate Performance Management Managers
Business intelligence permits examination of corporate performance data by end users; as contrasting to numerous request to the IT department, it allows for faster and precise access to performance measures. Business intelligence facilitates data analysis thus improving a manager’s ability to extract meaning from the information provided. It is therefore possible that Business intelligence impacts the corporate performance management cycle.

First, business intelligence allows the swift and accurate delivery of performance information those impacts on planning and performance measurement. Secondly,
business intelligence might impact analytics as it provides the capability to analyze data on difference dimensions, besides allowing data-manipulation functionality.

1.5.4 Operations managers
Despite the commonly-held view that BI technologies are meant to influence decision making within organizations, the specific consideration of “analytics” within the BI context is a relatively new phenomenon.

BI tools could be directly integrated into an operational process in some cases therefore automating some portions of the process for example credit risk assessment. In other cases, Business Intelligence is used to monitor outputs of a process or processes. These outputs are often linked to business objectives, which are aligned with an organization’s strategy. Therefore, within a CPM cycle, BI tools provide accurate up-to-date information on the accomplishment of objectives allowing managers to analyze performance gaps and take corrective action.

These actions might include the modification of objectives for example adjusting plans based on actual performance or they might include taking steps to recover processes to better accomplish established targets. The opinion is that, while in some situations, BI might be directly integrated into a process to automate certain types of decisions, in other situations, BI provides information to enable monitoring of the outputs of a process. An analysis of the information thus provided permits managers to take actions to modify plans, or to improve process effectiveness and efficiency. This research will not only shed light on the influence of Business Intelligence on corporate performance management but also give insight on how to successfully business intelligence initiatives can be implemented along with corporate performance management strategies.

1.6 Scope of the Study
The scope of this research is the banking industry in Kenya with a focus on Equity bank Kenya. The research was constrained to the years between 2010 and 2017. The findings and recommendations of the study was generalized for other organizations’ in the banking industry in Kenya. The study focused on corporate performance management with a particular focus on planning, analytics and product development. This study covered a three month period from January to March 2018.
1.7 Definition of Terms

1.7.1 Business Intelligence
Business Intelligence (BI) leverages on software tools and techniques to extract business data from both internal and external sources and transform the data into actionable intelligence that can be used by an organization to inform both strategic and tactical decisions. Business Intelligence technologies provide historical and current state of business operations performance. Further, these technologies can also provide a predictive state of operations based on variables provided by business users. Common uses of business intelligence are reporting, online analytical reporting and business or corporate performance management (Müller et.al., 2010).

1.7.2 Corporate Performance Management:
Corporate Performance Management (CPM) also known as business performance management is a term that describes systems, methodologies and the process of monitoring and controlling an organizations performance according to key performance indicators defined in the organization’s strategy. Historically viewed as a finance function, corporate performance management applications have evolved to be used enterprise wide, normally as part of business intelligence solutions (Müller et.al., 2010).

1.7.3 Analytics
The study of historical data with the aim of researching potential trends, the effects of particular business decisions and the evaluation of particular business tools. The end product is the provision of insights that enable business managers make informed decisions both at the tactical and strategic levels (Frolick & Ariyachandra 2006).

1.7.4 Product Development
The product development process consists of the activities carried out by firms when developing and launching new products. A new product that is introduced on the market evolves over a sequence of stages, beginning with an initial product concept or idea that is evaluated, developed, tested and launched on the market (Dinter, 2012).

1.7.5 Planning Effectiveness
Planning and the ability to think strategically by planners, managers and employees alike, feed into the strategic plan document (Mintzberg, Lampel, Quinn & Goshal, 2003).
1.8 Chapter Summary

Chapter one covers the background of the problem, statement of the problem, purpose of the study, specific objectives or hypothesis, significance of the study, scope of the study, definition of terms and chapter summary. The second chapter offers an overview of the literature review organized according to the research questions. Chapter three will discuss the research methodology which will cover the research design, population and sampling design, data collections methods, research procedures, data analysis methods and chapter summary. Chapter four will present results and findings and finally chapter five will cover summary of the study findings, conclusions, recommendations and implications to future research.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter contains literature on the previous studies done on impact of business intelligence on corporate performance management. The information presented is guided by the research questions of the study; adoption of business intelligence and planning effectiveness, adoption of business intelligence and the effectiveness of analytics and adoption of business intelligence and product development effectiveness. The chapter summary is also presented.

2.2 Influence of Adoption of Business Intelligence on Planning Effectiveness

2.2.1 Business Intelligence

Business intelligence (BI) is concerned with Information Technology solutions for transforming output from large data collections into intelligence through the integration of sales, marketing, servicing, and support operations. Business Intelligence often covers such activities as Customer Relationship Management (CRM), Enterprise Resource Planning (ERP), and E-commerce using Data-Mining techniques (Clearci, 2013).

A successful Business Intelligence program can provide executives with the visibility they need into the performance drivers that propel the business forward. Business performance is measured by a number of financial indicators such as revenue, margin, profitability, and cost to serve. In marketing, performance gains can be achieved by improving response rate from particular campaigns, identifying characteristics of more responsive customers and products cross selling (Howson, 2012).

Business Intelligence requires a conscious approach and the blending of enterprise resources to deliver complete, consistent, and reliable source of information. The BI initiative is of no use if it is not driven by the objectives of the enterprise. Implementing the solution helps the firm achieve the objective through the use of information. The firm must ensure that business strategy and enterprise objectives drive the implementation. The purposes of building BI strategy is to help business with long-term planning, help
middle management with tactical reporting, and help operations with day-to-day decision making to run the business efficiently. BI is all about providing people with the information they need to do their jobs more effectively (Pant, 2009).

Business Intelligence tools facilitate marketers with information as per their requirements in order to make informed decision. Companies that adopt such analytical techniques end up attaining competitive advantage in being market leaders, concentrating on ventures that bring in money and spending it on worthwhile campaigns and promotions (PWC Advisory services, 2007). Product and Service delivery with a vision and a purpose is made possible through the use of information as a guide. Information can be analyzed in many forms in order to understand the customer, products, price, and promotional activities and in effect market effectively. It’s therefore important for organizations to analyze customer behavioral analytics, positioning themselves deep in the market through the foresight of business intelligence.

It was noted that a strategic, enterprise business intelligence program offers higher value to our companies, especially in today’s fast-paced, changing environment. A successful Business Intelligence program increases collaboration and leverage the decision-support structure across the enterprise to increase overall business effectiveness. Used effectively, Business Intelligence allows organizations to improve performance (Howson, 2012).

2.2.2 Planning Effectiveness

Planning and the ability to think strategically by planners, managers and employees alike, feed into the strategic plan document. However, planning has its drawbacks. Plans are seldom perfect and may divert attention away from problems or opportunities not identified by the planners (Mintzberg, Lampel, Quinn & Goshal, 2003). In a study conducted by Al Shaikh (2001) on organisations operating in UAE, it was found that there are no significant differences between length of plans in small and large firms. Al Shaikh also concluded from his study that there are no significant differences between mean lengths of plans in the different types of companies under study. In other words, the length of the plan is independent of the type of company.

Nieboer (2011) states that a quality planning document should provide well-justified answers to the strategic questions and the planning document should be a basis for
communication with people who need to know about the strategy but who not participants in the planning process were. Also, the document may well contain some specific, measurable objectives.

The communication of a company’s strategic plan is vital to its successful implementation, as it is the basis for linking strategy to operational planning and individual objectives. Without communication, organisational priorities are unclear and conflicts between various departments may arise. Also, employees cannot be committed to achieving the plan if the plan has not been communicated to them (Orge, 2006).

2.2.3 Relationship between Business Intelligence and Planning Effectiveness

Business Intelligence platform enables institutions to build out Business Analytics helping the organization to save time and money expediting the ability to engage data as information. Information lies at the core of strategic marketing. But with all of the information that is available, many companies are unable to access and leverage the information that will be central to their marketing success. Additionally, many companies find that they do not have the tools available to them that place the information in a meaningful and easy to understand format for quick analysis (Teece, 2009).

According to Ramb (2013) the power of Business Intelligence is that it combines data from diverse areas of the business into a single version of the truth referred to as an enterprise data warehouse. Once this is achieved, data can be turned into information. That means using data to make factual business decisions. Many business owners neglect to put business intelligence at the core of otherwise sophisticated marketing strategies. They hire marketers and spend thousands and millions on campaigns, only to find themselves on the losing end of a major marketing push because the marketing teams does not take time to assess the ways in which people interact with their brands. Successful companies analyze business intelligence information at both micro and macro levels.

BI provides many benefits to companies utilizing it. It can eliminate a lot of the guesswork within an organization, enhance communication among departments while coordinating activities, and enable companies to respond quickly to changes in financial conditions, customer preferences, and supply chain operations. BI improves the overall performance of the company using it (Dhabi Abu, 2009).
Information is often regarded as the second most important resource a company has (a company’s most valuable assets are its people). So when a company can make decisions based on timely and accurate information, the company can improve its performance. BI also expedites decision-making, as acting quickly and correctly on information before competing businesses do can often result in competitively superior performance (Howson, 2012). It can also improve customer experience, allowing for the timely and appropriate response to customer problems and priorities.

Development of business strategies and allocation of resources (both financial and management) can be a daunting task. Products in declining sectors may be less deserving of resource allocation unless turnaround strategies are likely to reverse market trends. In declining markets, products are often managed for cash flow to enable resources to be reallocated to areas of portfolio with more potential (Hooley, 2008). Cash flow balance is achieved where investment in businesses with potential are met through surpluses from the current or past breadwinners. Business intelligence is powerful in portfolio analysis (Hooley, 2008).

