

**" A Survey of Ethical Issues in the use of  
Information Technology among  
commercial banks in Kenya "**

By

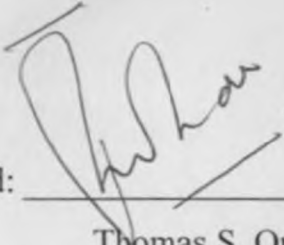
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**A MANAGEMENT RESEARCH PROJECT  
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THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF BUSINESS AND  
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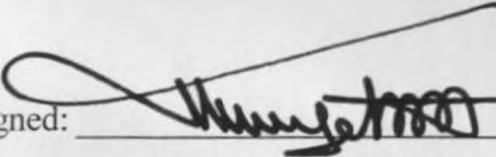
September, 2001

This research project is my original work and has not been submitted for a degree in any other university.

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*In memory of my late grandparents: Uncle Tusha and  
Teresa Kamuyu*

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# ACKNOWLEDGEMENTS

## DEDICATION

*In memory of my late grandparents Saulo Twabe and  
Teresa Kemunto*



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Special appreciation to all my friends for their patience and understanding throughout the course period.

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## ABSTRACT

IT-related ethical quandaries are receiving an increasing amount of attention. There is a vast terrain of unexplored ethical territory through which many IT applications must travel. Such ambiguity is often rebounding against well-intentioned, strategic initiatives. It is becoming apparent that the ethical dimensions of IT-related business decisions cannot be safely ignored.

Most of the IS ethical dilemmas are set in corporate business environments where decision makers are forced to make ethical decisions as employees of the corporate organization. Many of the ethical dilemmas in IT are complex with apparently conflicting responsibilities on the part of the professional, manager or executive. Many of these managers have little or no formal training in IT ethics and yet they preside over systems with a huge potential for unethical practices.

This study had two primary objectives: 1. To identify the ethical issues that banks are faced with in the use of IT and determine the extent of awareness within the industry and 2. to establish the extent to which banks have established measures to deal with these issues.

To facilitate this study, a list of the 50 registered banks was obtained from the Central Bank of Kenya. Only 23 respondents agreed to participate in the study. Of those who did not respond two of the institutions were under statutory management while two had since closed down. Two of the institutions had merged while one was a subsidiary of the other.

The others who did not respond said that their organization's policies do not allow them to provide the information required.

A self-administered questionnaire was delivered to the heads of IT in these organizations or their representatives.

The results show that there is generally a high level of awareness about ethical issues amongst IT professionals working in banks in Kenya. The results also demonstrate that a large number of the banks have taken deliberate steps to deal with ethical issues arising from the use of IT.

These results should however be interpreted against the limitations of the study, specifically the sample population and the kind of industry that was targeted by this research.

However, the findings of the study demonstrate that there is a whole range of ethical issues that cannot be safely ignored, not only in the banking industry but perhaps in other sectors of the economy as well.

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## DEFINITIONS OF ACRONYMS

- ACM -Association for Computing Machinery
- ATM -Automated Teller Machine
- CBK -Central Bank of Kenya
- DBMS -Database Management System
- IS -Information Systems
- ISP -Internet Service Provider
- IT -Information Technology
- MIT -Massachusetts Institute of Technology
- OECD -Organization for Economic Co-operation and Development
- UK -United Kingdom
- US -United States of America

## DEFINITION OF TERMS

- A **bank** is any company that carries on banking business.
- **Computer crime** can be defined as the commission of illegal acts through the use of a computer or against a computer system.
- **Computer abuse** is the commission of acts involving a computer which may not be illegal but are considered unethical.
- **Code of Ethics** is a set of values and ideals which uphold and advance the honour, dignity and effectiveness of a profession such as information technology.
- **Computer ethics** is a branch of applied ethics that deals with ethical problems aggravated, transformed or created by computer technology.
- **Data** means a representation of facts, concepts or instructions in a formalized manner suitable for communication, interpretation or processing by human beings or by automatic means.
- **Dilemma** -choice between just two equally unwelcome alternatives.
- **Ethics** refers to the principles of right or wrong that can be used by individuals acting as free moral agents to make choices to guide behaviour.
- **Ethical quandary** in the context of this paper means a dilemma.
- **Information system** means computers, communication facilities, computer and communication networks and data and information that may be stored, processed, retrieved or transmitted by them, including programs, specifications and procedures for their operation, use and maintenance.
- **Information Systems Ethics**- software copying, privacy in telephone, e-mail and fax communication, as well as integrity and storage of business information.

# SECTION ONE

## 1.0 INTRODUCTION

### 1.0.1 BACKGROUND

The past few years have witnessed an orientation of organizations becoming information intensive. Businesses and organizations are increasingly relying on IT for competitive advantage. More than any other sector in Kenya today, banks are perhaps the most intensive users of IT, and perhaps for obvious reasons; banks have traditionally led other sectors in innovation and also in automating their processes.

The 80's and 90's were periods when many Kenyans were introduced to the ATM, a facility that allows customers to do business without interacting with banking staff. The idea of "any branch is your branch" then caught up fast. Today, many large banks in Kenya boast of many ATMs in several convenient areas within Kenya. This all as a result of developments in the telecommunications sector which enables data and information to be relayed in real-time from one town to another.

Since the first introduction of the ATM, many other facilities have been introduced within the sector.

This proliferation of IT does not come about without a price.

Despite the explosion in information technology in the last 20 years, scholars, students, and practitioners would be hard pressed to claim similar progress in ethical thinking about information technology. There is an ethical vacuum in cyberspace (*Laudon 1995, p33*).

Mr. David smith, who created the malicious Melisa virus, caused \$80 million damage in the US alone. The more recent "I Love You" virus caused a \$6.7 billion loss to businesses across the world.

In 1999, the virus attacks caused \$12.1 billion in losses and damage. It is estimated that by 2005, world business will have lost over 4112 billion in crimes committed through computers. (*Daily Nation*, September 5<sup>th</sup>, 2001)

This is but one of the technological issues that modern society must grapple with as technology continues to take center stage in all aspect of business. Worldwide, Kenya included, automated organizations and companies are vulnerable to computer crimes. While the IT field has paid great attention to strategic uses of technology over the past two decades, the growing number of ethical quandaries with which corporate managers must grapple have received much less attention. This paper will try to identify the ethical issues that face commercial banks in the use of IT, the extent of awareness among IT professionals working in the banks and how they respond to these ethical challenges.

### **1.0.2 THE FIVE MORAL DIMENSIONS OF THE INFORMATION AGE**

Information technology and information systems pose unique problems for both individuals and societies because they create opportunities for social change. Kenneth Laudon has identified five broad ethical issues associated with Information Technology:

- Information rights and obligations
- Property rights
- Accountability and control
- System quality
- Quality of life

(Kenneth C. Laudon and Jane Price Laudon., *Management Information Systems 4<sup>th</sup> edition*, Prentice Hall p141)

These ethical issues are not new. Information technology has however heightened ethical concerns, put stress on existing social arrangements, and made existing laws severely handicapped to deal with them.

### **1.0.3 CHALLENGES POSED BY ETHICAL PROBLEMS INVOLVING INFORMATION TECHNOLOGY**

The use of information technology has created a whole new range of social concerns such as computer crime, software piracy, hacking, viruses, privacy and many others in need of policies to resolve them.

Computer crime involves fraud committed using credit cards, payroll fraud, counterfeit software, software piracy and money transfer fraud. Others include Internet gambling, fraudulent Internet auctions, extortion, theft of information and trade secrets, electronic eavesdropping and child pornography. All these offer specific challenges to modern society because of their negative effects.

Hackers, with their sophisticated knowledge of computer systems and from the safety of a simple cyber cafe, have been able to beat the most stringent of computer security systems and have time and again caused untold damage to data stored in military, financial, government and other corporate information systems.

The Internet offers a special medium for committing crimes. The anonymous, low-cost nature and the borderless connectivity of the Internet, makes it an extremely attractive medium for hucksters to commit crime. As banks continue to rely more and more on the Internet for transnational transactions such as money transfer, they must be prepared to meet these challenges.

Kallman has summarized the special challenges posed by ethical problems involving information technology:



- The speed of communication does not allow people time to reflect on the possibility or implications of unethical use.
- Information in electronic form is more fragile than on paper because it can more easily be changed.
- It is more vulnerable to unauthorized access.
- Issues of intellectual property rights, plagiarism, piracy and privacy become of great social concern; efforts to protect information integrity, confidentiality, and availability often conflict with the desire for the benefits of information sharing.
- The means of authorization and authentication are lacking thus exposing technology to unethical practice. (*Kallman et al., Ethical Decision Making and Information Technology: An introduction with cases. New York : McGraw-Hill, 1996, p.22*)

## SECTION TWO

### 2.0 RESEARCH STUDY

#### 2.0.1 STATEMENT OF THE PROBLEM

The increasing significant role of information systems and growing dependence on them in national and international economies and trade and in social, cultural and political life call for special efforts to foster confidence in information systems. In the absence of appropriate safeguards, data and information in information systems acquire a distinct sensitivity and vulnerability, as compared with paper documents, due to risks arising from available means of unauthorized access, use, misappropriation, alteration, and destruction.

Present measures, practices, and institutions may not adequately meet the challenges posed by information systems. The rapid changes that have taken place in the field of information technology have largely ignored ethics and human values. The consequences of these are already manifesting in such activities as computer crime, computer misuse, software piracy and infringement on the privacy of individuals.

