

**// THE EXTENT TO WHICH KENYA'S NATIONAL PAYMENT
SYSTEM (NPS) REFORM OBJECTIVES HAVE BEEN ACHIEVED //**

BY

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A Management Research Project Report Submitted in Partial Fulfillment of
the requirements for the Degree of Master of Business Administration,
Department of Business Administration, School of Business, University of
Nairobi

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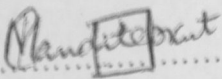


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DECLARATION

I hereby declare that this research project paper is my original work. It has not been presented by any other person from the University or any other institution.

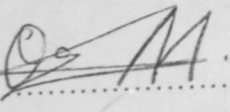
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My gratitude goes to several people who participated with me when writing this project.

First my great appreciation goes to my supervisor Dr. Meshack Ojeda who devoted his time reading through my work and providing excellent ideas and constructive criticism to ensure successful progress and completion of the research project.

DEDICATION

Dedicated to Joanne, Mercy and Meshack

Thanks go to my children Mercy Charlotte and Meshack Meshack for their understanding and love while I was undertaking this project. I also dedicate this project to Joanne Charlotte for her moral support, understanding and mentoring.

This project would not have been successful without the encouragement, prayers and ideas from my family members, friends and colleagues with whom we shared classes and group work, all lecturers of the school of business and all those who faithfully completed the questionnaires so that I could obtain the relevant data. My gratitude goes to Lucy Kiryangu for her invaluable secretarial services. I wish to specifically mention my two research assistants Nyambati Achi and Cyria Ochieng to whom I am highly indebted for their contribution to the realization of this project.

My God bless you all

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May God bless you all

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to settlement, possibly including the settling of payments and establishment of net positions for settlement.

Clearinghouse: A Central location or central processing mechanism through which payment system participants agree to exchange payments.

Day of value (value date): Day on which payment is due to be credited to the receiving participants in the payment system.

Default: Failure to complete a funds transfer according to its terms for reasons that are not technical or temporary, usually as a result of insolvency.

Multilateral settling: An emergency settling done or more parties to net their obligations. The multilateral settling of payment obligations normally takes place in a multilateral net settlement system.

Real Time Gross Settlement (RTGS): A payment system in which processing and settlement of financial transactions take place continuously in real time (that is without deferral) and gross (i.e. on transaction by transaction basis or transaction at a time) through a business day.

Settlement: An Act of fully discharge financial obligations between two or more parties.

Settlement risk: The risk that final settlement in a payment system will not take place as expected. This risk can involve both credit and liquidity risk. It can also arise as a result of operational risk.

Throughput Processing (STP): Automation of processing that allows data to be collected only once and then used for all subsequent payment events.

GLOSSARY OF CONCEPTS IN PAYMENTS SYSTEMS

The Bank for International Settlement has provided important concepts in Payment Systems as below discussed.

Clearing: The process of transmitting, reconciling and in some cases confirming, payments prior to settlement, possibly including the netting of payments and establishment of net positions for settlement.

Clearinghouse: A Central location or central processing mechanism through which payment system participants agree to exchange payments.

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Settlement: An Act that fully discharges financial obligations between two or more parties.

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Straight through Processing (STP): Automation of processing that allows data to be entered only once and then used for all subsequent payment process.

Systemic disruption: Events whose impacts have the potential to threaten the stability of the financial system, by transmitting shocks or disruptions from one financial institution to another; through the payment system in a contagion manner.

Systemic risk: The risk that the failure of one participation in the financial system to meet its required obligations will cause other financial institution to be unable to meet their obligation when due.

Unwind: To undo a process that was presumed to have been completed. Examples of such processes might be the making, netting or settlement of a payment. In particular, removing payments from the calculation of net position within a payment system that uses deferred net settlement basis.

LIST OF ABBREVIATIONS	
ATMs	Automatic Teller Machines
CDS	Central Depository Systems
ICDC	International Centre for Digital Content
KIE	Kenya Industrial Estates
SACCOS	Savings and credit cooperative societies
KEPSS	Kenya electronic payment settlement systems
NPSS	Net payment settlement systems
CPSS	Committee on Payment Settlement Systems
BIS	Bank for International Settlement Systems
VISA	Trademark for visa international company
GDP	Gross Domestic Product
CPSIPS	Core Principles for Systemically Important Payment Systems
STP	Straight through Processes
CLS	Continuous Linked Settlements
DVT	Delivery versus Payment
IMF	International Monetary Fund
CBK	Central Bank of Kenya
MICR	Magnetic Ink Character Recognition
JOISEC	Secure Internet Based Solutions for Integrated Building Management Systems Automation, Intelligent Homes and Property
IRG	Image Replacement Document
MPFNL	Macro Economic and Financial Management Institute

LIST OF ABBREVIATIONS

RTGS:	Real Time Gross Settlement Systems.
ATMS:	Automatic Teller Machines
CDS:	Central Depository Systems
EFTS:	Electronic Funds Transfer Systems
ADC:	Agricultural Development Corporation
AFC:	Agricultural Finance Corporation
ICDC:	International Centre for Digital Content
KIE:	Kenya Industrial Estates
SACCOS:	Savings and credit cooperative societies
KEPSS:	Kenya electronic payment settlement systems
NPSS:	Net payment settlement systems.
CPSS:	Committee on Payment Settlement Systems.
BIS:	Bank for International Settlement Systems.
VISA:	Trademark for visa international company.
GDP:	Gross Domestic Product.
CPSIPS:	Core Principles for Systemically Important Payment Systems
STP:	Straight through Processes
CLS:	Continuous Linked Settlements
DVP:	Delivery versus Payments
IMF:	International Monetary Fund
CBK:	Central Bank of Kenya
MICR:	Magnetic Ink Character Recognition
BOTEC:	Secure Internet Based Solutions for Integrated Building Management Systems Automation, Intelligent Homes and Property.
IRD:	Image Replacement Document
MEFMI:	Macro Economic and Financial Management Institute

1.1 Background

1.1.1 Payment Systems

ABSTRACT

National payment system can be defined as the whole combination of instruments and infrastructure through which money moves from one point to another in order to effect payments. These systems have emerged as a central area that affects all other areas and sectors in both developing and developed economies. This study sought to establish the extent to which Kenya's National Payments System reform objectives had been achieved as the end of 2005. The study was carried out using sampling method by administering a structured questionnaire to capture responses from the various National Payment System participant categories.

The study found that the objectives of Kenya's National Payment System reform have been substantially met. Key achievements include the introduction of Kenya Electronic Payment and Settlement System (KEPSS) which Kenya's Real Time Gross Settlement System (RTGS), the increased awareness of risks in payment systems and the automation of the Clearing house. The objective to encourage the provision of financial services to the rural area remained largely unmet as indicated by the greater proportion of Commercial branch network in the urban areas as compared to the rural areas. Awareness and usage of modern payment systems was low as indicated by the greater usage of cash and cheques to settle financial obligations.

The researcher recommends that the need to raise public awareness on the importance of using modern payment systems and instruments. Further, the subject of National Payment Systems could be introduced Kenya's educational curriculum at the lower and middle educational institutions as well as the tertiary levels. It is the researcher's view that such a move would improve public appreciation of the importance of payment systems in their daily financial transactions and the critical role it plays in the economy in general.

1.0 CHAPTER ONE: INTRODUCTION

1.1 Background

1.1.1 Payment Systems

Payment system refers to the economy-wide payment system or the entire web of payment instruments in an economy. It consists of a number of individual payment systems, which are broadly categorized into two groups: wholesale as well as retail payment systems. A payment system has also been defined as “incorporating particular set of payment instruments, technical standards for the transmission of payment messages and agreed means of settling claims among system members, including use of a nominated settlement institution.” (CPSS 2003, 9)

National Payment Systems (NPS) on the other hand refers to instruments facilitating exchange of assets and services between economic units, legal and physical infrastructure, the organizational structure, the operational procedures and the communication network, used to initiate and transmit payment information from payer to payee and to settle payment. That is, transfer of money (Banilo, 1996). The importance of the payment systems mainly stems from their role in financial sector and the economy as a whole. The development taking place in the banking industry due to technological progress has resulted in changes in the payment system field. “Money”, which is the subject of banking sector and which gradually increases in volume in the economic life, is transformed into a new form and now carries out its function as a series of book-entry transfers in an electronic world. Together with competitive conditions in the growing financial market, the need for increasing number of personnel proportional to the transaction volumes; the continual increase in costs; the need for keeping information and documents readily available; the search for increasing effectiveness and variety of customer services in banking sector; all require widespread and effective use of latest technological facilities in the banking sector to facilitate transfer of funds in a faster, safer and more reliable way while minimizing payment risks. These changes have implications on the efficiency and safety of the national payment systems and particularly commercial banks.

Reforms in payment systems are broadly based on the overall objective of attaining safety, efficiency and reliability. This may be achieved through provision of “an environment in which payment system may function effectively and efficiently and removal of barriers as appropriate,

to foster risk reducing payment systems initiatives” (Federal Reserve Bank Board, 2003). Specific reform objectives include:

- To provide effective mechanisms for the exchange of value between transacting parties
- To ensure finality and irrevocability of both payment and settlement
- To facilitate the management, reduction and containment of systemic and other payment-related risks
- To ensure that Payment system risks are understood and managed by all stakeholders and that settlement of all domestic inter-bank exchange take place on the value date of the settlement instruction.
- To make payment systems accessible to both urban and rural consumers to effect domestic and international transactions while reducing duplication of infrastructure
- To support electronic trading in both the securities and foreign exchange markets
- To ensure payment systems are compliant with international standards, practices and compatible with other international payment systems
- To minimize risks, among financial institutions due to the possibility of business disruptions that may arise from the increased dependence on ICT and
- To put in place a modern, robust, secure and integrated payment and settlement system in which anyone can make payment to whomever they like, whenever they like, in whatever currency they like, at the lowest cost possible per transaction.