Theoretical feasibility of process-model-driven EAI, the task of integrating applications usually involves a great deal of manual configuration or even programming work. To allow for further automation of integration tasks, functionalities of applications have to be provided as services, i.e. self-contained software modules, which can be connected more easily through well-defined standardized interfaces. This approach is usually denounced as service-oriented architecture (Natis and Schulte 2003). Available standards like e.g. the Business Process Execution Language for Web Services (OASIS, 2003) can serve as a foundation for true process-driven application integration.

In today’s digital age, companies have large amounts of data in their multiple databases, which often leads to confusion and the mismanagement of data resources. In some cases, there is little correlation between “the practice of capturing large amounts of data and the ability to access the used data to generate actionable information” (Hauser, 2007). This normally happens when different systems are used and the data stored in these systems might be of a different format and trying to access this data.
Barnes (2002) defines knowledge management as an integrated, systematic approach to identifying, managing and sharing all of an organization’s intangible assets including: databases, documents, policies, and procedures as well as previously unarticulated expertise and experiences held by individual workers”. According to Bhatt (2000) knowledge management consists of a set of cross disciplinary and organizational processes that seek to create ongoing and continuous new knowledge by leveraging the synergy of combined information technologies and the creative and innovative capacity of people. Business Intelligence initiatives are unlikely to be successful unless they are integrated with business strategies and related to the development of the core capabilities of the organisation (Snyman and Kruger, 2004).

According to Hoyt, Huq and Kreiser (2007), responsiveness is one of the most vital characteristics necessary for today’s organizations to possess. The ability to know what is happening especially in the external environment can be achieved by deploying a tool like BI to monitor and evaluate the impact that changes are going to have on the business operations. BI tools would most likely be used to do risk and impact analysis. According to Wang and Wang (2008), business intelligence can be defined as a broad category of applications and technologies used to gather, access and analyze large sets of data. This kind of information is mainly used in the decision making processes of any organization and this is mainly achieved by the use of information technology. In essence, BI involves the integration of core information and relevant contextual information to detect significant events and clarify cloudy issues for management decision makers (Scott & Hill, 2004). These management decision makers are mainly involved in strategy development and formulation.

2.3 Influence of Adoption of Business Intelligence on Effectiveness of Analytics

2.3.1 Effectiveness of Analytics

Business Analytics is, in this framework, also seen as a Transforming process where the collected evidence is transformed into decisions or insight. The transforming process presumably utilizes some practices and technologies, and is affected by the capability set and some cultural aspects (Liebowitz, 2015).
Good analytical capabilities should be complemented by good information management capabilities to integrate, transform, extract and access data (Davenport & Harris, 2007). It is also important to consider market skills. These skills are complementary to customer analytics because without deep understanding what kind of business questions should be answered by analytics, it is not possible to use the technology in a proper way. For example, if a marketer is not used to conduct one-to-one marketing it would be difficult to start using analytics to drive personalized customer approach.

Business Analytics is a set of Specific activities. Together, these activities form a process to operate on evidence. The activities are, according to the definitions collected by Holsapple et al. (2014), accessing, examining, aggregating and analyzing evidence. Together with the practices and technologies, these specific activities enable the transforming process to transform the evidence into insights or decisions.

The final perspective of Business Analytics, given by Holsapple et.al (2014), is of it as a Decisional paradigm. This implies that Business Analytics is a distinct approach to decision making, different than for example naturalistic decision making which involves basing decisions on experience and intuition. Business Analytics should at least be a part of the decision making process. The aim with the decisional paradigm is that decisions should be based on data and logical analysis.

Liebowitz (2015) stated that no manager can make decisions based on analytics alone; there might not be enough time to gather and analyze all facts, there may be too much information, or the data may not be available. Liebowitz (2015) proposes that conditions which favor intuition are for example time-pressure, ill-defined goals, dynamic environments and experienced participants. Analytics is however preferred for conflict resolution, optimization, justification, and computational complexity.

Liebowitz (2015) continues that data has value and a role in decision making, but that it is not the only factor to consider; relying solely on data can lead to missed opportunities or that mistakes are made, therefore it is important to use intuition to find other factors that can provide a more complete picture of the situation. Liebowitz (2015) further argues that logical reasoning works better in analyses of what Donald Rumsfeld, the former American secretary of defense, famously denoted “known-knowns” and “known-
unknowns”, but that Rumsfeld has missed to mention the “unknown-knowns”, which are things that a person knows, without consciously knowing that he/she knows - and it is for these types of issues that intuition has an advantage over logical reasoning.

Pfeffer and Sutton (2006) claim to be that managers rely more on their own experience than they trust research and second-hand data, that managers prefer to use practices that they are most competent in, that hype and marketing distract managers from evidence, and that dogma and belief are used as base for decisions instead.

**2.3.2 Relationship between Business Intelligence and Effectiveness of Analytics**

According to Adelman et.al, (2012), BI is encompasses a broad range of analytical software and solutions for gathering, consolidating, analyzing and providing access to information in a way that is supposed to let an enterprise's users make better business decisions. (Malhotra, 2010) describes BI that facilitates the connections in the new-form organization, bringing real-time information to centralized repositories and support analytics that can be exploited at every horizontal and vertical level within and outside the firm. BI describes the result of in-depth analysis of detailed business data, including database and application technologies, as well as analysis practices (Gangadharan & Swamy, 2004). BI is technically much broader, potentially encompassing knowledge management, enterprise resource planning, decision support systems and data mining (Gangadharan & Swamy, 2004).

Nguyen Manh et.al., (2005) introduced an enhanced BI architecture that covers the complete process to sense, interpret, predict, automate and respond to business environments and thereby aims to decrease the reaction time needed for business decisions. (Nguyen et.al, 2005) proposed an event-driven IT infrastructure to operate BI applications which enable real-time analytics across corporate business processes, notifies the business of actionable recommendations or automatically triggers business operations, and effectively closing the gap between Business Intelligence systems and business processes.

Seufert and Schiefer (2005) suggest an architecture for enhanced Business Intelligence that aims to increase the value of Business Intelligence by reducing action time and interlinking business processes into decision making. Business intelligence provides organizational data in such a way that the organizational knowledge filters can easily
associate with this data and turn it into information for the organization. Persons involved in business intelligence processes may use application software and other technologies to gather, store, analyze, and provide access to data, and present that data in a simple, useful manner. The software aids in Business performance management, and aims to help people make "better" business decisions by making accurate, current, and relevant information available to them when they need it.

Some businesses use data warehouses because they are a logical collection of information gathered from various operational databases for the purpose of creating business intelligence. A study by Gangadharan and Swamy (2004) revealed that enterprises are building business intelligence systems that support business analysis and decision making to help them better understand their operations and compete in the marketplace.

2.3.3 Benefits of Analytics in the Banking sector

The application allows users to create scenarios based on the data collected thus allowing them to make more informed decisions while avoiding pitfalls. In order to give it a competitive advantage, the company that created the application has offered a free version of the product that allows testing of data that is less than 16 megabytes just to show its effectiveness (Wayner, 2012). ‘Infotracker’ is an application recently developed that is triggered by a customer’s close proximity to an advertisement billboard belonging to a company they are affiliated to. As long as the customer is carrying a membership/loyalty card belonging to the company they will be targeted. When the customer is close enough to read the ad, a text message is sent to their mobile phone offering a new product such as an upgrade from the current credit card they own after the company has analyzed their buying behavior (van Bommel & Edelman, 2015).

Customer Relationship Management System’ adopted by various financial institutions in Kenya in collaboration with Microsoft is yet another application where big data analytics is maximized. The system captures all data entered by their clients and uses it to improve the customer experience by saving on time and allowing the client to select exactly which area they need assistance in (Karikkandathil, 2016). In addition, financial institutions can now sieve through large volumes of data in the form of emails, customer feedback and even text messages with added ease (Olhorst, 2012).
Fraud detection software applications are now in use by a number of financial institutions (Gadd, 2011). The financial institutions that are able to purchase and adapt to the new breed of software place themselves in a competitive position compared to their rivals (Zikopoulos et al., 2011). Data analysis applications such as ‘Qubole’ have been adopted in some commercial banks across America.

Big data has made a significant impact in many sectors of the U.S. and world economies like healthcare, manufacturing and retail. According to a report by Researchmoz (2014), apart from the government sector, the financial services sector has more to gain from leveraging big data; the technology will not only help financial institutions maximize the value of data but will also help them gain competitive advantages, minimize costs, convert challenges to opportunities and minimize risks in real time. The report goes on to explain the huge opportunity for financial services firms to apply new data sets and algorithms to business operations which will optimize capital allocation, cash management and currency processing. Capgemini Consulting (2014) reports that 60% of financial institutions in North America believe that big data analytics offer a significant competitive advantage and 90% think that successful big data initiatives will define the winners in the future.

According to The Financial Brand (2014), financial institutions are struggling to profit from the vast volumes of data and banks only use a small portion of the data to generate insights that would enhance customer experiences. The article posits that banks that apply big data analytics have a 4% point lead in market share over banks that do not. Urban (2014) found that big data analytics have become an essential part of any strategy to help detect and prevent financial crime, owing to the ever evolving attack methods used by criminals exploiting multichannel vulnerabilities to compromise technology systems. Big data has enabled banks to implement real time analytics on a large scale to meet the growing threats.

Xerago (2015) defines marketing analytics as the practice of measuring, managing and analyzing market performance to maximize the effectiveness of and return on investment (ROI) from the marketing activities. The report stresses that marketing analytics will help banks sift through the data and assist in decision-making, which will lead to increase profitability.
Pramanick (2013) states that banks are always at risk of losing customers and need strategies that are dependent in identifying the right action to the right customer. Thus banks should invest in customer analytics that effectively segment their customers. This will assist in determining pricing, products and services, the right customer approach and marketing methods. Morabito (2015) adds that big data enabled marketing automation will assist banks in servicing individual customer needs while keeping the marketing costs low, enabling a personalized experience at a good ROI.