Research on IT ethics has mostly been concentrated in the developed countries especially in the United States of America but the subject has hardly captured the interest of researchers and scholars in developing countries. A major problem in IT ethics is that the public's awareness and perception is very limited thereby making the subject to continue to receive little attention.

As banks continue to innovate with new technologies such as the introduction of smart cards many ethical issues are likely to arise. The potential of fraud is heightened because forged cards can be used to access customer accounts.

The security challenges posed by e-banking require special attention by banks to their security control processes, including setting up appropriate authorization and authentication measures.



This paper will try to seek answers to the following questions:

*What ethical issues are commercial banks in Kenya faced with in the use of IT?*

*And what measures have these banks put in place to deal with these issues?*

## **2.0.2 OBJECTIVES OF THE STUDY**

This study will address these specific objectives:

- 1. To identify the ethical issues that banks are faced with in the use of IT; and to determine the extent of awareness of these issues within the banking industry.*
- 2. To establish the extent to which banks have established measures to deal with the ethical issues brought about by the use of IT.*

## **2.0.3 IMPORTANCE OF THE STUDY**

This study will be important to the Government, the Central Bank of Kenya, The Computer Society of Kenya, managers of banking institutions and the Kenya Bankers Association, vendors of IT products, IT professionals, universities and colleges in the following manner:

1. Government because it is charged with the responsibility of formulating national policies and enacting laws for various sectors of the economy.
2. The Central Bank of Kenya as the regulatory body and the Kenya Bankers Association to assist in the establishment of appropriate policies and regulations for the banking sector that specifically address ethical issues arising from the use of IT.
3. Vendors of IT products because they need to consider how their products and the manner of usage has an ethical impact on society.
4. Universities and colleges to develop suitable and relevant curricula for IT training programmes in education and skills development, stimulate interest and attention for IT ethics and possibly encourage further research in the subject.

5. Computer Society of Kenya and IT professionals on the need to raise awareness of risks to and ethical dilemmas in the use of IT and of the safeguards available to meet those risks and deal with the dilemmas.

### 1.1.1 A SHORT HISTORY OF COMPUTING ETHICS

Computing ethics is a relatively new field of study, and it is not yet a well-established discipline. It emerged in the early 1970s, in the wake of the first major computer-related ethical dilemmas, such as the use of computers for espionage and the use of computers to control nuclear power plants. The field has since expanded to include a wide range of issues, such as privacy, security, and the impact of computers on society.

In the early days of the field, computer ethics was primarily a concern of government agencies and public policy makers. It was not until the late 1970s and early 1980s that the field began to take root in academia. The first computer ethics courses were developed in the United States and Europe, and the first computer ethics journals were published. The field has since grown rapidly, and it is now a well-established discipline. The field is now a multidisciplinary field, drawing on a wide range of disciplines, including philosophy, psychology, sociology, and law. The field is also becoming increasingly international, with a growing number of computer ethics courses and journals being developed in other parts of the world.

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## SECTION THREE

### 3.0 LITERATURE REVIEW

#### 3.0.1 A SHORT HISTORY OF COMPUTER ETHICS

Computer ethics is a relatively new field of study founded by MIT professor Norbert Wiener during the early 1940s. In the mid 1960s important social and ethical consequences of computer technology became manifest and interest in computer-related issues began to grow. Problems such as computer-aided bank fraud and other crimes became common.

At the same time in the 1960s, computer aided invasions of privacy by government agencies became a public worry and led to proposals for privacy legislation. By the mid 1970s, new privacy laws and computer crime laws had been enacted in America and Europe, and organizations of computer professionals were adopting codes of conduct for their members.

Moor writes: "In my view, computer ethics is a dynamic and complex field of study which considers the relationships among facts, conceptualization, policies and values with regard to constantly changing computer technology." (*Moor, 1985, p. 267*)

As developments continue to be made in the technology arena, issues of ethics continue to occupy center stage. Computer ethics has acquired a broader meaning which includes applied ethics, sociology of computing, technology assessment, computer law and related fields. This broader kind of computer ethics examines the impact of computing and IT upon human values, using concepts, theories and procedures from philosophy, sociology, law, psychology, and so on.

Practitioners of the broader kind of ethics have a common goal- To integrate computing technology and human values in such a way that technology advances and protects human values, rather than doing damage to them. (*Bynum, T. W; Three "Levels" of Computer ethics*)

### 3.0.2 BANKS, DATA AND INFORMATION

The banking business in general collects a lot of personal data about individuals. This data is archived in the bank's information systems for repeated use or reference.

Modern DBMS (Database Management Systems) have made it possible for organizations including banks to collect and store huge amounts of information.

Because a fundamental component of the bank /customer relationship is a customer's trust in the institution to respect the privacy and confidentiality of that relationship, it is important for banks to reassure customers about the safeguarding of their personal information. (*Guidance to National Banks on Web Site Privacy Statements, US Department of Treasury May 4, 1999*)

Banks are increasingly using the Internet as a medium for communicating with their customers, and, to a lesser extent as a vehicle for enabling their customers to conduct financial transactions. The success of banks in expanding the amount of and type of business they and their customers conduct online will depend largely on acceptance of this medium for making financial transactions.

### 3.0.3 CONSUMER SENSITIVITY TO PERSONAL INFORMATION

Survey data indicates that consumers are sensitive to how businesses, including banks, maintain, use, and analyze information about them. These consumer concerns about the accumulation and use of their personal information are likely to increase with the growing use of the Internet and electronic commerce. (*Guidance to National Banks on Web Site Privacy Statements, US Department of Treasury May 4, 1999*)

Another survey, "E-Commerce and Privacy: What Net users Want", conducted by Louis Harris and Associates, Inc. and Dr. Alan F. Westin, June 1998, found that the majority of Internet users who purchased goods or services online said that it was very important for businesses to post notices on their Web sites explaining how they will use the personal

information customers provide when making purchases over the Internet. Further, the survey found that of consumers not likely to access the Internet in the next year, greater privacy protection was the factor that would most likely convince them to use the Internet.

### **3.0.4 RISKS HEIGHTENED BY E-FINANCE**

The introduction of Automated Teller Machines (ATMs) in Kenya heralded a new concept in banking hitherto unknown. The ATMs made it possible for the bank's customers to carry out basic banking operations such as checking account balances, withdraw or deposit of finances without going to the banking hall. Apart from the occasional inconvenience of the service being unavailable at critical times, the whole concept of ATMs raises considerable issues of an ethical nature.

When the communications network is not available to access actual customer account balances, banks resort to limit cash withdraws per customer in order to reduce exposure to fraud. Despite measures taken to safeguard funds in customer accounts fraud and other activities involving ATMs have been reported in Kenya.

Who takes liability for any economic harm arising as a result of individuals and businesses not able to access their accounts during such times?

In a report, 'Warning on e-banking risks', the Bank for International Settlements (BSI) said that the rapid development of e-banking carries risks as well as benefits which banking directors and senior management must recognize, address and manage in a prudent manner. Banks must adapt and even expand existing security guidelines to counter risks posed by e-banking. (*Daily Nation, Tuesday, May 8, 2001*)

The report further said that e-banking services increase and change some of the traditional risks associated with banking, in particular strategic, operational and legal risks, as well as their reputation.

If electronic commerce, and in particular electronic finance, are to thrive, then consumers must feel confident that their financial information and delivery systems are secure.

Information in the banking industry is particularly susceptible to risk. Thus the stakes are very high.

Banks have a clear responsibility to provide a “level of comfort” for customers on issues such as data protection as enjoyed under the traditional banking methods.

The environment in which banks operate increases the need for banks and bankers to adhere to a strong set of values, in order to steer them through the minefield of ethical choices with which they are faced in making business decisions. Ethical dilemmas can arise when the banks try to innovate at the expense of sound business practice.

The financial services sector represents the state-of-the-art in information technology. The sector spends considerable resources, employs talented people, and retains respected consultants. Financial services firms, perhaps more than non-financial services firms, have strong reputational, financial, and competitive incentives to safeguard their information assets. (*National Communication System Volume 111, Number 40; courtesy of U.S.*

*Department*)

### **3.0.5 A MODEL FOR ETHICAL THINKING**

The five moral dimensions of the Information Age identified in section 1.02 form the basis of ethical thinking in today’s society. Information technology trends have heightened concern about these ethical issues.

- *Information rights and obligations:* Who owns what information? What obligations and responsibilities do individuals and organizations have concerning information in their possession?



- *Property rights*: How will individuals and organizations lay claim to ownership and rights to intellectual property when it is so easy to ignore such ownership and rights?
- *Accountability and control*: Who is accountable for the harm done to individual and collective information and property rights? Who takes liability for such harm?
- *System quality*: What are the standards of data and systems quality society should demand to protect individual rights and the safety of society?
- *Quality of life*: What values should be preserved in an information and knowledge-based society and what institutions should we protect from violation?

The five moral dimensions apply as much to the banking industry as they do in other spheres of life. These ethical issues are not new because they existed long before the advent of modern technology. Concerns have mainly been heightened by the increasing pace of technological developments which impact immensely on society.

It is not in the realm of this research paper to delve into these moral dimensions in detail. It is however important to note that the basic concepts of responsibility, accountability and liability must be borne by banks just as in any social institution. As pointed out elsewhere in this paper, information technology has placed institutions in unique positions where they must address ethical, social and political concerns arising from their use.

### **3.0.6 CORPORATE CODES OF ETHICS**

Many organizations worldwide are increasingly establishing codes of ethics and many believe that corporate codes of ethics can help deter improper actions of employees.

(*Manley, 1991*). Codes are believed to deter computer abuse because they keep employees abreast of laws and regulations and clearly define unacceptable or illegal conduct, thereby influencing the employees' moral judgment (*Bequai, 1983*).

