

**RISK GOVERNANCE & CONTROL:  
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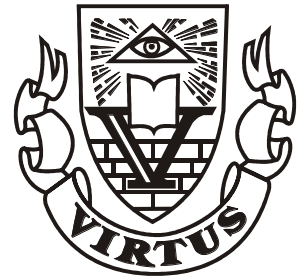
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# RISK GOVERNANCE & CONTROL: Financial markets and institutions

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# **CASH FLOW MANAGEMENT PRACTICES: AN EMPIRICAL STUDY OF SMALL BUSINESSES OPERATING IN THE SOUTH AFRICAN RETAIL SECTOR**

*Augustine Oghenetajiri Aren\*, Athenia Bongani Sibindi\*\**

## **Abstract**

The small, micro and medium business enterprises (SMMEs) sector is universally acclaimed for fostering economic growth in many economies. The health of this sector is largely premised on the observance of prudent financial management tenets, mainly cash flow management. In this study we interrogate the influence of cash flow management practices on the survival or growth of the SMMEs by conducting a survey amongst the SMMEs operating in the retail sector of Pretoria in South Africa. We find evidence that cash flow management is extremely important to the survival of a business, particularly small businesses, and poor cash flow management can also lead to small business failure. We also proffer policy advice as to the remedial actions needed to safeguard this sector.

**Keywords:** Cash Flow, Small Business, Economy, Financial Management, South Africa

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## **1. Introduction**

The significant and dynamic contributions of small businesses to the economy of countries cannot be overestimated. Small businesses are, globally, recognized as the backbone of country economies; instruments for fostering economic growth, entrepreneurship, and resourcefulness. It is estimated that 91% of formal business entities in South Africa are small, micro, and medium enterprises (SMMEs) and that these SMMEs contribute between 52 to 57% to the GDP and provide about 61% to employment (Abor and Quartey, 2010). Despite the notable contributions of small businesses as drivers of economic growth in terms of employment creation, and tremendous GDP contributions, SMMEs globally still face high failure rates with South Africa having one of the highest SMME failure rates in the world. The astonishing and unarguable contribution of SMMEs to the South African economy in terms of job creation, poverty alleviation and eradication, thus makes the issue of the growth and survival of small businesses a particularly exigent matter for academic discussion and study.

“Cash is King” – a widely quoted adage in finance, fundamentally accentuates the importance of cash and good cash flows to any business or organisation. Under the premise that efficient cash flow management processes results in the success of business, the present study sets out to examine cash flow management of SMMEs in the South African retail sector, and recommend ways in which these SMMEs can ensure efficient cash management processes.

A large body of academic literature has been devoted to the concept of cash flow and cash flow management. These include the works of Soenen (1973), Berryman (1983), Drever and Hartcher (2003), Mackevičius and Senkus (2006), Cui, Hastak, and Halpin (2010), Morin and Maux (2011) amongst others. They emphasise and reiterate the importance of good and effective cash flows and cash management for organisations/businesses. Important and relevant as this may be, as proper cash flow management to the growth and survival of a business cannot be over-emphasised, limited research has been conducted to probe the challenges, and difficulties faced by small, micro, and medium enterprises (SMMEs) in sustaining good cash flows and efficient

cash management processes. Research into the small business sector in South Africa has been insufficient and inadequate, and this has hampered the development of the sector (Mbonyane and Ladzani, 2011).

It is estimated that the failure rate of SMMEs in South Africa is between 70% and 80% (Fatoki, 2011). In consonance with this statement, SME South Africa (2012) identified poor inventory and cash flow management among the top ten reasons why small businesses fail. Several reasons are cited for this alarmingly high failure rates among small businesses in South Africa, inter alia, poor cash flow management. The rationale for undertaking this study will thus be to examine the reasons for such outrageous and startling failure rates among SMMEs, primarily giving cognisance to the current cash management processes and pressing cash management needs of retail SMMEs in South Africa. This research effort seeks to unravel the challenges of cash flow management faced by SMMEs in the South African retail sector and recommend ways to improve and ensure healthy cash flows for these businesses. The rest of the paper is organised as follows; a literature review is conducted in the next section, the research methodology is outlined in Section 3, the research findings are discussed in Section 4 and Section 5 concludes.

## **2. Literature Review**

### **2.1 SMMEs: Definitions and categories**

From the review of past research and academic books, it is noted that there is no single, universally accepted definition of the term 'SMEs'. Various research articles and books conducted on the topic of SMMEs, as well as various countries and economic legislations, have differing definitions of SMEs. In reviewing past literature, several definitions of SMEs were provided, as these definitions vary from one country to the other, and what constitutes an SME has been argued differently in different research articles and books written by various research minds.

Other research articles use measures such as the number of employees; annual sales or receivables; net worth, and the relative size of the business within its sector. Given the disparate criteria for defining SMMEs, it is evident that the definition of small businesses differs from country to country, and industry to industry. Businesses considered as SMEs are those with less than 200 employees in the United Kingdom, less than 500 employees in the United States of America, and a maximum of 100 employees for the Organization for Economic Co-operation and Development (OECD) (Anderson, 2011). The Dalberg report on Support to SMEs in Developing Countries (2011) outlines the European Union definition of SMMEs as follows: "The category of micro, small and medium-sized enterprises is made up

of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro."

The National Small Business Act (South Africa) defines a "small business" as a separate and distinct business entity, including cooperative enterprises and non-governmental organizations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub-sector of the economy and which can be classified as a micro-, a very small, a small, or a medium enterprise (SMME). Brand, Du Preez, and Schutte (2007) elucidate that the term 'SMME' is mostly South African-related and includes 'micro' enterprises, as opposed to the more general accepted term 'SME'".

### **2.2 SMMEs in the South African Retail sector**

The retail sector forms a critical element of a community's economic and social welfare and provides people with choices of products and services (Ligthelm, 2008). Small business or Microenterprise activity in retail trade is considered the most prevalent entrepreneurial activity in the informal sector of Africa. In a census of microenterprises conducted, it was found that about 70% of South African micro-businesses are concentrated in the retail sector (Ligthelm, 2006). SMMEs operating in the wholesale and retail trade, repair of motor vehicles, motor Cycles, personal and household goods, and hotels and restaurants, industry, make up 22.9% of the formal sector, and 51.7% of the informal sector of the South African economy (The Department of Trade and Industry, 2008).