According to a study by the financial services association of the European financial services community, country members have turned to data analytics to their credit risk models. Big data analytics tools aid bankers with deeper insights into their customer’s behaviors by analyzing information including credit reports, spending habits and repayment rates of credit applicants. Big data software determines the likelihood that an individual would default on a loan or fail to constantly meet payment deadlines (Hortonworks Inc, 2013).

2.4 Influence of Adoption of Business Intelligence on Product Development Effectiveness

2.4.1 Product Development Effectiveness

Product development is a critical cornerstone of firm success. Corporations are using a structured idea-to-launch process which help them manage implementing these success drivers and reduce the risk of product launch fail (Cooper & Edgett 2012). Product development is a continuous process and Company X is growing its product portfolio continuously, the commissioner felt the need in structuring the product development and launch process in a well-defined step-by-step process that is easy to follow and communicate internally (Rantanen, 2013).

In today’s market careful planning and a good product strategy are essential to help you succeeding in the market. Companies everywhere are competing more than ever to develop new and unique products or services and gain a higher position in the market. Companies develop a high number of new products every year. Most of these products fail to secure competitive advantages and end up being just another high cost for the company (Cooper 2001).
To enable constant growth companies should master the process of a product launch through introducing new competitive products into the market. Product launches help increasing sales revenue and expanding the customer base. By introducing new products a company can also target new groups of customers. The launch of new products can also influence the company expansion and new internal investments. Continuous research and planning are necessary if a company wants to achieve a successful product launch. During this process all the employees of the company are involved, from the R&D to the Sales and Marketing team (Gluck, 2012). Different products have different characteristics and naturally they differ in the requirements. Such claim has been also studied by different authors who have come up with the same conclusion; one strategy does not fit to all products (MacCormack, et al., 2012).

The ideation activity that a company undertakes to generate a set of product concept represents the concept generation. As a stage in product development process the concept generation serves to bring to the company as many concepts as possible, review the concepts and determine the best options which should be considered for further product development (Kahn, 2011). A good or bad product idea can determine the success of a project, as the ideas generation will lead to the new products which can be offered to the customers. There are many ideas that a company can work on, but the quality of the ideas is usually low quality or low-value.

### 2.4.2 Relationship between Adoption of Business Intelligence and Product Development Effectiveness

Using the concepts of BI applications including data mining, manufacturers are able to better understand the key success factors in creating new products. In conjunction with this finding is the insight that AMR Research has found in the adoption of BI for the new product development and introduction process in manufacturing companies who rely on distribution channels. A critical success factor of BI implementations is the ability to create a real-time analytics link between the demand management, channel management, production planning and production operations (Tvrdikova, 2007).

Increasing order velocity and accuracy is in fact revolutionizing entire industries. Role-based and process-based taxonomies provide marketers with varying views of the same data and information, giving them insights into how best to define strategies and execute
them. One of the strategic benefits of adopting data warehousing is in moving away from siloed data to a single system of record which can be used for supporting analyses of customer relationships and strategies on increasing retention and sales (Cui, Damiani & Leida, 2007).

Data warehousing initiatives were the catalyst of Continental moving beyond system and process integration to focus more on real-time business intelligence. Their investments in data warehousing and business intelligence are credited with helping to turn the company around financially and keep it in business today based on a value assessment completed by the airline (Watson, Wixom and Hoffer, 2009). None of these benefits accrued without significant effort, the greatest being changing how many in the airline perceived the use of data and the many challenges of overcoming resistance to change. The greatest impediment to the success of any data-warehousing project is getting those most impacted by the process, procedural, data use, analysis and reporting to participate and take ownership versus resisting and even sabotaging change (Marks & Frolick, 2011).

According to a study by Zikmund (2013) Business Intelligence plays a big role in helping firms grow their market share. To continually discover new customers requires both attitudinal and behavioral changes in a company’s business intelligence function and in the way it obtains information from and about its customer. Analyze the customer database to ascertain who is using the company’s products and services, and why. Study those who are atypical to discover how they became customers. When feasible and appropriate, reward their input and publicize their innovative use of the company’s product. Identify their information sources and develop pertinent marketing communications to attract more atypical customers like them.

The Stage Gate model is an organized, structured product development and launch process which is used to decrease the product failures and increase the success of the companies in launching new products. The Stage gate model is a proven successful method and many international companies have been using it when launching new products. International Paper, which is world’s largest player in pulp and paper industry, is using use Stage Gate process in managing the development and launch of new products. This reference makes the Stage Gate model more relevant to this case study (Cooper 2001).
Process models provide a useful depiction of the key activities involved in NPD, effectively acting as a blueprint for organizations to follow and adapt as required (Oorschot et al., 2010). Their adoption and use has been linked to improved profitability and performance (Nijssen & Lieshout, 1995). For managers, these models assist portfolio planning and risk management, aiding the allocation of resources to the right projects at the right time (Oorschot et al., 2010; Cooper, 2008; Cooper et al., 2001). For organizations, their adoption can be beneficial, as in many cases, managers have little confidence in their ability to effectively manage NPD (O’Marah, 2004; cited in Koudal and Coleman, 2005). Utilising these models can help avoid the omission of critical activities from the process, which is not uncommon (Cooper & Kleinschmidt, 2000).

2.4.3 Challenges Of Business Intelligence in Product Development

According to Chuah and Wong (2013) Business Intelligence (BI) packages have seemed the a top priority for chief executives and it continue to be the maximum critical technology adopted over the recent years (Gartner research 2007; 2008; 2009). Despite the fact that there has been a developing interest in BI region, success for enforcing BI continues to be questionable (Tang & Teo 2000; Lupu & Sloman, 1997). Lupu and Sloman (1997) also mentioned that approximately 60% - 70% of BI programs fail because of the technology, organizational, cultural and infrastructure troubles.

Moreover, EMC enterprise argued that many BI tasks have failed because the tools have not been reaching the end customers and the result has not meet the end users’ need efficaciously. The primary venture facing BI gadget is the cost. BI has developed and all and sundry has some shape of BI in region now, as it's turning into a fairly widespread expenditure. The general value of BI – the fee of generation, upkeep and implementation – is absolutely one of the challenges that implementers are facing.

The second obstacle is the quantity of customers. The wide variety of commercial enterprise users now tapping into BI is growing dramatically, especially as we begin to flow into operational intelligence. We’re seeing extra naïve users now not the conventional analysts or statistics scientists, so it isn't best the variety of customers but an increase in help for those users from an implementation point of view. The other challenge is inside the place of operational BI and the brand new assets of statistics to be had. We’re seeing a superb boom in the volumes of information (big statistics) being
analyzed and saved in statistics warehouses and experimental regions. This record is used for complex advanced, embedded and streaming analytics. There are now very thrilling units of statistics in BI, which is in reality are different from the traditional, greater strategic or tactical sorts of BI. This doesn’t diminish the need for classic BI; it just method we ought to make bigger our BI architectures to embrace those new regions.

These massive challenges lead to the fourth, that’s the overall performance and scalability of the environment. obviously, if we're starting to herald operational human beings, operational BI, streaming analytics, massive records applications, etc., it manner that the overall performance has to be a primary attention of the BI implementers – sub-second reaction time for plenty operational intelligence queries even as simultaneously supporting the extra strategic or long walking queries. Tang and Teo (2000) stated that BI projects collapse because of failure to identify BI projects as cross organizational commercial initiatives, unengaged business sponsors, unobtainable or unwilling business representatives, lack of skilled and available staff, no business analysis activities, no appreciation of the impact of dirty data on business profitability and no understanding of the necessity for and the use of meta-data.

In the banking enterprise information assets can be from operational databases, ancient information, and external statistics for example, from market research businesses or from the net, or records from the already existing facts warehouse environment. The records sources may be relational databases or another records structure that helps the road of commercial enterprise applications. Statistics can also reside on many distinct platforms and may include dependent records, which include tables or spreadsheets, or unstructured information, along with plaintext documents or snap shots and different multimedia statistics. Huge facts refer to massive datasets which can be difficult to shop, search, proportion, visualize, and examine (Dijicks, 2012).

2.5 Chapter Summary

The studies from previous research had shown that Business intelligence (BI) systems provide the ability to analyse business information in order to support and improve management decision making across a broad range of business activities. The studies have shown business intelligence influences planning effectiveness, effectiveness of analytics and product development.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction
This chapter presents the methodology that was used to conduct the research, procedures and modalities of data collection. It covers research design, population and sampling design, data collection methods, research procedure, data analysis methods and the chapter summary.

3.2 Research Design
The research design is the plan to realize research objectives and answering research questions (Panneerselvam, 2004). It can be explained as plan which specifies the methods and procedures employed during the research process for collecting and analyzing data economically.

This study employed a descriptive survey research design. Descriptive survey research designs are used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification. Kombo and Tromp (2009) noted that descriptive survey research is intended to produce statistical data.

3.3 Population and Sampling Design

3.3.1 Population
Mugenda and Mugenda (2003), defined target population as the set of individuals, cases or objects with same observable characteristics, to which a researcher wants to generalize the results of the study. The target population for this study was employees at Equity Bank limited. This comprised of Top, middle and low level Managers, all of whom in their structure are considered to be in the business level.

The researcher focused on the Equity bank employees based on their educational level and exposure to government activities; they offer a unique perspective to the study as they understand the impact of business intelligence on corporate performance management.
Table 3.1: Population

<table>
<thead>
<tr>
<th>UNIT OF ANALYSIS</th>
<th>TARGET POPULATION</th>
<th>% DISTRIBUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Level</td>
<td>72</td>
<td>4</td>
</tr>
<tr>
<td>Middle level</td>
<td>334</td>
<td>19</td>
</tr>
<tr>
<td>Lower Level</td>
<td>1344</td>
<td>77</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1750</td>
<td>100</td>
</tr>
</tbody>
</table>

### 3.3.2 Sampling Design

According to Sekaran and Bougie (2013), in probability sampling, the elements in the population have some known, nonzero chance or probability of being selected as sample subjects. This design was used when the representatives of the sample is of importance in the interest of wider generalizability. This was the design that the study shall be adopting, as the sample shall be inferred to the population.

