DEFAULT RISK MANAGEMENT IN THE INTERNAL MARKETING OF COCOA IN GHANA: A CASE STUDY OF KUAPA KOKOO LIMITED

By

KYEI NIMAKO, RICHARD (BSc. Agric)

(PG3069109)

A Thesis submitted to the Institute Of Distance Learning, Kwame Nkrumah University of Science and Technology in partial fulfilment of the requirements for the degree of

COMMONWEALTH EXECUTIVE MASTERS OF BUSINESS ADMINISTRATION

JUNE 2011

DECLARATION

I hereby declare that this submission is my own work towards the Commonwealth Executive Masters in Business Administration and contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

KYEI NIMAKO, RICHARD (PG 3069109) .... …......................
Student Name Signature Date

Certified by:

STEPHEN KYEREMATENG .... …....................
Supervisor's Name Signature Date

Certified by:

Prof. I.K. DONTWI ....
Dean, IDL Signature Date

DEDICATION

I dedicate this work to The Lord Jesus Christ, for His abundant grace towards me; Mama Grace, my dear mother; Ruth, my sweetheart; Nana and Mimi, my lovely daughters, for their unflinching love and support.

ACKNOWLEDGEMENT

This study owes its success to several people who contributed in various ways. Time and space may not permit me to mention all names. However, some key personalities and institutions require special mention. My sincere appreciation goes to Mr. Stephen Kyerematеng, my project supervisor, for his useful advice, guidance and constructive criticisms, which enabled me to complete this report. I also thank Mr. Kwasi Aduse-Poku, Managing Director and all the staff, especially District Managers, of Kuapa Kokoo Limited, who offered me the opportunity and the support to carry out this project. I am very grateful to Rev. Odei Afrifa, Minister in Charge, and the entire membership of the Freeman Methodist Society, Tafo Nhyiaeso, for their prayers and support. Finally, my heartfelt gratitude goes to Mr. James Osei-Yeboah whose special encouragement has made this project possible.

ABSTRACT

Default risk is the uncertainty surrounding an individual or a firm's ability to service its debts and obligations. Prior to default, there is no way to discriminate unambiguously between individuals or firms that will default and those that will not. Default among Purchasing Clerks has led to losses from purchasing activities and this threatens the modest gains made from the tight margins of operations of Licensed Buying Companies. The general purpose of the study was to assess the risk of default among Purchasing Clerks, the contributing factors, and how this is being managed by Licensed Buying Companies in the internal marketing of cocoa in Ghana. Semi structured questionnaires were administered to two groups of employees of Kuapa Kokoo Limited. The sample population of the study was made up of two hundred and fifty eight (258) employees, comprising forty four (44) District Managers, and two hundred and fourteen (214) Purchasing Clerks. The study found that the estimated rate of default among the Purchasing Clerks was 29.91%. The major significant contributing factors to default were, pre-financing of cocoa purchasing, misapplication of funds, Purchasing Clerks absconding with funds, quality related problems, low numbers of dependants, sub-contracting of cocoa purchasing, volume handling and theft of cocoa and funds. It is recommended that a proper and effective risk management system should be put in place by Kuapa Kokoo Limited to reduce the incidence of default among Purchasing Clerks.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

ADB	Agricultural Development Bank
CMC	Cocoa Marketing Company
COCOBOD	Ghana Cocoa Board
CTOR	Cocoa Taken-over Receipt
CWC	Check Weighing Certificate
DM	District Manager
KKL	Kuapa Kokoo Limited
LBC	Licensed Buying Company
NGO	Non Governmental Organisation
NTD	Not thoroughly Dry
PC	Purchasing Clerk
PPRC	Producer Price Review Committee
QCD	Quality Control Division
R&D	Research and Development
UNCTAD	United Nations Conference on Trade and Development
VaR	Value at Risk

CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

In this chapter, a brief description of the background of the study is treated. The problem statement, the objectives, research questions, significance, scope, limitations and organization of the study are also considered.

1.1 Background of the Study

Market liberalisation is the most important change in many tropical agricultural commodity trade over the past two decades (Tollens and Gilbert, 2003). The liberalisation of internal marketing of cocoa in Ghana started in 1992, with the introduction of private Licensed Buying Companies (LBCs) as competitors to the state-owned monopoly in buying cocoa from farmers (Laven and Baud, 2007; Adu-Ampomah, 2010; Opoku., 2011). The objective was to improve the operational and financial performance of Ghana's marketing system, to enable higher and competitive producer prices. But unlike other cocoa producing countries, Ghana's state-owned Cocoa Marketing Board (COCOBOD) still controls external marketing and thus Ghana remains the only cocoa producing country in the world without a fully liberalised marketing system (Laven and Baud, 2007; Adu-Ampomah, 2010).

COCOBOD receives foreign currency loans from international banks by using contracts from the forward sales as collateral. Part of the loans are used to set up a fund called the Seed Fund, to finance the operations of the LBCs. (Lundstedt and Pärssinen, 2009). The LBCs hire Purchasing Clerks (PCs) to do the purchasing of cocoa at community and village level, working on commission equal to a fixed percentage per bag of cocoa (Laven and Baud, 2007; Lundstedt and Pärssinen, 2009).

In the operational chain of cocoa supply from Purchasing Clerks to LBCs, there have been instances of default due to the inability of some Purchasing Clerks to supply all of the cocoa paid for by the LBCs within any particular crop season. This put the LBCs at a financial risk as the lapse of timely supplies may lead to increased interest rate, or in some cases total loss of capital. Risk management has been an area of explosive development over the last decade in both business and academia (Drzik and Wyman, 2005).The role of risk management in firms has evolved far beyond the simple insurance of identified risks, to a discipline that centres on complex econometric and financial models of uncertainty (Alexander, 2005). Positive theories to explain financial risk management require a considerable number of assumptions concerning the objectives of management (Benson and Oliver, 2004). Irrespective of whether these objectives are mutually exclusive or independent, the processes involve the identification of events into one or more broad categories of market, credit, operational, and ‘‘other’’ risks; the assessment of risks using data and a risk model; the monitoring and reporting of the risk assessments on a timely basis; and the control of these risks by senior management (Benson and Oliver, 2004; Alexander, 2005).

Current policies in managing agricultural commodity risk rely more heavily on markets, even though markets for risk are incomplete in numerous ways (larson *et al.*, 2004). There is paucity of data on the operational risk assessment in the area of default by Purchasing Clerks in the internal marketing of cocoa in Ghana. Although the current system relies on audits and supervision of Purchasing Clerks by District Managers, the problem of default still persists. The importance of the outcome of an investigation into the factors that contribute to default by Purchasing Clerks, with Kuapa Kokoo Limited as a case study, cannot be over emphasized.

1.2 Problem Statement

Competition among Licensed Buying Companies is a survival imperative arising from tight margins, combined with high operational fixed cost like transportation and labour cost. Observation of Licensed Buying Companies show a high turnover rate for new entrants and sinking fortunes for older firms (Canatus and Darkoa, 2009).

The statement of the problem is that the high defaulting rate among Purchasing Clerks has led to losses from purchasing activities and this threatens the modest gains made from the tight margins of operations of Licensed Buying Companies (Zeitlin, 2006a). This has also contributed to the high rate of bankruptcy among Licensed Buying Companies and it has become a ritual that about half of all newly licensed buying companies are either inactive or fold up before their fifth year (Zeitlin, 2006a). The profitability, or otherwise, of Licensed Buying Companies is dependent more on volume than on price, therefore even in the case of temporary default, it leads to holding of stocks for several months, and the working capital of licensed buying companies gets locked up in stocks while interest on funds continue to accumulate leading to losses (Canatus and Darkoa, 2009). These, coupled with the widespread incidence of fraud among Purchasing Clerks and farmers, and the substantial amount of monies often left in the hands of the Purchasing Clerks, who sometimes abscond with the funds (Fold and Ponte, 2008) makes an exploratory enquiry into the risk factors that cause default among Purchasing Clerks in the internal marketing of cocoa in Ghana an important one.

1.3 Research Objectives

The general purpose of the study was to assess the default risk to which Licensed Buying companies are exposed and how this is being managed in the internal marketing of cocoa in Ghana. The specific objectives of the study are to:

1. Evaluate the prevalence of default risk among Purchasing Clerks of Kuapa Kokoo Limited.

2. Identify the factors which predispose Purchasing Clerks to default in the internal marketing of cocoa.

3. Evaluate the efficiency of systems currently being employed by Kuapa Kokoo Limited to control default by Purchasing Clerks.

1.4 Research Questions

1. How prevalent is the problem of default among Purchasing Clerks of Kuapa Kokoo Limited?
2. What factors predispose Purchasing Clerks to default in the internal marketing of cocoa?
3. How efficient are the control systems currently being employed by Kuapa Kokoo Limited to mitigate the problem of default by Purchasing Clerks?

1.5 Significance of the Study

In recognition of the importance of the role played by cocoa in the economy of Ghana, this study is a modest attempt to provide insight into one of the many nagging problems faced by Licensed Buying Companies. The result of the study is expected to augment the existing literature on default risk management in the internal marketing of cocoa in Ghana. The findings of the study will also afford management of Licensed Buying Companies, especially, Kuapa Kokoo Limited, Policy makers and Regulators, Farmers and Purchasing Clerks, an insight into the determinants of default by Purchasing Clerks in the internal marketing of cocoa, and aid in the formulation of the right policies and measures to help reduce its occurrence and impact. The outcome of the study is also expected to serve as a catalyst to other academicians and researchers to conduct further studies into the challenges Licensed Buying Companies face in their operations.

1.6 Scope of the Study

This study is limited to default by Purchasing Clerks of Kuapa Kokoo Limited in the Ashanti region of Ghana.

1.7 Limitations of the Study

Even though Licensed Buying Companies may default, especially, to their financiers, including COCOBOD and the commercial banks, this study only considers default by Purchasing Clerks. Time and financial constraints did not permit the opinion of key stakeholders such as Management and Farmers of Kuapa Kokoo Limited to be considered, even though those of District Managers and Purchasing Clerks were considered in this study.

1.8 Organization of the Study

Chapter one focuses on the introduction of the study, identifies the problem to be investigated, states the purpose and specific objectives of the study and explains the contribution of the research to business management practice. The scope and limitations of the study are also covered in chapter one. Chapter two is a review of the theoretical concepts of risk, risk management, and default risk. Literature on the history, liberalisation process, and the internal marketing of cocoa in Ghana is also reviewed. Chapter three captures the methods employed in the study including data generation techniques and analytical tools used. It also covers the profile of Kuapa Kokoo and its operational processes. In chapter four, data collected is presented and analysed. Chapter five captures the summary, conclusion and the recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section reviews some recent literature on studies carried out on the concept of risk, risk management and default risk. It ends by looking at the liberalization process and the internal marketing of cocoa in Ghana.

2.1 The Concept of Risk

Originally, the concept of risk was used primarily to mean loss or hazard to a person or self. In 1719, the concept took on an expanded definition to include the commercial loss of insured property or goods. In 1798, the concept was used in the law literature to describe the liability of a loss or damage. Much later, in 1964, the combined term 'risk analysis' was used to describe the systematic investigation and forecasting of risk in business and commerce. At this time, other variations and combinations began to be used in business and commerce such as risk aversion, risk factor, risk-bearing, risk-benefit analysis, risk capital, risk management, risk money, risk premium, risk rate, and risk-taking (Shattell, 2004). In today's literature, risk is subject to various definitions, and as explained by Meyfredi (2004), the answer to the meaning of risk is far from the simple expectation of hazard. However the definition depends on the context and is highly subjective. Durodié considered risk as an abstraction that represents the likelihood of specific outcomes. As such, risks appear largely to be external to us. To Durodié, risks have always been around, however, that we conceive of something as being a risk, is a product of social progress and the evolution of human consciousness (Durodié, 2006).

Risk is a product of the uncertainty of future events and is a part of all activities (Meyfredi, 2004), thus as used in daily activities, risk and uncertainty may be used interchangeably. Knight however distinguished between these two concepts and defined uncertainty as a situation where the decisions of every economic agent depend on exogenous factors whose state could not be predicted with certainty. Only when uncertainty could be quantified with the possibility of assigning a probability distribution is risk spoken of (Knight, 1921). It is usual to distinguish between market risk, credit risk, and liquidity, operational and legal risks. All these risks could generate losses that would be more or less detrimental, to the institution or the investor (Meyfredi, 2004). Recent advances in the theory of credit risk allow the use of standard term structure machinery for risk modeling and estimation. Because all decisions have an element of uncertainty about them, all decision-makers are risk takers. The degree to which decision-makers enjoy taking risk depends on individual attitudes (Jarrow *et al.*, 2005). The traditional approach to risk is to incorporate margins in the valuation assumptions, however, a stochastic approach allows the user to evaluate specific and quantifiable risk and performance measures in respect of alternative funding and investment strategies (Haberman *et al.*, 2003).

2.2 Risk Management

Risk management is an independent function responsible for planning, directing and organizing measures to reduce, mitigate, and control the impact on an institution, of risks arising from its operations. More specifically, risk management may be defined as the systematic application of management policies, procedures and practices to the task of identifying, analyzing, assessing, treating and monitoring risk (ADB, 2002). Financial risk management has been defined by the Basel Committee (2001) as a sequence of four processes: the identification of events into one or more broad categories of market, credit, operational, and ‘‘other’’ risks and into specific subcategories; the assessment of risks using data and a risk model; the monitoring and reporting of the risk assessments on a timely basis; and the control of these risks by management.

The role of risk management in financial firms has evolved far beyond the simple insurance of identified risks, to a discipline that centres on complex econometric and financial models of uncertainty (Alexander, 2005). Thus risk management is the total process of identifying, measuring, and minimizing uncertain events affecting resources, therefore helping to control an institution’s use of capital while limiting default risk, and helping to mitigate agency problems (Pedersen and Garleanu, 2007). But even with careful planning and preparation, risks cannot be completely eliminated because they cannot all be identified beforehand. Various paradigms are used by different organizations to organize their risk management activities. While there are variations in the different paradigms, certain characteristics are universally required for the program to be successful. These include the planning and structuring of the risk management process; integration of the risk and acquisition processes, and the working together of developers, users, procurers, and all other stakeholders in its implementation. Risk management is an ongoing process, with continual monitoring and reassessment. A set of success criteria is defined for all cost, schedule, and performance elements of the project. Metrics are defined and used to monitor effectiveness of risk management strategies. An effective test and evaluation program is planned and followed. All aspects of the risk management program are formally documented. Communication and feedback are an integral part of all risk management activities (GSAM, 2003).