The National Small Business Act of 1996 classifies small businesses into four categories: micro, which includes survivalist enterprises; very small; small; and medium (Luiz, 2011). Given the numerous, and sometimes conflicting definitions of SMEs in various research papers and books, and thus in order to simplify the research process, this research effort employs the definition of SMMEs operating in the retail sector, as set forth by the National Small Business Amendment Bill (South Africa) of 2003, as "enterprises which employ fewer than 200 persons, and which have an annual total turnover not exceeding 39 million rand, and/or an annual total gross asset value (fixed property excluded) not exceeding 6 million rand".

### **2.3 The important, but precarious nature of SMMEs**

Globally, the momentous importance and contribution of SMMEs to various national economies cannot be overestimated. SMMEs play a significant role in the contribution to the Gross Domestic Product (GDP) of

the economy as well as in the creation of employment opportunities for the employable workforce. Bruwer (2012) asserts that in South Africa, there are an estimated number of 3,830,511 small medium and micro enterprises (SMMEs) currently in operation. He further postulates that these business entities play a pivotal role in the creation of jobs, the alleviation of poverty and the overall enhancing of the economy. According to Indexmundi (2012), the estimated GDP of South Africa stood at a mammoth \$491.4 billion (R3.149 trillion) in 2004. Of this total GDP, they believe that SMMEs contributed 35% thereof, which translates to \$171.9 billion (R1.102 trillion) (De Jongh, Van der Merwe *et al*, 2012).

To further emphasise the notable contribution of SMMEs to the South African economy, Thwala and Phaladi (2009) in their research study on the problems facing small contractors in the North West province of South Africa, report, estimate that in 1995 the overall contribution to the total GDP was 20.8% for small enterprises, 11.9% for medium enterprises, and 67.3% for large enterprises. As regards contribution to formal employment it was estimated at 29.5% for small enterprises, 15.3% for medium enterprises, and 55.2% for large enterprises. This statement is corroborated by a more recent study conducted by Fatoki (2012) in the area of new SMMEs and their financial management practices in South Africa, which points to the increasing contribution of SMMEs to the South African economy. According to the same study micro, very small and small enterprises contribute between 27-34% of the Gross Domestic Product and 72% of all jobs in South Africa.

Despite the noted contributions of SMEs to the world, and local economy in terms of increase in GDP, poverty alleviation, and job creation, SMEs worldwide, have a precarious nature, and are highly prone to failure. Past Research conducted estimate that 40% of new business ventures fail in their first year, 60% in their second year, and 90% in their first 10 years of existence (Cant, 2012). In South Africa, the number of SME failures in year 5 varies between 50 and 95% and about 75% of new SMEs do not become established firms. This makes the failure rate of SMMEs in South Africa one of the highest in the world (Neneh, 2012)

#### **2.4 Reasons why small businesses fail?**

Van Scheers (2011) avers that a number of challenges have been identified as proffering to the failure of SMEs, not only in South Africa, but also worldwide. A number of research articles have cited several reasons why small businesses fail. Franco and Haase (2009) in reviewing past literature for their study on Failure factors in small and medium-sized enterprises, identified a lack of qualifications and experience possessed by SME founders or managers, as severe constraints on SME's development. Van Scheers (2011) reaches a conclusion in her research study that

a positive correlation exists between marketing skills challenges and business failure in South Africa. Other reasons adduced for SMMEs failure include; Lack of Business management training and skills (Ngwenya, 2012), poor bookkeeping, inexperience in the field of business and the lack of technical knowledge, poor managerial skills, lack of planning, and lack of market research (Okpara, 2011), the lack of institutional support, along with inadequate legislation and excessive regulations (Franco and Haase, 2009), to name but a few. However, in reviewing past and current academic literature on the causes of SMEs failure, one recurring factor which is continuously highlighted as possibly the most important reason why small businesses fail, is that of poor cash flow management. Hatten (2012) in discussing managing cash flow as an important principle of small business management asserts that each business day approximately a dozen U.S small businesses declare bankruptcy. The majority of these business failures are caused by poor cash-flow management.

#### **2.5 Poor cash flow management and SMMEs failure**

Most of the successful small businesses ensure that they maintain a sound cash flow position for the business. Good cash flow management is essential because most of the SMEs that have failed, failed due to poor cash flow management (April, 2005). It is generally acknowledged as the single most pressing concern of most small and medium-sized enterprises (SMEs). These premises accentuate the cardinal influence that proper and effective cash flow management has on the failure or success of a business, particularly SMMEs. Drever and Hartcher (2003) in their research paper exploring the issues relating to cash flow management practices on small businesses in a regional area of Australia, postulate the inevitable link between small business failure and poor or careless financial management. All too often, poor cash management systems have led small business managers to liquidate or reorganize under Chapter 7 or 11 of the Bankruptcy Code, and not just SMMEs, but even large corporations cannot afford to overlook the preeminent value of effective cash management (Harvard Business School, 1998).

#### **2.6 Techniques and methods for managing and/or improving a business' cash flow**

Given the indubitable effect that poor cash flow management can have on businesses, particularly SMMEs, it is imperative that small businesses know how to-, and, manage their cash flows effectively. Different articles and books recognize several techniques and tools for managing cash –

### **2.6.1 Receivables, Payables, and Inventory management (Cash flow cycle)**

Zimmerer *et al.* (2008) in writing about managing cash flow in Small businesses, postulate that the first step in effectively managing cash is to understand the businesses' cash flow cycle- which is the time lag between paying expenses to creditors and receiving payments from customers (debtors). They further assert that for small businesses to lower the possibility of a cash crisis, focus need to be paid on the three primary causes of cash flow problems, namely – Accounts receivable, Accounts payable, and Inventory, which they term “The Big Three of Cash Management”. This assertion is supported by Cui, Hastak, and Halpin (2010) who also postulate that effective cash flow management involves forecasting, planning, monitoring and controlling of cash receipts and payments. Rodriguez (2011) avers that many of the key elements of a sound cash-management system deal with accounts receivable. Since every dollar of accounts receivable equals a dollar of cash invested on the balance sheet, it stands to reason that the quicker those receivables are collected, the more cash is available for additional investments” These findings are supported by Brigham and Daves (2007) who observe that the shorter the cash conversion cycle, the lower the required net working capital, and the higher the resulting free cash flow. An intelligent analysis of customer payment histories and collections processes can significantly improve a company's cash position (Harvard Business School, 1998). It is recommended that businesses find ways to speed up their receivables, while extending their accounts payables period, without destroying their credit ratings. This is the essential of effective working capital management, resulting in higher free cash flows (Brigham and Daves, 2007).