#### 3.3.2.1 Sampling Frame

According to Borg and Gall, (2007) indicated that sampling frame is a published list in which, there are a set of directions for identifying a population. It is the source material or device from which a list of all elements within a population that can be sampled is drawn (Jwan, 2010). The sampling frame was top, middle and lower level management in Equity bank.

#### 3.3.2.2 Sampling Techniques

This study used systematic cluster sampling to involve top level management, middle level management and lower level management staff. The type of random sampling to be used will be simple random sampling to get the respondents from the population.

#### 3.3.2.3 Sample Size

Cooper and Schindler (2006) describe sampling as selecting a given number of subjects from a defined population as representative of that population. Sampling is a deliberate choice of a number of people who will provide the data from which conclusions will be drawn on larger group which these people represent (Jankowicz, 2005). According to Saunders, Lewis and Hornhill (2012) there are two types of sampling techniques:
probability sampling which involves simple random sampling, systematic random sampling, stratified random sampling and cluster sampling.

According to Saunders et al., (2012) the choice of sample size is governed by the confidence needed in the data, the margin of error that can be tolerated and type of analyses to be undertaken and the size of the population from which the sample is to be drawn. The selection of the sample will be preferred to represent the whole population as follows

\[ n = \frac{NC^2}{C^2 + (N-1)e^2} \]

Where \( n \) = Sample size, \( N \) = Population size, \( C \) = Coefficient of variation and \( e \) = Standard margin of error. Nassiuma (2000) recommends a margin error ranging between 2%-5% and coefficient of variation ranging between 20%-30%.

\[ n = \frac{1750 \times 0.21^2}{0.21^2 + (1750 - 1)0.02^2} \]

\[ n = 104 \]

The sample size is as presented in Table 3.1.

<table>
<thead>
<tr>
<th>Management</th>
<th>Sample size (104 x Percentage)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top level</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Middle level</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>Lower level</td>
<td>80</td>
<td>77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>104</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### 3.4 Data Collection Methods

According to Cox (2010) data collection methodology is the precise, systematic gathering of information relevant to the research sub problems using methods like focus group discussion, participant observation systematic gathering of information relevant to the research sub-problems and interviews. The main tools of data collection for this study will be questionnaires. The questionnaire will be used for data collection because it offers considerable advantages in the administration. It also presents an even stimulus
potentially to large numbers of people simultaneously and provides the investigation with an easy accumulation of data.

Jwan (2010) maintains that questionnaires give respondents freedom to express their views or opinion and also to make suggestions. It is also anonymous. Anonymity helps to produce more candid answers than is possible in an interview. The questionnaires will be used to collect data from, top, middle and lower level managements in all departments in Equity Bank. The questionnaire will comprise of four sections and each of the other three sections will collect data based on the study objectives. The questionnaire will comprise of both close-ended and open-ended items.

3.4.1 Pilot Testing
Pilot test will be conducted to detect weakness in design and instrumentation and to provide alternative data for selection of a probability sample (Mugenda & Mugenda, 2003). A pre-test of the questionnaire will be out prior to the actual data collection. The developed questionnaire will be checked for its validity and reliability through pilot testing. According to Mugenda & Mugenda (2003) a successful pilot study would use 1% to 10% of the actual sample size. Therefore, the research intends to subject the questionnaire to 10% of the sample population to involve 10 respondents from the neighbouring Embu County to participate in the pilot study.

3.4.2 Validity of the Research Instrument
Validity involve how accurately the data obtained represents the variables of the study while reliability refers to the degree to which a research instrument yields consistent results or data after repeated trials to establish its reliability (Saunders, et.al., 2012). The term validity indicates the degree to which an instrument measures the construct under investigation. For a data collection instrument to be considered valid, the content selected and included must be relevant to the need or gap established. Validity of the questionnaire will be established by the research and supervisor reviewing the items. Before the actual study, the instruments will be discussed with supervisors. The feedback from the supervisors and the experts will help in modifying the instruments. This will ensure that the questionnaire collects reliable information and also improves the response rate.
3.4.3 Reliability of the Research Instrument

Mugenda and Mugenda (2003) defined reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. Reliability test measures the internal consistency of the questionnaire. An instrument is reliable when it can measure a variable accurately and obtain the same results over a period of time. A pre-test will be done on 10 respondents at the National Bank of Kenya to help the researcher identify the most likely source of errors and hence modify the questionnaire before the actual study. Reliability test will also help establish the internal consistency of the instrument.

Reliability will be calculated with the help of Statistical Package for Social Sciences (SPSS) version 23. Cronbach’s alpha will be used whereby a co-efficient of above 0.7 will imply that the instruments are sufficiently reliable for the measurement. The objectives of pre-testing will be to allow for modification of various questions in order to rephrase, clarify and or clear up any shortcomings in the questionnaires before administering them to the actual respondents. It will help the researcher to correct inconsistencies arising from the instruments, which will ensure that they measure what is intended.

3.5 Research Procedures

Data collection refers to the methodology and the instruments that the researcher will use during the data collection process (Kothari, 2004). The researcher will seek to collect data from the staff in the targeted respondents from the county. An introductory letter for data collection will first be obtained from USIU. The researcher will further make appointments with the respective respondents in respective departments.

The researcher will personally administer the questionnaire to the respondents. However, where the respondents will be busy or unable to fill the questionnaires at that moment drop and pick later method will be adopted. A deadline will be set by which the completed questionnaires must be ready. To ensure high response rates, the researcher will interpret each of the sections of the questionnaires to the respondents to ensure that they fully understand the questions before answering. Information and the data collected from respondent will be treated confidentially and only used for the study.
3.6 Data Analysis Methods

The data collected by the questionnaire will be cleaned, edited, coded and entered into Statistical Package for Social Sciences (SPSS) which will also aid in the data analysis. This study is expected to generate qualitative and quantitative data. The quantitative data will analyze using descriptive and inferential statistics. The qualitative data will be generated from the open ended questions and will be categorized in themes in accordance with research objectives and reported in narrative form along with quantitative presentation.

Both descriptive and inferential statistics will be adopted for the study. The quantitative data will be analyzed by using descriptive statistics which will include frequency distribution tables and measures of central tendency (the mean), measures of variability (standard deviation). The inferential statistics will include a regression model which will establish the relationship between variables. Multiple regression will be used to determine the relationship between the independent variables and dependent variable. The model will take the form:

The basic regression model will be: \[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon \]

Where; \( Y \) – is the dependent variable (Corporate performance management)
\( X_1 \) - Planning effectiveness, \( X_2 \) - Effectiveness of analytics, and \( X_3 \) - Product development effectiveness
\( \beta_0 \) – is the constant, \( \epsilon \) is the error of prediction.
\( \beta_{1-a} \) = the regression coefficient or change included in \( Y \) by each \( X \)
\( \epsilon \) = error term

The analysis will include use of frequency distribution, measures of central tendency (mean) and measures of variation (standard deviation). The results will be presented in tables, charts and graphs.

3.7 Chapter Summary

This chapter presents the methodology, which the researcher intends to use to carry out the study. It further describes the type and source of data, the target population and sampling methods and the techniques that will be used to select the sample size. It also describes how data will be collected and analysed.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the results established from the data analysis done. This included results relating to the demography and specific research objectives aimed at establishing influence of adoption of business intelligence on corporate performance management at Equity bank Kenya.

4.1.1 Response rate

The research issued a total of 104 questionnaires and a total of 85 were filled and returned giving a response rate of 82%. This was sufficient for the study as indicated in table 4.1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filled and returned</td>
<td>85</td>
<td>82</td>
</tr>
<tr>
<td>Non-response</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>100</td>
</tr>
</tbody>
</table>

4.2 Demographical Factors

The research analysed data with regard to the demographic factors and the results were presented as follows:

4.2.1 Gender

Analysis of the respondents’ gender revealed that male represented 47% with female representing 53%. As indicated in Figure 4.1, there was a balance between genders in the response rate, thus impartiality in regard to gender.

Figure 4.1: Gender
4.2.2 Age bracket
Analysis of the respondents’ ages revealed that respondents aged 18-30 years were 29%, while those of 31-40 years were the majority and accounted for 45%. It was also revealed that individuals of 41-50 years were 18%. It was also noted that employees aged over 51 years were 8%. As indicated in Figure 4.2, this implied that the bank had a diverse age group and majority were young therefore were able to serve the bank for a long time.

Figure 4.2: Age bracket

4.2.3 Highest Education Level
Analysis of the respondents’ education levels revealed that degree holders accounted for 67%, college graduates were accounted for 31%, while those with O level accounted for 2% as indicated to Figure 4.3. This implied that the bankers were literate enough to understand and comprehend the questionnaires, in addition the bank had employees with the right education to ensure prosperity of the bank.

Figure 4.3: Highest Education Level
4.2.4 Working Experience

To investigate the work experience it was revealed that respondents with less than 1 year experience accounted for 14% of the population, those with 1-5 years accounted for 36%, at the same time respondents with 6-10 years represented 49%. It was also revealed that respondents with 11-20 years accounted 11%, and those 21 years and above represented 2% of the total as shown in Figure 4.4

Figure 4.4: Working Experience

4.3 Influence of Adoption of Business Intelligence on Planning Effectiveness

The study sought to analyze the influence of adoption of business intelligence on planning effectiveness to achieve this objective, respondents were asked a set of questions to indicate to what extent they agree or disagree with statement. Using a five point Likert scale where 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree. The results are presented as follows in the subsequent sections.