Kenya's national payment system, Framework and Strategy document (2004), states the following reform strategies adopted by the Central Bank with a view to achieving Kenya's National Payment System Reform Objectives.

Risk reduction strategies: This involves the introduction of an on-line settlement system, implementation of risk reduction measures in bilateral and multilateral netting schemes, Cheque truncation, introduction of same day settlement and Payment System Oversight.

Appropriate Legal and Regulatory Framework: This strategy called for the review of the statutory powers of the Central Bank regarding payment systems and adoption of legal framework that ensure enforceability of payment service agreements and legal certainty in respect of industry practices.

Interfacing between the trading system and NPS and Payment strategies: This strategy is based on the understanding that payment systems are fragmented and predominantly paper based. It seeks to review Financial Market Practices from an National payment System Perspective, encouragement of Electronic Trading and Payment Mechanisms in the Trading Systems; introduction of mechanism to relay information associated with payment to the beneficiary and to review cross border and or foreign currency market practices from a National Payment System perspective.

Payment practices Strategy: This is a strategy that institutionalizes payment systems, thereby introducing regulatory framework for payment service providers and Creation of public awareness

Management Strategy for NPS: This strategy aims at the establishment of a Kenya NPS forum and standards.

According to Central Bank of Kenya's Framework and Strategy Document (2004), Kenya's Payment's system is beset by problems such as inherent settlement risks; over reliance of cash as a medium for settling Financial obligations by the paying public; the use of cheques to settle high value payment transactions; Unregulated Card based payment system; fragmented payment systems; lack of information and systems to manage the inter-bank exposures resulting from payment transactions of banks' customers and the implicit dependence on the financial backing of the central bank to ensure that clearing banks will be able to settle their daily exposure to one another.

Other problems include Legal uncertainty regarding multilateral netting, as a basis for determining inter-bank exposure, which is not adequate to support modern payment system, and lack of coordinated public awareness among the payment system stakeholders. In addition, the existing payment system suffers from built-in inefficiency.

According to Central Bank of Kenya (2004), NPS Framework and Strategy (pg. 1), Payments system in Kenya comprises institutions, laws, service providers and instruments. The major institutions that provide payment services include: The Central Bank, Commercial Banks, and Non-Bank Financial Institutions (Insurance companies, hire purchase companies, among others), Post Office Savings Bank, Postal Corporation of Kenya, Specialized Financial Institutions (ADC, AFC, ICDC and KIE), SACCOS, Building Societies, Pension Schemes and Mortgage Finance

Companies. Service providers include telecommunication providers, Power companies and Transport and Courier service companies as well as Data transmission companies. Other important institutions that play an important role include the Kenya Bankers Association, Nairobi Stock Exchange, Capital Markets authority and the two Security Settlement Systems for Corporate Equity and Debt securities and the Government debt securities. The Ministry of Finance and the Attorney General's office form an important institutional component of Kenya's payments system.

Essential payments System infrastructures in Kenya include the Nairobi Automated Clearing house, Kenya Electronic Payments and Settlement System (KEPSS), Automated teller Machines (ATMS) and Securities Settlement System (like Central Depository System- CDS) while the most commonly used payment instruments are Cash, Cheques, Electronic Funds Transfer (EFT), Plastic cards (Credit, Debit, Charge, Smart or prepaid), and Postal orders.

Kenya's legal infrastructure supporting payment system include The Banking Act Cap 488, Central Bank of Kenya Act Cap 491, Bills of Exchange Act, the Evidence Act, the Deposit Protection Act, Companies Act, Building societies Act, the Cheques Act, System(s) Agreements, Rules and Procedures as well as other applicable international laws, principles and recommendations.

1.1.2. The Banking industry in Kenya

According to the Central Bank of Kenya Annual Report, (2004), the banking sector in Kenya comprised 50 financial institutions with 43 commercial banks, two non-bank financial institutions, two mortgage finance companies and three building societies. There were a total of 532 commercial branches across the country; six locally incorporated foreign banks and four branches of foreign owned institutions and 89 foreign exchange bureaux operating in Kenya. The commercial bank branch network distribution was as shown in table 1.1 below:

Table 1.1: Regional Distribution of Financial Institutions Branch

Network

Province	2001	2002	2003	2004	%Change 2003/4
Central	69	69	69	71	2.9
Coast	69	70	69	72	4.3
Eastern	35	34	36	39	8.3
Nairobi	192	166	204	212	3.9
N. Eastern	4	4	4	4	0.0
Nyanza	40	38	40	40	0.0
Rift Valley	67	67	71	75	5.6
Western	18	18	19	19	0.0
Total	494	466	512	532	3.9

Source: Central Bank of Kenya, Financial Institution Supervision Department (FISD), Annual Report 2004.

It can be observed that the top 4 (four) most banked provinces (Nairobi, Central, Coast and Rift Valley) have consistently accounted for approximately 80% of the branch networks as their combined total accounted for 80.4%, 79.6%, 80.7%, 80.8% in 2001, 2002, 2003 and 2004 respectively. As at the end of 2004, there were 89 licensed and operational bureaux, with total assets of Ksh. 1.2 billion. 70 or 79% of them were located in Nairobi and 12 or 13.5% in Mombasa.

1.2 Research Problem

Existence of a stable, efficient, secure, reliable and world-class payment system is a global challenge today. According to Roberts N. Arrowsmith (1986), meeting the challenges for effective development of the national payment system has not been equally successful for all countries undertaking these reforms. The fundamental challenges, however, are often aggravated by a "narrow vision" of the system's complexity, limited knowledge on development, information sharing and inadequate planning by key stakeholders in the national payment system. Another problem is that too often, national payment reforms foci are limited to instruments, technologies and infrastructure-the supply side structure of the payment transfers-with little attention paid to the institutional changes necessary to the support of these reforms and the conditions influencing the demands for new instruments and services (Roberts, 1986).

A Study on Kenya's National Payment Systems is a new area, particularly in the academic arena. It has been set aside as a preserve of the business people and employees of financial institutions. It has not been regarded as an area that affects our daily lives, in this generation and even the coming ones. However, in other parts of the world, over the past few years, a broad international consensus has developed on the need to strengthen payments system by promoting internationally accepted standards and practices for their design and operations. Bank for International Settlement (BIS) 2001. Safe and efficient payment systems have been identified to be critical to the effective functioning of the financial system and a key requirement in maintaining and promoting financial stability. In 1998, BIS constituted a committee on payment and settlement systems (CPSS) of Central Banks of the G10 countries, the European Central Bank, 11 other national central banks in the world, IMF and the World Bank, that developed Ten Core Principles for Systemically Important Payment Systems, to act as payment system characteristics or standards that countries seek to attain in modernizing or reforming their payment systems for efficiency and safety. The committee in developing these core Principles consulted groups of central banks in Africa, Asia, the Pacific and Europe.

Invisible today is increased inefficiency, such as slow transaction speeds, longer settlement times, increased costs of transactions, errors and fraudulent transactions in financial institutions. However, there have been efforts and initiatives being implemented by Central Bank of Kenya and other stakeholders to address these issues through the country's National Payment Systems Reforms

This study aims at finding out whether or not the objectives of Kenya's National Payment System have been met and whether the system is operating efficiently. The Central Bank of Kenya conducted a survey on payment systems in Kenya and came up with the Framework and strategy document that documents the problems facing payments system in Kenya, the reform objectives and the strategies to be used in achieving the stated objectives. The other two East African Central Banks conducted similar surveys. There is however no documented study to find out whether or not the objectives of National Payment system reforms have been met. This study therefore sought to find out whether or not the objectives of Kenya's National Payment System reform have been met and why some if any of the reform objectives have not been met.

1.3 Research Objectives

The objectives of this study are three-fold:

1. To determine the extent to which the Kenya's National Payment Reform objectives have been met
2. To establish reasons why some (if any) of the Reform Objectives have not been met

1.4 Rationale

Financial institutions and policy-makers interested in the development of National and international economic and financial systems have become increasingly aware of the role and importance of the national payment system in this process. A national payment system consists of various institutional and infrastructural arrangements established to transfer money in the form of commercial and central bank deposit claims. While the significance of an effective monetary system for economic development and growth has generally been accepted for some time, many of the real economic benefits that relate to money as a medium of exchange are now believed to arise from a secure, predictable and efficient non-cash payment system. A safe and efficient national payment system supports a smooth flow of money in an economy to help create new opportunities for commercial and financial transactions that would not otherwise exist and lower the real and the financial costs of all transactions.

In the Kenyan context, the study on the National Payments System will cause and arouse the public to appreciate the role of the payment systems and the inherent risks they are usually exposed to when making or receiving money and how these affect their choices of the payment. This is because the study embodies and opens up an unexploited body of knowledge that is practical in nature and concerns our day to day life and engagement. The study highlights the significant role to be played by Central Bank of Kenya, commercial banks, Private financial institutions, SACCOS and others financial institutions to address identified problems in Kenya national payment systems.

The study will generate interest in the academic circles that could inform future curriculum development in Kenyan educational institutions. It is an area for research and study that is practical, interesting, and intellectually exciting and stimulating. Finally, this is an open gate to the study of related areas in the payment system, both wholesale and retail.

2.0 CHAPTER TWO: LITERATURE REVIEW

2.1 A description of Payment Systems

Payment Systems comprise a set of instruments, procedures and rules for the transfer of funds among system participants. These systems involve funds transfers and other financial assets, such as securities, in settlement of financial obligations.