Codes are like laws because they include sanctions for unethical behaviour and may have formal enforcement procedures.

In Kenya, The Prudential Regulations for Banking Institutions issued by the CBK, sets out a code of conduct for Directors, Managers and employees of banking institutions and also provides remedial measures for those who violate those regulations.

Managers in general, see codes of ethical behaviour as the most viable approach for dealing with ethics problems (Robin, et al., 1989).

### 3.0.7 REAL-EXAMPLE ETHICAL ISSUES

The examples given below illustrate real-world ethical dilemmas. These problems have no easy solutions and illustrate a wide range of ethical issues.

**Microsoft vs. Microskills.** In January, 2000, Microsoft instituted a court case against Microskills, a computer company operating in Kenya and accused the latter for illegally copying its software. (*Daily Nation, January 25, 2000*).

Microsoft lost the case on a technicality despite the facts of the case which indicated that Microskills was pirating Microsoft products.

**Microsoft vs. Mitsumi Computer Garage.** Mitsumi Computer Garage was restrained by a commercial court in Kenya from infringing on Microsoft's intellectual-property rights. (*Daily Nation, Wednesday, June 6, 2001*). Microsoft had gone to court over copyright for its software products.

According to Business Software Alliance, a joint anti-piracy busting agency, Kenyan businesses could be losing as much as \$3.5 million per year due to the activities of software



pirates. It estimates that nine out of every ten software products used in the country are counterfeit. (*Daily Nation, January 25, 2000*)

Worldwide, more than one out of every three software applications installed is pirated. This translates into \$12 billion lost due to software piracy in 1999. (*Business Software Alliance; 1999 Global Software Piracy Report*).

**IBM research on e-business computers.** An article, 'IBM plans fail-proof e-business computers' (*Daily Nation, Tuesday, May 1, 2001*) IBM unveiled plans to focus research and considerable funding towards developing an e-business server that monitors itself for problems and can fix itself. This is as a result of the huge economic losses arising from systems failures worldwide.

Problems of unauthorized access to information systems have been experienced by some of the most security sensitive organizations.

Software giants such as Microsoft Corp. have been targets of hackers who steal their source codes and are then able to access their networks. (*Daily Nation, Tuesday, October 31, 2000*)

A recent article appearing on *CNET.com* "Banks appease online terrorists" by Denise Shelton, reveals that international terrorists are using the internet to extort money from financial institutions, prompting at least some of those institutions to adopt appeasement policies.

Banks, brokerage houses and investment firms in both the United Kingdom and the United States of America have paid off criminals who threatened to attack their computer systems using advanced information warfare techniques developed by the military.

According to the article, a report attributed to the *Times of London* says gangs of online terrorists have amassed 400 million pounds worldwide by issuing threats that they will destroy the computer systems of companies who don't meet their monetary demands.

Despite the elaborate security systems put in place by several banks, banks are still vulnerable to attacks by hackers. A report in *Computeruser.com* says that unknown hackers caused havoc in French banking circles when a 96-digit encryption algorithm underlying the Cartes Bancaires system was posted on the Internet. (*Computeruser March 11, 2000*)

The release of the encryption code effectively allows fraudsters to create dummy smart card bank cards that contain account details that match the system applied to the inter-bank system. Such forged cards can be used to draw money from random accounts, the report says. The article further says that as many as 75 percent of France's 34 million smart cards could be compromised.

Many of the large banks in Kenya today have adopted a downsizing strategy to reduce costly overheads mainly on employees. Because many banking processes can be automated, loss of jobs has been inevitable. Balancing the need for efficiency with responsibility towards employees is one of many ethical and social issues faced by organizations using information systems today. (*Laudon 1996, p.139*)

## **SECTION FOUR**

### **4.0 RESEARCH DESIGN AND METHODOLOGY**

#### **4.0.1 RESEARCH DESIGN**

For this research, a descriptive cross-sectional type of study was chosen to describe the characteristics associated with the bank population at a point in time and estimate the proportions of that population which exhibits these characteristics. The study will identify the association between different variables thus fulfilling the objectives of descriptive studies.

#### **4.0.2 POPULATION**

Fifty (50) commercial banks registered and operating in Kenya were identified for this research. The list was obtained from the Central Bank of Kenya. Though some of the banks have a number of other branches, the focus for this research was the headquarters in Nairobi. The assumption was that all IT-related activities in these banks are regulated at headquarters. The whole population of commercial banks was considered for this study. A list of all the banks is attached in appendix.

The time constraint, resources and the difficult in getting to staff lower down the cadre in the banks was a factor in the choice of respondents.

The person in charge of IT activities or his/her representative was requested to answer the questionnaire.

### 4.0.3 DATA COLLECTION

A survey method was employed to collect data that was used to answer the research questions and therefore meet the objectives of the study. A structured self-administered questionnaire was given to the head of the IT activities within the participating banks with an assurance that all personal responses will remain strictly confidential. A sample of the questionnaire is attached in the appendix.

Drop-and-pick-later method was used to deliver the questionnaire and collect the responses in order to preserve the confidentiality of information and provide further assurance to participants that the information they provided will remain confidential.

Despite these assurances of confidentiality only 23 respondents agreed to participate in the study.

The questions sought information, among others, about:-

- a) The bank's profile.
- b) The demographic profile of the professionals who work in the banks.
- c) Awareness about ethical issues associated with IT.
- d) Experience in dealing with ethical issues.
- e) Codes of conduct for employees and IT personnel.
- f) Privacy policies for employees.
- g) Measures taken to deal with ethical issues or breaches of the bank's policies.

The questionnaire was structured so as to elicit responses without revealing information that could be deemed sensitive.

#### 4.0.4 DATA ANALYSIS

#### SECTION FIVE

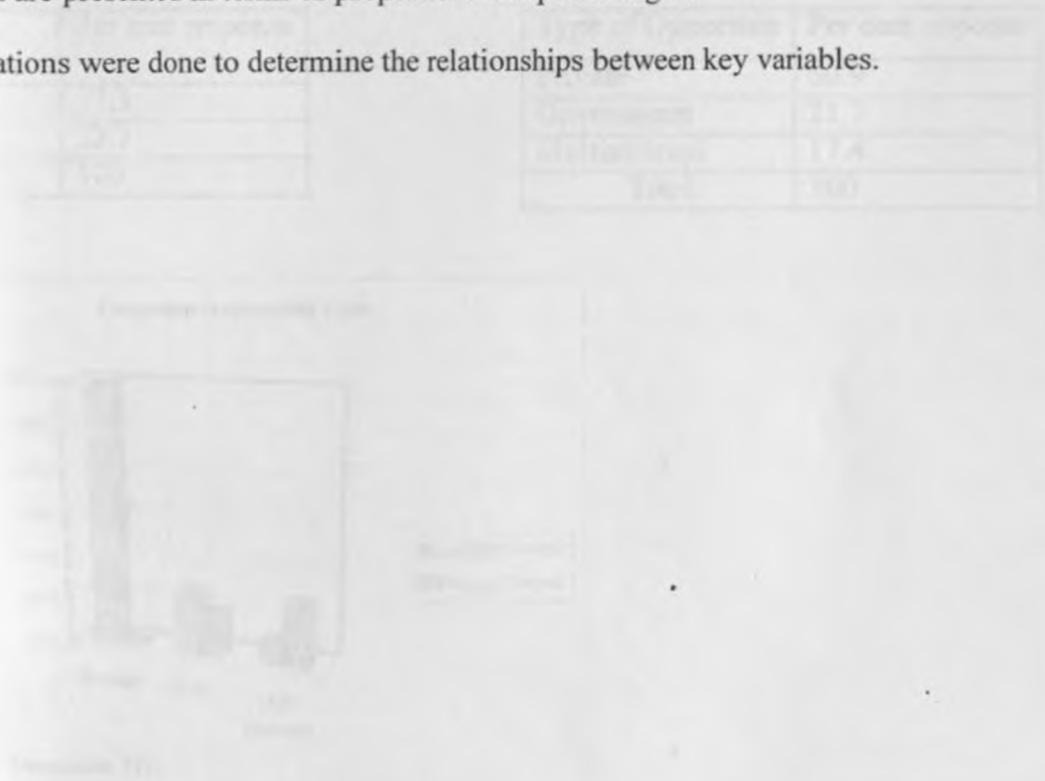
Of the original list of 50 banks, two of the institutions were under statutory management while two had since closed down. Two of the institutions had merged while one was a subsidiary of the other. Overall a response of 52.3% was achieved.

The others who did not respond said that their organization's policies do not allow them to provide the information required nor participate in such studies.

The data collected captured statistics of the various variables that were considered important in this study. The data was analyzed using standard software, SPSS PC for Windows.

The findings are presented in terms of proportions and percentages.

Cross-tabulations were done to determine the relationships between key variables.



## SECTION FIVE

### 5.0 DATA ANALYSIS AND FINDINGS

Part 1 analyses the data collected through the use of frequency tables, percentages and proportions. Part 2 uses cross-tabulation to analyze the data by comparing key variables identified in the study to determine the relationship between them.