### **2.6.2 Maintaining an Optimal cash balance**

Cash flow problems can force a profitable firm into bankruptcy because the firm is unable to pay its bills. Failure to correctly assess timing and control of cash flows is one of the primary causes of small business bankruptcy (Cheatham, Dunn, and Cheatham, 1989) Cash management is a vital task because cash is the most important, yet the least productive asset that a small business owns (Zimmerer *et al.*, 2008). All businesses require cash to finance their daily transactions. In addition to the transaction motive, businesses need to hold additional cash for unexpected requirements, or for precautionary purposes. The opportunity cost of holding excess cash, however, could be high, especially under high interest rates. A target cash balance that involves a trade-off analysis of covering cash deficiency and avoiding excessive cash balance, thus needs to be established (Cui, *et al.*; 2010). A cash flow forecast, or

budget, is a recommended cash management tool, which can help small businesses predict their business' cash inflows and outflows over a certain period, and also identify potential cash flow gaps- periods when cash outflows exceed cash inflows when combined with the business' cash reserves. Using cash budgets, aging schedules, and float to control the inflow and outflow of cash is paramount for effective cash management (Hatten, 2012). Thus, the cash flow forecast, or budget, as a tool, can be used by small businesses to ensure that it is not overwhelmed by unexpected fluctuations in cash flows.

### **2.6.3 Building and promoting a cash culture**

Van Scheers (2010), in her research study determining the challenges faced by small family groceries shops in South Africa, identified financial problems as a major challenge faced by small grocery shops. She posits- that the granting of consumer credit also presents significant challenges for small businesses. No less than 41.8 % ‘agree’ or ‘strongly agree’ that, bad debts pose a serious problem to their businesses. Cash flow is thus, a fundamental determinant of the survival of small businesses especially; not accounting profit or loss from credit sales; but cash flow. Building a “cash culture”, is thus, one such cash management practice that will ensure that businesses achieve sustainable, long-term improvements in cash management (Koon and Meng, 2012). SMEs, thus need to limit the amount of trade credit granted to customers, especially those with poor credit records, and insist on cash payments for a majority of its' transactions. This ensures the liquidity of small businesses and limits the costs of bad debts incurred.

## **3. Methodology**

### **3.1 Research design**

A qualitative research study was conducted. The specific type of qualitative research design used was a survey research study. Survey research involves acquiring information about one or more groups of people by asking them questions. It can be about their characteristics, opinions, attitudes or experiences.

The population for this study consisted of registered retail SMMEs located within the Pretoria Central and Pretoria East area (specifically Sunnyside, Pretoria CBD, Arcadia, Atterbury, Hatfield, Menlyn, and Brooklyn) of the city of Tshwane in the Gauteng province of South Africa. One of the primary attributes of qualitative research is the small number of participants in the study. The data for this study was collected from 31 SMMEs owners, managers, accountants and sales clerk responsible for the cash management process of their respective businesses

(n=31). The research study primarily made use of the *purposive sampling* and *quota sampling* methods. In qualitative research, the sample is intentionally selected according to the needs of the study, commonly referred to as 'purposive sampling' or 'purposeful selection'. Participants were therefore, chosen from the different categories comprising SMMEs, namely- small-, medium-, and micro-, enterprises, until the target number was met.

### **3.1 Data collection**

The data for this study was collected by means of interviews and questionnaire. Based on the research objective and research questions, an interview schedule and questionnaire was developed to collect data from the research study sample. Interviews were conducted with 25 selected respondents, while six of the selected respondents refused to be involved in the interview process and opted rather to fill out the questionnaire. In the interview process, a series of semi-structured and open-ended questions were asked. During the interview process, the interviewer made notes, and responses were recorded with the aid of a tape recorder, with the explicit knowledge and permission of the respondents, to ensure that their responses could be replayed and transcribed accurately ensuring that main points discussed were not forgotten or misinterpreted. Clarifying questions were asked on some of the responses provided, as well as the explanation of certain terms and concepts to respondents who had difficulties comprehending them. Probing questions not included in the interview schedule were also asked to elicit from respondents, a richer data pertinent to answering the research objectives and secondary questions

The semi-structured questionnaire developed, containing close and open-ended questions was self-administered to different respondents across the disparate retail SMMEs. In accordance with the objective of the research study, the questionnaire was sub-divided into 4 sections. The first section solicited information about respondents' profile. This was done to determine demographic / background information about the respondents. Section B contained questions pertaining to the SMMEs being surveyed such as the location of the business, nature of business, number of employees appointed, etc. Section C, and Section D elicited responses concerning the cash management process of the respondents' SMME and in the opinion of the respondent, based on their knowledge and experience, the relationship between cash management and business failure, respectively.

### **3.2 Responses to Questions**

All questionnaires handed out to respondents were answered and returned. Respondents did not rush through the questions due to time constraints. Respondents who received questionnaires had ample

time (1 – 2 weeks) to think through and provide answers to the questions. Further discussions were held with some respondents to clarify their answers and provide additional information on some of the questions not properly answered or to which the answers provided were not properly understood. The data collection process took place over a period of three weeks.

### **3.3 Data analysis**

Data analysis for this study was done by means of content analysis. Taylor-Powell and Renner (2003) define content analysis as a basic approach for analysing and interpreting qualitative and narrative data. The content analysis of the qualitative data was done by the researcher supported with the aid of the ATLAS.ti 6.0 CAQDAS (Computer-aided qualitative data analysis software). Qualitative analysis software allows researchers to do many things that are difficult or impossible to do by hand (Remler and Van Ryzin, 2011). The data content analysis process was done as suggested by Taylor-Powell and Renner (2003), Zhang and Wildemuth (2009), Andres (2012), Friese (2012), and Maxwell (2013).