Payment Systems may also be described as those systems which if left or were insufficiently protected against risk, could trigger or transmit further disruptions amongst participants or systemic disruptions ("knock-on effects") in the financial area more widely. The initial disruption might, for example, be caused by the insolvency of an important system participant. Systemic importance is determined mainly by the size or nature of the individual payments or their aggregate value. Payment Systems handling large-value payments would normally be considered systematically important to distinguish them from those which handle payments of low values, but which have the capacity to trigger or transmit systematic disruption by virtue of certain segments of its traffic. BIS CPSS (2001). A payment system makes possible the exchange of payment transactions for both the buyers and sellers. The system includes institutions, people, rules and technologies. It delivers authorization, clearing and settlement services between the buyer's and seller's banks. VISA (2004).

2.1.1 Payment System components

Omotunde, Abrams et al (1998) identifies the major Payment System components to include Institutional and organizational framework, legal framework, major service providers, major users of payment systems, Payment instruments, clearing and settlement systems, technology and the Central bank. They describe each of the components as hereunder:

In their survey of the USA payment systems, they found out that Payment instruments include cash (Bank notes and coin) and non-cash instruments such as cheques and electronic payments. These are the medium used to discharge payment obligations. According to Visa (2004). Cash as a medium of settlement is costly. Merchants have labor costs for counting, bagging and transporting cash to the bank and for reconciling accounts safety costs. It is also subject to employee pilferage. To the central bank, it is cheap to print but expensive to transport, insure and

distribute. Cash could promote criminal activities such as counterfeiting than Noncash payment instruments such as cheques and electronic payment instruments (Direct Debit, Credit transfers and payment cards). VISA (2004) classified retail payments into currency or cash, paper-based, or electronic card-based or digital-based as indicated in the table below:

Table 2.1: Payment Type versus Payment Instruments.

Payment Type	Payment Instrument	
	Cash based	Account based
Currency	Banknotes and coin	
Paper	Bank drafts	Cheques
	Promissory notes	Credit transfer
	Money orders	(Paper Giro)
	Travelers cheques	
	Bill of exchange	
Electronic card	Pre-paid cards	Debit cards
	Stored value cards	Credit cards
		Charge cards
Electronic Digital	Digital cash	Account transfers
		Direct debits
		Direct credits
		Domestic wire transfer
		International wire transfers
		Bill payment
		Remittances
		Person-to-person

According to Padoa-Schioppa (2004), Payment System institutions on the other hand are those through which the non-cash payment instruments are transmitted. Examples include Banks, other financial institutions, clearing house and information technology. They are the intermediaries for non-cash instruments. Physical infrastructure facilitates the actual transmission of the payment instructions and instruments. These included telecommunications, SWIFT, Transport networks and proprietary other links while Legal infrastructure refers to appropriate laws that provide the supportive infrastructure as they facilitate recognition and admissibility of payment system arrangements, documents, processes and transactions.

2.1.2 Payment System Risks

Melba (2005) defines “risk” as the uncertainty of outcome. In the context of payment systems, “risk” is the possibility that a payee may not get actual value passed on or credited to his or her account. Payment System risks include Liquidity risk, operational risk, credit, legal and Systemic risk.

Omotunde et al (1998) identifies typical *payment system risks* as financial risks; liquidity risk, credit risk and systemic risk. *Liquidity risk* is the probability that a payment will not be settled on time because the debtor has insufficient liquid funds. This happens, even though all parties are financially healthy. Dhumale (2002). *Credit risk* is the probability that a payment will not be fully settled because the debtor is insolvent. *Systemic risk* is the probability that liquidity or solvency problems of one or more individuals or organizations in the payment system leads to liquidity or solvency problems on a large enough scale to threaten payment settlements in the economy at large. Any risk can be regarded as systemic or non –systemic depending on its effects on the financial system.

Dhumale (2002) in his article, “*Managing Systemic Risk through secured settlement*” separates credit risk into “payer risk” and “receiver risk”. ‘Payer risk’ refers to the risk faced by the party who pays first in case the corresponding payment is not received from the counter party. ‘Receiver risk’ arises when the receiver assumes that a received payment is final before it actually is and pays its obligation. This may expose them to “unwinding risk” in which some otherwise settled transactions are revoked or unwound causing widespread chain reaction of systemic liquidity shortfall.

According to Sheppard (1996), *legal risk* is the likelihood of payment being reversed following bankruptcy declaration of a payment system participant. In a multilateral net settlement system such as a Clearing House, if a bank falls or becomes insolvent, the liquidating agent may obtain court orders to compel the surviving banks to first pay the gross amounts to the fallen bank before being compensated. This “unpicking” may cause pressure among the remaining banks, at times causing some to fail. . In general, insolvency pronouncements may cause payments that have been settled to be unwound. This risk is also known as “Zero hour rule”. BIS 2001

Masha (2002) defines *principal risk* as the risk of loss or fall value of securities or funds that has been transferred to a defaulting counter party, which happens when payment is completed but delivery is not yet received before delivery or when delivery has been completed but payment has not been received. Cross border payment systems on the other hand face *Herstatt risk*. Masha (2000) described it as the risk that occurs when a bank pays out on a currency it has sold but does not receive the currency that it purchased from the other party.

According to Mwebya (2005) in a presentation during a Macro Economic and Financial Management Institute (MEFMI) course entitled "*Application of core principles for systematically important payment systems and the regulatory framework and oversight of the payment systems*", "A reliable and safe payment system increases the effectiveness of the monetary policies and minimizes risks"

2.1.3 Categories Payment Systems

Sheppard (1996), BIS (2001) and P-Schioppa (2004), all agree that Payment systems may be categorized according to bases such as ownership structure, the systemic importance, and sizes of transactions they process, Settlement basis and the settlement asset.

On the basis of ownership, Payment systems may be owned by the Central bank, private participants or jointly owned. The owners determine the rules and procedures governing the systems. By Systemic importance, Payment systems may be systemically important or non-systemically important. Any disturbance to systemically important payment systems is capable of triggering disruptions or transmitting shocks across the financial system domestically or even internationally. Such systems settle other systems (e.g. Multilateral net settlement systems) and handles payments made in settlement of financial market transactions (e.g. foreign exchange transactions). Non- systemic systems are widely used but could cause inconveniences if disturbed but not widespread disruptions. Payment card systems and securities settlement system fall under this category.

According to the size of transactions processed, payment systems could be large value or low value. Large value systems handle large value but low volume transactions. They may be described as wholesale payment systems while those handling low values high volume transactions may be referred to as retail payment systems. Padoa-Schioppa (2004). According to VISA (2004), wholesale payment systems support both domestic and international interbank

funds transfers and Central bank operations for large value transactions, made primarily by financial institutions, businesses and governments. Such transactions are generally settled in real time rather than at the end of day basis. Retail payment system by contrast, mainly involves smaller value payments made by individuals (in face-to-face or paper-based transactions), businesses and other participants in the economy. According to Masha, principal economist, Central Bank of Nigeria in his article *"Payment Systems Efficiency, Monetary Policy Transmission and Financial Sector Stability"*, retail payment systems, tend to be higher in volume but much lower in value than whole sale payment systems such as interbank exchange and settlement which mostly involve transactions in securities and interbank instruments. He identified included payment types such as face-to- face, bank- to- bank and country- to- country (Cross-border) payment systems. By settlement method, Some payment systems settle electronically and instantaneously (Real Time) continuously throughout a business day and on item by item (Gross) basis while other systems settle on a deferred basis at the end or at specified times of a business day on a batch or net basis.

2.2 Significance of Stable Payments Systems

Payment Systems are critical to the effective functioning of the financial system. They are the means by which funds are transferred among banks. Robust payment systems are key requirements in maintaining and promoting financial stability and supporting the effectiveness of financial markets. BIS (2001). The public depends on it to transfer funds among themselves. Poorly designed systems can contribute to systematic crises if risks are not adequately contained, with the result that financial shocks are passed from one participant to another. The effects of such disruption could extend beyond the system and its participants, threatening the stability of money markets and of other domestic and international financial markets. According to Sheppard (1996), Payment systems are crucial for the economy, and their safety and efficiency should be part of objectives of public policy. They are vital elements in the financial infrastructure of the economy acting as a necessary channel for effective economic management particularly through monetary policy and a means of promoting economic efficiency. Table 2.2 below illustrates how long payment systems among the G10 countries take to process values equivalent to their annual GDP. More efficient payment systems take shorter time to process GDP values relative to the less efficient systems.

Table2.2: Payment Flows and GDP in G10 Countries

Country	Annual turnover in payment system (\$000billion)	Ratio of payment system turnover to GDP	Number of days to turn over annual GDP
Belgium	10.9	47.5	5.25
Canada	11.6	20.7	12
France	58.3	43.9	5.5
Germany	129.1	63.0	4
Italy	20.4	29.9	12.5
Japan	463.4	100.9	2.5
Netherlands	12.4	37.5	6.75
Sweden	6.4	32.6	7.75
Switzerland	24.5	93.9	2.75
UK	42.9	41.9	6
USA	506.5	73.7	3.25

Source: David Sheppard (1996) Payment Systems, Central Banking Publications Ltd.

Effective and efficient payment systems are vital for the economic development of emerging economies. World Bank, Policy Research paper number 1336. VISA (2004), cites Paul Acquah of Bank of Ghana statement that “An efficient payment system enhances savings mobilization and financial intermediation”. If a payment system is inefficient and unreliable, it may take weeks rather than days for a payment instruction to move from the payer’s bank and for the final recipient’s account to be credited. This process may also be uncertain causing money to be tied up in the payment system and making it unavailable for other productive purposes. BIS CPSS (2001) identified aspects of Inefficiencies in Payment systems to include Poor operational performance viz: system cannot cope with the level of demand, has technical or organizational problems, high levels of returned payments, High costs possibly reflected in charges compared to systems with similar services elsewhere and excessively high set up or operational costs when a participation joins or leaves the system. “The importance of payment systems for financial sector stability arises from the possibility that problems in the payment systems, affecting only one participant, run the risk of becoming systemic. Masha (2002). Modern and efficient payment systems promote efficiency of financial intermediation and are likely to build support for the operations of the free market institutions.