4.3.1 Descriptive Statistics of Business Intelligence

Table 4.2 presents the results for the response on business intelligence.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that the business intelligence system I use is useful.</td>
<td>85</td>
<td>4.17</td>
<td>1.169</td>
</tr>
<tr>
<td>I consider that the business intelligence system I use helps in my decision making</td>
<td>85</td>
<td>4.33</td>
<td>1.211</td>
</tr>
<tr>
<td>I believe that I get exact information from the system</td>
<td>85</td>
<td>4.50</td>
<td>.837</td>
</tr>
<tr>
<td>I am sure that the business intelligence system I use gives me valuable information.</td>
<td>85</td>
<td>4.33</td>
<td>.816</td>
</tr>
</tbody>
</table>
Most of the respondents agreed that the business intelligence system is useful (M=4.17, SD=1.169). Respondents also agreed that they would consider the business intelligence system helpful in decision making (M=4.33, SD=1.211). Respondents also believe that they get exact information from the system (M=4.50, SD=.837). It was also revealed that majority agreed that the business intelligence system gives them valuable information (M=4.33, SD=.816) as shown in Table 4.2.

### 4.3.2 Descriptive Statistics of Planning Effectiveness

Table 4.3 presents the results for the response on planning effectiveness.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top executives take formal responsibility for the organization’s strategic business planning</td>
<td>85</td>
<td>3.83</td>
<td>.753</td>
</tr>
<tr>
<td>Strategic planning is a top priority activity, performed on a regular basis</td>
<td>85</td>
<td>4.00</td>
<td>.894</td>
</tr>
<tr>
<td>The organization provide resources specifically for strategic planning</td>
<td>85</td>
<td>4.17</td>
<td>.753</td>
</tr>
<tr>
<td>The organization follow a defined set of procedures in its strategic planning process</td>
<td>85</td>
<td>4.17</td>
<td>.653</td>
</tr>
<tr>
<td>all managers participate in the planning process</td>
<td>85</td>
<td>3.17</td>
<td>.713</td>
</tr>
</tbody>
</table>

The results as shown in Table 4.3 revealed that top executives take formal responsibility for the organization’s strategic business planning (M=3.83, SD=.753). It was also agreed that strategic planning is a top priority activity, performed on a regular basis (M=4.00, SD=.894). Majority also agreed that the organization provide resources specifically for strategic planning (M=4.17, SD=.753). In addition, it was established that the organization follow a defined set of procedures in its strategic planning process (M=4.17, SD=.653). It was revealed that there was uncertainty on managers participating in the planning process (M=3.17, SD=.713).
4.3.3 Descriptive Statistics of Planning Effectiveness

Table 4.4 presents the findings on planning effectiveness and the results revealed that business Intelligence platform has helped the organization to save time and money in data (M=4.00, SD=.632). At the same time business Intelligence was found to combine data from diverse areas (M=4.50, SD=.837). At Equity bank it was agreed that business intelligence information is analyzed at both micro and macro levels (M=4.33, SD=1.211), and business Intelligence enhance communication among departments (M=3.83, SD=1.169). The study also show that business intelligence are integrated with business strategies and related to the development of the core capabilities of the organization (M=3.83, SD=.753).

Table 4.4: Descriptive Statistics of Planning Effectiveness

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Intelligence platform has helped the organization to save time and money in data</td>
<td>85</td>
<td>4.00</td>
<td>.632</td>
</tr>
<tr>
<td>Business Intelligence is that it combines data from diverse areas.</td>
<td>85</td>
<td>4.50</td>
<td>.837</td>
</tr>
<tr>
<td>At Equity bank we analyze business intelligence information at both micro and macro levels.</td>
<td>85</td>
<td>4.33</td>
<td>1.211</td>
</tr>
<tr>
<td>Business Intelligence enhance communication among departments</td>
<td>85</td>
<td>3.83</td>
<td>1.169</td>
</tr>
<tr>
<td>Business Intelligence are integrated with business strategies and related to the development of the core capabilities of the organisation</td>
<td>85</td>
<td>3.83</td>
<td>.753</td>
</tr>
</tbody>
</table>

4.4 Influence of Adoption of Business Intelligence on Effectiveness of Analytics

The study sought to analyze the influence of adoption of business intelligence on effectiveness of analytics to achieve this objective, respondents were asked a set of questions to indicate to what extent they agree or disagreed with statement. Using a five point Likert scale where 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree. The results are presented as follows in the subsequent sections.
4.4.1 Descriptive Statistics on Effectiveness of Analytics

The findings revealed that majority agreed that the analytical capabilities is complemented by the information management capabilities (M=3.67, SD=.516). It was also agreed that business Analytics form a vital part of the decision making process (M=3.83, SD=.753). It was agreed that relying solely on data has lead to missed opportunities and mistakes (M=4.33, SD=.816). Managers also prefer to use practices that they are most competent in (M=3.87, SD=.616). It was however disagreed that manager can make decisions based on analytics alone (M=2.83, SD=1.169). It was also disagreed that analytics is preferred for conflict resolution, optimization, justification, and computational complexity (M=2.67, SD=.816). Table 4.5 contains this information.

Table 4.5: Descriptive Statistics on Effectiveness of Analytics

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our analytical capabilities is complemented by the information management capabilities</td>
<td>85</td>
<td>3.67</td>
<td>.516</td>
</tr>
<tr>
<td>Business Analytics form a vital part of the decision making process.</td>
<td>85</td>
<td>3.83</td>
<td>.753</td>
</tr>
<tr>
<td>Manager can make decisions based on analytics alone</td>
<td>85</td>
<td>2.83</td>
<td>1.169</td>
</tr>
<tr>
<td>Analytics is preferred for conflict resolution, optimization, justification, and computational complexity</td>
<td>85</td>
<td>2.67</td>
<td>.816</td>
</tr>
<tr>
<td>Relying solely on data has lead to missed opportunities and mistakes</td>
<td>85</td>
<td>4.33</td>
<td>.816</td>
</tr>
<tr>
<td>Managers prefer to use practices that they are most competent in</td>
<td>85</td>
<td>3.87</td>
<td>.616</td>
</tr>
</tbody>
</table>

4.4.2 Descriptive Statistics of Business Intelligence and Effectiveness of Analytics

It was established that business intelligence brings real-time information to centralized repositories (M=3.65, SD=1.225). It was also revealed that business intelligence facilitates connections and support analytics that can be exploited at all level within and outside the firm (M=3.67, SD=.816). It was also revealed that business intelligence has reduced action time and interlink business processes into decision making (M=4.02, SD=.442).

It was also revealed that analytics provides organizational data in form that is easily turned into information for the organization (M=3.83, SD=.408). The study reveals that persons involved in business intelligence processes easily access to data (M=4.24, SD=.837). There was uncertainty about business intelligence applications enable real-
time analytics across corporate business processes ($M=3.17$, $SD=1.169$) and the result is presented in Table 4.6 as follows.

**Table 4.6: Descriptive Statistics of Business Intelligence and Effectiveness of Analytics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Intelligence brings real-time information to centralized</td>
<td>85</td>
<td>3.65</td>
<td>1.225</td>
</tr>
<tr>
<td>repositories</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Intelligence facilitates connections and support analytics that</td>
<td>85</td>
<td>3.67</td>
<td>.816</td>
</tr>
<tr>
<td>can be exploited at all level within and outside the firm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Intelligence applications enable real-time analytics across</td>
<td>85</td>
<td>3.17</td>
<td>1.169</td>
</tr>
<tr>
<td>corporate business processes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Intelligence has reduced action time and interlink business</td>
<td>85</td>
<td>4.02</td>
<td>.442</td>
</tr>
<tr>
<td>processes into decision making</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>provides organizational data in form that is easily turned into</td>
<td>85</td>
<td>3.83</td>
<td>.408</td>
</tr>
<tr>
<td>information for the organization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persons involved in business intelligence processes easily access to</td>
<td>85</td>
<td>4.24</td>
<td>.837</td>
</tr>
<tr>
<td>data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business intelligence allow firms understand their operations and</td>
<td>85</td>
<td>4.12</td>
<td>.597</td>
</tr>
<tr>
<td>compete in the marketplace</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**4.5 Influence Of Adoption Of Business Intelligence On Product Development**

The study sought to analyze the influence of adoption of business intelligence on product development to achieve this objective, respondents were asked a set of questions to indicate to what extent they agree or disagreed with statement. Using a five point Likert scale where 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree. The results are presented as follows in the subsequent sections.

**4.5.1 Descriptive Statistics of Product Development Effectiveness**

It was agreed that product development is a critical cornerstone of firm success ($M=4.83$, $SD=.408$). It was revealed that product development is a continuous process at equity bank. ($M=4.44$, $SD=.560$). Careful planning and a good product strategy are essential in
succeeding in the market (M=4.67, SD=.516). It was revealed that product launches help increase sales revenue and expanding the customer base (M=4.12, SD=.535). The launch of new products has influenced the company expansion and new internal investments (M=4.00, SD=.632). There was also uncertainty that companies have mastered the process of a product launch into the market (M=3.33, SD=.816) as presented in Table 4.7

Table 4.7: Descriptive Statistics of Product Development Effectiveness

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product development is a critical cornerstone of firm success.</td>
<td>85</td>
<td>4.83</td>
<td>.408</td>
</tr>
<tr>
<td>Product development is a continuous process at equity bank.</td>
<td>85</td>
<td>4.44</td>
<td>.560</td>
</tr>
<tr>
<td>Careful planning and a good product strategy are essential in succeeding in the market</td>
<td>85</td>
<td>4.67</td>
<td>.516</td>
</tr>
<tr>
<td>To enable constant growth companies we have mastered the process of a product launch into the market</td>
<td>85</td>
<td>3.33</td>
<td>.816</td>
</tr>
<tr>
<td>Product launches help increase sales revenue and expanding the customer base</td>
<td>85</td>
<td>4.12</td>
<td>.535</td>
</tr>
<tr>
<td>The launch of new products has influenced the company expansion and new internal investments</td>
<td>85</td>
<td>4.00</td>
<td>.632</td>
</tr>
</tbody>
</table>

4.5.2 Descriptive of Business Intelligence and Product Development Effectiveness

The study revealed business intelligence enables the company better understand the key success factors in creating new products (M=3.60, SD=.578). A critical success factor of business intelligence implementations is the ability to create a real-time analytics link in the production line (M=4.25, SD=.736). Business Intelligence has played a big role in helping the bank grow its market share (M=4.23, SD=.516). In addition, business intelligence has continually help in the discovery of new customers requirements (M=4.17, SD=.468).