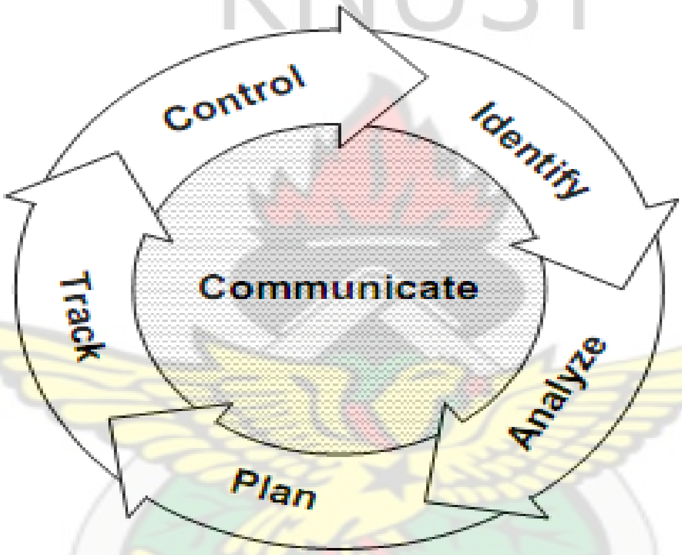


Figure 1-1 Risk Management paradigm (GSAM, 2003)

While risk management approach should be tailored to the needs of a project, it should incorporate these fundamental characteristics. The process is iterative and should have all the components shown in Figure 2-1. It is worth noting that, while planning appears as the first step (Figure 2-2), there is a feedback loop from the monitoring activity that allows planning and the other activities to be redone or controlled by actual results, providing continual updates to the risk management strategy. In essence, the process is a standard approach to problem solving which involves planning or defining the problem solving process, defining the problem, working out solutions for those problems and tracking the progress and success of the solutions (GSAM, 2003).

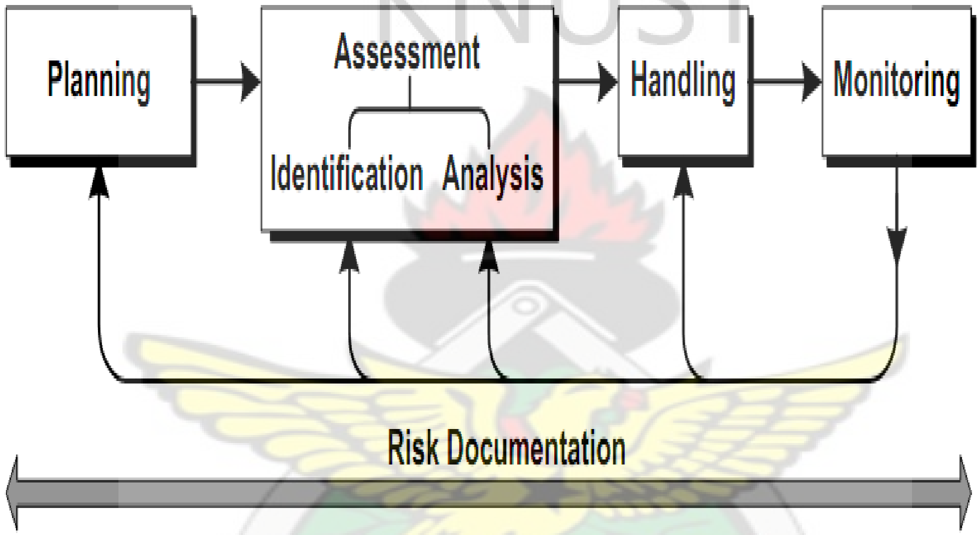


Figure 2-2: Risk Management Process (GSAM, 2003)

Risk management is usually applied to only a portion of a company's production, trade or consumption. The size of this part depends on that company's risk exposure and hedging strategy. A key element in any hedging strategy is to determine the desired level in the trade-off between risk and return. Although most companies may claim their objective is to "maximize returns", this involves an inherent contradiction, since maximizing returns implies accepting maximum risks. The part of production, trade or consumption which is hedged mainly depends on the level of income flow an enterprise wants to ensure. In addition, the size of this part depends on whether or not the available means of assessing the level of risk at any time (the fundamentals of supply and demand, technical analysis and "psychological" factors) are perceived to be reliable, the relationship with and status of the enterprise's trading partners, and a number of other particular conditions (e.g. the marketing structure for the underlying commodity, the acceptable price level, the cost of using risk management instruments and flexibility of production or consumption) (UNCTAD, 1998).

Risk management has been an area of explosive development over the last decade in both business and academia (Drzik and Wyman, 2005). Positive theories to explain financial risk management require a considerable number of assumptions concerning the objectives of management (Benson and Oliver, 2004).

2.3 Default Risk Management

The risk that individuals or companies may be unable to make the required payments on their debt obligations is termed Default risk. Default risk is thus the uncertainty surrounding an individual or a firm's ability to service its debts and obligations. Prior to default, there is no way to discriminate unambiguously between individuals or firms that will default and those that will not. At best we can only make stochastic assessments of the likelihood of default (Crosbie *et al.*, 2003).

In the event where a person or a firm enters into a forward contract with a supplier(s) for the purchase of a particular commodity which is to be supplied within a stipulated period of time, in the case that any of the suppliers fail to deliver in time or unable to deliver at all, a delivery default is said to have occurred. The standard mathematical approach to modeling risk uses the language of probability theory. Risks are random variables, mapping unforeseen future states of the world into values representing profits and losses. These risks may be considered individually, or seen as part of a stochastic process where present risks depend on previous risks. The potential values of a risk have a probability distribution which will never be observed exactly, although past losses due to similar risks, where available, may provide partial information about that distribution (McNeil, 1999).

Identified risks associated with the cocoa supply chain can be categorised into three main groups; those that are concerned with the production which includes risks of pests, diseases and the negative impact of climate change; those that are involved with enabling environment which include policy and regulation; and security of cash in transit. The identifiable risks of the internal and external marketing of cocoa include international price volatility, which affect both commodities and fertilizers. The risk posed by crop substitution, risk of credit default and counterparty risk default affect volume and quality with grave implications for the whole supply chain (Ndoping, 2011).

2.4 The History of Cocoa Production in Ghana

The Cocoa tree (Theobroma cacao) originated from the river valleys of the Amazon and the Orinoco in South America where the beans were used by the Natives to prepare a chocolate drink or chocolate. It was also used as a form of currency for trading purposes and payment of tribute to the king. Its discoverers, the Maya people, gave it the name 'cocoa' or 'God's food' (Norde and van Duursen, 2003; Cappelle, 2009).

After the conquest of Central America, cocoa was introduced to Europe through Spain in the fifteenth century. When the demand for cocoa as a drink and chocolate bar increased, it led to the expansion of cocoa production, which eventually led to the introduction of the crop in Africa (Gibson, 2007; Cappelle, 2009). From the first plantation in Africa established in Fernando Po (now part of Equatorial Guinea) in 1840, it moved to the western parts of Africa (COCOBOD, 2011). In the case of Ghana, available records indicate that Dutch missionaries planted cocoa in the coastal areas of the then Gold Coast as early as 1815, whilst in 1857 Basel missionaries also planted cocoa at Aburi. These however did not result in the spread of cocoa cultivation in Ghana until 1878 when Tetteh Quarshie, who took some seeds with him on his return from Fernando Po, established Ghana's first cocoa farm at Akwapim Mampong in the Eastern Region (Norde and van Duursen, 2003; COCOBOD, 2011). Though the first export of cocoa from the Gold Coast was said to have been made in 1885, the first documented shipment of two bags, which was sent to Hamburg, was in January 1893 (Asuming-Brempong *et al.*, 2007).

Production grew rapidly to reach 20,000 metric tons by 1908. At a production level of 41,000 metric tons in 1911, Ghana was rated the world's leading producer. In the early 1920's, Ghana was contributing about 40 percent of the total global cocoa supply with production of 165,000 metric tons to 213,000 metric tons. The volume of exports grew rapidly to 218,000 metric tons in 1925, reaching a level of 311,000 metric tons in 1936 after which it dropped to between 200,000 metric tons and 300,000 metric tons in the 1940s due to severe drought and outbreak of diseases and pests. (Norde and van Duursen, 2003; Asuming-Brempong *et al.*, 2007)

In 1977, Côte d'Ivoire, with government-supported price incentives, overtook Ghana as the world's dominant cocoa-producing country, now accounting for 39 percent of world cocoa production and 36 percent of worldwide cocoa exports (Gibson, 2007). Today West Africa is the largest supplier of cocoa, accounting for 70 percent of global cultivation. Ghana is the second largest global producer of cocoa – being responsible for nearly a fifth of the world's supply (ul Haque, 2005; Laven and Baud, 2007; Ton *et al.*, 2008; Cappelle, 2009).

Cocoa is a tropical tree crop that grows best in shaded areas. Once planted, cocoa tree seedlings become productive in three to five years, although newer hybrid varieties are being developed that mature more quickly. Generally, a cocoa tree will remain productive for approximately 25 years, without any age-related decline in production. Cocoa pods take five to six months to grow, resulting in two harvest periods during the year: a main crop and a mid-crop. The mid-crop is typically much smaller than the main crop, and the cocoa beans are slightly lower in fat content than those harvested during the main harvest period. The harvest periods vary by climate and type of cocoa tree, but in Côte d'Ivoire and Ghana, the main crop harvest period is October to March and the mid-crop period runs from May to August. In these countries, the main crop typically accounts for 80– 85 per cent of the total harvest (Mull and Kirkhorn, 2005; Gibson, 2007).

2.5 The Liberalisation Process

From the early beginning until the late 1930s, local merchants were in charge of the cocoa trade in Ghana. Cadbury and Fry bought cocoa to feed their own factories abroad and being very particular about quality, paid premium price for good quality cocoa, while supporting expansion of cultivation from the Eastern Region to other parts of the country. This gave the company a greater share of the market. The other companies which bought and sold their cocoa to brokers later came together to form the Association of West African Merchants in order to break the virtual monopoly of Cadbury and Fry by stopping the payment of premium price. During the period, individual firms and companies carried out cocoa purchasing from farmers on their own account. There were no fixed prices throughout the country in any particular season. The producer price was therefore determined competitively by market forces, which made the marketing arrangement at the time, a free market situation. (Asuming-Brempong *et al.*, 2007)

During the colonial period, cocoa production in West Africa gradually became framed by strict state regulations based on producer price control as an important part of stabilisation objectives. The regulatory systems differed between the British and French colonial governments (Marketing board for British as in the case of Ghana and Nigeria, Caisses de stabilisation for the French, as in the case Cameroon and Cote d'Ivoire) (Fold, 2001; ul Haque, 2005).

After the world war, in 1947, the Cocoa Marketing Board (CMB) was founded. Its mandate was to facilitate and promote the growth and sustenance of the cocoa industry in Ghana. Under the board, price was fixed and remained stable within a stated period, which brought relief and help to the farmers (Norde and van Duursen, 2003). Basically the systems secured pan-seasonal and pan-territorial producer prices and restricted domestic trade and exports to licensed companies or, in the case of the British marketing boards system, to a state controlled monopsony in the domestic trade and monopoly in export trade (Fold, 2001; ul Haque, 2005). After independence, the systems were preserved more or less intact by the new nationalist governments (Fold, 2001; Lundstedt and Pärssinen, 2009).

As was the case of other public bodies in developing countries, the performance of the Cocoa Marketing Board after independence deteriorated over time. It became a large bureaucracy, was influenced by politics, and increasingly became inefficient in the designated functions. All this was reflected in the high cost of its operations, which, given the way the system worked, was borne largely by cocoa farmers (ul Haque, 2005; Gibson, 2007; Lundstedt and Pärssinen, 2009). The goals of the marketing board crushed and Ghana's cocoa production languished under stable, but extremely low, producer prices through the 1970s (Gibson, 2007).

Due to these problems and pressure from donor partners, notably, the World Bank, the Ghanaian cocoa sector was reformed, through the structural adjustment program. The first phase of the reform was initiated in 1984/85 and focused on restructuring the Cocoa Marketing Board. The Cocoa Marketing Board was made more streamlined by a reduction of the number of staff from around 100,000 employees to 6,000 and by a cut-down on overlaps in the organisation. The many operational and institutional changes of the Cocoa Marketing Board led to it changing its name to Ghana Cocoa Board (COCOBOD) (Lundstedt and Pärssinen, 2009). However the government opted for a gradual introduction of reforms and resisted successfully, the pressure to abolish COCOBOD, defending COCOBOD for ensuring the quality of Ghana cocoa, which enjoys a premium in the world market (Laven and Baud, 2007).

A number of other policy measures were taken in the early 1990s. This marked the second phase of the cocoa sector liberation process which was implemented in 1993, and consisted of a re-introduction of the multiple buying system and implied that private Licensed Buying Companies were once again allowed to operate on the domestic market together with the Produce Buying Company, a subsidiary of Ghana Cocoa Board (COCOBOD). More recent reforms, aimed at further increasing the efficiency of the cocoa sector, were implemented in 1999 in the government's Cocoa Strategy. In addition, the Produce Buying Company was partly privatised in the year 2000 and introduced on the Ghanaian stock exchange. Despite this partial liberalisation, the Cocoa Board (called COCOBOD) continues to define a floor price that is, effectively, the price paid to all farmers everywhere in the cocoa belt, and its former purchasing subsidiary (the Produce Buying Company) remains the predominant company to which farmers sell their cocoa (Vigneri and Santos, 2008). In 2001, Ghana started to allow private companies to export directly 30 percent of their domestic purchases (Varangis and Schreiber, 2001).

2.6 Internal Marketing of Cocoa in Ghana

After harvesting, fermenting and drying, the cocoa beans are sold to one of the government-approved Licensed Buying Companies (LBCs). The Licensed Buying Companies operate through recognised buying centres in the cocoa-producing regions. In Ghana, there are approximately 2,700 locations where cocoa is bought by the Licensed Buying Companies (LBCs). The purchased cocoa is checked, graded, and uniquely sealed by the state-owned Quality Control Division (QCD). These buying centres are geographically located in approximate proportion to the quantity of cocoa produced in each region. They have regular opening hours and are operated by the approved Licensed Buying Companies, who employ Purchasing Clerks from the local communities to pay the official producer price determined by the Producer Price Review Committee (PPRC). From the centres, the cocoa is taken to the district depots (collection points), generally supervised by the District Managers. Once an adequate quantity of sealed cocoa is available, the Licensed Buying Companies transport the cocoa to one of three takeover points where, subject to passing a final quality test, the beans are taken over by the government-owned export subsidiary, the Cocoa Marketing Company (CMC), at a fixed price which includes a minimum producer price as well as an additional fee to cover the buyers' operating and transportation costs and to provide some profit. COCOBOD still handles overseas shipment and export of most of Ghana's cocoa to ensure quality control, though Licensed Buying Companies can export directly 30% of the domestic cocoa purchased (Varangis and Schreiber, 2001; Norde and van Duursen, 2003; Vigneri and Santos, 2008; Cappelle, 2009).