2.3 Payment System Reform Objectives

Allsopp (2002) outlines six objectives of payment system reforms to including risk reduction, raising public confidence, strengthening securities trading, increasing economic activity,

promoting electronic commerce and conforming to international best practice. These objectives are aimed at enhancing a country's financial stability.

Risk reduction and increasing efficiency in a country's payment systems involves a careful design and operation of the payment systems, assisting banks to manage their exposures to their customers and identifying and agreeing the trade offs between cost, speed, robustness to achieve the required level of service at the lowest cost to the economy.

Strengthening of the financial market is an element in the pursuit of financial stability. It is also fundamental to the central bank's own task of implementing an effective and efficient monetary policy. Payment systems are established and operated to support and contribute to economic activity in its currency; payment systems are therefore a means to an end. Implementation of an Information technology based payment system can lead to a greater transactions shift from paper based systems to electronic based and on the internet. Conformity with international best practices on the other hand is important for any market based economy, particularly with the integration of economies and the increased financial flows.

Enhanced public confidence in the country's payment systems improves the willingness of individuals, businesses and others to settle their financial obligations through the established payment systems. Both the payer and payee are comfortable with the length and reliability, security of the system the cost and the operations of clear rules on responsibilities and liabilities of each party involved in the systems.

Masha (2002) proposes that "the motivation for payment system reform is not only to create orderly, efficient and secure transfer of values in the economy but is also based on the need to minimize contagion effects of liquidity and credit risks inherent in net settlement arrangement which can create disruptions in financial markets and result in systemic risk".

2.3.1 Drivers of Reforms

Tromp (2002) identifies and describes the factors that necessitate reforms in a country's payment systems reforms to include: International pressure, regional initiatives, the need to modernize and enhance efficiency. International pressure arises from such bodies as Bank for International Settlement, International Monetary Fund and the World Bank that have recognized the importance of sound and efficient national payment systems as a measure of a country risk. Risk

reduction is achieved by containing systematic failure that could spill over into other national payment systems due to cross border transactions and exposures. Regional initiatives, aimed at modernization, integration and harmonization of payment systems and the desire to ensure efficiency and costs in order to remove in due burden on the economy have pushed countries to modernize their payment systems.

2.3.2 Obstacles to Successful Reform Process.

Allsop (2002) highlighted some of the pitfalls and problems that may hinder the implementation of a reform process. One of such hindrances is failure to consult within the central bank. Unclearly stated reform process or understanding reform as a minor operational issue without sufficient high level support may heighten the difficulty of addressing complains.

He also cited failure to consult with the commercial banks. This may lead to system designs that do not recognize the different needs of banking sectors, the system rules and procedures ignoring commercial realities and the high charges for commercial bank customers.

Another problem is Failure to consult within the commercial banks, so that the system, does not address the needs of all the banks and the banks do not understand their customers' needs. Finally, failure to look far ahead and failing to anticipate new instruments or transactions or new categories of participants. Accordingly, reforming national payment system should seek to get sufficient buy-in to the reform plans.

2.4 Characteristics of Modern Payment Systems

Modern payment systems may be described as those that are efficient, safe, and reliable and have a variety of payment instruments. These characteristics facilitate faster and smoother transfer of funds among individuals or organizations. According to Mwebya (2005), modern payment systems are like well laid down network of water plumbing pipes, which ensure efficient delivery of water. Modern payment systems facilitate efficient delivery of money and should possess attributes, which make them, comply with BIS Core principles¹ that stipulates that, modern payment systems should be based on a well founded legal basis under all relevant jurisdiction; their rules and procedures should enable participants to have a clear understanding of the

¹ These attributes are derived from the Core Principles for Payment Systems developed by Bank for International Settlement's (BIS) Committee on payment and settlement system in 2001, which forms the minimum standards to be attained by modern payment systems.

system's impact on each of the risks they incur through participation in it; they have clearly defined procedures for the management of credit risks and liquidity risk which specify the respective responsibilities of the system operator and the participants; they should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day; if the system is one in which multilateral netting takes place, it should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single obligation; such systems should settle using assets, which should preferably be a claim on the central bank and where other assets are used, they should carry little or credit risk and little or no liquidity risk; in addition these systems should ensure a high degree of security and operational reliability and have contingency arrangements for timely completion of daily processing; they provide a means of making payments, which should be practical for its users and efficient for the economy; such systems have objective and publicly disclosed criteria for participation, which permit fair and open access to promote competition and governance arrangements are effective, accountable and transparent. BIS (2001), CPSS CPSIPS.

A major characteristic of modern payment systems is their compliance to relevant international, national and industry-level standards, guidelines or recommendations that are appropriate to the payment and banking industry. Compliance with such standards helps ensure a high degree of security and operational reliability, business continuity plans, adequate service level agreements that may specify the maximum period of unscheduled downtime.

The table 2.3: Summary of International Standards for assessing payment systems.

Standard notation	Area of coverage
ISO/IEC TR	Information technology, security techniques guidelines for the management of IT security
ISO TR 13569	Banking and related financial services – information security guidelines
BSI 7799; 1999	Information security management
ISO/IEC 15408	Evaluation criteria for IT security
ISO/IEC PDTR 15446	Guide on the production of protection profiles and security targets
Quality assurance	
ISO 9000	
Data	Quality management and quality assurance standard
ISO 9364	Banking telecommunications message – bank identifier code (BIC)
ISO 13616	International bank account number (IBAN)
IOSCO	Recommendations for securities settlement system.

Source: BIS 2001.

The attributes in the table above are useful in monitoring and making assessment of payment systems and in designing reforms in payments. In such modern systems and according to Kamesan, (2003), anyone can make Payment to whomsoever one likes, whenever one likes, in whatever currency of one's choice at low cost per transaction, minimal or no settlement delays and minimum movement of paper. Value is received instantaneously. There are no distinctions in costs or delays between a domestic and foreign currency transaction. Interest is computed on real

time rather than on a "settlement day" a relic from the ancient times, when accounting was manually done. Finality, privacy and secrecy are guaranteed."

2.5 The future of Payment Systems

Future Payment systems will be designed to internationally compatible, open-system, platform independent payment standards, to keep the full advantage of their existing client base, while benefiting from the new more efficient, low cost service capabilities. Banks will be able to ensure that their own transition from the old to the new standards can be preformed cheaply, and on their own timing. This may be facilitated by the mobile phone and payment smart cards whose potential can shape the future of payment systems. Singapore for instance has fully implemented smart card system that enable people to make payments directly on the internet and the cards can be recharged by internet or by phone. The stated objective of the government in Singapore is to eliminate all conventional non-electronic payments by 2008. Lietaer (2002).

Commercial private currencies are also emerging. Commercial private currencies include loyalty currencies and the so-called "barter currencies" typified by the "frequent flyer miles" used by airlines. Telephone companies, supermarkets, book-chains, and e-businesses are now commonly issuing loyalty currencies. Barter currencies are used as medium of exchange among members of commercial barter clubs. Lietaer, (2002).

A survey summarized by Robert Pringle and Matthew Robinson (1991) which was entitled "*A Survey of Central Bank payment systems experts*," indicated the future trends in payment systems to include among others; decreasing usage of cash and cheques; replacement of magnetic stripe cards with chip cards; introduction of RTGS systems and straight through processes (STP); introduction of STP for securities trading and settlement arrangements/connecting the central depository agency with RTGS system in order to achieve delivery versus payment(DVP) in real-time; the introductions of Continuous Linked Settlement (CLS) to address foreign exchange settlement risk; strive towards interoperability in card payment system; harmonization of settlement systems with other settlement systems in the respective regions and increase central bank involvement in oversight of payment systems as well as introduction of cheque truncation.

Concerning the future of monetary currencies, Benjamin J. Cohen (2004) has put it this way: "today, however, the world's monetary landscape is being rapidly transformed under the impact of accelerating competition among currencies a cross national border. The future of money will be one of persistently growing complexity posing increasingly difficult challenges for the state

authorities” (Cohen, 2004). In regard to RTGS, it is still unpredictable whether RTGS will totally replace the money currencies, but there is heated debate on the future on money, of cheques and indeed, of RTGS. As to whether “bad currency” will drive away “good currency” as predicted in the Gresham’s law remains to be seen.

1.1 Population

The population to be study were Finance managers, operations managers, chief accountants and treasury managers in commercial banks and organizations in public and private sector that engaged in payment system in Kenya. (see table 1.1) These organizations transfer money in settlement of their financial obligations. They would use either Cash, Cheques, Electronic funds transfer (EFT) or by Cards in exchange for goods and services that have been provided. Some organizations provide clearing services while others provide the settlement services.

1.2 Sample design

Sampling method was employed as it was the most appropriate method to studying a large population. A total of 50, one (1) organizations as indicated in the sampling framework table below, were served with the questionnaire. The research utilized stratified disproportionate sampling technique as the population was not homogeneous. A total of 1000 copies (17) questionnaires were received, representing 74 per cent of the response rate. These included responses from eight Commercial banks, general bank, clearing house, two private companies, two Savings and Credit Cooperative Societies (SACCOs) and thirteen other-owned organizations.

3.0 CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

A survey was conducted through administration of a questionnaire because it was possible to administer by either the researcher or research assistants and it also made it possible for the researcher use many options to administer including personal delivery, post and by email. The structured nature of the questionnaire ensured that there was objectivity and consistency of thought in the formulation and interpretation of questions and responses.

3.2 Population

The respondents to the study were Finance managers, operations managers, chief accountants and treasury managers in commercial banks and organizations in public and private sector that engaged in payment systems in Kenya. (see table 3.1) These organizations transfer money in settlement of their financial obligations. They would use either Cash, Cheques, Electronic funds transfers (EFT) or by Cards in exchange for goods and services that have been procured. Some organizations provide clearing services while others provide the settlement services.