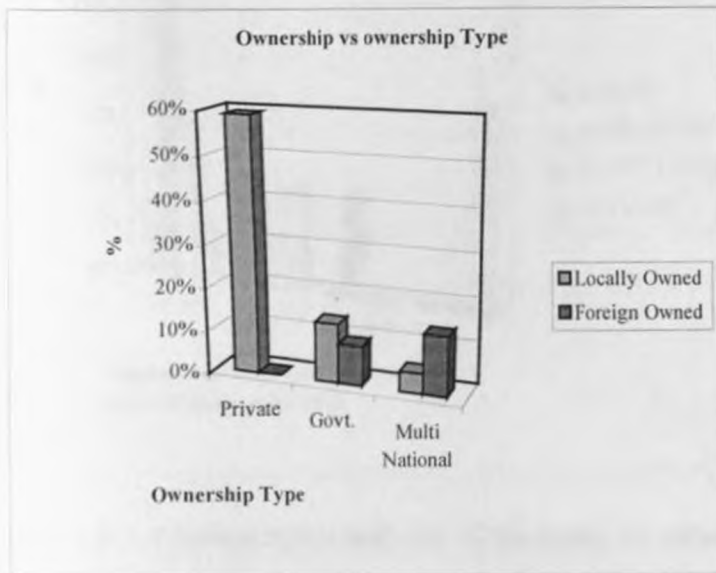
#### Part 1

#### 5.0.1 GENERAL INFORMATION

**Table 5.0.1.1: Ownership**

Category of ownership	Per cent response
Local	77.3
Foreign	22.7
Total	100

Type of Ownership	Per cent response
Private	60.9
Government	21.7
Multinational	17.4
Total	100



The table above shows that the majority of commercial banks operating in Kenya are locally owned (77.3%) and that most of them are private enterprises (60.9%). These banks can be further categorized into large, medium and small as shown in the table below.



**Table 5.0.1.2: Size of the banks**

Capitalization (Ksh'000)	Per cent Response	Classification
Less than 200,000	4.8	Small
200,000-500,000	42.9	Medium
500,000-1,000,000	19.0	Large
Over 1,000,000	33.3	Large
Total	100	

No. of employees	Per cent Response	Classification
Less than 100	52.2	Small
100-200	17.4	Medium
200-500	13.0	Large
Over 500	17.4	Large
Total	100	

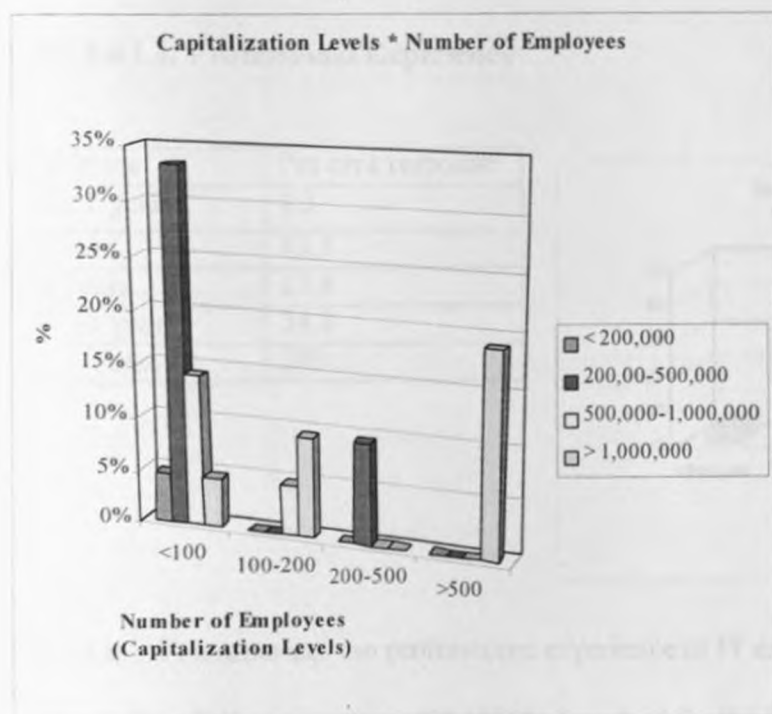
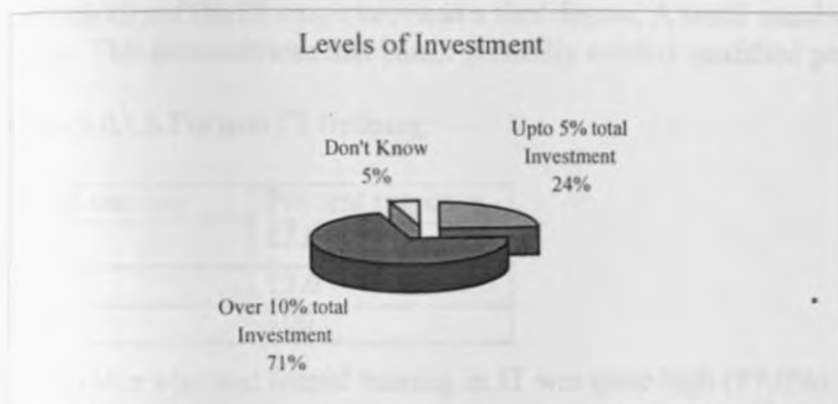


Table 5.0.1.2 indicates that majority of the banks are small to medium with a capitalization of less than Ksh.500 Million and less than 100 employees.

**Table 5.0.1.3: Level of investment in IT**

Level of investment	% Response
Up to 5% total investment	23.8
Over 10% total investment	71.4
Don't know	4.8
Total	100



A majority of these banks (71.4%) have an IT investment of more than 10% of total investment. This represents a significant percent of investments. It can be deduced from the table that banks are intensive users of IT.

**Table 5.0.1.4: Professional Experience**

Experience	Per cent response
Under 1 year	4.3
1-5 years	43.5
5-10 years	17.4
Over 10 year	34.8
Total	100

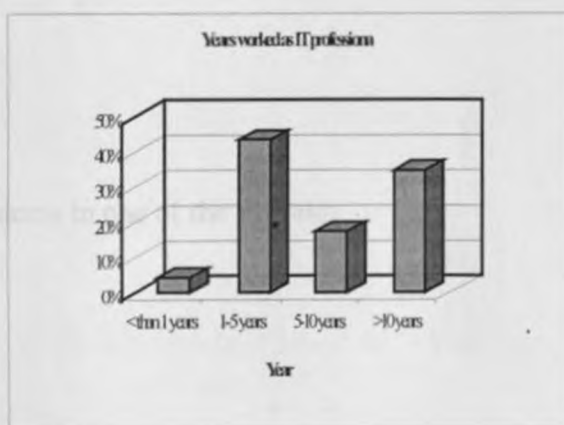


Table 5.0.1.4 summarizes the professional experience of IT employees working in the banks. The majority of the respondents (39.1%) had worked for the bank for between 3-5 years while 21.7% had been in their employment for more than 7 years.

**Table 5.0.1.5: Academic Qualification**

Level of education	Per cent response
Post Graduate	21.7
Degree	56.5
Diploma	21.7
Total	100



The majority of the IT employees had a first degree. A small number had attained a second degree. This demonstrates that banks generally employ qualified people.

**Table 5.0.1.6 Formal IT training**

Formal training	Per cent response
Yes	87.0
No	13.0
Total	100

The number who had formal training in IT was quite high (87.0%). This is a relatively high proportion and it can be deduced that banks generally employ very qualified people in their IT departments.

**Table 5.0.1.7: Level of IT Training**

IT Qualification	Per cent response
Post Graduate	25.0
Degree	30.0
Diploma	35.0
Certificate	5.0
Other	5.0
Total	100

A majority of respondents had at least a diploma in one of the IT fields.

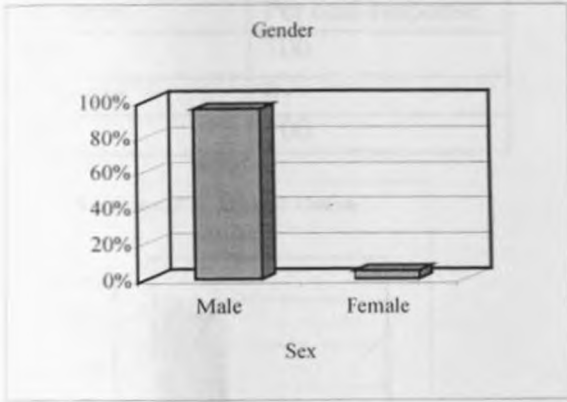
**Table 5.0.1.8: Age of IT professionals**

Age	Per cent response
Under 25	4.3
25-30	30.4
30-40	47.8
40-50	17.4
Over 50	0
Total	100

The study also found out that a majority (47.8%) were between the ages of 30-40. It can be deduced that the profession attracts relatively young people.

**Table 5.0.1.9: Sex of IT professionals**

Sex	Per cent response
Male	95.5
Female	4.5
Total	100



Females constituted a paltry 4.5% of the respondents indicating that women have not seriously considered the IT profession.

The study also revealed that most of the respondents held positions equivalent to an IT Manager (59.1%). Others were: IT director (9.1%), Systems Administrator (18.2%), programmer (4.5%) and "Other" (9.1%). The "Other" were mostly employees in the bank who performed IT activities with no specific titles depicting their positions. These were mostly in those small banks with no IT department.

The research findings also indicate that most IT professionals (52.2%) do not belong to any professional IT institution.