There are three main players involved in the domestic supply chain of cocoa in Ghana: the farmers; the License Buying Companies; and the Ghana Cocoa Board which oversees all production and marketing activities of the crop (Vigneri and Santos, 2008). COCOBOD receives foreign currency loans from international banks by using contracts from the forward sales as collateral. Part of the loans are used to set up a fund called the seed fund to finance the operations of the LBCs. (Lundstedt and Pärssinen, 2009). The LBCs hire Purchasing Clerks (PCs) to do the purchasing of cocoa at community and village level, working on commission equal to a fixed percentage per bag of cocoa (Laven and Baud, 2007; Lundstedt and Pärssinen, 2009).

The relationship between the various players in the Ghanaian cocoa sector is illustrated in the figure 2-3 below.

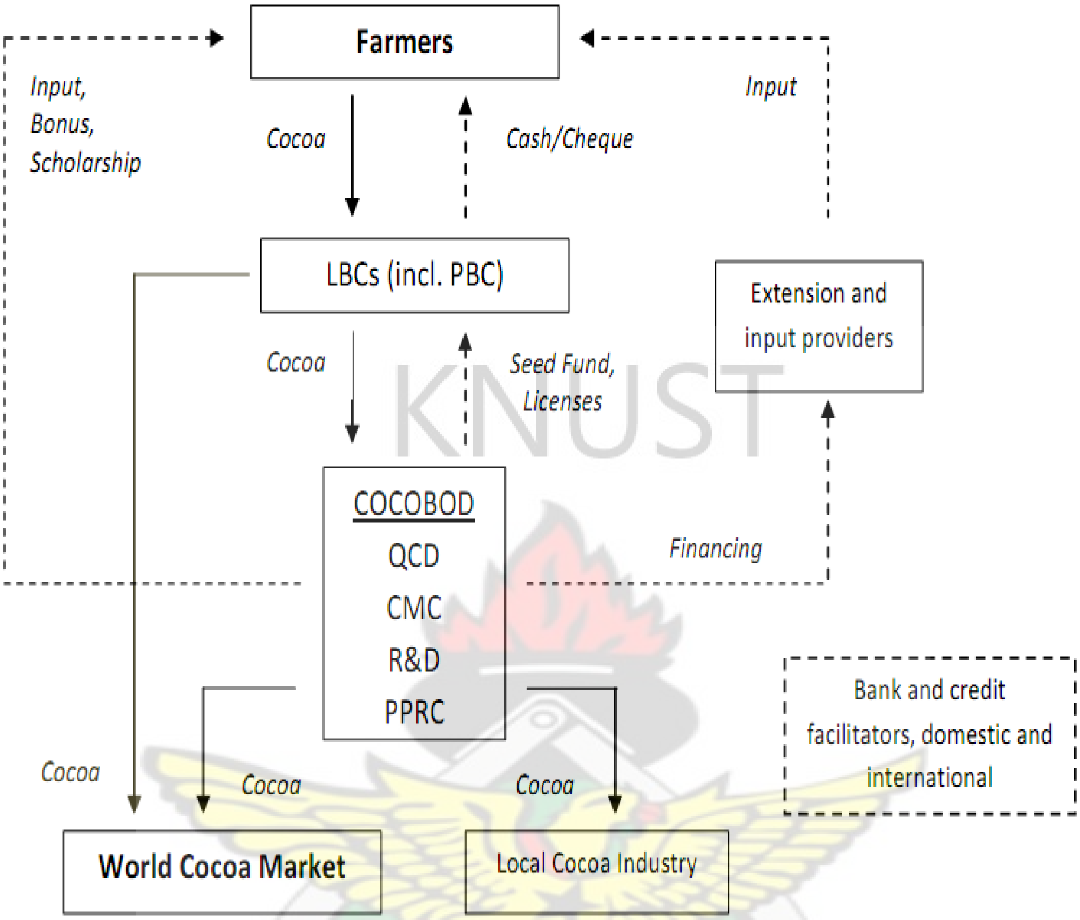


Figure 2-3: Players in the Cocoa Sector (Lundstedt and Pärssinen, 2009)

LBC- Licensed Buying Company, QCD- Quality Control Division, CMC-Cocoa Marketing Company, R&D-Research and Development, PPRC - Producer Price Review Committee, PBC- Produce Buying Company.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter covers the research methods applied in this study. The research design is described. This is followed by the population under study, the sample size determination, sampling techniques, data collection, research instrument, data presentation and analysis, and an overview of Kuapa Kokoo Limited.

3.1 Research Design

The study was basically qualitative in approach. The rationale was to gain information from participants on their opinion on the factors that contribute to default by Purchasing Clerks in the internal marketing of cocoa in Ghana. However, some dimension of quantitative approach was incorporated since data of participants were analysed into frequency and percentages, means and standard deviations.

3.2 The Study Population

The population of the study was five hundred and thirty (530) employees of Kuapa Kokoo Limited, comprising all the four hundred and eighty (480) Purchasing Clerks in the Ashanti region and all fifty (50) District Managers in all the cocoa districts where Kuapa Kokoo Limited operates.

3.3 Sample Size

With reference to Krejcie and Morgan's (1970) method for determining sample size from a given population (Appendix 1) two hundred and fifty eight (258) employees of Kuapa Kokoo Limited, comprising two hundred and fourteen (214) Purchasing Clerks and forty four (44) District Managers, were selected for the study. (Table 3-1)

Table 3-1: Study Population Guide (Krejcie and Morgan, 1970)

KKL EMPLOYEES	POPULATION	SAMPLE SIZE
DISTRICT MANAGERS	50	44
PURCHASING CLERKS	480	214
TOTAL	**530**	**258**

3.4 Sampling Procedure

For the Purchasing Clerks, the quota sampling technique was adopted in the selection of the number of respondents in each of the fifteen cocoa districts where Kuapa Kokoo Limited operates in the Ashanti region (Table 3-2). A simple random sampling method was then applied in selection of specific respondents in each district. A simple random sampling technique was applied for the selection of District Managers.

Table 3-2: Quota Sampling for Purchasing Clerks (KKL, 2011b)

COCOA DISTRICTS	POPULATION	SAMPLE SIZE
AGONA	25	11
EFFIDUASE	38	17
BIBIANI	34	15
ANTOAKROM	49	22
ASH.BEKWAI	56	25
JUASO	52	23
KONONGO	19	8
MANKRANSO	22	10
NKAWIE	20	9
NYINAHIN	26	12
NEW EDUBIASE	20	9
NSOKOTE	17	8
OBUASI	38	17
OFFINSO	22	10
TEPA	42	18
TOTAL	**480**	**214**

3.5 Data Collection

3.5.1 Primary Data

Two separate semi-structured questionnaires, comprising both open and close ended questions, were developed, one for the Purchasing Clerks and one for the District Managers, to source primary data for the study.

3.5.2 Secondary Data

Data for sample population and the sample size determination was assessed from the Kuapa Kokoo Limited 2009/2010 operational report (KKL, 2011b).

3.6 Research Instrument

A semi-structured questionnaire was designed and administered to the respondents. Each questionnaire was developed based on the research questions. Two different questionnaires were used- one designed for the Purchasing Clerks and the other for the District Managers. The voluntary participation and consent of each interviewee was sought. Information was obtained on general socio-demographics of the Purchasing Clerks and District Managers which included sex, age, marital status, number of children, and level of education. Each participating Purchasing Clerk reported on his/her mode of recruitment and work history, which included work experience, highest number of bags of cocoa ever purchased in any particular cocoa season, the number of Licensed Buying Companies working for, number of bags of cocoa ever defaulted in any particular cocoa season, the number of times ever defaulted etc. Factor assessment was performed to evaluate the predictors of default among the Purchasing Clerks. This included the number of dependants, sub-contracting of cocoa purchasing to other people, pre-financing of purchases, and misapplication of funds, training, monitoring and challenges encountered in the operations. Recommendations for the remedy of identified problems were also sought.

For the District Managers, the parameters under investigation were information on work history (work experience, number of Purchasing Clerks supervising, default by Purchasing Clerks under supervision, Purchasing Clerks absconding with cocoa funds etc). Factor assessment included supervision and monitoring patterns, form of security or collateral required and obtained from Purchasing Clerks before recruitment, training, Purchasing Clerk recruitment patterns, challenges encountered during operations and recommended remedies. The study was anonymous and as such, number codes were used for identification.

3.7 Data Processing and Analysis

Continuous variables were expressed as their Means ± Standard Error of the Mean and their 95% confidence intervals were used where appropriate. Categorical variables were expressed as proportions. Comparisons of two means were performed using unpaired t test. Fisher exact test was used to compare two proportions and Chi square test for trends was used to compare three or more proportions where appropriate. A level of $p<0.05$ was acceptable as statistically significant. The GraphPad Prism version 5.00 for windows statistical tool was used for these statistical analyses.

3.8 Overview of Kuapa Kokoo Limited (KKL)

3.8.1 Historical Background of KKL

Kuapa Kokoo Limited was established in 1993, following the privatization of the internal cocoa marketing. Among those who contributed immensely to the establishment of the company were Nana Frimpong Abebrese of blessed memory and two NGOs, TWIN Limited of the United Kingdom and SNV-Ghana. Nana Frimpong Abebrese was the farmers' representative on the Board of Directors of COCOBOD and was personally concerned about the plight of cocoa farmers after the liberalization of the cocoa trade. He, together with some farmers who shared a similar concern, saw the need for a farmer-owned organization to participate in cocoa purchasing. With the assistance of the TWIN Ltd of the UK and SNV-Ghana the farmers set out to establish a limited liability company known as Kuapa Kokoo Limited in 1993 (Tiffen, 1998).

TWIN Limited, a UK NGO played a major role in the formation of KKL by offering various contributions including the provision of technical and financial advice; building the initial business capacity and preparation of business plan; provision of a loan of $33,000 for the purchasing fixed tools of trade and $100,000 as a guarantee for KKL to fulfill financial requirements to trade in cocoa and the establishment of contracts with fair trade organizations in Europe (Doherty and Tranchell, 2010).

SNV-Ghana, a Dutch NGO working in Ghana since 1977, was involved in the initial mobilization and education of farmers at the grassroots, known as village societies, and training to equip them with the skills of operations, policies and activities of the company. It also supported gender development programmes. KKL is, therefore, a farmer-based organization serving the farmers' interest (Tiffen, 1998; Doherty and Tranchell, 2010).

3.8.2 Mission Statement

The company's mission statement is to develop a commercially viable Licensed Buying Company in accordance with co-operative principles and to empower peasant farmers to increase their income and improve their standard of living(KKL, 2011c)

3.8.3 Nature of Business

The company is mainly engaged in the internal marketing of cocoa. Generally, it purchases cocoa beans from the farmers at the village level on behalf of the Ghana COCOBOD and delivers it to the Cocoa Marketing Company at take-over points in Kumasi, Tema and Takoradi.

This activity is mostly carried out in six cocoa regions of Ghana, namely: Western North, Western South, Ashanti, Brong Ahafo, Eastern and Central. The only region in which it is not operating is Volta. The company purchases cocoa beans from farmers at the village level societies through Purchasing Clerks.

The company is also engaged in the education of farmers, mainly on society development issues, group dynamics, leadership skills, family life education, good agronomic practices, maintenance of projects and meeting procedures. Farmers are also educated on operational matters, such as stock-taking, records keeping, and quality control issues, like how to follow laid down methods of preparing cocoa beans for sale to the company.

Another service provided by the organization is assisting women groups in the various farming communities to acquire skills in income-generating activities, like the making of soap, 'tie-and-dye' and palm oil extraction. Whilst some communities are assisted with equipment to go into corn milling, others are provided with projects like boreholes, schools and public places of convenience.

The company also collaborates with agencies and institutions, such as Conservation International and the Ministry of Food and Agriculture, to carry out certain projects and activities to improve the standard of living of the farmers.

3.8.4 Organizational Structure

The organizational structure of Kuapa Kokoo Limited indicates that the highest body of the company is the Board of Directors. Beneath the Board is the Managing Director who is assisted by two General Managers, one for Finance and the other for Operations.

The Managing Director oversees the day-to-day management of the company. Kuapa Kokoo Limited is organized into five main departments, namely: Operations; Accounts and Finance; Audit; Administration; and Research and Development.

The Board of Directors are made up of seven members. It comprises members of the farmers union, a representative of the Founding Fathers who is also a farmer, a representative of TWIN limited, the foreign partner and the Managing Director.

The farmers, who are the owners, have majority of membership on the Board of Directors. The Board meets quarterly to formulate policies, approve budgets of the company, and take specific management decisions.

The day-to-day management of KKL is in the hands of the Managing Director and his management team, comprising the two General Managers, Internal Auditor, Administrative Manager and the Research and Development Manager.

3.8.4.1 Operations Department

The Operations Department is the commercial wing of Kuapa Kokoo Limited. It is responsible for the marketing activities of the organization. The operations department, therefore, facilitates the purchasing, collection, grading and the sealing, and transportation of cocoa from farmers to takeover points of CMC at Takoradi, Tema and Kumasi. The transport section of the Kuapa Kokoo Limited is under the operations department. KKL owns some vehicles but depends, to a large extent, on private transporters for the haulage of its stocks

3.8.4.2 Accounts and Finance Department

The Accounts and Finance Department provides the financial information and service of Kuapa Kokoo Limited. It prepares financial projections and evaluations to assist management and the Board of Directors in decision-making and policy formulation. In addition, it institutes financial controls and reports periodically on operational performance.

3.8.4.3 Administration Department

The Administration Department provides the necessary personnel and administrative services to the company. It is responsible for staff recruitment, training and development, and welfare. It also oversees public relations and general administrative matters of Kuapa Kokoo Limited.

3.8.4.4 Research and Development Department

The Research and Development Department sees to the organization of the village societies. It is responsible for the training and education of the farmers. It supervises the execution and maintenance of the community projects provided for the farmers by the company.