3.3 Sample design

Sampling method was employed as it was the most appropriate method to studying a large population. A total of fifty one (51) organizations as indicated in the sampling framework table below, were served with the questionnaires. The research utilized stratified disproportionate sampling technique as the population was not homogeneous. A total of thirty seven (37) responses were received, representing 74 per cent of the response rate. These included responses from eight Commercial banks, central bank, Clearing House, nine private companies, five Savings and Credit Cooperative Societies (SACCOS) and thirteen state-owned corporations.

Table 3.1: Sampling Framework

Part	Category	Population	Sample
I	Clearing House	1	1
II	Commercial Banks	43	15
III	Private sector organizations	148,000	10
IV	Saccos	4,840	10
V	Central Bank	1	1
VI	State owned Corporation	300*	15
Total			51

* This was a provisional figure.

3.4 Data collection and tools

A Structured questionnaire (appendix IV) was used. Research assistants and the researcher administered the questionnaire. The questionnaire was divided into six (6) parts as follows:

Part I: Completed by Clearing House Supervisor

Part II: Completed by Commercial banks

Part III: Completed by Private Companies

Part IV: Completed by SACCOS

Part V: Completed by Central Bank

Part VI: Completed by State Corporations. Respondents included treasury managers in commercial banks, Clearing- house supervisor, finance and administration managers of Private Companies and General Managers of Savings and Credit Cooperative Societies. Research assistants dropped the questionnaire to some of the respondents and picked later them. In some cases, they conducted some explanations to the respondents and answered all the queries that were raised. They were able to administer as the researcher exposed them to the concept of payment system. The researcher also sent out the questionnaire via email and while some responded by email, some opted to complete hard copies that were collected by the researcher or the research assistants.

3.5 Data analysis and presentation

Data of quantitative nature was analyzed using pie charts and Bar graphs to provide a visual impression upon which conclusions were drawn. The researcher relied mainly on percentages (%) and mean scores to interpret the research findings. Qualitative data or information on the other hand was analyzed using content analysis and appropriate deductions made as expounded in the next chapter. Related for both the qualitative and quantitative findings of the study were categorized into groups of related issues for ease of analysis and interpretation and conclusion and recommendations.

4.1 Key findings of the study

The study sought to find out if new payment instruments in Kenya especially non-cash electronic had been widely embraced by the sampled organizations as an indicator of achieving the objective of effective mechanism for exchange of value and supporting electronic trading. The study found that cash and cheques were still predominant payment system instruments.

Cash refers to coin and note currency in circulation and in deposit accounts. This is the oldest and yet the most popular instrument of making payments amongst Kenya's leading financial institutions. Among the institutions sampled for this research, majority use cash as one of the instruments of making payments. Some of the reasons why these leading institutions prefer to use cash included the fact cash is the traditional mode of payments and therefore popular amongst the clients. Respondents however indicated clients use cash frequently but for low value transactions.

The study confirmed that the cheque is an instrument of payment in widely used. The significance of the electronic compared to other methods of settlement regarding the popularity of the cheque. Due to the introduction of the RTGS system which is in use in addition, 51.64% of the institutions sampled were found to be using cheques but also favouring the clearing house.

4.0 CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

4.1 Introduction

The analyses presented in this research utilize different but complementary approaches to help investigate the extent to which the objectives of Kenya's National Payments (NPS) reforms have been achieved. The data analyzed here was gained from administered questionnaires (Appendix II) and interviews. There is advocacy for diversity in the methods of analysis. These diverse methods are employed to complement each other as well as highlight the findings of the study.

The illustrations in the form of Tables, schematic illustrations, pie-charts, and bar graphs will utilize information gained from the administered questionnaires. Indeed, data utilized comes from some of the major financial institutions in Kenya that were included in the sample including Commercial Banks, Savings and Credit Cooperative Organizations (SACCOs), Central Bank of Kenya, Private companies and State-Owned Corporations.

4.2 Key findings of the study

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Cash refers to coin and note currency in circulation and in deposit accounts. This is the oldest but yet the second popular instrument of making payments amongst Kenya's leading financial institutions. Among the institutions sampled for this research, thirty eight use cash as one of the instruments of making payments. Some of the reasons why these leading institutions prefer using cash included the fact cash is the traditional mode of payment and therefore popular amongst the clients. Respondents however indicated clients use cash frequently but for low value transactions.

The study confirmed that the cheque as an instrument of payment is widely used. The significance of the clearinghouse compared to other methods of settlement underlined the popularity of the cheque. Despite the introduction of the RTGS system which is faster in settlement, 51.64% of the institutions sampled were found to be using cheques that clear through the clearing house.

The study found that the introduction of the Real Time Gross Settlement System in Kenya helped to achieve the objective of putting in place a modern, robust, secure and integrated payment and settlement system. This move also meant that the objective ensuring finality and irrevocability and the containment of systemic risk were also met as was the objective of providing an effective mechanism for exchange of value between transacting parties. The study however found out that RTGS was not fully adopted by customers as indicated by low usage owing to what some respondents described to be lack of proper selling. One of the challenges to the achievement of the reform objectives as highlighted by the study included attitudes of the payment system users towards new systems that caused the low adoption and embracing of such new systems.

4.3. Problems encountered by payment system participants

The study sought to identify problems faced by institutions while effecting payments in order to gauge the efficiency of Kenya's payment systems. Efficiency is one of the overall objectives for payment system reforms. Table 4.2 below summarizes some of the major problems as responded by the sampled institutions. The problems have been categorized into sub-heading for ease of analysis and interpretation.

Problems	1. Unwillingness to share infrastructure among the commercial banks sampled
	2. Slow RTGS system due to slow internet system effects
Challenges	1. Compliance with SACCOs, Private Companies in purchasing products State Owned Corporation sampled and for legal requirements for legal framework and

Table 4.1: Common Problems Experienced by Kenyan Financial Institutions

PROBLEMS	EXAMPLES	Response by:
<i>Systemic</i>	1. Disjointed payment/ lack of integration among all payment systems 2. Slow payment systems 3. Longer time/period taken in clearance by banks e.g. cheques Payment detail communication to suppliers is not supported by the system; especially suppliers require all details with respect to the payment for ease of reconciliation.	90% of all institutions Sampled cited these problems.
<i>Infrastructural</i>	1. Unwillingness to share infrastructure among the concerned institutions. 2. Slow EFTs systems- due to slow internet systems/servers	Commercial banks sampled
	1. Compliance with purchasing procedures and or legal requirements; poor legal framework and	SACCOS, Private Companies and State Owned Corporations sampled.

Table 4.1: Common Problems Experienced by Kenyan Financial Institutions

<i>Legal</i>	- use of fake monies 2. Bouncing cheques and standing orders 3. Fraudulent payments 4. Forgery 5. Impersonations on cash payments/identity 6. Insecurity	
<i>Policy related problems</i>	1. Lack of information sharing among payments system institutions in Kenya. 2. Lack of tailor made domestic standards to guide innovation 3. Development and operations of payment systems	All payment related Departments/Institutions sampled.
<i>Beauracritic</i>	1. In some incidences there are long procedures being followed while making payment transactions in Kenya e.g. many signatories.	Commercial banks and private companies sampled
<i>Costs</i>	1. High Bank Charges 2. Costs per transaction are high, especially compared to EFTS systems	All commercial banks sampled.

Table 4.1: Common Problems Experienced by Kenyan Financial Institutions

	3. Foreign exchange fluctuations for transactions involving cross border payments. 4. Budgetary allocation problems mostly due to lack of funds	
<i>Cultural</i>	1. By tradition, some financial institutions and clients rely much on certain instrument(s) to make payments. This hinders embracing of other newer and safer instruments and systems. 2. Resistance of new products by customers	Commercial Banks/ Government Corporations and SACCOS sampled
<i>Operational</i>	1 Misrouting of cheques to branches of the payee. 2 Human errors The extent of documentation that need to be attached/lack of adequate supporting documentation	65% of sampled institutions.

Source: Field Data

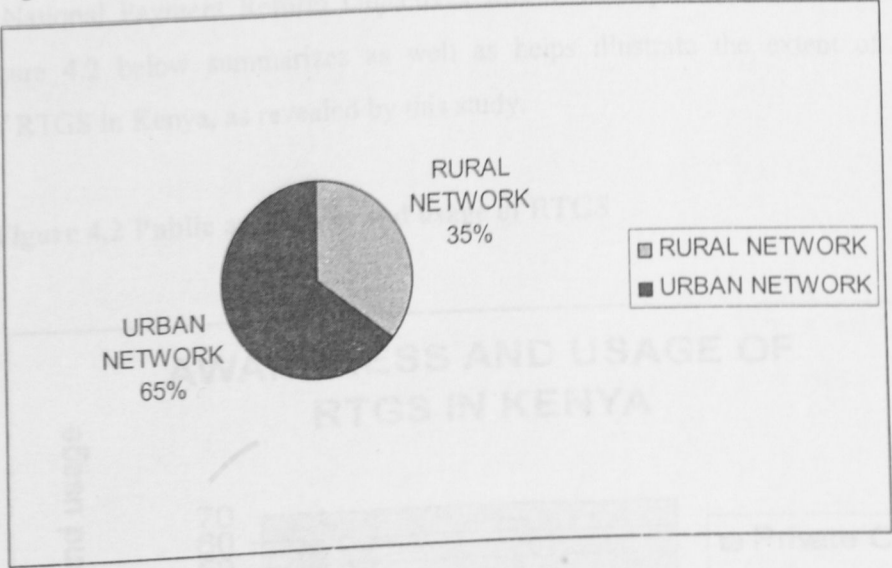
Table 4.1 above reveals that Kenya's national Payment Systems reform initiative still has systemic, operational, cost and cultural related problems to be addressed. This calls for

cooperation and concerted efforts among the stakeholders to address the identified problems in order to realize the efficiency objective.