The data to the research study, namely the contents of the interviews conducted as recorded with a tape recorder, and the responses to the questionnaire, were prepared and analysed. The recorded interview proceedings were transcribed and coded using the ATLAS.ti data analysis software. The questionnaire responses were carefully analysed and coded by the researcher in line with the research objectives and questions. During the analysis of the transcripts and questionnaires, certain recurring answers, and themes started to form, and these were identified as they stood out amongst other data. These recurring themes from the interview transcripts and the questionnaires were taken note of, coded, and categorized by the researcher with the aid of the CAQDAS software. Certain themes and responses remained consistent and key to the research study. Connections were made between these key categories and themes discovered in the coded data and at this stage these key themes and categories identified that answered the research study objectives and secondary questions, as well as recommendations and information pertinent to the research study were interpreted and noted. This data analysis process is consistent with that proffered by Maxwell (2013) who articulates that the main categorizing strategy in qualitative research is coding and that in doing qualitative research, the goal of coding is not primarily to count things, but to break down the data and reorganize them into categories which facilitate comparison between items in the same category and thus aid in the development of theoretical concepts.

Finally, the findings of the analysis, and results concerning the research study were presented using descriptive statistical analysis, with the aid of

Microsoft Excel 2010, which was used in the organisation and presentation of the data analysis results and findings. The results and findings of the data analysis process were presented in the form of tables, charts, figures, graphs, as well as percentages.

This research effort employed the use of *methodological triangulation*, which is the use of more than one method for gathering research data (Interviews and questionnaires used), and *data triangulation* which involves using different sources of information (SMME owners, managers, accountants, and sales clerk surveyed) in order to increase the validity of a study.

#### 4. Research Findings and Discussion

The questionnaires were dispensed to-, and interviews were sought with-, a total of 31 SMME owners, managers, and accountants/financial officers who took part in the research study. 25 interviews were conducted, and 6 of the participants refused to take part in the interview process and opted to rather fill out the questionnaire instead.

##### 4.2 Brief overview of the Research

The overall objective of this research study was to determine ways and methods SMMEs in the retail sector can improve their cash flow management processes in order to ensure consistent, reliable and healthy cash flows.

In reviewing past and relevant literature on the subject of small businesses, both locally and internationally, the high failure rate of small businesses was noted, especially in South Africa. Several factors responsible for such high failure rates in SMMEs were promulgated. Poor cash flow management inter alia was cited as a major reason why small businesses in South Africa and all over the world, failed (Berryman, 1983, Drever and Hartcher, 2003, Morin and Maux, 2011, Agyei-Mensah, 2012; Cant and Wiid, 2013). This research effort thus sought out to examine the cash management practices of retail SMMEs concentrated in the Pretoria Metropolis of the Gauteng province of South Africa, as well as ascertain the factors that influenced their cash flows. The findings of the research study are subsequently presented.

##### 4.3 Section A. (Demographic and Background information)

This aim of this section was to establish the job titles of staff in charge of the cash management process of the respective SMMEs, and as well as to ascertain the ethnicity and educational background of the respondents.

###### 4.3.1. Job title

Of the 31 respondents, 32.26% were owners, 54.84% managers, 3.23% accountants/financial managers and 9.67% sales clerks. (See Table 1 below)

**Table1.** Job titles of staff responsible for cash flow management

Title of personnel	Size of enterprise			Total (n)	Percentage (%)
	Micro enterprise	Small enterprise	Medium enterprise		
Owner	5	5	0	10	32.26
Manager	3	10	4	17	54.84
Accountant/Financial manager	0	0	1	1	3.23
Other (Sales clerks)	1	2	0	3	9.67
<b>Total</b>	<b>9</b>	<b>17</b>	<b>5</b>	<b>31</b>	<b>100</b>

###### 4.3.2 Ethnicity

Of the 31 respondents, 41.94% were African, 38.71% were Whites, 16.12% were Indians, and 3.23% were

Coloured. This is as depicted in Table 2 and Figure 1 below.

**Table 2.** Ethnicity distribution

Ethnicity	Frequency (n)	Percentage (%)
African	13	41.94
White	12	38.71
Asian	0	0.00
Indian	5	16.12
Coloured	1	3.23
<b>Total</b>	<b>31</b>	<b>100</b>



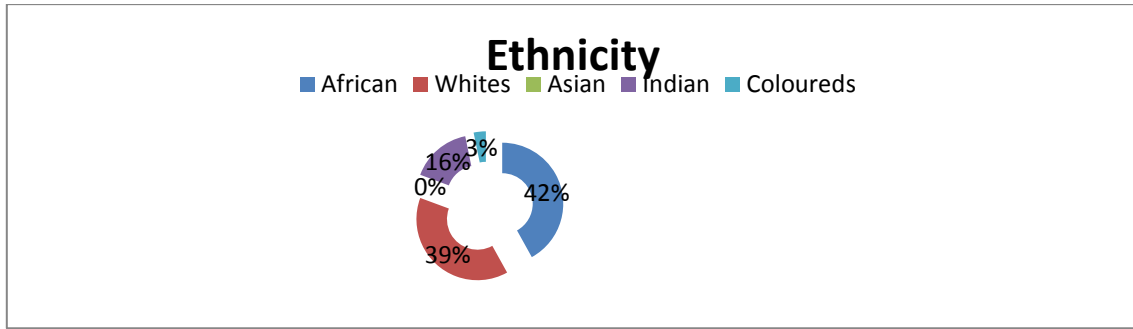


Figure 1. Distribution of Ethnicity

**4.3.3 Educational qualification**

The findings from the research study with regards the educational qualification of respondents is presented in Fig. 2 below. 9.68% of respondents had studied up

to primary level or below, 25.81% had completed their secondary education, 12.90% had technical/vocational training, and 51.62% had tertiary qualifications and above.