It was also established that business intelligence has decreased the product failures and increased the success of the companies in launching new products (M=4.22, SD=.983). The study revealed that use of business intelligence in product development has increased order velocity and accuracy in the industry (M=3.67, SD=.724). Respondents failed to agree or disagree it there has been cases of staff resisting and even sabotaging change (M=3.50, SD=.548) as shown in Table 4.8.
Table 4.8: Descriptive of Business Intelligence and Product Development Effectiveness

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Intelligence enables the company better understand the key success factors in creating new products</td>
<td>85</td>
<td>3.60</td>
<td>.578</td>
</tr>
<tr>
<td>A critical success factor of business intelligence implementations is the ability to create a real-time analytics link in the production line.</td>
<td>85</td>
<td>4.25</td>
<td>.736</td>
</tr>
<tr>
<td>Use of Business Intelligence in product development has Increased order velocity and accuracy in the industry</td>
<td>85</td>
<td>3.67</td>
<td>.724</td>
</tr>
<tr>
<td>There has been cases of staff resisting and even sabotaging change.</td>
<td>85</td>
<td>3.50</td>
<td>.548</td>
</tr>
<tr>
<td>Business Intelligence has played a big role in helping the bank grow its market share</td>
<td>85</td>
<td>4.23</td>
<td>.516</td>
</tr>
<tr>
<td>Business Intelligence has continually help in the discovery of new customers requirements</td>
<td>85</td>
<td>4.17</td>
<td>.468</td>
</tr>
<tr>
<td>Business intelligence has decreased the product failures and increased the success of the companies in launching new products</td>
<td>85</td>
<td>4.22</td>
<td>.983</td>
</tr>
<tr>
<td>Process models provide a useful depiction of the key activities involved in new product development</td>
<td>85</td>
<td>4.67</td>
<td>.716</td>
</tr>
</tbody>
</table>

4.6 Inferential Analysis

4.6.1 Correlation Analysis

A Pearson correlation was done to establish the relationship between corporate performance and other factors as shown in Table 4.9.

Table 4.9: Correlation Analysis between Business Intelligence and other Factors

<table>
<thead>
<tr>
<th></th>
<th>Performance</th>
<th>Planning</th>
<th>Analytics</th>
<th>Product Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>Pearson Correlation</td>
<td>.720**</td>
<td>.951**</td>
<td>.896**</td>
</tr>
<tr>
<td>Planning</td>
<td>Pearson Correlation</td>
<td>.720**</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Analytics</td>
<td>Pearson Correlation</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Product Development</td>
<td>Pearson Correlation</td>
<td>.780**</td>
<td>.907**</td>
<td>.896**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>85</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

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

The findings as shown in Table 4.9 revealed that there was a positive relationship between corporate performance and planning ($r=0.720$, $p<0.01$), Analytics adoption ($r=0.720$, $p<0.01$), product development ($r=0.780$, $p<0.01$). It also revealed a significant
correlation between planning and analytics (r=0.951, p<0.01), product development (r=0.907, p<0.01). Therefore it was concluded that planning and analytics adoption and product development by way of business intelligence positively and significantly influenced corporate performance performance at Equity Bank as shown in Table 4.9

4.6.2 Multi Regression

The research analyzed the relationship between corporate performance and other factors. The results showed that R² value was 0.611 hence 61.1% of the variation in business intelligence was explained by the variations in planning and analytics adoption and product development by way of business intelligence as illustrated in Table 4.10

Table 4.10: Model Summary of Business Intelligence and other Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.781</td>
<td>.611</td>
<td>.597</td>
<td>.27252</td>
<td>.611</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.597</td>
<td>44.941</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), product development, analytics, planning

4.6.2.1 Anova of Corporate Performance And Other Factors

ANOVA analysis result of the regression between corporate performance and other factors was at 95% confidence level, the F critical was 44.941 and the P value was (0.000) therefore below 0.05 implied that it was statistically significant and can be used to assess the association between corporate performance and variations in planning and analytics adoption and product development as illustrated in Table 4.11

Table 4.11: Anova Between Corporate Performance and Other Factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>10.013</td>
<td>3</td>
<td>3.338</td>
<td>44.941</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>6.387</td>
<td>82</td>
<td>.074</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>16.400</td>
<td>85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: performance
b. Predictors: (Constant), product development, analytics, planning

4.6.2.2 Coefficient of Employee Performance and Co factors

The regression equation illustrated in Table 4.12 established that taking corporate performance and variations in planning and analytics adoption and product development into account and other factors held constant a unit change in Planning led to a 0.17 negative change in performance, at the same time a unit change in analytics led to a 0.075
positive change in performance, and a unit change in product development led to a 0.715 positive change in performance holding all factors constant.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \]

\[ Y = 1.813 - 0.17 X_1 + 0.075 X_2 + 0.715 X_3 + 0.27252 \]

Where:

- \( Y \) is the dependent variable (employee performance)
- \( \beta_0 \) is the regression constant;
- \( \beta_1, \beta_2, \beta_3 \) coefficients of independent variables;
- \( X_1 \) is planning, \( X_2 \) analytic, \( X_3 \) product development and \( \varepsilon \) is the error term.

**Table 4.12: Coefficient of Corporate Performance and Other Factors**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.813</td>
<td>.293</td>
<td>6.179</td>
</tr>
<tr>
<td></td>
<td>planning</td>
<td>-.017</td>
<td>.156</td>
<td>-.026</td>
</tr>
<tr>
<td></td>
<td>analytics</td>
<td>.075</td>
<td>.136</td>
<td>.124</td>
</tr>
<tr>
<td></td>
<td>product</td>
<td>.715</td>
<td>.171</td>
<td>.692</td>
</tr>
</tbody>
</table>

**4.7 Chapter Summary**

This chapter presented the results established from the data analysis done and presented data on employee demography and specific research objectives that established how investigate the influence of adoption of business intelligence on corporate performance management confined to the case of Equity bank Kenya. Subsequently in the section, the data was presented in line with the specific research objectives of the study. Chapter five offers the discussions, conclusions and recommendations of the study.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

This chapter gives a summary of the study, it also draws conclusion based on study findings and provides recommendations and suggestions for further study.

5.2 Summary of the Study

The purpose of this research was to investigate the influence of adoption of business intelligence on corporate performance management confined to the case of Equity bank Kenya. The research was guided by the following research questions: has the adoption of business intelligence influenced planning effectiveness? Has the adoption of business intelligence influenced the effectiveness of analytics? And has the adoption of business intelligence influenced product development effectiveness?

This study employed a descriptive survey research design. Descriptive survey research designs was used in preliminary and exploratory studies to allow researchers to gather information, summarize, present and interpret for the purpose of clarification. The target population for this study was 1750 employees at Equity Bank limited. This comprised of Top, middle and low level Managers, all of whom in their structure are considered to be in the business level. This study used stratified sampling to select a total of 104 respondents from top level management, middle level management and lower level management staff. The main tools of data collection for this study was questionnaires. The data collected by the questionnaire was cleaned, edited, coded and entered into Statistical Package for Social Sciences (SPSS) which will also aid in the data analysis.

The findings on influence of adoption of business intelligence on planning effectiveness revealed that employees think that business intelligence system is useful. The business intelligence system used helps in decision making. Employee exact information from the system. Business intelligence system gives employees valuable information Findings also revealed that Top executives take formal responsibility for the organization’s strategic business planning. Strategic planning is a top priority activity, performed on a regular basis. The organization provide resources specifically for strategic planning. The
organization follow a defined set of procedures in its strategic planning process. However there was disagreement on managers participate in the planning process. It was also established that business intelligence platform has helped the organization to save time and money in data. Business Intelligence combines data from diverse areas. Business Intelligence enhance communication among departments. The study also show that business intelligence are integrated with business strategies.

The findings based on influence of adoption of business intelligence on effectiveness of analytics. It was established that our analytical capabilities is complemented by the information management capabilities. Business analytics form a vital part of the decision making process. It was agreed that relying solely on data has lead to missed opportunities and mistakes. Managers also prefer to use practices that they are most competent in. It was disagreed that manager can make decisions based on analytics alone and analytics is preferred for conflict resolution, optimization, justification, and computational complexity. Findings also revealed that business intelligence brings real-time information to centralized repositories. Business intelligence facilitates connections and support analytics that can be exploited at all level within and outside the firm. Business intelligence has reduced action time and interlink business processes into decision making. It was also revealed that analytics provides organizational data in form that is easily turned into information for the organization. Persons involved in business intelligence processes easily access to data. However, there was uncertainty on business intelligence applications enable real-time analytics across corporate business processes.