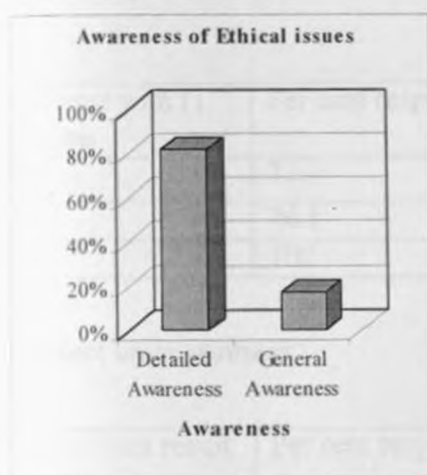
## 5.0.2 AWARENESS OF ETHICAL ISSUES AMONGST IT PROFESSIONALS

### WORKING IN BANKS

Table 5.0.2.1: Awareness of Ethical Issues

#### a) Awareness

Awareness	Per cent response
Aware	100
Not Aware	0
Total	100



#### b) Level of awareness

Level of awareness	Per cent response
Detailed knowledge	82.6
General Awareness	17.4
Total	100

#### c) Dealt with ethical issues in the workplace

Dealt with Ethical issue	Per cent response
Yes	91.3
No	8.7
Total	100

#### d) Software copying

Has made unauthorized copies of software	Per cent response
Yes	13.0
No	87.0
Total	100

The table above shows that IT professionals in the banks have a high sense of awareness (100%) with a fairly high level knowledge about ethical issues. A large number of the respondents (91.3%) said they have experience of or dealt with a variety of ethical issues in the workplace.

A majority of respondents said they have dealt with viruses (68.4%) and systems failures (31.6%). The study found out that the respondents (36.4%) knew of other people who had been faced with an ethical issue involving computer systems.

Most of the respondents (95.7%) said that they always read the license agreements accompanying software. 81.8% said that the software used in the banks is properly licensed. All the respondents (100%) however said that their bank does not use software that it has not purchased or leased. A small number (13.0%) said they have made illegal copies of software at the place of work.

**Table 5.0.2.2: Problems with IT systems**

**a) Problems**

Problems with IT Systems	Per cent response
Yes	73.9
No	26.1
Total	100

**b) Causes**

Cause of problems	Per cent response
Hardware	58.8
Software	29.4
Human error	5.9
Other	5.9
Total	100

**c) Effect on customers**

Did problem result in customer complaint:	Per cent response
Yes	52.2
No	47.8
Total	100

The table indicates that 73.9% of banks have experienced problems with their IT systems that could be attributed to a variety of causes. A large number of these caused inconvenience to customers (52.2%).

### 5.0.3 MEASURES ESTABLISHED TO DEAL WITH ETHICAL ISSUES

**Table 5.0.3.1: Use of Codes of Conduct**

**a) Code of Conduct for IT employees**

Bank has code of conduct for IT employees	Per cent response
Yes	77.3
No	22.7
Total	100

**b) Level of awareness of IT code**

Level of awareness	Per cent response
Detailed knowledge	88.2
General awareness	11.8
Total	100

**c) Usefulness of code of conduct**

Usefulness	Per cent response
Very Helpful	76.2
Fairly helpful	23.8
Total	100

**d) IT Policies**

Bank has stated IT Policy	Per cent response
Yes	90.5
No	9.5
Total	100

**e) Penalties**

Bank has penalties for flouting It Policy	Per cent response
Yes	61.9
No	38.1
Total	100

Table 5.0.3.1 shows that 77.3% of the respondents said that their bank has a code of conduct for IT employees. 88.2% said that they are well versed with the code of conduct and 76.2% said that the code of conduct is very helpful when making ethical decisions.

The study also revealed that 90.5 % of the banks have an IT policy in place and that there are clearly stated penalties for those who flout the policies.

The respondents said that among the contents of the IT policy were: Limiting access to information, confidentiality of information, regular maintenance of hardware and software, an account policy to control password use, an audit policy and an IT security policy.

**Table 5.0.3.2: Use of Privacy Policies****a) Privacy Policy**

Bank has privacy policy	Per cent response
Yes	77.3
No	13.6
Don't know	9.1
Total	100

**b) Level of awareness of contents of privacy policy**

Level of awareness	Per cent response
Detailed knowledge	76.5
General awareness	23.5
Total	100

The table above shows that about 77.3% of the banks have a privacy policy in place. About the same percentage of respondents in the banks have a detailed knowledge of the contents of the privacy policy. Contents of the privacy policy include: No disclosure about customer accounts, conceal bank related information, individual responsibility for information and respect of others' privacy.

**Table 5.0.3.3: Limiting access to confidential information**

Bank has dealt with unauthorized access	Per cent response
Yes	13.0
No	82.6
Don't know	4.3
Total	100

All the respondents said that their institutions have taken certain steps to limit access to confidential information. Despite this 13% said that they have had to deal with cases of unauthorized access. They said that the banks have put controls using passwords, keeping source codes in safe places, use of IDs, limiting access to the work stations, assigning user profiles for accessing applications and properly defining procedures. Other methods used are limiting physical access to the data center, physical security and locks and also logical locks



**Table 5.0.3.4: Virus attacks**

Bank has suffered from virus attacks	Per cent response
Yes	47.8
No	52.2
Total	100

A large number of respondents (47.8%) said their banks have been hit by virus attacks. The banks however have taken precautions to deal with these attacks. The banks have installed anti-virus software that is regularly updated, restricting of downloads from the Internet, regular scan/checks. External diskettes are not allowed for use in the bank

### 5.0.3.5: Accuracy of information

Banks ensure that data in their information systems is kept accurate through a variety of means: back checking printouts with actual transactions, periodic listing of customers' information, training of staff, daily reports, taking regular backups and ensuring that automatic controls are employed as much as possible. Other measures are: user friendly reports, random audits by internal auditors, and authorized checks on balances.

## Part 2

**Table 5.0.4: Cross-tabulation of capitalization levels with number of employees**

Capitalization '000	<100	100-200	200-500	Over 500	Total
Less than 200	1 (8.3%)				1
200,000-500,000	7(58.3%)		2(100%)		9
500,000-1,000,000	3(25%)	1(33.3%)			4
Over 1,000,000	1(8.3%)	2(66.7%)		4(100%)	7
Total	12	3	2	4	21

From the table it can be deduced that most commercial banks operating in Kenya have less than 100 employee. A few of the large banks have more than 200 employees.

**Table 5.0.5: Cross-tabulation of respondent's position with level of awareness of ethical issues.**

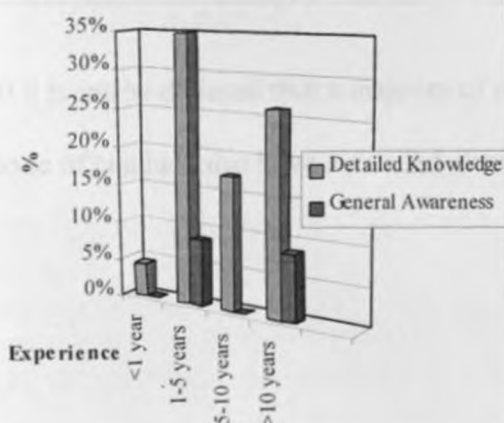
	Detailed knowledge	General awareness	Total
IT Director	1 (5.5%)	1 (25%)	2
IT Manager	12 (66.7%)	1 (25%)	13
Systems Administrator	3 (16.7%)	1 (25%)	4
Programmer	1 (5.5%)		1
Other	1 (5.5%)	1 (25%)	2
Total	18	4	22

A significant number of the respondents (66.7%) were IT Managers who had a high level of awareness of ethical issues. There were a about equal numbers of the other professionals with a general awareness of ethical issues.

**Table 5.0.6: Cross-tabulation of years worked as an IT professional with level of awareness of ethical issues.**

	Detailed knowledge	General awareness	Total
Less than 1 year	1 (5.3%)	(0%)	1
1-5 years	10 (52.6%)	2 (50%)	12
5-10 years	4 (21.1%)	(0%)	4
Over 10 years	4 (21.1%)	2 (50%)	6
Total	19	4	23

**Experience \* Awareness of Ethical issues**



The table above shows that the highest population (52.6%) of respondents had worked for 5 years and had a detailed knowledge of ethical issues. A significant number who had worked



for more than 5 years as IT professionals also had a well founded knowledge of ethical issues.

**Table 5.0.7: Cross-tabulation of level of training in IT with level of awareness of ethical issues.**

	Detailed knowledge	General awareness	Total
Post Graduate	4 (25%)	1 (25%)	1
Degree	4 (25%)	2 (50%)	12
Diploma	6 (37.5%)	1 (25%)	4
Certificate	1 (6.25%)		6
Other	1 (6.25%)		
Total	16	4	20

For those who had formal training in IT, the group of diploma holders had a detailed awareness of ethical issues as compared to those who had lower academic certificates. The study shows that those who had degrees and those who had attended postgraduate studies were not as aware of ethical issues.

**Table 5.0.8: Cross-tabulation of level of awareness of ethical issues with bank has a code of conduct**

	Yes	No	Total
Detailed knowledge	16 (80%)	2 (100%)	18
General awareness	4 (20%)	(0%)	4
Total	20	2	22

From Table 5.0.8 it can be deduced that a majority of respondents who work in banks where there exists a code of conduct also have a detailed awareness of ethical issues.

## **SECTION SIX**

### **SUMMARY AND CONCLUSIONS**

The objective of this study was to identify the ethical issues that banks grapple with in the use of information technology and to determine the level of awareness of these ethical issues among IT professionals working in the banks. The study also set out to find out what measures banks have put in place to deal with these issues.

In my search for literature on the subject, I found that most of the research on IT Ethics has been done in the Western World and the United States of America, in particular has taken a lead in this area.

Though the ethical issues discussed in the literature are prevalent in Kenya, as in many other countries, I found very little information specific to Kenya.

My research was exploratory and an attempt to bring into the fore the subject of IT ethics which in many ways affects a lot of people, most times without even knowing it.