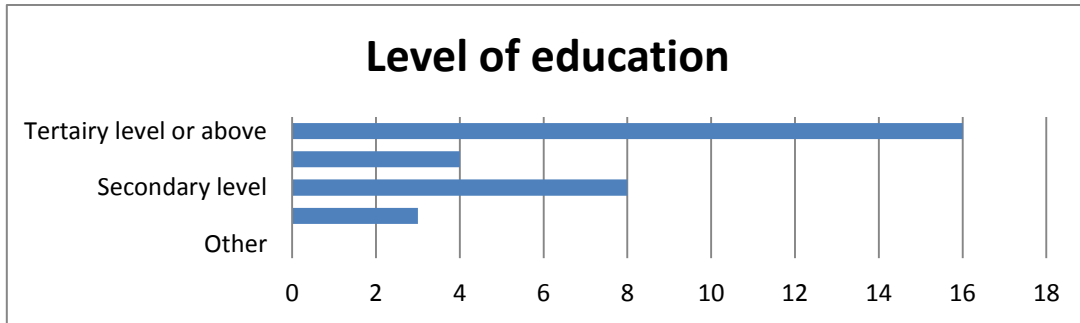


Figure 2. Educational qualification

**4.4 Section B (Information about respondent SMMEs)**

Section B solicited responses about the nature of the respondents SMMEs. Questions asked included the classification categories of the respondent SMME, the nature of business the SMME was involved in [these preceding questions were to ensure that SMMEs surveyed, complied with the definition of retail SMMEs as defined by the National Small Business

Amendment Bill (South Africa, 2003), the area the business was located, and the number of years it had been in existence.

**4.4.1 Classification category of SMME**

Of the 31 SMMEs surveyed, 9 (29.03%) were micro enterprises, 17 (54.84%) were small enterprises, and (5) 16.13% were medium enterprises (Refer to Fig.3 below).

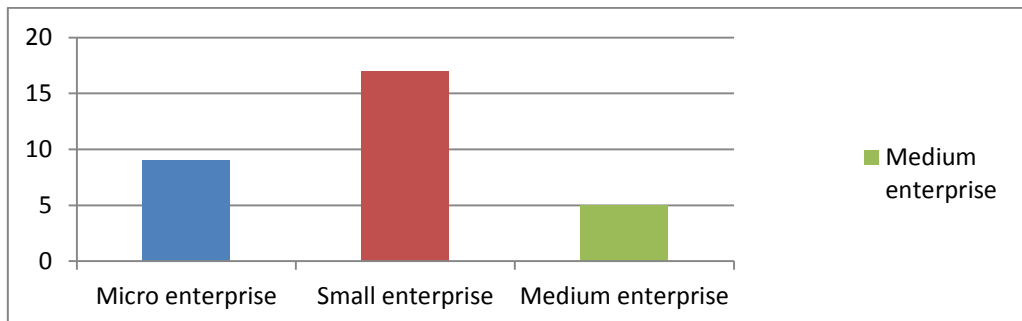


Figure 3. SMME distribution

Majority of the respondent SMMEs were reluctant to disclose their annual turnover, which is one of the metrics used by the National Small

Business Amendment Bill (South Africa, 2003) in defining small retail businesses. Therefore, the respondent SMMEs were classified according to the

number of employees they employed. Retail SMMEs employing less than 5 employees were classified as “micro enterprises”, less than or equal to 50 employees (i.e.  $5 \leq 50$ ), were classified as “small enterprises”, and enterprises employing between 50 and 200 employees (i.e.  $50 \leq 200$ ) were classified as “medium-sized” (National Small Business Amendment Bill, South Africa, 2003). This metric was used in conjunction with the Companies and Intellectual Property Registration Office (CIPRO) website where the information provided by respondents such as the category of the business, number of years since existence, nature of business conducted, was cross-checked against the CIPRO registration database to ensure validity and reliability of the data collected.

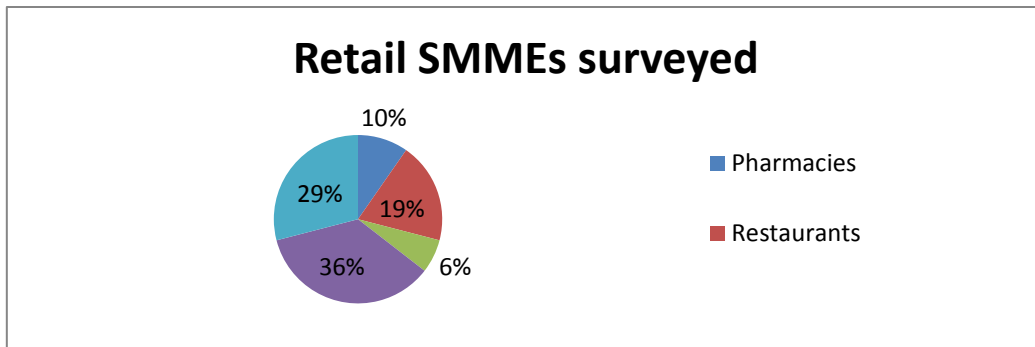
**4.4.2 Location**

The population for this study consisted of registered retail SMMEs located in the city of Pretoria in the Gauteng province of South Africa. The sample comprised of 31 SMMEs who are operating from

Pretoria. Of the SMMEs who participated in the research study, eight were from Brooklyn, three from Menlyn, six from Hatfield, and four from Atterbury. The remaining 10 SMMEs were surveyed from the Pretoria central metropolis- two from Sunnyside, four from Arcadia, and four from the Pretoria CBD area.

**4.4.3 Nature of business SMMEs are engaged in**

9.68% of businesses surveyed were retail pharmacies, 19.35% were restaurants, 6.45% were bookshops, 35.49% were retail clothing, handbags, and shoe wear shops, and the remaining 29.03% comprised of shops that retailed general household items, gifts and other consumables such as- household furniture and arts, kitchen utensils, leisure goods (wine, coffee, etc.), gadgets (security and travel), apple products (iPads, iPhones, iPods and apple accessories) baby toys, perfumes, and a meat and vegetable shop which sold convenience products like bread, milk, and included a bakery and a butchery. This is outlined as in Fig. 4 below.