4.4 Commercial banks branch network distribution

The study sought to establish the extent of commercial banks distribution in the country. Figure 4.1 depicts the network distribution of commercial banks as a measure of the extent to which Kenya's payment reform objectives of expanding financial services to rural areas has been achieved.

Figure 4.1: Commercial Bank Branch Network Distribution



Source: Field data

It can be realized that the majority of Kenyan's banking networks are concentrated in the Urban Areas. Urban network constitutes 65% of the total network compared to 35% concentration in the rural areas. The institution that was found to be having the highest concentration of its network in urban areas had 100%, while the one with the highest in the rural areas was 35%.

Major reasons for this outcome from our research as provided by the respondents include:

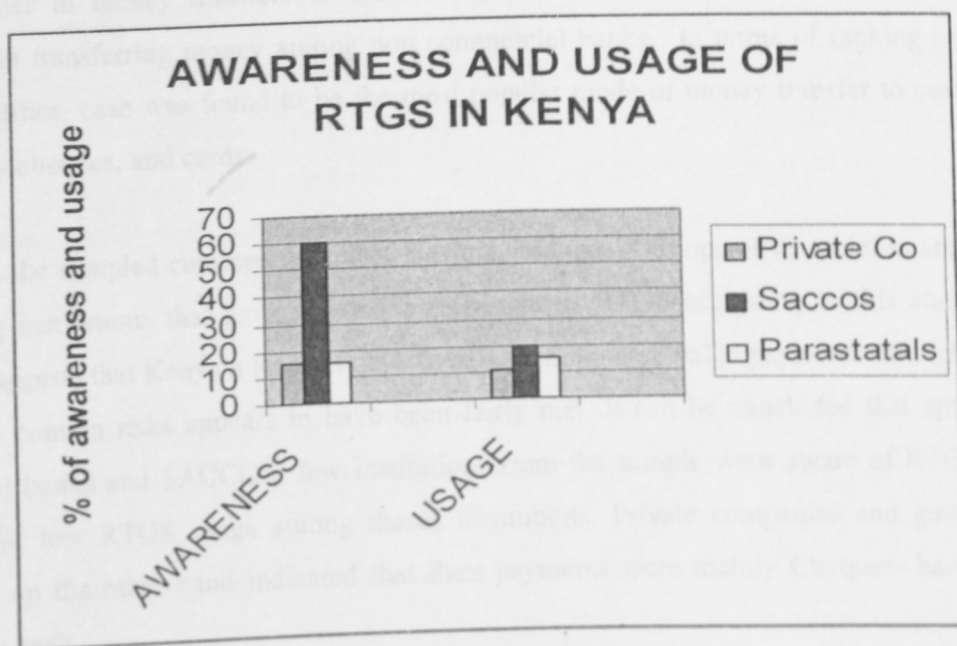
- a) There is considerable supportive infrastructure in the urban areas of Kenya as opposed to rural parts of the country. This was the most significant influence in the above outcome.
- b) There are high costs of services provision in rural Kenya. This dissuades many financial institutions from opening their branches in rural Kenya.

- c) Some financial institutions feel that their target population is in the urban Kenya. They therefore have no reason to migrate to the rural.
- d) There is need for a heavy investment of infrastructure at the rural Kenya, since lack of infrastructure is a direct hindrance to spreading of commercial branch networks in the rural areas.

4.5 Public awareness and usage of RTGS

One of the National Payment Reform Objectives was to raise public awareness on payment systems. Figure 4.2 below summarizes as well as helps illustrate the extent of usage and awareness of RTGS in Kenya, as revealed by this study.

Figure 4.2 Public awareness and usage of RTGS



Source: Field data

Commercial banks are not highlighted in the above chart because all of them are aware of payment systems and use RTGS, even though in low proportions. The only thing that this research could endeavor to establish in relation to Kenya's commercial banks, though, is how well they have embraced the usage of the RTGS in making their business transactions.

From the sampled commercial banks 66.67% of the respondents were found using RTGS in a range of 10% to 40 %, while the clearing house(us of Cheques) accounted for 60 to 90% of their total payments. At the same time 33.33% of the commercial banks sampled made less than 10% of their payments through RTGS. On average, 15.33% of all commercial banks respondents made their payments through RTGS, while 84.67% through the clearinghouse.

In regard to changes since the introduction of RTGS, all respondents indicated a NO Change in cheques usage. 50% of the total sample indicated a decrease in the EFTs usage while another half indicated a NO change. Those indicating a change in the EFTS usage cited a shift to RTGS as a reason for its decrease in usage. The change to RTGS was attributed to the smoothness, efficiency and safety of the mode. None of the sampled commercial bank respondents indicated an increase in either EFTS or cheques usage since the introduction of RTGS.

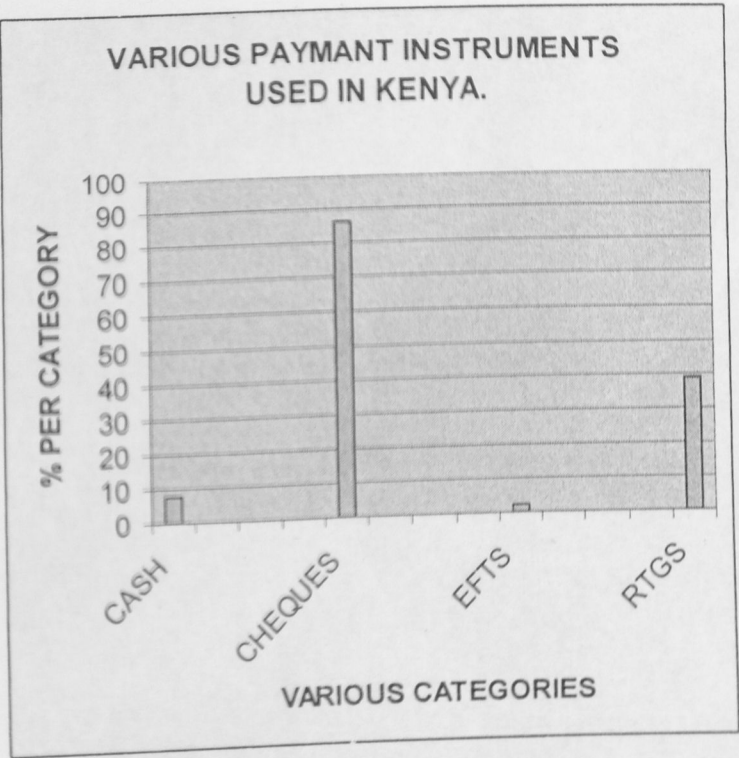
In terms of popularity, 75% of the non-commercial bank respondents ranked cash as the most popular mode. On the other hand 75% of the sampled commercial banks ranked cheques to be fairly popular in money transfers to their customers. RTGS was ranked least in terms of popularity in transferring money among non commercial banks. In terms of ranking orders in sampled entities, cash was found to be the most popular mode of money transfer to customers, followed by cheques, and cards.

Apart from the sampled commercial banks, Savings and Credit Cooperative societies are among the leading institutions that have embraced the usage of RTGS according to this study. This outcome suggests that Kenya's Reform objective of pushing large value payments through RTGS in order to contain risks appears to have been fairly met. It can be concluded that apart from commercial banks and SACCOS, few institutions from the sample were aware of RTGS. This accounts for low RTGS usage among theses institutions. Private companies and government parastatals on the other hand indicated that their payments were mainly Cheques- based, with some using cash.

4.6 Commonly used Payment Instruments in Kenya

A key objective is to promote usage of less cash and move to no-cash instruments and payment systems. Figure 4.3 illustrates some of the commonly used payment instruments used in Kenya as indicated by the respondents.

Figure 4.3 Commonly used Payment Instruments in Kenya



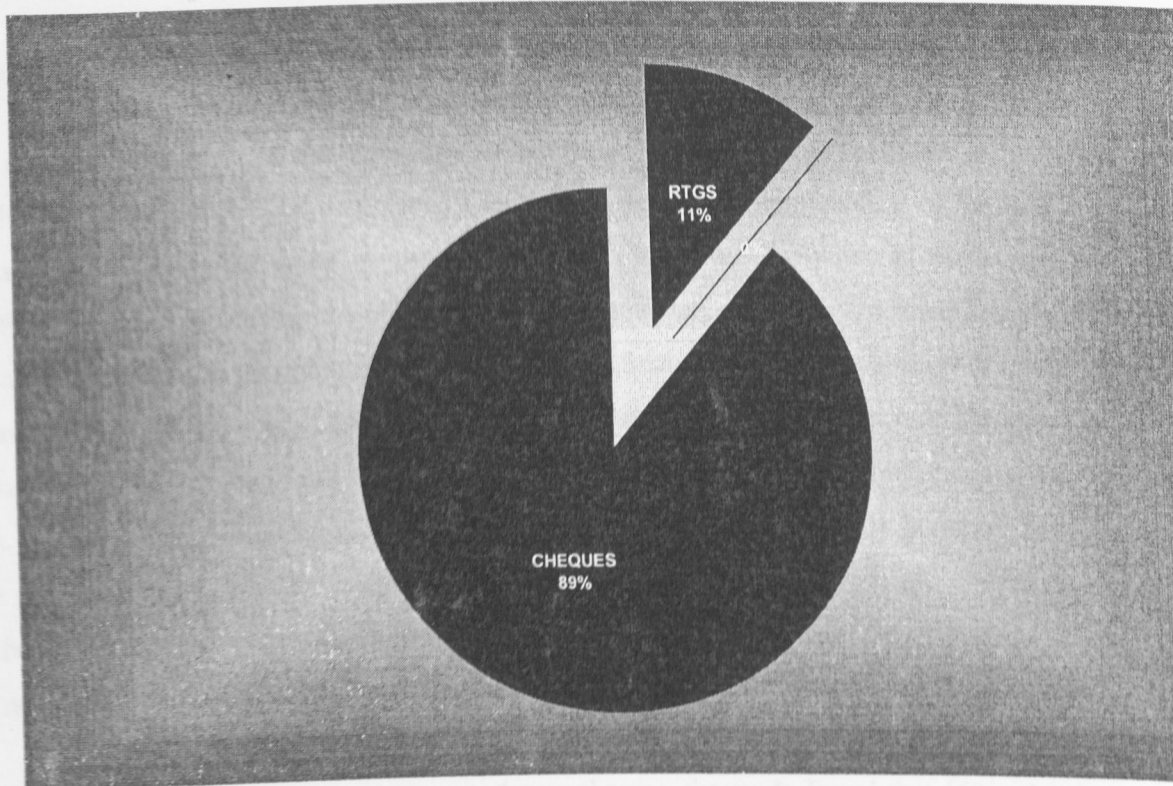
Source: Field data

Cheque- based payments are still predominant among the sampled institutions. There is need for considerable shift from traditional and riskier payment systems like those involving the use of cash to the use of cheques in large volumes. The move to promote usage of non- cash payment systems and instruments such as EFTS and RTGS is yet to be fully realized.