#### **6.0.1 CONCLUSIONS**

From the research findings presented in section five of this study, a number of conclusions may be made. These conclusions are discussed below in light of the objectives of the study.

##### **6.0.1.1 CONCLUSIONS ON ETHICAL ISSUES FACING BANKS IN KENYA**

From the survey, it is evident that banks in Kenya are faced with many ethical issues that are brought about by the use information technology. A large number of respondents said that they have dealt with issues of an ethical nature which could be attributed to their systems. Many bank operations can be automated and this makes it attractive for the banks to make huge investments in IT. Banks therefore employ relatively fewer employees as most tasks are performed by use of computers.

The study also found out that problems that are attributed to the information systems have been causes of customer complaints.

The study also identified system crashes, due to hardware or software problems and viruses as some of the problems that banks have to deal with. Unauthorized people have on occasion accessed sensitive and confidential information stored in the information systems. These are either employees or external persons.

Although reported cases of non-adherence to license agreements were few, nevertheless they were present. The same applies to infringement of software copyright which were reported by some employees in the banks.

#### **6.0.1.2 EXTENT OF AWARENESS ABOUT ETHICAL ISSUES**

The study found out that there is a high level of awareness about ethical issues associated with information systems.

The results of the study also indicate that banks employ highly qualified people. Most of these have received formal training in IT and also belong to professional IT institutions. This could be a factor attributable to the high awareness levels about ethical issues.

#### **6.0.1.3 MEASURES PUT IN PLACE TO DEAL WITH ETHICAL ISSUES INVOLVING INFORMATION TECHNOLOGY.**

The banks have put in place several measures to deal with ethical issues.

Apart from employing highly trained staff, it was found out that most banks have put in place a code of conduct for employees and also codes of conduct for IT employees. These codes of conduct are helpful when the employees are required to make decisions on an ethical issue. Regular training ensures that the employees are kept informed of developments in the IT field.

The banks also have privacy policies that ensure that employees do not share confidential information with others. There are specified penalties for those who infringe on the policies. Various safeguards have been put in place to curb unauthorized access to the systems. System integrity and accuracy of information is achieved through automatic controls, backups, audits, regular system updates amongst other measures.

The banks also reported that they have systems for regularly assessing the security needs of their systems. This inevitably ensures that breaches of security are minimized.

## **6.0.2 LIMITATION OF THE STUDY AND SUGGESTIONS FOR FURTHER RESEARCH**

This section discusses the limitations of this study and offers suggestions for further research in the chosen area.

### **6.0.2.1 LIMITATIONS TO THE STUDY**

This study focused on an industry where confidentiality is a major component of business. Banks traditionally operate on the basis that most information especially that concerning their clients is kept confidential. This was the major limitation as can be deduced from the number of banks that agreed to participate in the study.

The questionnaire had also to be structured with this in mind by asking questions that were not deemed to seek confidential customer information or about the bank's operations. The questions were therefore to a great extent of a general nature.

Another limitation was the choice of respondents in the participating banks. It would have been tedious and time-consuming to try to access IT employees lower down the cadre.

Resource constraints were another significant constraint. The research focused on the IT managers who sit at headquarters in Nairobi. It would have been interesting to find out the practices at the branch level.

Another limitation was that little literature was available specific to banks on the subject of IT ethics.

#### **6.0.2.2 SUGGESTIONS FOR FURTHER RESEARCH**

This study focused on IT employees, particularly heads of IT departments in the commercial banks. The results obtained may have been interpretations of policy rather than actual practice. More relevant information obtaining in the participating banks, that could be generalized, would have been obtained if lower levels of staff were interviewed and if the population was much larger to include the banks' branches.

This study can also be extended to other types of industries where sensitivity to information is not as in the banking industry, such as the informal sector, government, universities etc. this would provide a clearer picture of the status of ethics amongst those who use information technology in Kenya.

## APPENDIX

THE IT DIRECTOR/MANAGER  
XXXXXX BANK LTD  
P.O BOX XXXXX  
NAIROBI

Dear Sir/Madam,

**Re: Academic Research**

I am a postgraduate student at the University of Nairobi. My name is Thomas Shem Onduso.

As part of the requirements for the MBA academic programme, I am undertaking a research project on Ethical Issues in the use of Information Technology among commercial banks in Kenya.

I have identified your bank to participate in this research because of the highly developed information systems it has installed and appreciate your experience in managing such complex systems.

The results of this research will be for academic purposes only but the findings can be availed to you upon request. The information provided will be treated in the strictest confidence.

PLEASE ANSWER THE QUESTIONNAIRE AS ACCURATELY AS POSSIBLE AND ONCE IT IS COMPLETED ENCLOSE IT IN THE ENVELOPE PROVIDED. SOMEONE WILL THEN COME TO PICK IT FROM YOUR OFFICE.

If you have any queries or need clarification about this project, please call me on 242324 or 072732965 or e-mail me at [onduso@hotmail.com](mailto:onduso@hotmail.com).

I thank you in advance for agreeing to participate in this research project.

**Thomas Shem Onduso**



## Questionnaire

### A Survey of Ethical Issues in the use of Information Technology among commercial banks in Kenya.

1. Please tick in the box provided the category that best describes your bank.

Locally owned  Foreign owned

2. Please tick in the box provided the category that best describes your bank.

Private  Government

Multinational  Other

Please specify \_\_\_\_\_

3. Is your bank quoted on the Nairobi Stock Exchange?

Yes  No

4. To which category does your bank belong in terms of its capitalization? (Figures in Ksh. '000')

Less than 200,000

200,000-500,000

500,000-1,000,000

Over 1,000,000

Don't know

5. How many employees does the bank have?

Less than 100  100-200  200-500

Over 500

*(Include those in branch offices if any)*

6. If you were to estimate the level of investment in IT for your bank compared to other assets what would be your best estimate?

Less than 1 percent total investment

Up to 5 per cent "

Over 10 per cent "

Don't know

7. Does the bank have a department exclusively for IT activities?

YES  NO.

If YES please indicate the number of staff in the department. \_\_\_\_\_

8. What is the approximate number of computers installed in the bank?

(Include those in branch offices if any)

Less than 5  5-20  20-50

50-100  Over 100

9. Tick from the list below the job title that best suits your position.

IT Director  IT Manager

Systems Administrator  Programmer

Other  Please specify: \_\_\_\_\_

10. How long have you worked for the bank?

Less than 1 year  1-3 years  3-5 years

5-7 years  Over 7 years

11. How long have you worked as an IT professional?

Less than 1 year  1-5years

5-10years  Over 10 years

12. Please indicate your age.

Under 25  25-30  30-40

40-50  Over 50

13. Your gender

M  F

14. What is your highest level of education attained?

Post-Graduate  Degree  Diploma

Certificate  Other  Please specify \_\_\_\_\_

15. Do you have any formal training in IT? YES  NO

16. If YES please indicate your level of training.

Post-Graduate  Degree  Diploma

Certificate  Other  Please specify \_\_\_\_\_

17. Do you belong to any Professional IT institution whether local or abroad?

YES  NO

If YES please indicate the name of the institution.

\_\_\_\_\_

18. Are you aware of any ethical issues associated with IT such as accuracy of information, security of data, software piracy etc.?

YES  NO

19. If YES please indicate your level of awareness.

Detailed knowledge

General awareness

Slightly aware

20. Have you ever had to deal with an ethical issue involving IT at work such as a virus attack, system crash, etc?

YES  NO

21. If YES what was the issue?

\_\_\_\_\_

How did you deal with it?

\_\_\_\_\_

\_\_\_\_\_

22. Do you know of someone who was faced with an IT ethical issue at work?

YES  NO

What did s/he do?

---

---

23. Please tick the appropriate box

	Question	Yes	No	Don't know
1	Do you read the license agreement that accompanies most commercially marketed application software?			
2	Is the number of commercial applications software licenses in the bank equal to the number of installations?			
3	Does the bank possess installed commercial software that it has not leased or purchased?			
4	Have you or your colleagues ever made copies of software purchased by the bank for other uses other than for backup or archival purposes?			

24. Does the bank have a code of conduct for all employees?

YES  NO  Don't know

25. If YES please indicate your level of awareness about its contents.

Detailed knowledge of contents

General awareness of contents

Not aware of its contents

26. Does the bank have a code of conduct for IT employees?

YES  NO  Don't know

27. If YES please indicate your level of awareness about its contents.

Detailed knowledge of contents

General awareness of contents

Not aware of its contents

28. If you were to make an ethical decision, how helpful do you think the code of conduct would be?

Very helpful  Fairly helpful  Not helpful

29. Does your bank have formally stated IT policies?

YES  NO  Don't know

30. If YES please state any two of them.

1. \_\_\_\_\_

2. \_\_\_\_\_

31. Does your organization have clearly stated penalties for employees who violate any of the policies listed above?

YES  NO  Don't know

32. Does your bank have a formally stated Privacy Policy?

YES  NO  Don't know

33. If YES please indicate your level of awareness about its contents.

Detailed knowledge of contents

General awareness of contents

Not aware of its contents

34. Please give any two statements contained in the Privacy Policy.

1. \_\_\_\_\_

2. \_\_\_\_\_

35. Has the bank ever experienced problems with its IT systems which have affected the bank's operations?

YES  NO  Don't know

36. If YES please indicate the causes

Hardware  Software  Human error

Other  Please specify \_\_\_\_\_

37. How often do these problems occur?

Rarely  A few times  Frequently   
Very frequently

38. Are you aware of a problem that occurred and resulted in a customer's complaint?

YES  NO

39. If YES was the problem attributed to the bank's computer systems?

YES  NO  Don't know

40. Does the bank limit employee access to confidential information?

YES  NO  Don't know

41. If YES please list some of the measures the bank has taken to limit such access

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

42. Has your bank ever had to deal with problems related with unauthorized people gaining access to its data or systems?

YES  NO  Don't know

43. If YES was it from internal or external sources?

Internal  External  Don't know

44. Has the bank taken any precautions to ensure that its systems and data are secure from unauthorized access?

YES  NO  Don't know

45. If YES please list some of the measures the bank has taken.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



46. Have you ever experienced problems in the bank's information systems as a result of a virus attack?

YES  NO  Don't know

47. If YES has the bank taken any steps to safeguard its systems from such attacks?

YES  NO  Don't know

48. If YES please list below some of the measures the bank has taken.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

49. Please list below some of the measures the bank has taken to ensure that customer records maintained in its information systems is accurate and up-to-date.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

50. Information systems and the requirements for their security vary over time. Do you have a system for periodically assessing the security of your information systems?