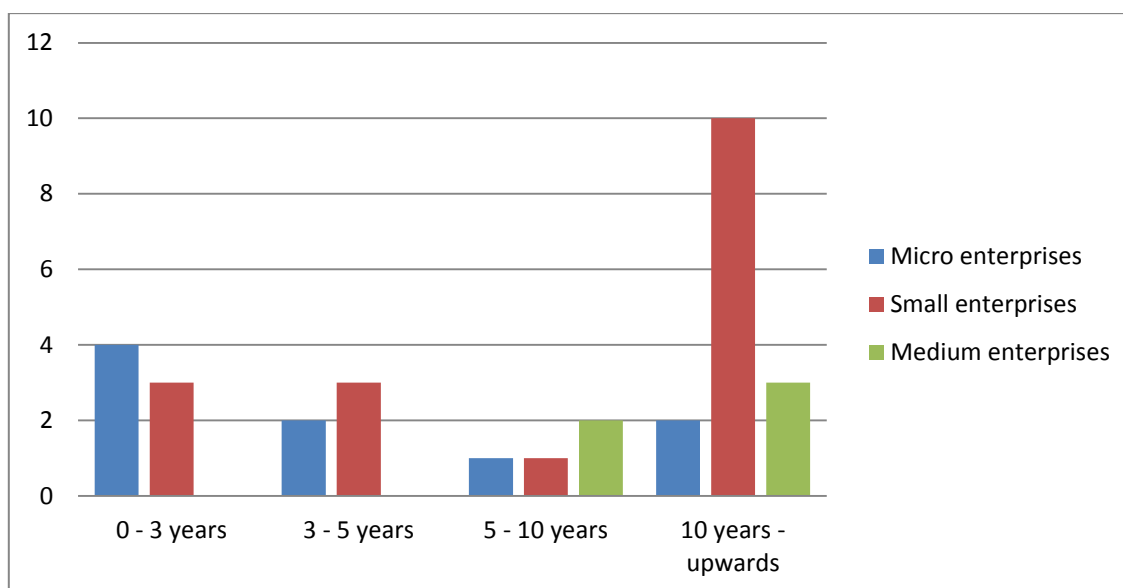
**Figure 4.** Types of retail SMMEs surveyed

**4.4.4 The number of years respondent SMMEs have been in business**

Past research conducted estimate that 40% of new business ventures fail in their first year, 60% in their second year, and 90% in their first 10 years of existence (Cant, 2012). In South Africa, the number of SME failures in year 5 varies between 50 and 95% and about 75% of new SMEs do not become established firms. This makes the failure rate of SMMEs in South Africa one of the highest in the world (Neneh, 2012). This question was aimed at

determining the number of years, the retail SMMEs surveyed had been in existence.

22.58% of SMMEs had been open for 0 to 3 years, 16.13% had been open for 3 to 5 years, 12.90% for 5 to 10 years, and an amazing 48.39% of retail SMMEs surveyed had been in business for 10 years upwards (Refer to Fig.5 below). Two retail SMMEs surveyed- a retail shop in Arcadia selling men’s clothing and shoes, has been open for 95 years, while the second retail shop located in the Atterbury value mart shopping mall, which specializes in retail travel and corporate bags, has been open since 1887.



**Figure 5.** Distribution of years among SMMEs

Of the 15 SMMEs that have been in existence for 10 years - upwards, 66.67% of these are small enterprises, 20% are medium enterprises, and the remaining 13.33% are micro businesses. 4 retail SMMEs report to being in business for 5 - 10 years. Of these, 50% are medium enterprises, and the remaining 50% are micro-, and small businesses, making up 25% respectively. The remaining 12 retail SMMEs report to have been in business for 5 years or less. Micro enterprises make up 50% of this number, and small enterprises make up the remaining 50%.

In the interview process, 2 retail SMMEs disclosed that their business had failed previously. The manager of a small restaurant located in Brooklyn, indicated that a second branch of the business was opened in a different location but it failed within its 1st year. The second SMME, a bookshop situated in Pretoria CBD (a micro business), revealed that his business failed initially within 6 months of it opening.

**4.5 Section C (Cash management practices of SMMEs)**

**Table 3.** Question of whether the SMME has formal cash management processes or not

	Size of enterprise	Size of enterprise	Size of enterprise	Total (n)
Response	Micro	Small	Medium	
Yes	4	16	5	25
No	5	1	0	6
<b>Total</b>	<b>9</b>	<b>17</b>	<b>5</b>	<b>31</b>

25 of the 31 SMMEs surveyed, responded to having formal and in-depth cash management processes/techniques, while 6 retail businesses had no formal processes for managing their cash flow. 94.12% of small businesses, and 100% of medium-sized retail businesses, had formal processes for managing their cash flows, while only 44.44% of micro retail businesses attested to having such processes.

Of the 25 SMMEs that affirmed they had formal cash management processes for managing their cash flows, 11 SMMEs described their cash management process as basic, 7 SMMEs described their cash management process as “not basic but somewhat limited”. Only 7 SMMEs attested to having comprehensive cash management processes. The 7 SMMEs that revealed they employ comprehensive cash management processes in managing their cash

flows, comprised of the 5 medium-sized businesses surveyed in the study, and 2 small businesses; one pharmaceutical retail store, and one restaurant. The study revealed that no micro enterprise surveyed had comprehensive cash management processes for managing their cash flows.

The most used cash management techniques by SMMEs was the cash float. 96.77% of retail SMMEs used this technique. One medium firm however, didn’t use this technique. The least most used cash management technique was the accounts receivables. This was corroborated by the same result when retail SMMEs were asked if they offered goods on credit. 77.42% of retail SMMEs did not use accounts receivables and did not offer goods on credit. 5 out of the 7 retail SMMEs that did credit sales were medium enterprises. The analysis of the questionnaires and interviews revealed that micro-,

and small businesses shy away from offering goods on account or credit (Refer to Table 4 below).

**Table 4.** Common cash management techniques

Techniques	YES	NO	NOT FAMILIAR	Total (n)	Percentage (%)	
					YES	NO
<b>Accounts receivable</b>	7	24	0	31	22.58	77.42
<b>Accounts payable</b>	17	14	0	31	54.84	45.16
<b>Cash Budgets</b>	22	9	0	31	70.97	29.03
<b>Cash float</b>	30	1	0	31	96.77	3.23
<b>Credit sales</b>	7	24	0	31	22.58	77.42
<b>Cash flow cycle</b>	11	20	(20)*	31	35.48	64.52
<b>Stock/Inventory management</b>	29	2	0	31	93.55	6.45
<b>Cash culture</b>	27	4	0	31	87.10	12.90
<b>Process for recording cash</b>	29	2	0	31	93.55	6.45

Another technique not used by retail SMMEs surveyed was the cash flow cycle. 64.52% of SMMEs were not familiar with the cash management technique. They had either not heard about it or did not employ it in their business. In explaining what a cash flow cycle was, and how it had to do with accounts payables, receivables, and inventory management, the term “working capital management” was brought up. 87.10% of retail SMMEs surveyed didn’t know what it was or what it meant. When asked if they had cash reserves for their business (working capital), only 10 of the 31 SMMEs disclosed to having working capital that the business was run with.