3.8.4.5 Audit Department

The Audit Department provides audit services to the company. It ensures that all controls are working as expected. It conducts periodic review of the controls and suggests improvements for their implementation.

3.8.5 Operations of Kuapa Kokoo Limited

As illustrated in the operational flow chart in appendix 2, Kuapa Kokoo Limited obtains funding from COCOBOD and other commercial banks for the purchasing of cocoa. These funds are transferred through various banks to the District Offices of KKL, where District Managers disburse same to the various farmers' societies through their Purchasing Clerks, for the purchasing of cocoa. The purchased cocoa is then transported to a central district depot where it is checked, graded and sealed by staff of the Quality Control Division of COCOBOD. The graded and sealed cocoa is then transported to one of the takeover centres, where it is checked again for quality by the QCD and a purity certificate is issued. Upon the receipt of cocoa taken-over receipt (CTOR) and check weighing certificate (CWC) from the staff of the Cocoa Marketing Company (CMC), an invoice is prepared by the company for processing by COCOBOD, after which payment for the cocoa is made. Depending on the situation, the funds may be returned to the company for reuse or may be used to retire the seed fund. The purchasing Clerks are paid a fixed commission on a per bag basis (KKL, 2011a).

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESULTS

4.0 Introduction

In this chapter, data is analysed and interpreted to answer the research questions for this study. It begins with respondents' demographic and data presentation and analysis for each research question. The range of responses elicited were coded and analysed with the GraphPad Prism version 5.00, statistical tool. This software enabled the result of the primary data to be presented using frequency tables, means, standard errors of means, figures, and also allowed for vivid description and comparison of responses.

4.1 The Incidence of Default among Purchasing Clerks

The rate of default among the entire population of Purchasing Clerks was 29.91%, ranging from a minimum of 20% to a maximum of 40% with a 95% confidence. Female Purchasing Clerks had twice the chance of defaulting compared to their male counterparts, though not statistically significant. With tertiary education as the reference, Purchasing Clerks with no formal education were seen to have four times the tendency to default. Leaving the purchasing of cocoa in the hands of sub-contractors by Purchasing Clerks was one of the significant factors that contributed to default. As revealed by the study, duping by the sub-contractors significantly accounted for a higher default rate among the Purchasing Clerks who opted for their services.

Another major factor contributing to default found in this study was payment of funds to farmers in the form of pre-financing before delivery of cocoa to Purchasing Clerks. The rate of default among Purchasing Clerks who had ever pre-financed their cocoa purchase was six times higher than their colleagues who had never pre-financed their cocoa purchases. Using funds meant for cocoa purchasing for other non-cocoa activities was also found to be a major significant contributing factor to default, with 64% of Purchasing Clerks who had ever misapplied cocoa funds defaulting in cocoa purchase and having thrice the likelihood to default compared to those who had never applied cocoa funds for non cocoa activities. As can be seen from Table 4–1, the marital status of a Purchasing Clerk, the mode of payment for cocoa purchased, whether or not a Purchasing Clerk belonged to a society before recruitment, whether or not a Purchasing Clerk was trained before recruitment, the type of security used in the recruitment process and whether there was physical inspection of the said security where applicable, were not statistically significant determinants of default. However married PCs, PCs who were not trained before recruitment and those who used a single security had approximately twice the rate of default compared with their colleagues in the various categories mentioned above.

Table 4-1:The incidence of default among Purchasing Clerks analysed by contributing factors

Parameters	n	N	%age	95% CI	Inc ratio	p-value
Male	58	200	29.00	20 - 40	**ref.**(1)	
Female	3	5	60.00	10 - 90	2.07	0.1572
Single	3	15	20-00	0 - 50	ref.(1)	
Married	58	190	30.53	20 - 40	1.53	0.5602
No Education	1	1	100.00	0 - 100	3.50	
Basic	41	143	28.67	20 - 40	1.00	
Secondary	19	54	35.19	20 - 50	1.23	
Tertiary	2	7	28.57	0 - 70	ref.(1)	0.1515
Ever SC	37	93	39.78	30 - 50	1.71	
Never SC	24	103	23.30	20 - 30	ref.(1)	0.0128
Ever duped SC	29	55	52.73	40 - 70	2.29	
Never duped SC	29	126	23.02	20 - 30	ref.(1)	0.0001
Pre-financed	60	124	48.39	40 - 60	6.29	
Never pre-financed	1	13	7.69	0 - 40	ref.(1)	0.0063
Dupe by farmer	52	158	32.91	30 - 40	1.77	
Never duped farmer	8	43	18.60	10 - 30	ref.(1)	0.0902
Ever misapplied	32	50	64.00	50 - 80	2.90	
Never misapplied	34	154	22.08	20 - 30	ref.(1)	<0.0001
Akuafo Cheque	17	38	44.74	30 - 60	1.65	
Cash	44	162	27.16	20 - 30	ref.(1)	0.5593
Member of Society	35	126	27.78	20 - 40	ref.(1)	
Non Member	27	71	38.03	30 - 50	1.37	0.1523
Physical Inspection	52	175	29.71	20 - 40	ref.(1)	
No Physical Insp.	8	24	33.33	20 - 60	1.12	0.8129
Farm Plan	45	146	30.82	20 - 40	1.54	
Guarantors	11	28	39.29	20 - 60	1.96	
Both	5	25	20.00	20 - 40	ref.(1)	0.5226
Trained before R.	57	193	29.53	20 - 40	ref.(1)	
No training before R	5	8	62.50	20 - 90	2.12	0.11

Data is presented as percentages and figures. n- number of defaults; N- total number of respondents; CI- Confidence interval; SC- Sub-Contractor; Insp. – Inspection; R-recruitment; ref- reference; %age – percentage; P is significant $p^* < 0.05$; $p^{**} < 0.01$ and $p^{***} < 0.001$. Fisher's exact test was used to compare two proportions, and Chi Square for trends was used to compare three or more proportions

Field data 2011

4.2 Comparison of Characteristics of Defaulted and Never Defaulted Purchasing Clerks.

The average age at which PCs are employed is 39 years (37.74 – 40.78 at 95% CI). Though statistically comparable, the age at which PCs who have ever defaulted were employed was lower than their counterparts who have never defaulted. Similarly the average age of PCs who had never defaulted as at the time of the study, was higher than the group that had defaulted. Thus younger aged PCs were more likely to default than their older counterparts. Though the duration of time one has worked as a PC did not vary significantly between the two groups, PCs with longer working experience were more likely to default.

The nuclear family size of PCs averaged a wife and 6 children, and this did not vary between the two groups. Lower number of dependants, however was a significant contributor to default. In general, the number of Licensed Buying Companies a Purchasing Clerk works for had no influence on the default rate between the two groups. The PCs who had never defaulted had higher average volumes of cocoa ever purchased than those who have ever defaulted (Table 4 - 2).

Table 4-2: Characteristics of Defaulted and Never Defaulted Purchasing Clerks

Parameters	Total	(95% CI)	Never Defaulted	(95% CI)	Ever Defaulted	(95% CI)	p-value
Age Employed	39.26 ± 0.77	37.74 - 40.78	40.1 ± 0.96	38.2 - 42.01	37.06 ± 1.20	34.66 - 39.47	0.0724
Age at Present	47.08 ± 0.82	45.46 - 48.69	47.7 ± 1.01	45.71 - 49.7	46.03 ± 1.18	43.67 - 48.39	0.336
Work Experience	7.61 ± 0.42	6.78 - 8.44	7.34 ± 0.54	6.26 - 8.41	8.27 ± 0.62	7.04 - 9.51	0.6863
No. of Wives	1.182 ± 0.06	1.07 - 1.29	1.18 ± 0.08	1.028 - 1.33	1.18 ± 0.06	1.072 - 1.30	0.9773
No. of Children	5.90 ± 0.21	5.48 - 6.32	6.09 ± 0.27	5.56 - 6.61	5.58 ± 0.34	4.90 - 6.27	0.2799
No. of Dependants	6.991 ± 0.27	6.47 - 7.52	7.38 ± 0.33	6.723 - 8.03	6.18 ± 0.44	5.29 - 7.06	0.0404
LBCs works for	1.128 ± 0.03	1.06 - 1.20	1.09 ± 0.04	1.01 - 1.17	1.19 ± 0.06	1.07 - 1.31	0.1542
Highest Purchase	794.3 ± 51.27	693.3 - 895.4	839.4 ± 66.48	708 - 970.8	710.7 ± 74.18	562.5 – 859	0.2525

Data is presented as Means ± Standard error of the mean, and figures. No. - Number; CI- Confidence Interval; LBC-Licensed Buying Companies. P is significant p* < 0.05; p** < 0.01 and p***< 0.001.

Field data 2011

4.3 Characteristics of DMs who have ever had, and those who have never had PCs absconding with cocoa funds

The average age at which District Managers are employed is 35 years (33 – 37 at 95% CI). Even though the difference in age between the District Managers who had ever had a Purchasing Clerk absconding with cocoa funds and those who have never had the experience did not vary significantly, younger aged District Managers were more likely to suffer the experience. With an average working experience of approximately six years a District Manager is likely to have encountered a Purchasing Clerk who has absconded with his funds.

The number of Purchasing Clerks under the supervision of a District Manager was a significant determinant of default by purchasing Clerks. Thus District Managers with large numbers of Purchasing Clerks under their supervision were more likely to have their Purchasing Clerks abscond with cocoa funds. Volume handling was found to be a significant predictor of loss of cocoa funds due to absconding Purchasing Clerks, as indicated in table 4-3. The highest number of bags of cocoa ever purchased by a District Manager in any one season was significantly high amongst those who had ever had a Purchasing Clerk absconding with their cocoa funds than their other counterparts. District Managers who had Purchasing Clerks absconding with funds had significantly high rate of default among their purchasing Clerks than their counterparts. The number of times a District Manager interacts with the other executives of the society and the number of times the records of Purchasing Clerks are audited within a season however did not play a preventive role in protecting District Managers from defaulting Purchasing Clerks. The same applies to the number of trainings organised for Purchasing Clerks and farmers in a season. (Table 4-3).

Table 4-3: Characteristics of District Managers who have ever had, and those who have never had PCs Absconding with cocoa Funds

Parameters	Total	(95% CI)	Never Absconded	(95% CI)	Ever Absconded	(95% CI)	p-value
Age Employed	35.09±0.99	33.09 - 37.09	36.83±1.37	34.00 - 39.67	33.00±1.32	30.24 - 35.76	0.0531
Age at Present	39.57±1.05	37.46 - 41.68	40.08±1.45	37.08 - 43.08	38.95±1.53	35.74 - 42.16	0.5954
Work Experience	5.044±1.07	2.878 - 7.21	4.622±1.88	0.7269 - 8.52	5.55±0.75	3.976 - 7.124	0.6719
No. of PCs Sup.	22.57±1.31	19.92 - 25.22	19.46±1.21	16.96 - 21.96	26.3±2.26	21.56 - 31.04	0.0079
Highest Purchase	13705±1414	10852 - 16558	11001±1471	7950 - 14051	16816±2380	11834 - 21797	0.0386
Highest default	19.74±1.97	15.76 - 23.72	12.91±1.50	9.803 - 16.02	28±3.05	21.59 - 34.41	<0.0001
No. of Visits	2.258±0.16	1.93 - 2.59	2.25±0.25	1.717 - 2.78	2.267±0.21	1.824 - 2.71	0.9596
No. of Audits	1.778±0.19	1.397 - 2.16	1.7±0.25	1.194 - 2.21	1.875±0.30	1.233 - 2.52	0.6492
No. of training Org.	2.053±0.14	1.778 - 2.33	1.789±0.18	1.41 - 2.17	2.316±0.19	1.921 - 2.71	0.0511

Data is presented as Means ± Standard error of the mean, and figures. No. - Number; CI- Confidence Interval; PCs Sup.-Purchasing Clerks Supervised by a District Manager; Org. - Organised. P is significant p* < 0.05; p** < 0.01 and p***< 0.001.

Field data 2011

4.4 Factors Contributing to Purchasing Clerks Absconding with Funds

Among the married and the single District Managers, the study revealed that married District Managers had higher tendency to have Purchasing Clerks abscond with their cocoa funds, though not statistically significant (Figure 4-1).

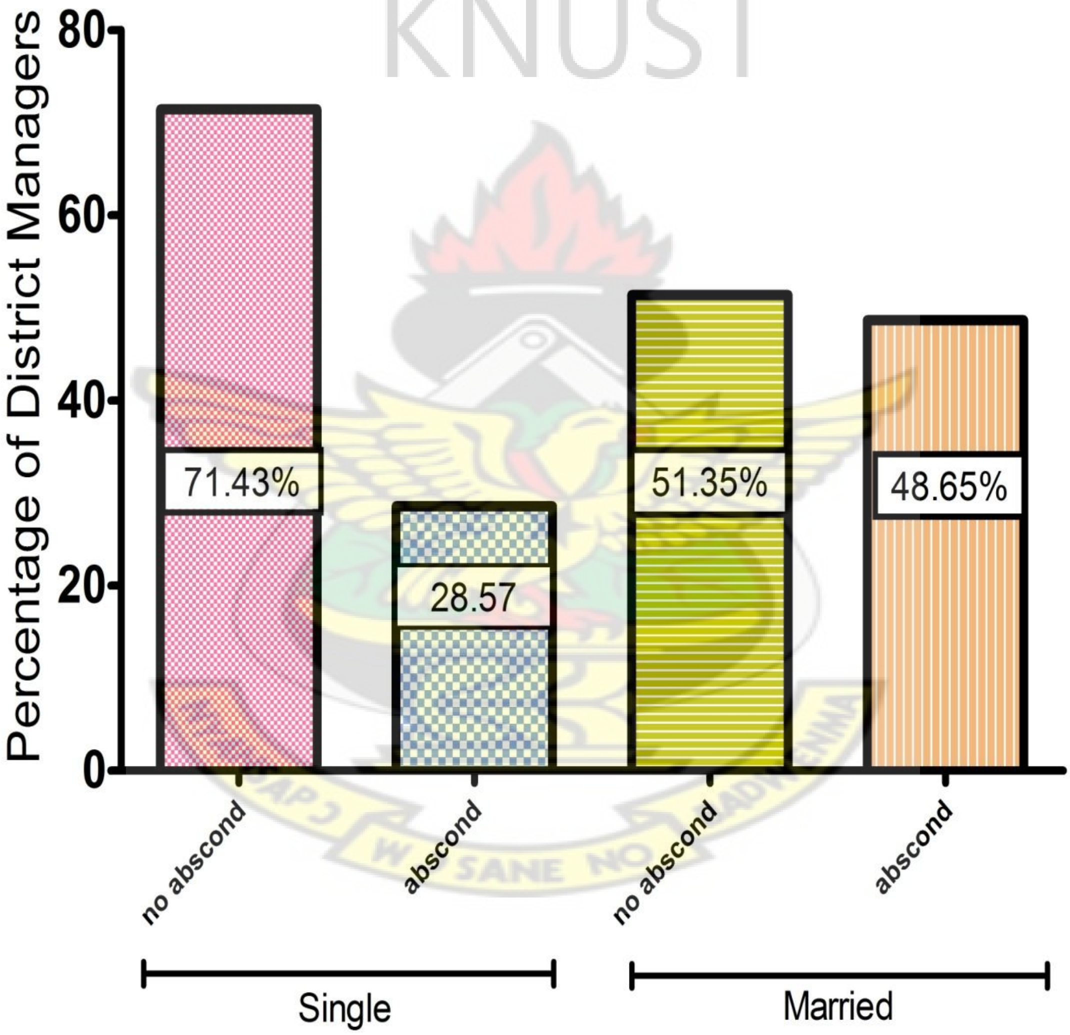


Figure 4-1:Marital status of District Managers .