4.7 Clearing house and the RTGS

The study also endeavored to examine the comparative popularity and usage of RTGS and Clearing House. It is noteworthy from the findings that cheques are very popular in Kenya today. Consequently, figure 4.4 helps draw a comparison between RTGS and Clearing house and highlight that the clearing house is more utilized than the RTGS system.

Figure 4.4: Clearing (as a proxy for Cheque usage) versus the RTGS



Source: Field data

4.8 Survival mechanism for the Clearing house

The study also sought to establish the existing Clearing house survival mechanisms, otherwise commonly known as *failure to settle Mechanisms*. Unwinding is the existing strategy in Kenya. The Bank for International Settlement (BIS, 2001) identified the following survival options: Unwinding refers to undoing payments that may have been considered settled.

Owner's pay on the other hand is a situation where in case a clearing house participant pays fails to meet all its liabilities its assets may be liquidated in order to pay all the outstanding liabilities. This is also referred to as Defaulter's pay.

Survivor's pay refers to a loss sharing arrangements which, in the event of participant's inability to settle, the liabilities of the defaulting participant are borne by the surviving participants according to some predetermined formula. It can therefore be concluded from the survival mechanism used by the central Bank that the irrevocability and finality of settlement objective for clearing house transactions had not been met at the time of the study.

5.0 CHAPTER FIVE: CONCLUSION

5.1 Summary, Discussions and conclusions

The study indicates that most of the objectives of Kenya's National Payment System reform objectives have been achieved. The Automated Clearing house, the implementation of the Real Time Gross Settlement System going by the name Kenya Electronic Payment and Settlement System (KEPSS), helped to realize the objectives such as provision of effective mechanisms for exchange of value between transacting parties; ensuring finality and irrevocability of both payment and settlement; the containment of systemic and other payment related risks; support and promote electronic trading and in a manner compliant with international standards. Awareness, adoption and Usage of such modern means of payment systems is however low among the respondents. The study highlights the relative importance of the cheque system to cash and the electronic mechanism through KEPSS usage. NPS reform objective of promoting the use of non-traditional means of payment can be said to have remained largely unachieved.

Regarding the push for more payment systems to the rural areas, the study found that 65% of the commercial bank branch networks are based in the urban areas as opposed to 35% in the rural areas. This objective has thus not been realized. Risk containment as an objective involves the application of appropriate risk mitigation strategies. The study found out that the clearing house applies unwinding as a mechanism for risk mitigation. It can therefore be concluded that this objective has not been met. In addition, the use of unwinding as risk mitigation measure was observed. There is need to explore alternative mechanisms for address the risk of unwinding and to ensure finality and irrevocability of clearing house transactions is ensured.

The study also sought to find out the reasons why if any some of the objectives have not been met. Although KEPSS was introduced, its usage remained low. Respondents attributed this to the fact that it was not well "sold" by the Central Bank and that this partly explains the initial resistance to its usage by the payment system users. It could be concluded that there was low buy-in by the expected users. The study also found that the low adoption of modern payment systems and instruments, was attributed to acquaintance with traditional means/modes of payment mainly cash and cheques that have seen no change in their usage by respondents since the introduction of KEPSS. The concentration of commercial bank branch network in urban areas was attributed to the disparity in the infrastructural development besides the unique policy positions taken by some of the respondents to concentrate in urban areas. Further, the study found that payment system

participants are unwilling to share infrastructure making infrastructure less integrated. There is also lack of information sharing and the related high costs of utilizing payment systems. These factors explain the non realization of the reform objective of minimizing duplication and promoting cost effective mechanisms for exchange of value by transacting parties. The responses obtained from the respondents suggest that respondents concentrated more on individual participants' operational difficulties than those of the entire payment system. This indicated that the concept of payment system is new to the respondents and reforms would continue to be driven by the central bank.

Limitations of the study

In order to help realize the outstanding NPS reform objectives, this study suggests the following strategies; minimizing resistance to change by increasing in stakeholders' buy-in the reform agenda. the RTGS among other things require s to be properly sold to the public as suggested by the respondents; there is need to implement more risk-reduction measures for the clearing house in addition to the current unwinding mechanism while encouraging payment system participants to pursue practices that promote operational reliability, efficiency, reduced cost of payment systems as well as promotion of innovation; there is need for vigorous and rigorous awareness campaigns throughout the country. This research has established that both the public and institutions sampled do not have adequate understanding or appreciation of the critical issues in Kenya's National Payment systems and payments systems issues in general. The use of such strategies such as seminars and conferences, print and electronic media would be critical to minimizing resistance to change and increase in stakeholders' buy-in the reform agenda.

It is important for banks to carefully monitor their payments system risk exposures, and to assign clear responsibility for that function in one place in their respective institutions. These concerted approaches to payment systems risk management could facilitate faster achievement of Kenya's reform objectives of risk mitigation.

Transparency of rules and procedures for payments systems could boost cooperation among participants and the operators as it will help them know and appreciate exposures and how they are changing across the board and not just on a business entity by business entity basis. Such rules and procedures could therefore be made public in the websites of the payment system participants.

Further, transparency is important in ensuring that major payment system participants play their appropriate roles in holding the operators of payments systems to high standards. Participants'

strategies to make their members disciplined would complement the work of payments system overseers, in a role analogous to the market discipline applied by counterparties to financial institutions, should be explored.

Kenya's Payment Systems are developing and therefore "young". From this research it can be concluded that there is scope for further development in order to attain the international standards.

5.2 Limitations of the study

Some of the respondents took a long time with the questionnaires. This caused delay in compiling and presenting the research work. Some did not respond to the questionnaires.

The respondents found the topic to be new. In some cases they confused it with the actual process of making payments either by cash, cheques or electronic funds transfers. In responding to some questions, some respondents explained difficulties touching on their daily payment operations such as shortage of signatures, dispatch of cheques, bouncing of cheques among others. This was the case also with the research assistants whom the researcher had to train in order to make them effective in the administration of the questionnaire.

5.3 Recommendations for further research

The research lays foundations for other research areas of study. A research on the constraining legal and regulatory practices on payment systems and the strategies for ensuring an enabling legal and regulatory environment could be conducted.

Another study may focus on the strategic factors contributing to the low infrastructure and information sharing among National Payment System Participants.

A further study could look at the Future of National Payment Systems and Strategic response by commercial banks and the Central Bank to the shift to non traditional payment instruments by National Payment System Participants. Research on comparative strategies for reducing Clearing house cheque clearing cycle could also be carried out.

5.4 Recommendations for Policy and Practice

Payment systems subject could be put in the Kenyan educational curriculum to promote a culture and paradigm shift. The curriculum could cover the role of payment system, concepts and related issues on payment system and processes, an evaluation of the strengths and weaknesses of the different payment instruments, risk management, various types of Kenya's payment systems, and emerging payment system issues among others. This policy would be instrumental in outlining the aims of the payment systems and enhance the general public understanding, acceptance, adoption and usage of modern payment systems and instruments that are more efficient, up to-date and capable of meeting the demands of the ever globalizing world. Policy that encourage shift to rural areas and sharing of infrastructure may be pursued, to reduce duplication, promote information sharing, efficiency and reduced costs should be explored. Further, a policy to address the increase in cross-border financial activity, like interlinks with the East African Region, the rest of Africa and the global reach of the largest financial institutions, and consequent trans-Nationality of many payments systems provides a compelling rationale for strategic cooperation at regional, international and global levels needs to be developed surmount the strategic challenges associated with this phenomenon that may lead eventually to a more uniform international platform for payments and settlement systems. The increasing importance of payment systems calls for strategies such as oversight to ensure enhanced reliability, resilience, safety, affordability, integration, universality and stability of payment systems to meet the needs of the globalizing economy facing a myriad of different payment systems that make up the global network crossing a complicated mix of legal, technological, and supervisory borders. And this means Kenyan banks and financial institutions are exposed to settlement risk in a remarkably large number of different value transfer systems.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

M.R.K. Kiptepkut
University of Nairobi
Faculty of Commerce
P. O. Box 30197
NAIROBI

Name & address of the Respondent.

Dear Sir/Madam,

I am a Masters' degree student in faculty of commerce, University of Nairobi. In partial fulfillment of the MBA degree, I'm conducting a study on "*The Extent to which Kenya's National Payments System Reform Objectives have been achieved*".

Your organization has been selected to form part of this study. To this end I kindly request for your assistance in completing the questionnaire.

The information and data required is needed for academic purpose only and will be treated in strict confidence. A copy of the research project will be made available to you firm on request.

Please do not hesitate to contact me should you require further clarification.

Thank you.