These findings are in consonant with those of Agyei-Mensah (2012) who found that only 3% of responding SMEs always have shortage of cash for spending while 60% always or sometimes have a surplus of cash. Nevertheless, only about 27% of SMEs deposit cash surplus into bank accounts, while up to 63% did not know how to use the temporary cash surplus for profitable purposes. This finding reveals that cash surplus rather than cash shortage is a problem for these SMMEs.

#### 4.5.1 POS and security systems

Of the 31 SMMEs surveyed, 64.52% had Point-of-sale (POS) till systems they used in their business transactions. Majority of small-, and medium retail enterprises used POS till systems complete with touch screens, bar code scanners, pin pad machines for credit and debit card payments, cash registers, and software programs such as Quickbooks, Micros,

Titan, Integrity, ProPharm for Pharmacies, and Orderwise. These point-of-sale systems recorded sales, kept debtor and creditor records, did stock control; what stock was leftover, and what had been sold; helped in dispensing medication for pharmacies, helped in simplifying the ordering of stock, and payroll system amongst other benefits. 4 out the 31 SMMEs had sensormatic security systems, which are Electronic Article Surveillance (EAS) and Radio-Frequency identification (RFID) technology systems to prevent shoplifting. The remaining 35.48% comprised of all the micro SMMEs surveyed and a few small businesses. These retail businesses still operated a manual cash management system ranging from the use of manual invoice books, not accepting debit and credit cards, to the basics of just receiving cash payments, writing cash received in a notebook and handing the cash over to the store owner at the end of business day instead of banking in the business’ account.

Despite the low percentage of retail SMMEs surveyed that do not use computerised systems, when asked whether or not POS systems if used by retail SMMEs would increase the survival rate of small businesses in the retail sector of South Africa, 93.55% of the retail SMMEs responded in the affirmative. The remaining 6.45% replied to the contrary. These findings are in line with that of McChlery, Meechan, and Godfrey (2004) who establish the use of computerised accounting systems as prominent catalyst in promoting efficient financial management in SMMEs.

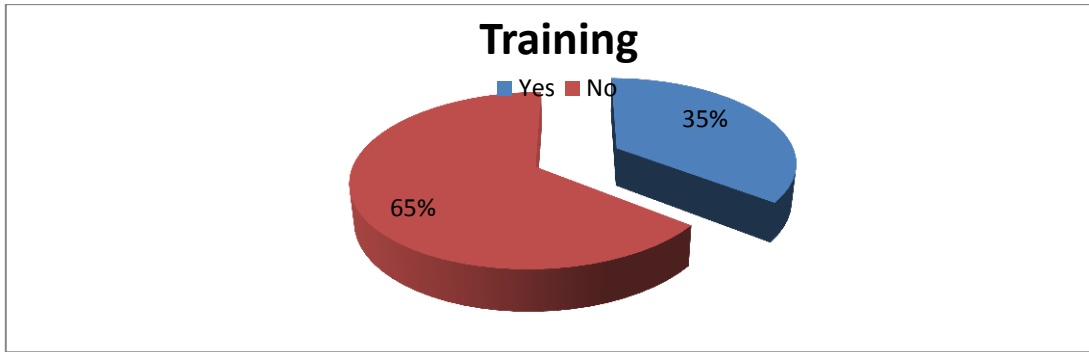


Figure 6. Training distribution

20 out of the 31 retail SMME respondents attested to having received no formal training to equip them for their role in cash management in the business (Fig.6 above). When asked if education or training could help small business owners run their businesses and manage their cash flows more effectively, 90.32% of respondents replied in the affirmative. However, when asked between education

versus experience, which played a more important role in small business success and survival, 67.74% of respondents chose experience, 12.90% chose education, and the remaining 19.36% responded that both education and experience were equally important for small business owners/managers (See Fig.7 below).

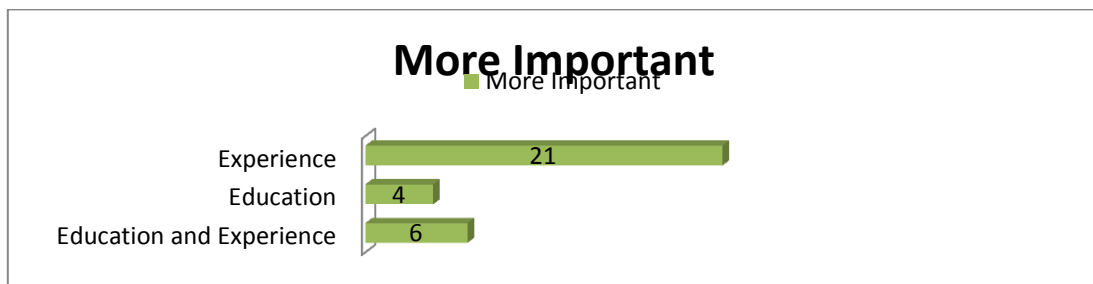


Figure 7. Education versus experience

**4.6 Section D (Cash flow management and small business failure)**

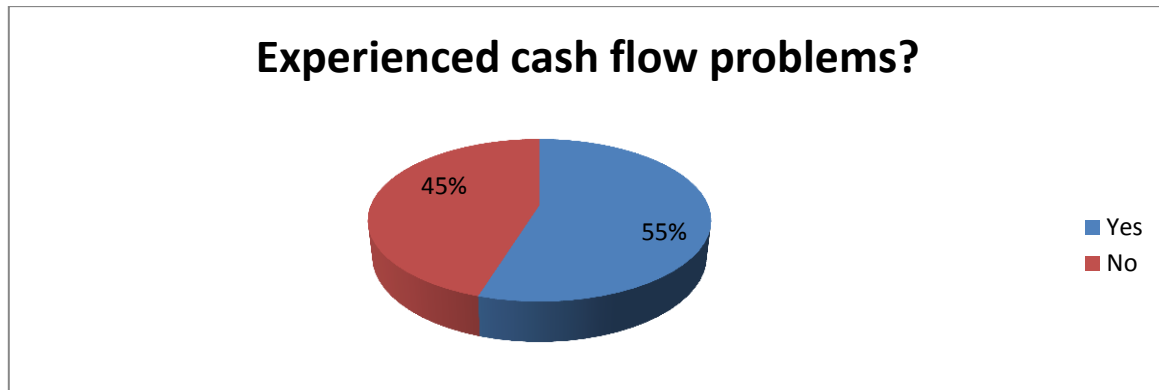
This section was to determine if respondents considered proper cash management as an important factor to the survival and success of a business, especially small businesses.