YES  NO  Don't know

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Bank Name	Head Office	Branches	Assets (KSh)	Liabilities (KSh)	Capital (KSh)	Profit/Loss	Other Info
Commercial Bank of Africa	Nairobi	15	100,000,000,000	100,000,000,000	10,000,000,000	10,000,000,000	Member of CBA
Equity Bank	Nairobi	10	80,000,000,000	80,000,000,000	8,000,000,000	8,000,000,000	Member of CBA
Co-operative Bank of Kenya	Nairobi	12	70,000,000,000	70,000,000,000	7,000,000,000	7,000,000,000	Member of CBA
Kenya Commercial Bank	Nairobi	18	60,000,000,000	60,000,000,000	6,000,000,000	6,000,000,000	Member of CBA
Standard Bank	Nairobi	14	50,000,000,000	50,000,000,000	5,000,000,000	5,000,000,000	Member of CBA
Industrial Bank of Kenya	Nairobi	11	40,000,000,000	40,000,000,000	4,000,000,000	4,000,000,000	Member of CBA
Bank of Africa	Nairobi	9	30,000,000,000	30,000,000,000	3,000,000,000	3,000,000,000	Member of CBA
Bank of Commerce and Africa	Nairobi	8	20,000,000,000	20,000,000,000	2,000,000,000	2,000,000,000	Member of CBA
Bank of East Africa	Nairobi	7	15,000,000,000	15,000,000,000	1,500,000,000	1,500,000,000	Member of CBA
Bank of Kenya	Nairobi	6	10,000,000,000	10,000,000,000	1,000,000,000	1,000,000,000	Member of CBA
Bank of India	Nairobi	5	5,000,000,000	5,000,000,000	500,000,000	500,000,000	Member of CBA
Bank of China	Nairobi	4	3,000,000,000	3,000,000,000	300,000,000	300,000,000	Member of CBA
Bank of China (Hong Kong)	Nairobi	3	2,000,000,000	2,000,000,000	200,000,000	200,000,000	Member of CBA
Bank of China (Shanghai)	Nairobi	2	1,000,000,000	1,000,000,000	100,000,000	100,000,000	Member of CBA
Bank of China (Tianjin)	Nairobi	1	500,000,000	500,000,000	50,000,000	50,000,000	Member of CBA

## COMMERCIAL BANKS OPERATING IN KENYA AS AT 10.11.2000

NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES AND OTHERS	PEER GROUP CODE
		FAX NO.							
<b>1. ABN-AMRO BANK N.V</b>  Country Manager Mr. Adriaan Van der Pol	30262 NAIROBI	22262 FAX 254-2- 713391	710455/6 710514/5 710829/30 710972/3	ABN-Amro Building Nyerere Road user@ke.abnamro.com	13.5.1951	2	-	-	1
<b>2. AFRICAN BANKING CORP. LTD</b>  Executive Chairman Mr. Ashraf Savani	46452 NAIROBI	TELEX 22069 FAX 222437	223922 251540/1 226712 248978	ABC Bank Mezzanine Floor Koinange Street abc@form-net.com	1.5.1984	8	-	-	4
<b>3. AKIBA BANK LTD.</b>  Chief Executive Mr. L.J. Pandit	49584 NAIROBI	TELEX 22060 FAX 225694	331709 218360/1 249633/4 249670/1/2	Fedha Towers Muindi Mbingu st. Nairobi akiba@form-net.com	1.7.1995	3			4
<b>4. BANK OF BARODA (K) LTD.</b>  Executive Chairman Mr. M. K. Parekh	30033 NAIROBI	22250 FAX 254-2- 333089	227869 228405	Tom Mboya Street barodabk ho@form-net.com	1.7.1953	7	-	-	3
<b>5. BANK OF INDIA</b>  Chief Executive Mr. Pundarik Sanyal	30246 NAIROBI	TELEX 22725 FAX 229462	221414-7 218063 218871	Kenyatta Avenue boilo@calva.com	5.6.1953	2	-	-	4
<b>6. BARCLAYS BANK OF KENYA LTD.</b>  Managing Director Isaac Takawira	30120 NAIROBI	TELEX 22210 FAX 213915	332230	Barclays Plaza Loita Street bbk.fin@user.africaonline.co.ke	1.7.1925	40	4	9	1
<b>7. BIASHARA BANK OF KENYA LTD.</b>  Chief Executive Mr. N.D.Chudasama	30831 NAIROBI	25161 FAX 221679	221064 223168 338384 220632	Investment House Biashara st. business@biashara bank.com	1.7.1984	4	-	-	4

NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
		FAX NO.							
<b>8. BULLION BANK LTD.</b> Former Chief Executive - Nizar Meruani CBK Appointed Manager - H.W.N. Wamukota	11666 NAIROBI	22441	213740	Off Muranga Road	1.1.1991	3	-	-	5
		FAX 221338	214450	Bullion@form-net.com					
<b>9. CFC BANK LIMITED</b>  Managing Director Mr. M.N. Majmudar	72833 NAIROBI	22814	340091 741861	CFC Centre Chiromo road Westland	29.03.95	3			2
<b>10. CHASE BANK (KENYA) LTD.</b> (changed name from United Bank Ltd w.e.f 15.11.95) Managing Director  Mr. Zafrullah Khan	64042 NAIROBI	TELEX 23152 FAX 246334	244035 245611 330222	Prudential Ass. Building 6th Floor. Wabera Street chasebank@form-net.com	1.4.1991	1	-	-	5
<b>11. CHARTER HOUSE BANK LTD.</b> (changed name from Middle East Bank (K) Finance w.e. 11.11.96 and became a bank w.e.f. 01.10.98) Managing Director Mr. Sanjay Shah	43252 NAIROBI	23132 FAX 219058	224842 224920 242246/53	Longonot Place 6th. Floor Kijabe Street info@chaterhouse-bank.com	1.10.98	1			4
<b>12. CITIBANK N.A.</b>  General Manager Mr Terry Davidson	30711 NAIROBI	22411 22432 FAX 714810/1	711221 717016	Citibank House Upper Hill Road	1.7.1974	5		1	1
<b>13. CITY FINANCE BANK LTD.</b> Managing Director - S.V. Ramani	22741 NAIROBI	22037 FAX 335386	224238-9 332487 332532 210338/9	Unity House Koinange St.	10.09.1984	1			5
<b>14. COMMERCIAL BANK OF AFRICA LTD.</b>  Managing Director Mr. Isaac Awuondo	30437 NAIROBI	23115 FAX 335827	228881 340200	Wabera Street cba@connect.co.ke	13.2.1967	6	1	7	1



NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
		FAX NO.							
<b>15. CONSOLIDATED BANK OF KENYA LTD.</b> Managing Director Mr. E.K.Mathiu	51133 NAIROBI	22482 FAX 340213	340551 340830 340920	Consolidated Bank Hse. Koinange Street consobank@iconnect.co.ke	18.12.1989	10	-	-	3
<b>16. CO-OPERATIVE BANK OF KENYA LTD.</b> Managing Director Mr. E.K. Mureithi	48231 NAIROBI	22938 FAX 227747 246635	225579  228453/7 251290/9	New Location-(H.Q) Kenya-Re Plaza Taifa Road Union Towers Moi Avenue	1.7.1968	25	1 NIL	5	1
<b>17. CO-OPERATIVE MERCHANT BANK</b> Managing Director Mr.E.K.Mureithi	48231 NAIROBI	22938  FAX 219821	228711/2/3	New Location-(H.Q) International Life House Mama Ngina Street cmb@africaonline.co.ke	1.3.1992	1			3
<b>18 CREDIT AGRICOLE INDOSUEZ</b> Regional Manager Mr. Benoite Destoppeleire	69562 NAIROBI	23091 FAX 214166	211175 210546	Re-Insurance Plaza Taifa Road user@ke.ca-indosuez.com	1.1.1998	2	-	-	2
<b>19. CREDIT BANK LIMITED</b> Managing Director Mr Narendra Kumar Agarwal	61064 NAIROBI	TELEX 23050 FAX 216700	222300 222317 220789 332015	Ground Floor Mercantile Hse Koinange st. cblnbi@creditbankltd.com	14.5.1986	2	-	-	4
<b>20. DAIMA BANK LTD.</b> Executive Chairman Mr. S.K.Muumbi	54319 NAIROBI	23275 FAX 211351	330620 330612 330615 330617 215368	Utalii House Off Uhuru Highway daima@africaonline.co.ke	1.9.1992	2	-	-	5
<b>21. DEVELOPMENT BANK OF KENYA LTD.</b> General Manager Mr. J.V. Bosse	30483 NAIROBI	FAX 0254-2-338426 054-2-22662	340426  340478 340416	Finance House Loita Street dbk@africaonline.co.ke	1.5.1995	1	-	-	3

NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO. FAX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
<b>22. DIAMOND TRUST BANK KENYA LTD.</b> (merged with Premier Finance on 01.04.99) Managing Director Mr. Allan Beaugard	61711 NAIROBI	23177 FAX 336836	210988/008 (20 lines)	Nation Centre Kimathi Street user@dtbkenya.co.ke	1.11.94	3			2
<b>23. EQUATORIAL COMMERCIAL BANK LTD.</b>  Managing Director Mr. T.N. Khwaja	52467 NAIROBI	23198 FAX 331606	331122 338398 330611 221114 338908	Sasini House Loita street	20.12.95	3			4
<b>24. EURO BANK LIMITED</b> AG Managing Director Mr. Zachary Kamondo	43071 NAIROBI	25010 FAX-254-2 221781	218879/63 221367	Hamilton Hse Wabera st.	17.12.1992	1	-	-	4
<b>25. FIDELITY COMMERCIAL BANK LTD.</b>  Managing Ddirector V.V. Pardha Saradhi	34886 NAIROBI	FAX 243389	242348 244187	I.P.S Bldng. 7th Floor Kimathi St. fidelity@insightkenya.com	1.6.1992	1			4
<b>26. FINA BANK LIMITED.</b>  Managing Director Mr. W.A.E.J. Lemstra	20613 NAIROBI	FAX 254-2 337082	240798 337070 222580	Fina House Kimathi Street banking@:finabank.com	13.01.95	2			3
<b>27.FIRST AMERICAN BANK OF KENYA LTD.</b>  Managing Director Mr. M. Blasetti	30691 NAIROBI	TELEX 22398 FAX 333868	333960-2 215936/7 228389 216020 226518	I.C.E.A Building Kenyatta Avenue fabk@africaonline.co.ke	1987	3	-	-	2
<b>28. GUARDIAN BANK LIMITED.</b> (Merger with First National Fin. Bank app. on 24-11-98) (Merger with Guilder Int. Bank app. on 31.12.1999) Executive Director Mr. G.H. Bhatt	46983 NAIROBI	23214 FAX 254 (2) 229248	333877 228087 214460 214070	View Park Towers 6th Floor Monrovia Street gblho@africanline.co.ke	17.12.1992	5			3

NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
		FAX NO.							
<b>29. GIRO COMMERCIAL BANK LIMITED</b> (Merger with Commerce Bank effective 11-12-98) Managing Director Mr. R.B. Singh	46739 NAIROBI	22013 FAX 336991 210679	330129 339519 216005 330135/7/9	Giro House Kimathi Street gcbl@swiftkenya.com	17.12.1992	6	-	-	3
<b>30. HABIB BANK A.G. ZURICH</b> (Merger with Habib Africa Ltd app. on 31.12.1999) Country Manager Mr. I.A Allawala	30584 NAIROBI	TELEX 22982	334984-5	National House Koinange Street habibbank@form-net.com	1.7.1978	3	-	-	3
<b>31. HABIB BANK LTD.</b> General Manager (Africa Region) Mr. Hamid M. Baig	6906 NAIROBI	TELEX 22238	246613 246641	Exchange Building Koinange Street hblronbi@africaonline.co.ke	2.3.1956	5	-	-	4
<b>32. IMPERIAL BANK LTD.</b> Managing Director Mr.A.Janmohamed	44905 NAIROBI	FAX 230994 250137	225060 252175/8 25284/5	IPS Building Kimathi Street	1.11.1992	2			4
<b>33. INDUSTRIAL DEVELOPMENT BANK LTD.</b> Managing Director Mr. Lawrence Masaviru (Converted to a Commercial Bank on 10.09.98)	44036 NAIROBI	22339 FAX 334594	337079	National Bank Building Harambee Avenue	1.7.1981	1			4
<b>34. INVESTMENTS &amp; MORTGAGES BANK LTD.</b> Executive Director Mr. Sarit S. Shah	30238 NAIROBI	TELEX 22178 713757/716372	711994-8	I & M Bank House 2nd Ngong Avenue invest@imbank.co.ke	25.5.1980	3			2
<b>35. KENYA COMMERCIAL BANK LTD.</b> Managing Director Mr. Gareth A George	53290 NAIROBI	23085 FAX 336422	339441/3 339450/2 339446/9	Kencom House Moi Avenue kcbhq@kcb.co.ke		109	31		1

NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO. FAX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
<b>36. K-REP BANK LIMITED</b> Managing Director Kimanthi Mutua 6.00	39312 NAIROBI	711645 FAX NO. 573178	573141/8 571511 573169 573236/45/67	Naivasha Rd Riruta Registry@k-repbank.com	25.03.99	1			5
<b>37. MASHREQ BANK P.S.C</b> (Changed to Dubai Bank on March, 2000) (changed name from Bank of Oman w.e.f 1.10.93) General Manager Mr. James Makanga	11129 NAIROBI	22596 FAX (2) 245242	330562-6	I.C.E.A Building Kenyatta avenue  info@dubaibank.kenya.com	11.9.1981	2	-	-	5
<b>38. MIDDLE EAST BANK KENYA LTD.</b> Managing Director Mr. S.S Dinamani	47387 NAIROBI	23132 FAX 336182	335168-72	Exchange Building Kenyatta avenue	15.12.1980	3	-	-	3
<b>39. NATIONAL BANK OF KENYA LTD.</b> (merge with KENYAC effected on 25.05.99) Managing Director - R.M. Marambii	72866 NAIROBI	25743 FAX 0254-2- 330784	226471-8 339690	National Bank Building Harambee Avenue	1.1.1968	22	1	5	1
<b>40. NATIONAL INDUSTRIAL CREDIT BANK LTD.</b> Managing Director Mr. M. N. Davidson	44599 NAIROBI	FAX 718232	718200	N.I.C. House Masaba Road	17.9.1959	3			2
<b>41. PARAMOUNT BANK LTD.</b> To merge with Universal Bank Managing Director Mr. Ayaz Meralli	14001 NAIROBI	FAX 449265	449266-8	Sound Plaza Building Westlands pblbank@africaonline.co.ke	1.10.1992	2			5
<b>42. PRIME BANK LTD.</b> Chief Executive Mr. Vasant K. Shetty	43825 NAIROBI	23224 FAX 334549	211979 214869/70 334312	Kenindia Hse. Loita Street primebank@form-net.com	1.3.92	5	-	-	4



NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
		FAX NO.							
<b>43. SOUTHERN CREDIT BANKING CORP. LTD.</b> Chief Executive Mr. D.A. Shah	66171 NAIROBI	FAX 447441	240647 447077 448145	Southern Shield Complex. 2nd Floor WaiyakiWay Westlands	1.10.80	3			4
<b>44. STANBIC BANK KENYA LIMITED.</b> (changed name from Grindlays Bank w.e.f 1.7.93) General Manager Mr. Peter Lewis - Jones	30550 NAIROBI	25207 22397 FAX 229287 330227	335888	Stanbic Bank Building Kenyatta Ave.	9.5.1970	3	-		2
<b>45. STANDARD CHARTERED BANK (K) LTD.</b> Managing Director L. S. Gibson	30003 NAIROBI	TELEX 22209 214086	330200 331210	Stanbank House Moi Avenue	1.10.1910	28	2	1	1
<b>46. THE DELPHIS BANK LTD.</b> Managing Director Narhari Thaker	56084 NAIROBI	22493 FAX 219469	228461/2 221875 222076	Finance Hse. Koinange St. delphiskenya@connect.co.ke	02.08.91	5	-	-	3
<b>47. TRANS - NATIONAL BANK LTD.</b> Managing Director Mr. Patrick Noble	34353 NAIROBI	TELEX 23231 FAX 339227	224234-6 339201-4 339225 339223	Transnational Plaza Mama Ngina Street tnbl@form-net.com	1.8.1985	6	-	-	4
<b>48. TRUST BANK LTD.</b> Managing Director Mr. Bharatkumar Jani	46342 NAIROBI	25143 FAX 243538	226413-5 216264/7	Trust Forte House Moi Avenue chiefmngrho@trustbnk.com	23.11.1988	5	-	-	2
NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO. FAX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
<b>49. UNIVERSAL BANK LTD.</b> To merge with Paramount Bank General Manager Mr. Pramod Jagtap	46307 NAIROBI	TELEX 22868 FAX 217438	212229 212668 219924	Chester Hse. Koinange Street universalbank@form-net.com	1.7.1992	1			5

NAME OF BANK AND CHIEF EXECUTIVE	P.O. BOX	TELEX NO.	TEL. NO.	PHYSICAL ADDRESS OF HEAD OFFICE	DATE LICENSED	FULL	SUB	AGENCIES	PEER GROUP CODE
		FAX NO.							
50. VICTORIA COMMERCIAL BANK LTD.  General Manager Mr. Yogesh K.Pattni	41114 NAIROBI	TELEX 22471 FAX 220548	225767 228732 228950	Victor Hse. 2nd Floor Kimathi st. user@vicbank.com	1.6.1987	2			3

#### FOOTNOTES

(1) This directory includes Financial Institutions operating in Kenya as at the date of issue.

(2) Peer Group Codes used are as follows:

Group	Description
0	Unrated
1	Assets over Kshs10000 million
2	Assets 5000 - 9999.9 million
3	Assets 3000 - 4999.9 million
4	Assets 1000 - 2999.9 million
5	Assets 0 - 999.9 million

(3) Four banks are under CBK statutory management.