The findings on influence of adoption of business intelligence on product development. Findings showed that product development is a critical cornerstone of firm success. Product development is a continuous process at equity bank. Careful planning and a good product strategy are essential in succeeding in the market. Product launches help increase sales revenue and expanding the customer base. The launch of new products has influenced the company expansion and new internal investments. There was also uncertainty that companies have mastered the process of a product launch into the market. In addition, findings revealed that business intelligence enables the company better understand the key success factors in creating new products. A critical success factor of business intelligence implementations is the ability to create a real-time analytics link in the production line. Business intelligence has played a big role in helping the bank grow its market share. In addition, business intelligence has continually help in the discovery of
new customers requirements. Business intelligence has decreased the product failures and increased the success of the companies in launching new products. The study also revealed that use of business intelligence in product development has increased order velocity and accuracy in the industry. Respondents failed to agree or disagree if there has been cases of staff resisting and even sabotaging change.

5.3 Discussion

5.3.1 Influence of Adoption of Business Intelligence on Planning Effectiveness

The findings revealed that business intelligence system is useful. Clearci (2013) states that business intelligence (BI) is concerned with Information Technology solutions for transforming output from large data collections into intelligence through the integration of sales, marketing, servicing, and support operations. Business Intelligence often covers such activities as Customer Relationship Management (CRM), Enterprise Resource Planning (ERP), and E-commerce using Data-Mining techniques.

It was revealed that business intelligence system uses help in decision making. According to Howson (2012), a successful Business Intelligence program can provide executives with the visibility they need into the performance drivers that propel the business forward. Business performance is measured by a number of financial indicators such as revenue, margin, profitability, and cost to serve. In marketing, performance gains can be achieved by improving response rate from particular campaigns, identifying characteristics of more responsive customers and products cross selling.

It was established that employees get exact information from the system and business intelligence system gives them valuable information. A research done by PWC Advisory services (2007) revealed that business intelligence tools facilitate marketers with information as per their requirements in order to make informed decision. Companies that adopt such analytical techniques end up attaining competitive advantage in being market leaders, concentrating on ventures that bring in money and spending it on worthwhile campaigns and promotions. The purposes of building BI strategy is to help business with long-term planning, help middle management with tactical reporting, and help operations with day-to-day decision making to run the business efficiently. BI is all about providing people with the information they need to do their jobs more effectively (Pant, 2009).
It was established that top executives take formal responsibility for the organization’s strategic business planning. According to Mintzberg et al. (2003) planning is the ability to think strategically by planners, managers and employees alike, feed into the strategic plan document. However, planning has its drawbacks. Plans are rarely perfect and may divert attention away from problems or opportunities not identified by the planners.

It was also revealed that strategic planning is a top priority activity, performed on a regular basis. Orge (2006) postulated that the communication of a company’s strategic plan is vital to its successful implementation, as it is the basis for linking strategy to operational planning and individual objectives. Without communication, organizational priorities are unclear and conflicts between various departments may arise. Also, employees cannot be committed to achieving the plan if the plan has not been communicated to them.

The findings showed that the organization provide resources specifically for strategic planning and the organization follow a defined set of procedures in its strategic planning process. Nieboer (2011) states that a quality planning document should provide well-justified answers to the strategic questions and the planning document should be a basis for communication with people who need to know about the strategy but who not participants in the planning process were. Also, the document may well contain some specific, measurable objectives.

The finding revealed that business Intelligence platform has helped the organization to save time and money in data. Teece (2009) asserts that business intelligence platform enables institutions to build out Business Analytics helping the organization to save time and money expediting the ability to engage data as information. Information lies at the core of strategic marketing. But with all of the information that is available, many companies are unable to access and leverage the information that will be central to their marketing success. Additionally, many companies find that they do not have the tools available to them that place the information in a meaningful and easy to understand format for quick analysis.

The findings showed that business Intelligence enhance communication among departments. BI provides many benefits to companies utilizing it. It can eliminate a lot of the guesswork within an organization, enhance communication among departments while coordinating activities, and enable companies to respond quickly to changes in financial
conditions, customer preferences, and supply chain operations. BI improves the overall performance of the company using it (Dhabi Abu, 2009).

The results revealed that business Intelligence combines data from diverse areas. According to Ramb (2013), the power of Business Intelligence is that it combines data from diverse areas of the business into a single version of the truth referred to as an enterprise data warehouse. Once this is achieved, data can be turned into information. That means using data to make factual business decisions. Many business owners neglect to put business intelligence at the core of otherwise sophisticated marketing strategies. They hire marketers and spend thousands and millions on campaigns, only to find themselves on the losing end of a major marketing push because the marketing teams does not take time to assess the ways in which people interact with their brands. Successful companies analyse business intelligence information at both micro and macro levels.

5.3.2 Influence of Adoption of Business Intelligence on Effectiveness of Analytics

The findings established that organizations analytical capabilities is complemented by the information management capabilities. Davenport and Harris (2007) state that good analytical capabilities should be complemented by good information management capabilities to integrate, transform, extract and access data. It is also important to consider market skills. These skills are complementary to customer analytics because without deep understanding what kind of business questions should be answered by analytics, it is not possible to use the technology in a proper way.

It was established that respondents disagreed that that manager can make decisions based on analytics alone. Liebowitz (2015) stated that no manager can make decisions based on analytics alone; there might not be enough time to gather and analyze all facts, there may be too much information, or the data may not be available. Liebowitz (2015) proposes that conditions which favor intuition are for example time-pressure, ill-defined goals, dynamic environments and experienced participants. Analytics is however preferred for conflict resolution, optimization, justification, and computational complexity.

The findings showed that relying solely on data has lead to missed opportunities and mistakes. Liebowitz (2015) continues that data has value and a role in decision making, but that it is not the only factor to consider; relying solely on data can lead to missed
opportunities or that mistakes are made, therefore it is important to use intuition to find other factors that can provide a more complete picture of the situation.

The findings showed that managers also prefer to use practices that they are most competent in. Pfeffer and Sutton (2006) claim that managers rely more on their own experience than they trust research and second-hand data, that managers prefer to use practices that they are most competent in, that hype and marketing distract managers from evidence, and that dogma and belief are used as base for decisions instead.

The findings revealed that business intelligence has reduced action time and interlink business processes into decision making. Seufert Andhreas and Schiefer Josef (2005) suggest an architecture for enhanced Business Intelligence that aims to increase the value of Business Intelligence by reducing action time and interlinking business processes into decision making. Business intelligence provides organizational data in such a way that the organizational knowledge filters can easily associate with this data and turn it into information for the organization.

It was also revealed that business intelligence facilitates connections and support analytics that can be exploited at all level within and outside the firm. Nguyen et.al, 2005) proposed an event-driven IT infrastructure to operate BI applications which enable real-time analytics across corporate business processes, notifies the business of actionable recommendations or automatically triggers business operations, and effectively closing the gap between Business Intelligence systems and business processes.

The study reveals that persons involved in business intelligence processes easily access to data. Seufert, (2005) states that persons involved in business intelligence processes may use application software and other technologies to gather, store, analyze, and provide access to data, and present that data in a simple, useful manner. The software aids in Business performance management, and aims to help people make "better" business decisions by making accurate, current, and relevant information available to them when they need it.

It was also revealed that analytics provides organizational data in form that is easily turned into information for the organization. Karikkandathil (2016) postulated that Customer Relationship Management System’ adopted by various financial institutions in Kenya in collaboration with Microsoft is yet another application where big data analytics is maximized. The system captures all data entered by their clients and uses
it to improve the customer experience by saving on time and allowing the client to select exactly which area they need assistance in. In addition, financial institutions can now sieve through large volumes of data in the form of emails, customer feedback and even text messages with added ease (Olhorst, 2012).

5.3.3 Influence of Adoption of Business Intelligence on Product Development

It was established that product development is a critical cornerstone of firm success. Rantanen (2013) postulated that product development is a critical cornerstone of firm success. Corporations are using a structured idea-to-launch process which help them manage implementing these success drivers and reduce the risk of product launch fail (Cooper & Edgett 2012).

The findings revealed that product development is a continuous process at equity bank. Rantanen (2013) noted that product development is a continuous process and Company X is growing its product portfolio continuously, the commissioner felt the need in structuring the product development and launch process in a well-defined step-by-step process that is easy to follow and communicate internally.

The findings showed that careful planning and a good product strategy are essential in succeeding in the market. According to Cooper (2001), in today's market careful planning and a good product strategy are essential to help you succeeding in the market. Companies everywhere are competing more than ever to develop new and unique products or services and gain a higher position in the market. Companies develop a high number of new products every year. Most of these products fail to secure competitive advantages and end up being just another high cost for the company.

The findings established that product launches help increase sales revenue and expanding the customer base. Gluck (2012) stated that product launches help increasing sales revenue and expanding the customer base. By introducing new products a company can also target new groups of customers. The launch of new products can also influence the company expansion and new internal investments. Continuous research and planning are necessary if a company wants to achieve a successful product launch. During this process all the employees of the company are involved, from the R&D to the sales and marketing team.
The findings revealed that business intelligence enables the company better understand the key success factors in creating new products. Tvrdikova (2007) assets that using the concepts of BI applications including data mining, manufacturers are able to better understand the key success factors in creating new products. In conjunction with this finding is the insight that AMR Research has found in the adoption of BI for the new product development and introduction process in manufacturing companies who rely on distribution channels.

The findings established that Business Intelligence has played a big role in helping the bank grow its market share. According to a study by Zikmund (2013), Business Intelligence plays a big role in helping firms grow their market share. To continually discover new customers requires both attitudinal and behavioral changes in a company’s business intelligence function and in the way it obtains information from and about its customer. Analyze the customer data base to ascertain who is using the company’s products and services, and why. Study those who are atypical to discover how they became customers. When feasible and appropriate, reward their input and publicize their innovative use of the company’s product. Identify their information sources and develop pertinent marketing communications to attract more atypical customers like them.