Field data 2011

The minimum educational level for a District Managers was secondary, however the risk of losing funds through absconding Purchasing Clerks tilted slightly towards District Managers with higher education (Figure 4–2).

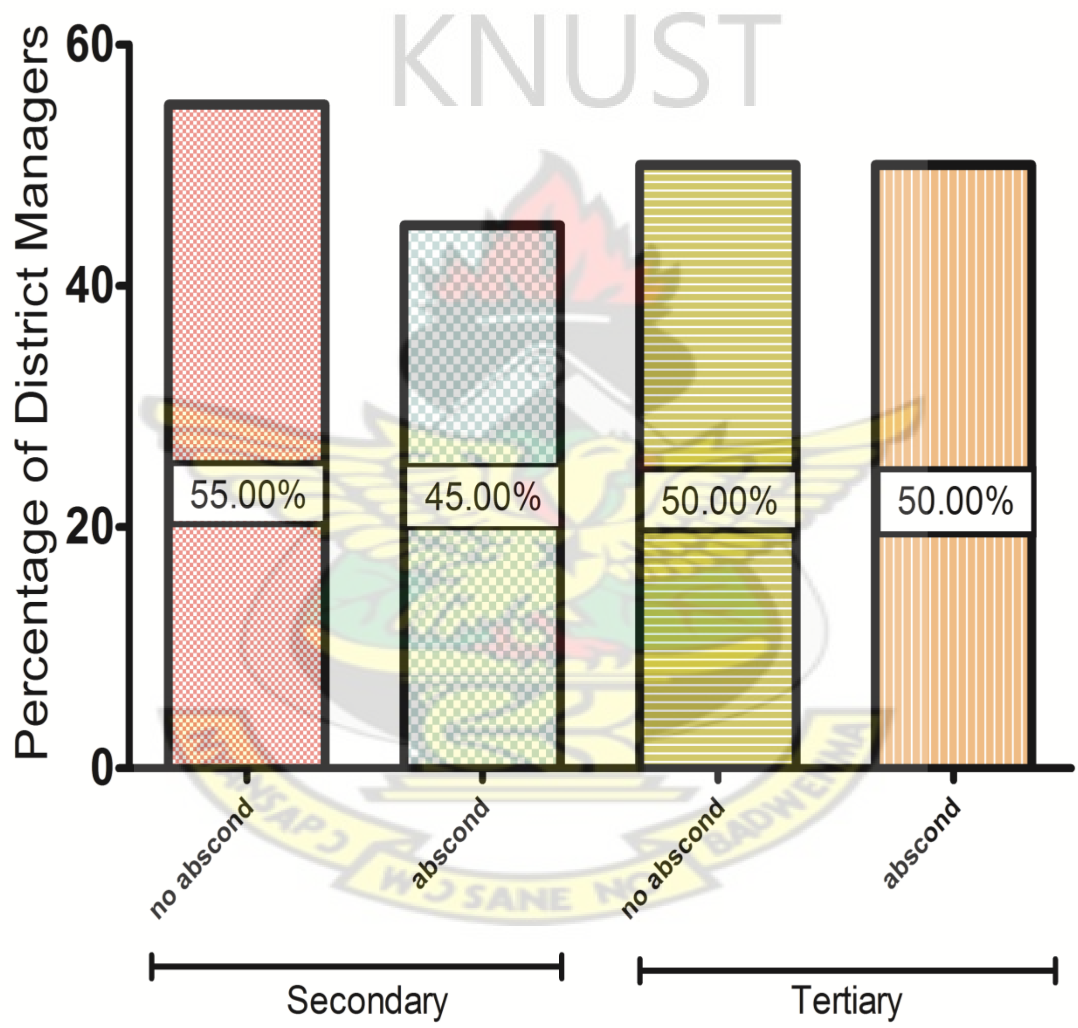


Figure 4-2 : Educational Background of District Managers.

Field data, 2011

Though statistically comparable the rate at which Purchasing Clerks abscond with the funds of District Managers among the three categories of the mode of payment by District Managers, (i.e. Akuafo cheque, cash and both payment options) the study revealed that those who used Akuafo cheques had lower incidence of loss of funds through absconding PCs (Figure 4-3)

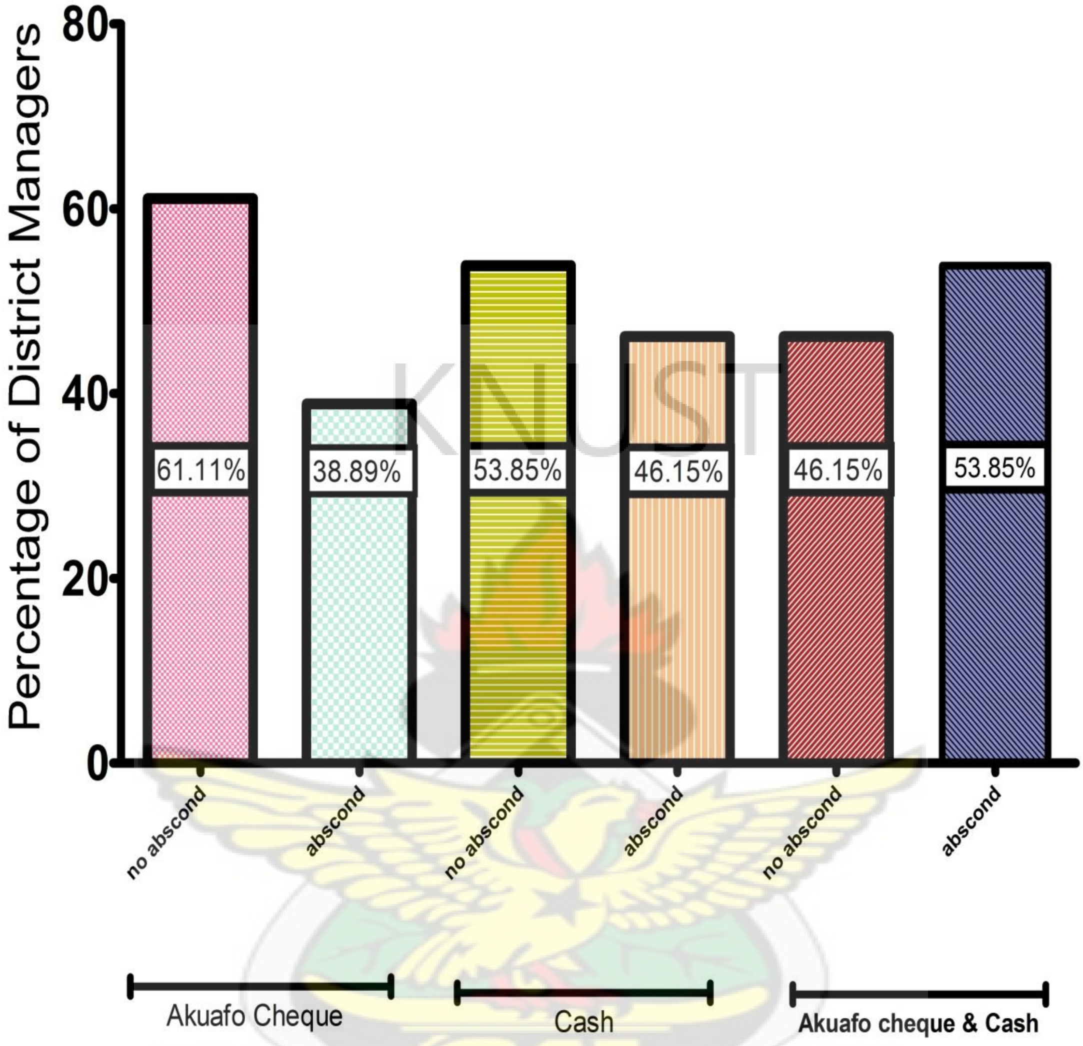


Figure 4-3: The preferred mode of payment by District Managers .

Field data 2011

The number of times a District Manager visited a society to audit and interact with the other society executives in a season did not show any statistical trend in mitigating Purchasing Clerks absconding with funds. However those who did not visit the societies at all had lower rates of loss of funds. (Figure 4–4)

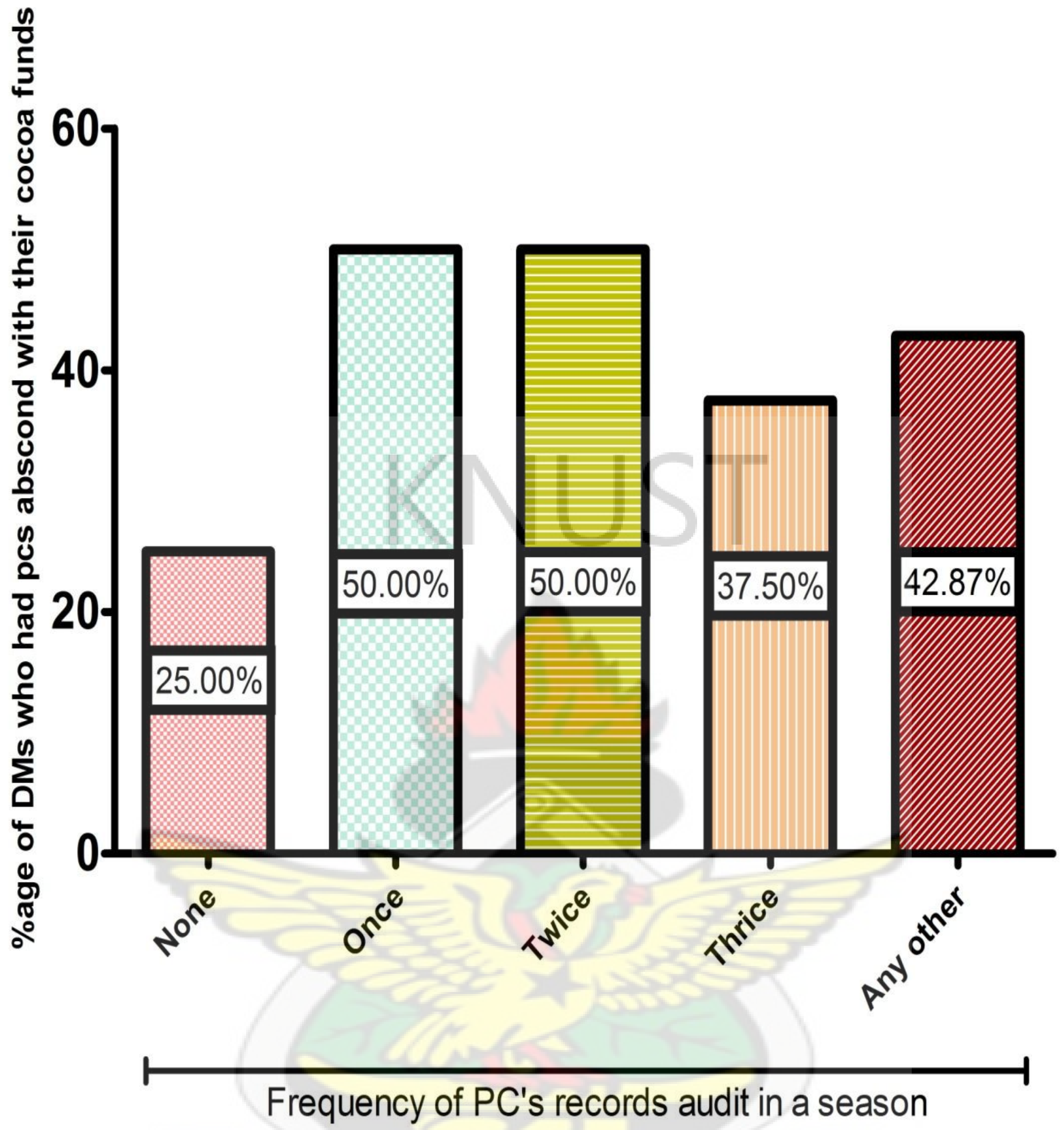


Figure 4-4: The frequency of PC's audit in a season by District Managers.