Yours sincerely,

M.R.K.KIPTEPKUT

S/NO: D61/P/7641/2002

APPENDIX II: THE QUESTIONNAIRE

PART I: RESPONDED TO BY THE CLEARING HOUSE SUPERVISOR

1. How many institutions participate/are member of the Clearing House?

2. Please classify the institutions that participate in the clearing house?

Class (please specify)	Number.
(i). Commercial Banks	_____
(ii). Non-Bank Financial	_____
(iii). others	_____

3. Which of the following is the membership criteria

- (a). By law
- (b). By rules and regulations

One of the characteristics of a good payment system is that it is safe, smooth and efficient. How would you rate Clearing House in terms of the following:-

Where 1= Not at all 5= Very frequent.

	1	2	3	4	5
(i). Unwinding of payments					
(ii). Incidence of fraud					
(iii). Frequent for extension of the clearing house operating hours					
(iv) Breakdown in communication link					
(v) Locking out or suspension participant(s)					
(vi) Complete failure to operate					

5. What is the average total transaction value in Kenya shillings for the following?

	1 - 1m	1m - 100m	>100m
Debit clearing			

☐☐☐

6. With respect to the Clearing House risks which of the following mechanisms have been put in place by participants to reduce the magnitude of loss? Please tick as appropriate

(I). Owners pay

☐

(ii). Survivors pay

☐

(iii). Bilateral limits

☐

(iv). Others (please specify) _____

(v). None

☐

7. If your answer to No. 6 above is none,

(a). Which of the following explains the fact it does not exist?

☐

(I). The risk in 6 above has never arisen

☐

(ii). There is no one to push for such a mechanism

☐

(iii). Banks are very prudent in their operations

☐

(iv). any other (please specify) _____

(b). who in your view should establish the mechanism?

(I). Kenya Bankers Association

☐

(ii). The Central Bank of Kenya

☐

8. The central bank recently launched the RTGS system.

(a). How has it affected the value of transactions processed through the Clearing House?

1 - 25% 26 - 50% 51-75% >75%

(I). Increased by

☐☐☐☐

(ii). Declined by

☐☐☐☐

(iii) No change

☐

(b). what do you think explains the your observation in 8 (a)?

(I). Faster speed of the RTGS system

☐

(ii). Banks are used to the clearing system

☐

(iii). It is cheap to process through the Clearing House

☐

(iv). No concrete explanation

☐

(v). other please specify _____

9. (a) What legal framework governs the Clearing House?
- (b). who sets and enforces the Clearing House rules?
- (c). How often has the party in (a) above been called upon to enforce the rules and regulations in the last five (5) years?

(I). Very frequent

(ii). Frequent

(iii) Moderately frequent

(iv) Not frequent

(v). Not at all

10. Which of the following options do you apply as your Business continuity mechanism?

Maintenance of Back up and Disaster recovery site

Resort to manual calculation of indebtedness

Suspending operations

No arrangement

PART II: RESPONDED TO BY COMMERCIAL BANKS

Name of the Bank _____

Designation of Respondent _____

1. One of the most significant objectives of payment systems reform is to ensure their safety, smoothness and efficiency with which funds (money) is transmitted among payment system participants. How would you rate Kenya's payment systems against each of the attributes below

	1	2	3	4	5
Safe					
Smooth					
Efficient					

Where 1: Not 5. Highly

2. If any of the attributes in 1 above is rated as 1, please highlight the reasons for the answer

Safety _____

Smoothness _____

Efficiency _____

3. The Central Bank recently launched the RTGS system. On average what proportion of your payments are now processed via the following systems?

System	% of payments by value
RTGS	
Clearing house	

4 a. With specific reference to the clearing house, what has been the trend in your clearing volumes of the following since the implementation of RTGS?

	1	2	3
Cheques			
EFTS			

Where 1: No change

2. Declining 3. Increasing

4 b. Please provide reasons for the above trends

Cheque.....

EFTS.....

4c. How popular are the following as a means of transferring money among your customers?

Please tick as appropriate

	1	2	3	4	5
Cash	☐	☐	☐	☐	☐
Cheques	☐	☐	☐	☐	☐
Cards	☐	☐	☐	☐	☐
RTGS	☐	☐	☐	☐	☐

Where 1= Not popular, 5= Very popular

5. In a multilateral net settlement system like the Automated Clearing House, which is a deferred net settlement system (DNS), there are systemic risks among participants. Which of the following measures do you use to mitigate against systemic risks?

(i) Shifting more transactions to the RTGS system

(ii) Establishing bilateral settlement limits with other participants

(iii) Relying on the Failure to Settle Rules as established by KBA

(iv) Demanding security from participants

(v) Maintaining an elaborate business continuity plans

(vi) All of the above

(vi) Others (please specify) _____

6. Please indicate the proportion of your branch network in the following areas

Area	%
(i) Rural areas	☐
(ii) urban areas	☐

7. From your answer in question 6 above, which of the following explains the distribution?

(i) Supportive of infrastructure

(ii) High cost of service provision in the disadvantaged area

(iii) Heavy investment costs of infrastructure

(iv) Concentration of infrastructure in the preferred area

(v) competition from non bank institutions

8. Which of the following problems are prevalent in Kenya's payment system?
them

Please rank

(i) Lack /poor information sharing among payment systems institutions

(ii) Unwillingness to share infrastructure

(iii) Lack of tailor made domestic standards to guide innovation development and operation of
payment system

(iv) Disjointed payment system institutions or system (i.e. lack of integration among all payment
systems)

(v) Slow pace of legal framework adaptation to new products and innovation in the market

(vi) High cost of making cross border payment

(vii) Lack of failure to settle mechanism

(viii) Others. Specify.

.....

PART III : RESPONDED TO BY PRIVATE SECTOR COMPANIES AND STATE OWNED CORPORATIONS

Name of the company
 Respondent(Optional).....
 Designation of respondent.

1. Which of the following modes does your organization use in making payments?

Mode	% of total payment
Cash	
Cheques	
EFTS	
Others (Specify)	

2. Which of the following explains your organization’s preference for the most commonly used instrument above?

	Cash	Cheques	EFTS	Others (Specify)
a. Safety				
b. Audit Trail				
c. Evidence of Payment				
d. Popular with customers				
e. Speed of settlement				
f. Efficiency				
g. Practice/tradition				

3. Have you heard of the term payment systems?

Yes ☐ No ☐

4a. If your answer to question 3 above is yes? Which of the following are you aware of ?

i. Clearing house(chèque system) ☐

ii. Real time gross settlement system (RTGS) ☐

b. has your organization used RTGS to make payments>? Yes ☐ No ☐

5. Please list any five (5) concerns/issues if any, that you encounter while effecting payments?

- i.....
- ii.....
- iii.....
- iv.....
- v.....

6. What and who in your view should be done to address the issues?

- a. Safety ☐ ☐ ☐ ☐
- b. Audit trail ☐ ☐ ☐ ☐
- c. Evidence of Payment ☐ ☐ ☐ ☐
- d. Popular with customer ☐ ☐ ☐ ☐
- e. Speed of settlement ☐ ☐ ☐ ☐
- f. Efficiency ☐ ☐ ☐ ☐
- g. Interoperability ☐ ☐ ☐ ☐

PART IV: RESPONDED TO BY SACCOS

Name of the SACCO

Respondent(Optional).....

Designation of respondent.

1. Which of the following modes does your organization use in making payments?

Mode	% of total payment
Cash	
Cheques	
EFTS	
Inter bank transfer instruction	

2. Which of the following explains your organization's preference for the most commonly used instrument above?

	Cash	Cheques	EFTS	Interbank transfers
a. Safety				
b. Audit Trial				
c. Evidence of Payment				
d. Popular with customers				
e. Speed of settlement				
f. Efficiency				
g. Practice/tradition				

3. Have you heard of the term payment systems?

☐ ☐

Yes

No *

4a. If your answer to question 3 above is yes? Which of the following are you aware of?

i. Clearing house

☐

ii. Real time gross settlement system (RTGS)

☐

b. has your organization used RTGS to make payments>? Yes

☐

No

☐

5. Please list any five (5) problems you encounter while effecting payments in Kenya

i.

ii.

iii.

iv.

v.

6. What and who in your view should be done to address the issues?

PART V: RESPONDED TO BY CENTRAL BANK (You may use extra paper)

- 1. What are the major NPS reform achievements to date?
 - I.
 - II.
 - III.
 - IV.
 - V.
 - VI.
- 2. In relation to the above question, what strategies did the Bank employ to realize these achievements?
 - I.
 - II.
 - III.
 - IV.
 - V.
 - VI.
 - VII.
- 3. What challenges did the Bank encounter in carrying out the reform initiatives?
 - I.
 - II.
 - III.
 - IV.
 - V.
 - VI.
 - VII.
- 4. What NPS reform objectives in your view remain outstanding?
 - I.
 - II.
 - III.
 - IV.
 - V.

PART VI : RESPONDED TO BY STATE OWNED CORPORATIONS

Name of the company

Respondent(Optional).....

Designation of respondent.

1. Which of the following modes does your organization use in making payments?

Mode	% of total payment
Cash	
Cheques	
EFTS	
Others (Specify)	

2. Which of the following explains your organization’s preference for the most commonly used instrument above?

	Cash	Cheques	EFTS	Others (Specify)
a. Safety				
b. Audit Trail				
c. Evidence of Payment				
d. Popular with customers				
e. Speed of settlement				
f. Efficiency				
g. Practice/tradition				

3. Have you heard of the term payment systems?
Yes ☐ No ☐
- 4a. If your answer to question 3 above is yes? Which of the following are you aware of ?
i. Clearing house(chegue system) ☐
ii. Real time gross settlement system (RTGS) ☐
- b. has your organization used RTGS to make payments>? Yes ☐ No ☐
5. Please list any five (5) concerns/issues if any, that you encounter while effecting payments?
i.
ii.....
iii.....
iv.....
v.....
6. What and who in your view should be done to address the issues?