It was indicated that business intelligence has decreased the product failures and increased the success of the companies in launching new products. Cooper 2001) posit that the Stage Gate model is an organized, structured product development and launch process which is used to decrease the product failures and increase the success of the companies in launching new products. The Stage gate model is a proven successful method and many international companies have been using it when launching new products. International Paper, which is world´s largest player in pulp and paper industry, is using use Stage Gate process in managing the development and launch of new products. This reference makes the Stage Gate model more relevant to this case study.

The finding showed that use of business intelligence in product development has increased order velocity and accuracy in the industry. Cui et al, (2007) postulated that increasing order velocity and accuracy is in fact revolutionizing entire industries. Role-based and process-based taxonomies provide marketers with varying views of the same data and information, giving them insights into how best to define strategies and execute them. One of the strategic benefits of adopting data warehousing is in moving away from
siloed data to a single system of record which can be used for supporting analyses of
customer relationships and strategies on increasing retention and sales.

5.4 Conclusion
5.4.1 Influence of Adoption of Business Intelligence on Planning Effectiveness

Use of business intelligence system is useful during decision making, it helps the
organization save time and money and also increases communication among department.
Through this, Equity Bank is able to get information they require hence, use it during
their strategic planning process. Strategic planning is a top priority activity, performed on
a regular basis and top executives participate during strategic business planning.

5.4.2 Influence of Adoption of Business Intelligence on Effectiveness of Analytics

Business Analytics form a vital part of the decision making process. Relying only on data
has made the organization mislead opportunities and mistakes. Business intelligence
brings real-time information to centralized source, business intelligence eases connections
and support analytics that an organization can exploit. Business intelligence has reduced
action time and interlink business processes into decision making. Business intelligence
applications does not enable real-time analytics across corporate business processes.
Managers are not able to make decisions based on analytics and analytics is not used for
conflict resolution, optimization, justification, and computational complexity.

5.4.3 Influence of Adoption of Business Intelligence on Product Development

Product development enables an organization increase its competitive advantage in the
industry. Through business intelligence equity bank was able to better understand the key
success factors in creating new products, discover new customer requirements, decreased
the product failures, increased order velocity and accuracy in the industry and increase it
market share. However, Equity has not understood that process of a product launch into
the market.

5.5 Recommendation
5.5.1 Recommendation for Improvement

5.5.1.1 Influence of Adoption of Business Intelligence on Planning Effectiveness

Business intelligence system is useful in the banking sector, therefore there is a need to
invest more time and resources towards ensuring success of business intelligence
adoption in the sector. There is a need for top executives to engage the low level employees in order to fully incorporate them fully in strategic business planning. Use of business Intelligence enhance communication among departments. In order to realize the full potential in planning effectiveness. Business Intelligence should be totally integrated with business strategies and core capabilities of the organization.

5.5.1.2 Influence of Adoption of Business Intelligence on Effectiveness of Analytics

Analytical capabilities is complemented by the information management capabilities availed through technology adoption. Manager should at any given time strive to make decisions based on analytics. This helps the firm in conflict resolution, optimization, justification, and computational complexity. Business Intelligence brings real-time information to centralized repositories thus the data should be easily understood by the organization to ensure firms full potential.

5.5.1.3 Influence of Adoption of Business Intelligence on Product Development

Use of Business Intelligence in product development has Increased order velocity and accuracy in the industry. To enable constant growth the companies should master the process of a product launch through adoption of business intelligence. Such continuous research and planning would be very fruitful especially if a company wants to achieve a successful product launch. This study also recommends that during this process all the employees in the various departments should be fully involved.

5.5.2 Recommendation for Further Research

This study focused on the influence of adoption of business intelligence on corporate performance management confined to the case of Equity bank Kenya Therefore, this study recommended that a similar study should be carried out on the effectiveness of Business intelligence in the banking sector as a whole. This will enable for generalization of the study findings on the effectiveness of Business Intelligence in Strategic Marketing of banking Industry.
REFERENCES


Dinter, B. (2012). The maturing of a business intelligence maturity model.


APPENDIX I: QUESTIONNAIRE

This questionnaire seeks to investigate the influence of adoption of business intelligence on corporate performance management. All the information you give will be treated with confidentiality and used for academic purposes only and nothing else whatsoever.

SECTION A: DEMOGRAPHIC INFORMATION

Please tick appropriately

Gender of staff
Male
Female

**Age bracket of staff (to the nearest full year)**
18-30 years
31-40 years
41-50 years
Above 51 years

**Highest Education Level of staff**
Secondary level
College level
University level
Any other please specify..............................................................................................

**Working experience of staff**
Below 1 year
1-5 years
6-10 years
11-20 years
21 and above

---

**SECTION B. INFLUENCE OF ADOPTION OF BUSINESS INTELLIGENCE ON PLANNING EFFECTIVENESS**

In the table below, tick appropriately. Using a scale of 1-5 tick the appropriate answer from the alternatives, 1- Strongly disagree 2-Disagree 3-Moderate 4-Agree 5- strongly agree. Please show your level of agreement to indicate the extent to which the following statements have been applying your organization by ticking your response corresponding to the number in the scale given above in box against statement

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Intelligence (BI)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I think that the business intelligence system I use is useful.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. I consider that the business intelligence system I use helps in my decision making

3. I believe that I get exact information from the system

4. I am sure that the business intelligence system I use gives me valuable information.

Planning Effectiveness

5. Top executives take formal responsibility for the organization’s strategic business planning

6. Strategic planning is a top priority activity, performed on a regular basis

7. The organization provide resources specifically for strategic planning

8. The organization follow a defined set of procedures in its strategic planning process

9. all managers participate in the planning process

Business Intelligence and Planning effectiveness

10. Business Intelligence platform has helped the organization to save time and money in data

11. Business Intelligence is that it combines data from diverse areas.

12. At Equity bank we analyze business intelligence information at both micro and macro levels.

13. Business Intelligence enhance communication among departments

14. Business Intelligence are integrated with business strategies and related to the development of the core capabilities of the organisation

SECTION C: INFLUENCE OF ADOPTION OF BUSINESS INTELLIGENCE ON EFFECTIVENESS OF ANALYTICS

In the table below, tick appropriately. Using a scale of 1-5 tick the appropriate answer from the alternatives, 1- Strongly disagree 2-Disagree 3-Moderate 4-Agree 5- strongly agree. Please show your level of agreement to indicate the extent to which the following statements have been applying your organization by ticking your response corresponding to the number in the scale given above in box against statement.

<table>
<thead>
<tr>
<th>Effectiveness of analytics</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Our analytical capabilities is complemented by the information management capabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Business Analytics form a vital part of the decision making process.

3. Manager can make decisions based on analytics alone

4. Analytics is preferred for conflict resolution, optimization, justification, and computational complexity

5. Relying solely on data has lead to missed opportunities and mistakes

6. Managers prefer to use practices that they are most competent in

<table>
<thead>
<tr>
<th>Business Intelligence and effectiveness of Analytics</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Business Intelligence brings real-time information to centralized repositories</td>
</tr>
<tr>
<td>8. Business Intelligence facilitates connections and support analytics that can be exploited at all level within and outside the firm</td>
</tr>
<tr>
<td>9. Business Intelligence applications enable real-time analytics across corporate business processes</td>
</tr>
<tr>
<td>10. Business Intelligence has reduced action time and interlink business processes into decision making</td>
</tr>
<tr>
<td>11. Provides organizational data in form that is easily turned into information for the organization</td>
</tr>
<tr>
<td>12. Persons involved in business intelligence processes easily access to data</td>
</tr>
<tr>
<td>13. Business intelligence allow firms understand their operations and compete in the marketplace.</td>
</tr>
</tbody>
</table>

SECTION D: INFLUENCE OF ADOPTION OF BUSINESS INTELLIGENCE ON PRODUCT DEVELOPMENT

In the table below, tick appropriately. Using a scale of 1-5 tick the appropriate answer from the alternatives, 1- Strongly Agree 2-Agree 3-Not Sure 4-Disagree 5- Strongly Disagree. Please show your level of agreement to indicate the extent to which the following statements have been applying your organization by ticking your response corresponding to the number in the scale given above in box against statement

| 1 | 2 | 3 | 4 | 5 |
Product development effectiveness

1. Product development is a critical cornerstone of firm success.

2. Product development is a continuous process at equity bank.

3. Careful planning and a good product strategy are essential in succeeding in the market

4. To enable constant growth companies we have mastered the process of a product launch into the market.

5. Product launches help increase sales revenue and expanding the customer base

6. The launch of new products has influenced the company expansion and new internal investments

**Business Intelligence and Product development effectiveness**

7. Business Intelligence enables the company better understand the key success factors in creating new products

8. A critical success factor of business intelligence implementations is the ability to create a real-time analytics link in the production line.

9. Use of Business Intelligence in product development has Increased order velocity and accuracy in the industry

10. There has been cases of staff resisting and even sabotaging change.

11. Business Intelligence has played a big role in helping the bank grow its market share

12. Business Intelligence has continually help in the discovery of new customers requirements

13. Business intelligence has decreased the product failures and increased the success of the companies in launching new products

14. Process models provide a useful depiction of the key activities involved in new product development

**SECTION E: CORPORATE PERFORMANCE MANAGEMENT**

In the table below, tick appropriately. Using a scale of 1-5 tick the appropriate answer from the alternatives, 1- Strongly Agree 2-Agree 3-Not Sure 4-Disagree 5- Strongly Disagree. Please show your level of agreement to indicate the extent to which the following statements have been applying your organization by ticking your response corresponding to the number in the scale given above in box against statement
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Employees know how their performance impacts the organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>High levels of performance are recognized and rewarded.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>The system is designed for input from all levels in the organization.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>The system measures both the results and how they are achieved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Ratings are accurate and reflect actual performance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for Your Cooperation