Field data 2011

The type of collateral a District Manager accepts when recruiting a Purchasing Clerk showed no statistical significance in influencing a Purchasing Clerk's absconding with funds. However those that accept guarantors only as security for recruitment before recruitment of Purchasing Clerks had higher likelihood to have a Purchasing Clerk abscond with the cocoa funds. (Figure 4–5)

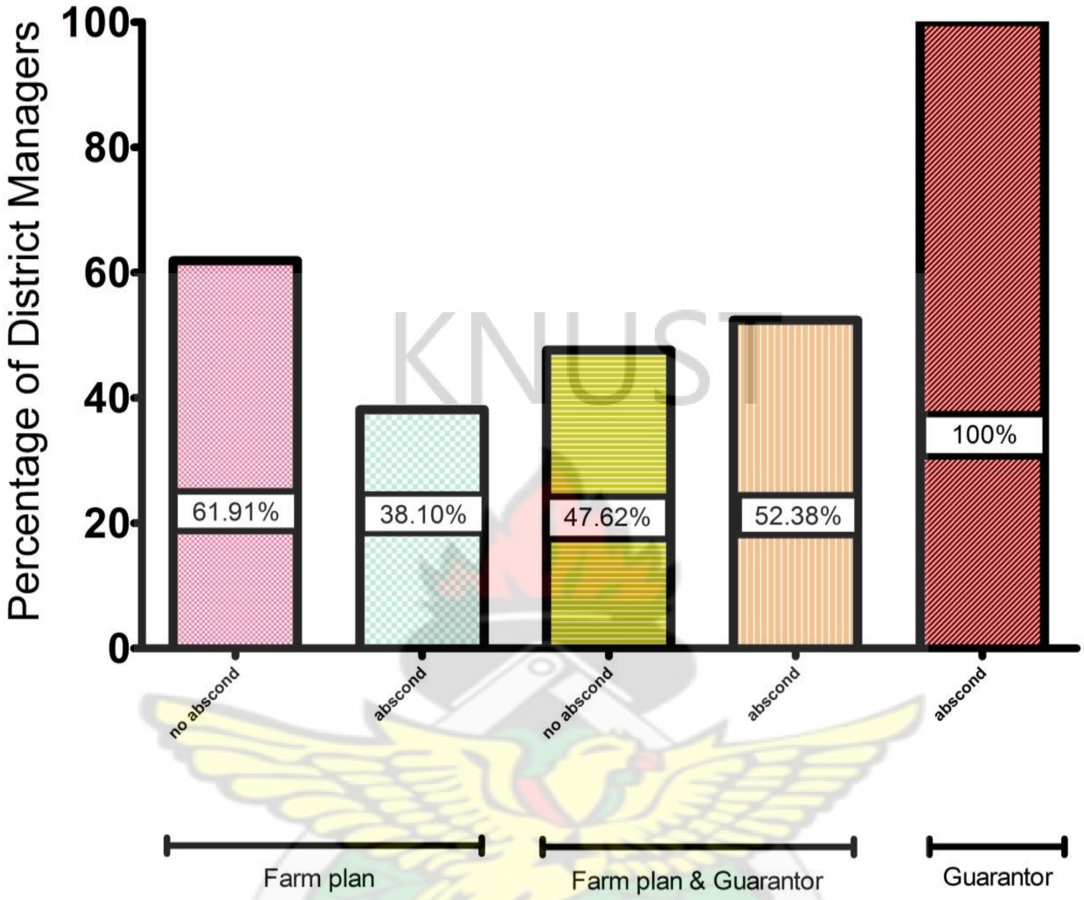


Figure 4-5: The type of collateral a District Managers accepts during recruitment of PCs.

Field data 2011

The physical inspection of the collateral of Purchasing Clerks where applicable by a District Manager before the recruitment showed no statistical significance in influencing a Purchasing Clerk's absconding with funds. However those who physically inspected collaterals of security before recruitment of Purchasing Clerks had higher likelihood to have a Purchasing Clerk to abscond with the cocoa funds. (Figure 4–6)

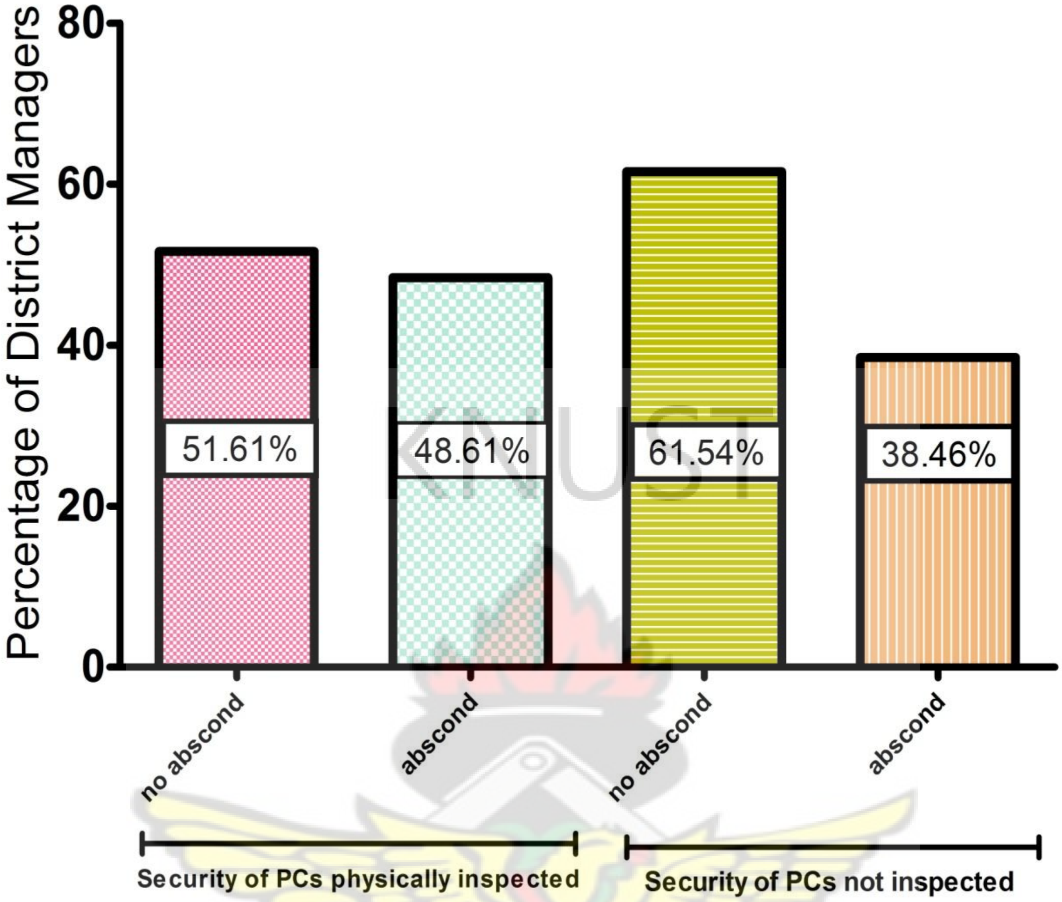


Figure 4-6: Inspection of collaterals by District Managers.

Field data 2011

4.5 Assigned Reasons and Opinions on the Factors Contributing to Default

When the reasons for default was sought among Purchasing Clerks who have ever defaulted and the opinions of the general population of Purchasing Clerks and District Managers on the contributing factors to default, though concurrent factors were attributed to default, the significance in their contribution to default varied amongst the Purchasing Clerks and the District Managers. The primary contributing factor to default according to the defaulting Purchasing Clerks was pre-financing and this was affirmed by the general Purchasing Clerk population. However the District Managers attributed the principal cause of default to misapplication of cocoa funds to non cocoa activities, and rather placed pre-financing second. Both the defaulting and non-defaulting Purchasing Clerks asserted that misapplication of funds was the second most likely cause of default. Theft of both cocoa and funds for cocoa purchasing was third most important reason attributed to default by the defaulting Purchasing Clerks. Though this was acknowledged by both Purchasing Clerks and District Managers as a contributing factor, it was the fifth most frequent cause.

Again the two groups of Purchasing Clerks indicated that one of the most important contributors to default was quality related problems. This, among others, include the buying of not thoroughly dried (NTD) cocoa which causes shortage upon re-drying; add-mixture, where unequal bean sizes are mixed together; which require extra labour cost to segregate the beans; and poorly fermented cocoa which, have to be sorted out, causing shortages. This was also acknowledged by the District Managers and they share the opinion of the defaulting Purchasing Clerks that quality related problems are the fourth most important contributing factor to default. However District Managers placed more emphasis on poor Book Keeping practices as a contributing factor than quality related problems.

Other contributing factors mentioned include, high handling costs, cocoa loss during transit, sub-contracting of cocoa purchasing to other sub-Purchasing Clerks and events of illegal cocoa purchase as noted by the Purchasing Clerks who had ever defaulted Figure 4-4A. In the opinion of the District Managers, the other contributing factors to default were lack of supervision of the activities of Purchasing Clerks, inadequate training of Purchasing Clerks, the use of faulty scales, Purchasing Clerks working for multiple Licensed Buying Companies and sub-contracting of cocoa purchasing to sub-Purchasing Clerks. On the part of the Purchasing Clerks, their opinion on the other causes of default was purchasing for multiple Licensed Buying Companies, the use of faulty scales and engagement of sub-Purchasing Clerks. (Figure 4-4B)

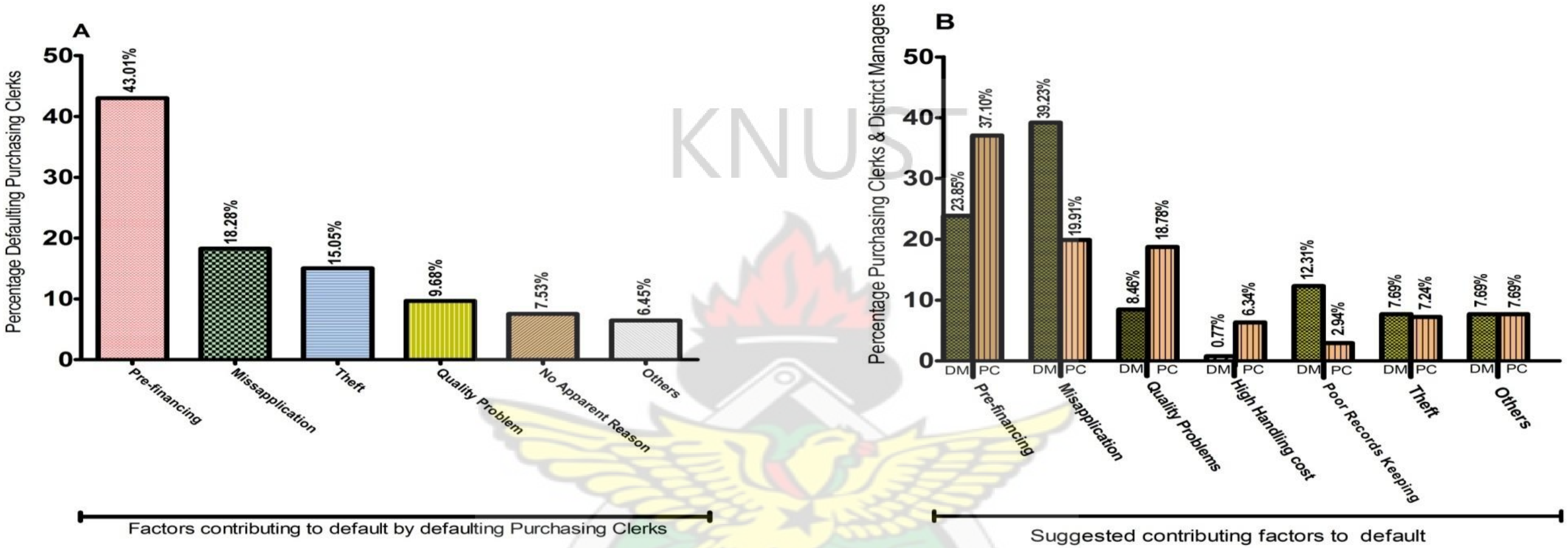


Figure 4-7: Assigned reasons and Opinions on the Factors Contributing to Default

A: Reasons given by Defaulting Purchase Clerks for the causes of their Defaults, B: Opinions of Purchasing Clerks and District Managers on the Factors contributing to Default. DM-District Managers; PC-Purchasing Clerks.

Field data 2011

4.6 Recommendations on reduction of default & Challenges encountered in the Operations of Purchasing Clerks and District Managers

The operational challenges encountered by District Managers in their work included inadequate logistics such as vehicles and motorbikes to undertake monitoring and supervision of the work of Purchasing Clerks. Lack of jute sacks was also prominent among the logistics challenge facing District Managers. Quality related problems were the second most prominent challenge the District Managers encounter in their operations. High handling cost which included the transport cost for the weekly submission of returns was also prominent.

Lack of funds for the purchasing of cocoa early in the season was the major challenge facing the Purchasing Clerks in their operations. Purchasing of low quality cocoa is also a challenge to the Purchasing Clerks. High handling costs which include labour charges, rent charges, high transport charges due to poor road network were some of the factors contributing to high operational costs that are borne by the Purchasing Clerks. These coupled with inadequate logistics such as jute sacks and small shed size were challenges confronting Purchasing Clerks in their operations.

Prominent amongst the recommendations given by both Purchasing Clerks and District Mangers to reduce the incidence of default were education of Purchasing Clerks on the issues of quality, book keeping, stock handling and the eradication of pre-financing of purchasing by Purchasing Clerks. Resourcing of District Managers to undertake monitoring and supervisory activities which should include frequent auditing of Purchasing Clerks was endorsed. The enforcement of strict recruiting regulations and a thorough background check of prospective Purchasing Clerks were also admonished.

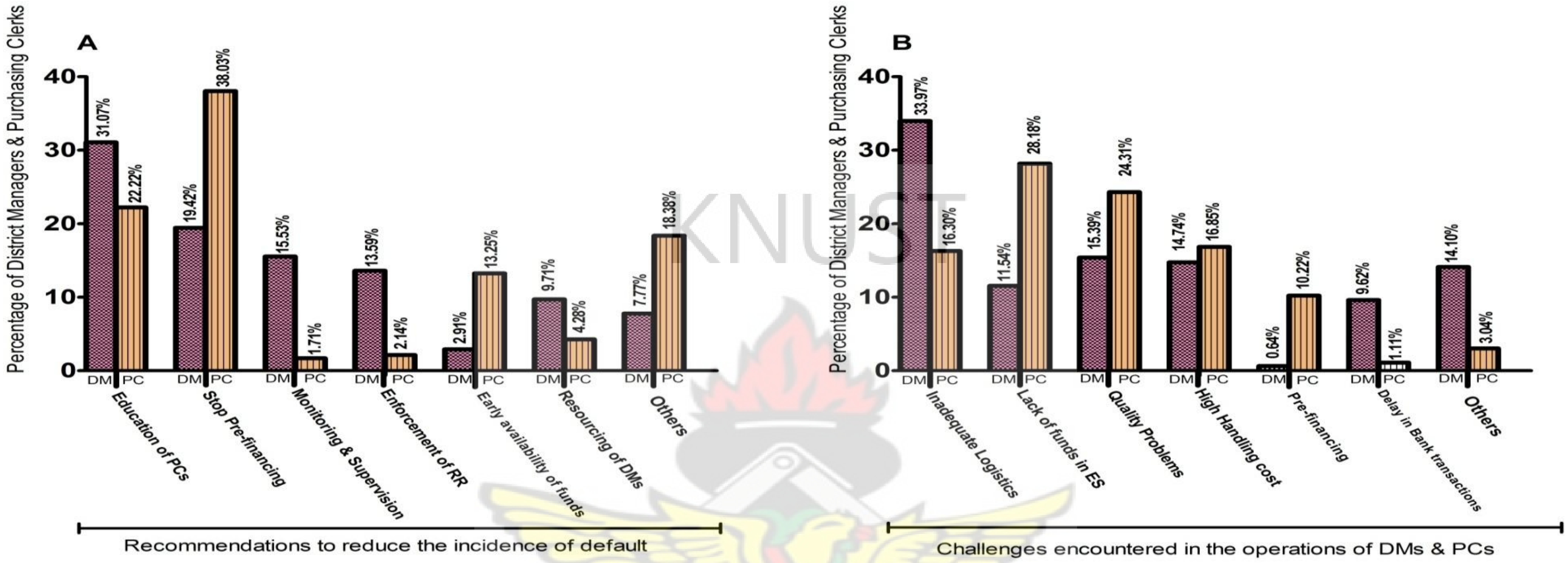


Figure 4-0-8: Recommendations on reduction of default & Challenges encountered in the operations of Purchasing Clerks and District Managers.

A: Recommendations from Purchasing Clerks and District Managers in reducing the incidence of Default. B: Challenges encountered in the operation of Purchasing Clerks and District Managers. DM- District Manager, PC- Purchasing Clerks, RR- Recruitment Rules, ES- Early Season.

Field data 2011

4.7 Discussion

4.7.1 Rate of Default among Purchasing Clerks

The rate of default among the Purchasing Clerk respondents was 29.91%, ranging from a minimum of 20% to a maximum of 40% at 95% confidence. Female Purchasing Clerks have twice the chance of defaulting compared to their male counterparts, though not statistically significant. The typical firm has a default probability of around 2% in any year. However, there is considerable variation in default probabilities across firms. For example, the odds of a firm with an AAA rating defaulting are only about 2 in 10,000 per annum. A single A-rated firm has odds of around 10 in 10,000 per annum, five times higher than an AAA. At the bottom of the rating scale, a CCC-rated firm's odds of defaulting are 4 in 100 (4%), 200 times the odds of an AAA-rated firm (Crosbie *et al.*, 2003).Thus the default rate of 29.91% among Purchasing Clerks of Kuapa Kokoo Limited can be said to be unacceptably high.

4.7.2 Factors Predisposing Purchasing Clerks to Default

Pre-financing of Cocoa Purchase

In the face of competition, Purchasing Clerks devise various means to stay on top of the competition. One notable feature of this competition is that the Licensed Buying Companies and their Purchasing Clerks do not compete in the price of cocoa. The competitive weapons are based on cash payment and non-economic motivations which include Purchasing Clerks becoming socially involved with farmers, by attending social events like funerals, and making donations and offering credit to farmers in times of need, in return for a guaranteed cocoa sales (i.e. pre-financing) (BOG, 2003; Lundstedt and Pärssinen, 2009). Three basic principal services are highlighted here: the provision of inputs on credit, the provision of subsidies for inputs, and the provision of loans outright (Zeitlin, 2006b). The effectiveness of these competitive strategies was confirmed in 2003 where the second and third major reasons cited by farmers for their preference of Purchasing Clerks was their social relations and credit provision respectively (Laven *et al.*, (2007).

For the Licensed Buying Companies, the principle of contested and captive market is at play, because provision of (productive) credit is not only good for producer productivity but also a means of capturing market share. Purchasing Clerks offer credit partly in order to segment the market and thereby reduce subsequent competition. Thus using the purposes of the captive markets to soften competitive behaviour in the contestable segment of the market, and firms accordingly have an incentive to establish captive markets even at some economic costs (Zeitlin, 2006b). The model is a two-stage game in which a single Purchasing Clerk provides productive credit in the first period, committing the recipient farmer to sell his/her output to him/her in the second period. The remaining portion of the market is then the subject of competition between this trader and a second Purchasing Clerk, who acts at a competitive fringe. In a way, entry deterrence is established (Zeitlin, 2006b). However from this study both the opinions of the general Purchasing Clerk population and the reasons cited by defaulting Purchasing Clerks put pre-financing of cocoa as the number one cause of default, whilst in the opinion of the District Mangers it is the second most important cause of default. These assertions were buttressed in the study as Purchasing Clerks who had ever pre-financed their cocoa purchase had a highly significant rate of default than their counterparts. In comparison, a Purchasing Clerk who has ever pre-financed cocoa purchase had six times the chance of defaulting than the one who has never pre-financed. Again credence was laid on the impact of pre-finance to default, as Purchasing Clerks who claimed to have been duped by farmers had higher percentage default (32.92%) than those who had never been duped by farmers (18.6%). This therefore reflects the reason why most Purchasing Clerks are reluctant to provide credit since they mistrust farmers. If the Purchasing Clerks give farmers credit in return for a guaranteed cocoa sales, it cannot be guaranteed that the farmers will supply the cocoa to them and not to their competitors (Lundstedt and Pärssinen, 2009).

4.7.2.1 Misapplication of funds

The Licensed Buying Companies advance huge sums of monies to their Purchasing Clerks through their District Managers upon request. The tendency for Purchasing Clerks to put these monies into different usage instead of cocoa purchasing is high. These monies are thus misapplied and invested into both economic and non economic ventures, leading to the failure to provide the required volume of cocoa paid for by the Licensed Buying Company at the end of the season. This was confirmed by the defaulting Purchasing Clerks as the second most important reason for their default. Majority of District Managers and the general Purchasing Clerk population attributed the phenomenon of misapplication of funds to non cocoa activities as the primary cause of default. Convergence was also established in this study attributing misapplications of funds to default. It showed that Purchasing Clerks who have ever misapplied cocoa funds to non cocoa activities have significantly thrice the odds to default compared to those that have never defaulted.

4.7.2.2 Recruitment of Purchasing Clerks

With the widespread incidence of fraud and substantial amount of monies left in the hands of the Purchasing Clerks who sometimes abscond with the funds, the study showed that risk of default or loss of funds can be reduced when personalities recruited as Purchasing Clerks are those interconnected within the network of the locality, than strangers, since higher number of dependants on a purchasing clerk, was found to be significantly linked with lower default rate. This confirms Fold's assertion in (2008) that suitable local candidates who are well interconnected in the societies, carrying out purchasing operations at 'shed' or community level may be easier to identify and safer to hire.

4.7.2.3 Quality Related Problems

One of the major characteristics of global value chains is the growing importance of standards. The characteristics that make up for quality in cocoa include the size of beans, moisture and fat content, and fat quality. These determine the quality of cocoa butter and cocoa liquor, the two ingredients that add texture, aroma, colour and flavour to chocolate. Quality is obtained through appropriate fermentation of seeds, storage and evacuation practices. The practices to obtain beans with what is known as classical 'West African' type flavour involves leaving the beans in a heap under banana leaves for about six days, with manual turning and drying in the sun. Drying beans slowly on raised platforms is very important for flavour development as it decreases the acidity level in the beans. Quality is also maintained by rapid collection of properly fermented and dried beans from smallholders, followed by their prompt shipment to avoid moisture build-up, mould and free fatty acids problems that can rapidly deteriorate the quality of the beans (Kaplinsky, 2004)..

At the village level cocoa is bought in kilos and in bags at the depot. The Purchasing Clerk therefore has the tendency of mixing beans from different farmers in order to make up a bag. If the cocoa beans brought together are of different sizes, it leads to ‘add-mixture’ which will be rejected at the depot, leaving the Clerk an additional labour cost to segregate the beans. Again, in the face of stiff competition among Purchasing Clerks to have higher volumes of produce, providing the farmers with multiple avenues for sales, there is no direct incentive for farmers to improve crop quality (Laven and Baud, 2007; Fold and Ponte, 2008)

One of the results of market liberalization that is eagerly underlined by the promoters of reforms is increased buyer competition. Yet, when this results in early buying rather than in price competition or the search for higher quality crops as is the case in Ghana, buyer competition leads to the purchasing of a crop that is not ready to be marketed, for example, under fermented and not thoroughly dried cocoa beans (Fold and Ponte, 2008). A Purchasing Clerk whose cocoa falls within this category at the depot will have to recondition the cocoa, which in the case of wet beans, upon drying well, cause a reduction in weight and a loss to the Purchasing Clerk. On the other hand mouldy cocoa depending on the percentage amount found in a bag of cocoa may lead to down grading the cocoa (Vigneri and Santos, 2008). These were confirmed by this study’s revelation that quality problems were a major contributor to default by Purchasing Clerks.

4.7.2.4 Sub-Contracting of Cocoa Purchasing

Some Purchasing Clerks leave the purchasing of cocoa in the hands of sub-Purchasing Clerks or agents contracted to help in their activities and some of these sub Purchasing Clerks go to the most remote villages in search of cocoa (Canatus *et al.*, 2009). The Purchasing Clerks who engage in such activities are constantly locked into a system that is not transparent and offer more incentives for fraud (Fold and Ponte, 2008; Laven, 2010). The exposure to sub-contracting fraud was one of the significant factors that contributed to default among Purchasing Clerks. As revealed by the study duping by the sub-contracted Purchasing Clerks significantly accounted for a higher default rate among the Purchasing Clerks who opted for their services.

4.7.2.5 Span of Control and Volume Handling

An organisation's size is determined by the number of its employees, the largeness of its operation, its market reach and share. Size also poses a very different challenge for the organisation's leaders. The empirical optimal ratio of manager to direct reports without compromising the productivity is a fundamental problem in designing the structure of an organisation. This is because the optimum span of control depends on numerous variables including organizational structure, geographical dispersion, available technology, the functions being performed, and the competencies of the manager as well as staff (Zhang and Zeng, 2010). The study established that in the face of inadequate logistics for supervision and monitoring, the number of Purchasing Clerks under the supervision of a District Manager was a significant determinant for a District Manager to be duped by a Purchasing Clerk. Thus the high numbers of Purchasing Clerks under one supervisor was associated with increased cases of loss of funds through absconding Purchasing Clerks. Volume handling was found to be a significant predictor to losing of cocoa funds due to Purchasing Clerk default, as indicated in table 4 -3. The tendency for Purchasing Clerks to abscond with cocoa funds was significantly high under the supervision of District Managers who purchase higher volumes of cocoa than those who purchase low volumes.

4.7.3 Operational Risk Management

The success of every control strategy hinges on effective supervision and monitoring. The operationalisation of monitoring systems depends on the availability of logistics, funds and motivated personnel. With inadequate logistics, the primary difficulty in the operations of District Managers, coupled with high handling cost, it is obvious that effectiveness of the control measures would be compromised (Crosbie *et al.*, 2003).

The operational risk management of Kuapa Kokoo Limited starts with the recruitment process where collateral in the form of cocoa farm plans or guarantors is demanded. Upon recruitment, the activities of Purchasing Clerks come under the supervision of District Managers and periodic auditing by Internal Auditors. From this study however, lapses in these risk management strategies do not seem to make it effective enough to curb the rate of default among Purchasing Clerks. First and foremost the authenticity of the documents used as collaterals are not proven before recruitment. Thus in the event where a Purchasing Clerk absconds with funds, the collateral provided may not automatically be fallen upon to offset the default. The scheduled inspection and renewal of these collaterals must be clearly stated. There are legal and operational issues which need to be sorted out in the recruitment process in order to make this undertaking deterrent enough to make misappropriation of funds a disincentive. These and other problems informed the call by 13.59% of the District Managers for the enforcement of recruitment rules. (Figure 4-5A)

The recommendations of both the District Managers and the Purchasing Clerks can therefore be viewed as verdicts on the ineffectiveness of the control measures against default, and with an estimated default rate of 29.91% (20%-40% at 95% CI) which is way above the acceptable 4 % recommended for CCC rated companies which is the minimum rating of a typical company (Crosbie *et al.*, 2003), the default risk management procedures of Kuapa Kokoo Limited needs much attention.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter covers summary of the findings, conclusions drawn from the study and recommendations based on the research results.

5.1 Summary of Findings

The major findings of the study included:

5.1.1 Incidence of Default among Purchasing Clerks

Purchasing Clerks, in an attempt to stay on top of the competition in the purchasing of cocoa, adopt various strategies, some of which unfortunately has led to a high incidence of default. The rate of default among Purchasing Clerks was estimated as 29.91%, ranging from a minimum of 20% to a maximum of 40% at 95% confidence interval.

5.1.2 Pre-financing of Purchasing

In order to obtain high volumes, Purchasing Clerks pre-finance cocoa purchases by providing credit to farmers before the harvest is ready for the market. These contractual agreements with farmers most often go bad and this was found to be a major contributor to default.

5.1.3 Misapplication of Funds

Another major contributor to default as found in this study was in instances where Purchasing Clerks invest funds for cocoa purchase into both commercial and non commercial non-cocoa activities.

5.1.4 Quality related Problems

Quality related problems were also cited as a major predisposing factor to default. Thus in the case where poor quality leads to rejection of cocoa by the QCD, on reconditioning of the cocoa, losses are incurred.

5.1.5 Sub-Contracting of Purchasing

The study also showed that Purchasing Clerks who engaged the services of sub-Purchasing Clerks were more liable to default. Thus when middle men are introduced into the purchasing chain, it increases the risk of default.

5.1.6 Security Concerns

Theft of cocoa and cash were also found to be one of the major predisposing factors for default. Thus due to poor security at the shed level of purchasing, thieves rub Purchasing Clerks of their money and cart away bags of cocoa.

5.1.7 Volume Handling and Span of Control

Volume handling and the span of control on the part of the District Managers were major predisposing factors for default by the Purchasing Clerks they supervise.

5.1.8 Inadequate logistics

Inadequate logistics was a major challenge for both the Purchasing Clerks and the District Managers.

5.1.9 Risk Management Systems of Kuapa Kokoo Limited

The risk management strategy of Kuapa Kokoo Limited was not robust enough to curb the incidence of default among the Purchasing Clerks.

5.2 Conclusion

In the enterprise strategy implementation process, risk management is the core question that has to be answered, and the implementation of the strategic risk plan that identifies early-warning signs is the key to risk management (Tian-xi, 2008). The study has afforded a systematic review of the factors contributing to default by the Purchasing Clerks in the cocoa supply chain in Ghana. Using Kuapa Kokoo Limited as a case study the findings herewith may not be divergent from the issues driving defaulters and loss of cocoa funds in the operations of Licensed Buying Companies in general.

5.3 Recommendations

Due to the high correlation between the perceptions of both the District Managers and the Purchasing Clerks, concerning the factors that contribute to default, and the findings of the study, it is recommended that the calls of the District Managers and the Purchasing Clerks be heeded to, in the following areas:

5.3.1 Education of Purchasing Clerks

Education of Purchasing Clerks should be intensified and should encompass quality control, financial management, and stock handlings, since lapses in these areas were the underlying factors that contributed to default.

5.3.2 Prudent Purchasing Methods

Purchasing Clerks should be encouraged to adopt safer methods of cocoa purchasing. This should include the avoidance of pre-financing purchases, misapplication of funds and the engagement of sub-Purchasing Clerks.

5.3.3 Logistics and Transportation.

Logistical support should be provided to the District Managers to improve monitoring and supervision of the activities of Purchasing Clerks. A system to improve and maintain the security of storage facilities at the village level should be put in place to reduce the incidence of theft of cocoa mentioned by the Purchasing Clerks as a contributing factor to default. An effective transport system should also be put in place to reduce the losses Purchasing Clerks incur in transporting cocoa to the district depots.

5.3.4 Recruitment of Purchasing Clerks

The recruitment rules for Purchasing Clerks should be enforced. This should include the engagement of resident Purchasing Clerks with adequate commitments in the society, to reduce the incidence of Purchasing Clerks absconding with funds.

5.3.5 Corporate Risk Management

The company's risk management strategy should be reviewed and enforced to reduce the incidence of default among Purchasing Clerks. This should include the verification and authentication and periodic renewal of collaterals provided by Purchasing Clerks.

5.4 Suggestions for Future Research

Further studies should be carried out on a larger scale to include many Licensed Buying Companies and more stakeholders - farmers, management members and industry regulators.

REFERENCES

ADB (2002) Risk Management. *Asian Development Bank.*

Adu-Ampomah Y. (2010) investing in the golden pod. *UK-Ghana investment forum London,.*

Alexander C. (2005) The Present and Future of Financial Risk Management. *Journal of Financial Econometrics, 2005, Vol. 3, No. 1, 3–25* 3, 3 - 25.

Asuming-Brempong S., Sarpong D.B., Asenso-Okyere K. and Amoo P. (2007) Labour practices in cocoa production in Ghana (NPECLC). *ministry of manpower, youth & employment*.

BCBS (2001) "A New Capital Adequacy Framework." Basel: Bank for International Settlements *Basel Committee on Banking Supervision, Consultative Paper:.*

Benson K. and Oliver B. (2004) Management Motivation for Using Financial Derivatives in Australia *Australian Journal of Management* 29.

BOG (2003) finiancial implications of liberalising cocoa marketing. *Bank of Ghana, research department*.

Canatus D.A., Aikins E.D. and Pezon H. (2009) Reforming Ghana's cocoa sector- an evaluation of private participation in marketing, Lulea University of Technolgy.

Canatus D.A. and Darkoa E.A. (2009) Refoaming Ghana's cocoa sector- an evaluation of private participation in marketing.

Cappelle J. (2009) Towards a Sustainable Cocoa Chain Power and possibilities within the cocoa and chocolate sector *Oxfam International Research Report*.

COCOBOD (2011) The History of Cocoa and its production in Ghana. Accra: Ghana cocoa board.

Crosbie P., Bohn J. and Koccagil A. (2003) Modelling Default Risk, Modelling Methodology. *Moody's KMV Company*.

Doherty B. and Tranchell S. (2010) new thinking in international trade? a case study of the day chocolate company, John Moores University

Drzik J. and Wyman M.O. (2005) New Directions in Risk Management. *Journal of Financial Econometrics* 3, 26–36.

Durodié B. (2006) The Concept of Risk. In *Nuffield trust global programme on health, foreign policy and security*.

Fold N. (2001) Restructuring of the European chocolate industry and its impact on cocoa production in West Africa. *Journal of Economic geography* 1, 405-420.

Fold N. (2008) Transnational Sourcing Practices in Ghana's Perennial Crop Sectors. *Journal of Agrarian Change* 8, 94 - 122.

Fold N. and Ponte S. (2008) "Are (market) stimulants injurious to quality? Liberalization, quality "changes and the reputation of African coffee and cocoa exports", in Globalization and Restructuring of African Commodity Flows. *Uppsala: Nordic Africa Institute*, 129-155.

Gibson J. (2007) Consistently Inconsistent :Addressing income volatility among cocoa producers in Ghana and Côte d'Ivoire *International institute for sustainable development*.

GSAM (2003) Risk Management. *Condensed GSAM Handbook*, 5-10.

Haberman S., Khorasanee M.Z., Ngwira B. and I.D. W. (2003) Risk measurement and management of defined benefit pension schemes: a stochastic approach. *IMA journal of Management Mathematics* 14.

Jarrow R.A., Lando D. and Yu F. (2005) Default risk and diversification: Theory and Empirical implications. *Mathematical Funance* 15, 1 -26.

Kaplinsky R. (2004) Competitions policy and the global coffee and cocoa value chains. In *United Nations Conference for Trade and Development (UNCTAD)* pp. 19 - 24: Institute of Development Studies University of Sussex, and Centre for Research in Innovation Management, University of Brighton.

KKL (2011a) The operational chart of Kuapa Kooko *Kuapa Kooko operational manual*.

KKL (2011b) Operational report 2009/2010. *Kuapa Kooko Limited*.

KKL (2011c) Who we are Kuapa Kokoo. In *http:www.kuapakokoo.com*.

Knight F.H. (1921) Risk, Uncertainty, and Profit. *(Boston)*.

Krejcie R.V. and Morgan D.W. (1970) Determining sample size for research activities. *Educational and Psychological Measurement* 30, 607 - 610.

larson D.F., Anderson J.R. and Varangis P. (2004) Policies on managing risk in agricultural markets. *World Bank Research Observer* 19, 199 - 230.

Laven A. and Baud l. (2007) Marketing reforms in Ghana's cocoa sector (Partial liberalisation, partial benefits?). *Overseas Development Institute (Background Note)*.

Laven A.C. (2010) The risks of inclusion: shifts in governance processes and upgrading opportunities for cocoa farmers in Ghana, University of Amsterdam.

Lundstedt H. and Pärssinen S. (2009) Cocoa is ghana, ghana is cocoa: Evaluating reforms of the ghanaian cocoa sector. *Minor Field Study Series:Nationalekonomiska institutionen Vid lunds universitet*

McNeil A.J. (1999) Extreme value theory for risk managers, ETH Zentrum.

Meyfredi J.C. (2004) History of the Risk Concept and Risk Modeling *EDHEC*.

Mull L.D. and Kirkhorn S.R. (2005) Child Labor in Ghana Cocoa Production: Focus upon Agricultural Tasks, Ergonomic Exposures, and Associated Injuries and Illnesses. *Public Health Rep.* 120: . 649–656.

Ndoping M. (2011) Global Commodities Forum ,Point of view of NCCB Cameroon in Developing Sub-regional Commodities Exchanges. In *Global commodities forum*. Geneva: UNCTAD"

Norde D.J. and van Duursen J.A. (2003) Identifying and assessing convergences of interest for stakeholders in the cocoa chain, in order to attain increased farm income and wider sustainable production' Wageningen Agricultural University.

Opoku. E.A. (2011) Towards a sustainale trade;- Potentials for fair market structures in Ghana's Cocoa Industry. *COCOBOD Ghana.RSCE2 Abidjan*.

Pedersen L.H. and Garleanu N. (2007) Search-and-Matching Financial MarketS. *Liquidity and Risk Management* 97

Shattell M. (2004) Risk: A concept analysis. . *Nursing Forum,* 39, 11-18.

Tian-xi S. (2008) Research on Indicator System of the Risk Early-Warning for Enterprise Strategy Implementation. *Pioneering with Science & Technology monthly*.

Tiffen P. (1998) The Day Chocolate Company Ltd: A Fair Trade Investment Opportunity 383-397.

Tollens E.F. and Gilbert C.L. (2003) Does market Liberalisation Jeopardise Export Quality? Cameroonian Cocoa, 1988 - 2000. *Journal of African Economies* 12, 303 - 342.

Ton G., Hagelaar G., Laven A. and Vellema S. (2008) Chain governance, sector policies and economic sustainability in cocoa: a comparative analysis of Ghana, Côte d'Ivoire, and Ecuador *Stichting DLO: Wageningen.* 12.

ul Haque I. (2005) Commodities under Neoliberalism: The Case of Cocoa. In *G-24 Discussion Paper Series*: United Nations.

UNCTAD (1998) A survey of commodity risk management instruments: united nations conference on trade and development.

Varangis P. and Schreiber G. (2001) Cocoa market reforms in West Africa. In *Commodity Maket Reforms: Lessons of Two Decades.* . Washington, DC,: World Bank.

Vigneri M. and Santos P. (2008) What does liberalization without price competition achieve: the case of cocoa in ghana *International food policy research institute* 14.

Zeitlin A. (2006a) Institution and productivity , microeconomic evidence from Ghana cocoa sector, University of Oxford,.

Zeitlin A. (2006b) Market Structure and Productivity Growth in Ghanaian Cocoa Production, University of Oxford.

Zhang J. and Zeng J.Q. (2010) the best span range of control for an efficient organisation structure, a model based on the efficiency analysis of information processing, Univ Posts & Telecommun.

APPENDIX

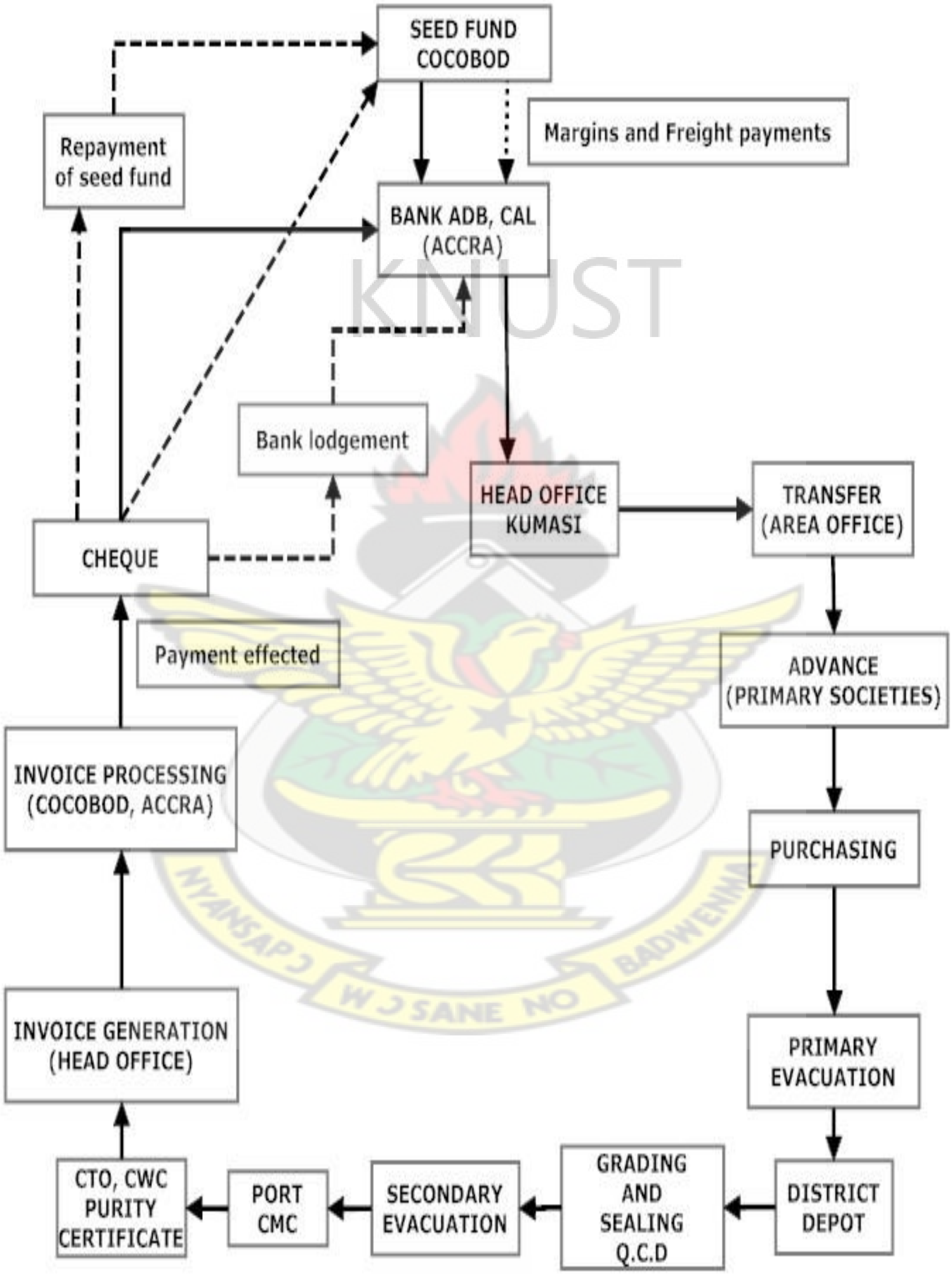
Appendix 1: Table for Determining Sample Size from a given Population (Krejcie and Morgan, 1970)

N*	S!	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	10000	384

- N is the population

! S is the sample size

Appendix 2: Kuapa Kokoo Operational Flow Chart (KKL, 2011a)



Appendix 3 :Sample Questionnaires for Purchasing Clerks

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

Institute of Distance Learning

Default Risk Management in Internal Marketing of Cocoa in Ghana

This study aims at evaluating various challenges License Buying Companies(LBC) encounter, particularly relating to default (Field Balance) by purchasing clerks in the internal marketing of cocoa. Through the results of the study, we aim to make information available to stake-holders and make recommendations on the best remedies to apply; ultimately reducing the incidence of default in the internal marketing of cocoa.

CODE: _______ Date: __ /__ / 2011

PURCHASING CLERKS

I have given my consent to partake in this study		Yes ☐ No ☐
1.0	General Demographic Information on Purchasing Clerks (*please tick or write where appropriate)*	
1.1	Sex	Male ☐ Female ☐
1.2	Society	***Please write below*** ....
1.3	At what age did you become a PC ?	***Please write below*** ....
1.4	How old are you now ?	***Please write below*** ....
1.5	Marital Status	***Please tick where applicable*** Single ☐ Co-habitation ☐ Married ☐ Divorced ☐ Widowed ☐
1.6	How many wives do you have?	***Please write below*** ....
1.7	How many children do you have ?	***Please write below*** ....
1.8	Educational Level	***Please tick where applicable*** None ☐ Basic ☐ Secondary ☐ Tertiary ☐