Table 5. 'Poor cash flow management can lead to small business failure'

Extent	Frequency (n)	Percentage (%)
Strongly agree	27	87.10
Agree	4	12.90
<b>Total</b>	<b>31</b>	<b>100</b>

In line with the above assertion, when asked if their business had experienced any cash flow problems since inception, 17 of the 31 retail SMMEs surveyed replied to the affirmative, while the remaining 14 SMMEs said they hadn't experienced any cash flow problems till date (See Fig.8. below). These findings are in line with research done in the field of small businesses and go a long way in corroborating Okpara (2011) who adduces those management problems, including accounting, finance, personnel, and management issues, as a major cause

of business failure for small businesses. Most small business managers claim that cash management is their leading concern. Small business managers face different cash management challenges than their counterparts in larger companies. Compared to larger firms, small businesses often have under-staffed and under-trained accounting staffs, volatile cash flows dependent on a single product line, limited access to new capital, and a significant share of their net worth tied up in working capital (Harvard Business School, 1998).



**Figure 8.** SMMEs and cash flow problems

A further inquiry into problems, difficulties, and/or challenges experienced by retail SMME owners/managers, revealed several macro- and micro-environmental variables which negatively affected retail SMMEs. It can be deduced from the analysis of the data that cash flow problems were not the only difficulties experienced by small retail businesses. One recurrent problem majority of respondents complained about was excessive rental. One retail business owner situated in Pretoria CBD commented:

Another recurrent problem cited by majority of respondent retail owners was the issue of theft. These difficulties/challenges experienced by SMMEs operating in the retail sector in the Gauteng province of South Africa are summarised and as follows:

- Excessive rental prices
- Theft (Employee theft and shop-lifting)
- Seasonal sales leading to inconsistent cash flows
- Mismanagement of cash float and stock by employees leading to damages and loss of stock
- Over-ordering of stock, abysmal inventory control, budgeting and working capital management
- Bad debts from credit customers
- Competition from larger enterprises
- Inadequate location
- Unfavourable government regulations i.e. taxation, pricing structure
- Labour issues i.e. staff issues, remuneration issues

## 5. Conclusion

The aim of the present study was to examine the influence of good cash flow management practices on the survival and/or growth of the SMMEs operating in the metropolis of Pretoria. The motivation behind the study derived from previous studies published in the subject area of financial management on SMMEs that conjecture that small business failure can inevitably be related to poor or careless financial management (See for example Berryman, 1983 and Harvard Business School, 1998). We find strong evidence (87.10% of retail SMMEs surveyed strongly agreed) that cash flow management is extremely important to

the survival of a business, particularly small businesses, and poor cash flow management can lead to small business failure. These findings thus adduce to the fact that cash flow is the life blood of all businesses and is the primary indicator of business health. By improving their existing cash management techniques such as cash budgets, cash floats, inventory control, cash flow cycle, and incorporating new and proven cash management techniques such as working capital management, POS systems, using cash reserves etc., small and medium retail businesses can improve their cash flows and ensure their business' liquidity.

It is also important to note that cash flow management is not the only factor that impacts on the survival of small businesses, (Franco and Haase, 2009; Van Scheers, 2011; Ngwenya, 2012; Seeletse, 2012; Cant and Wiid, 2013). Several other factors mentioned by respondents, that impact on small business survival, include-location, proper training for owners/managers, qualified staff, quality product offering, proper knowledge of product and target market, excellent customer relations and service, discipline, perseverance, and hard work.

We also wish to proffer policy advice to the newly created ministry dedicated to SMMEs in South Africa. Firstly there is a need to create an enabling environment to ensure the success of the SMES. There is a dire need for the entrepreneurs, especially the small ones to be trained in financial management, and procurement practises amongst others. Secondly there is a need to make available credit to the SMMEs at concessionary rates to help finance their working capital requirements.

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# **ANALYSING THE FINANCIAL NEEDS ADDRESSED BY SOUTH AFRICAN CONSUMERS WHEN USING CREDIT PRODUCTS**

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## **Abstract**

Individuals in South African are experiencing increasing financial stressed due to the deterioration in the economy and restrictions imposed by the National Credit Act, No. 43 of 2005. The paper investigates the financial needs addressed by users of credit products. Human needs are firstly classified according to Alderfer's ERG theory. Hereafter financial needs which individuals addressed when using credit products were analysed. The results indicate that consumers are also using credit products to address other financial needs than that for which the products were developed for. This could be partly due to the limitation in accessing appropriate credit products due to the requirements imposed by the credit legislation.

**Keywords:** South Africa, Credit Product, Alderfer's ERG Theory

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## **1. Introduction**

Recently there has been an increasing number of reports indicating growth in the financial stress of South African households and individuals (South African Reserve Bank, 2013; MBD Credit Solutions and Unisa Bureau of Market Research, 2013; Momentum and Unisa Bureau of Market Research, 2012). This trend is also evident from the household debt figure published by the South African Reserve Bank, which grew to R1 494 billion at the end of December 2012 compared to only R697 billion in 2005 (South African Reserve Bank, 2013). Although the household is an important contributor to economic growth, an increase in consumption expenditure and debt without a similar increase in income will have negative long term effects such as over-indebtedness, a decline in saving or bankruptcy and blacklisting of individuals (National Credit Regulator, 2012; Barba and Pivetti, 2009). Understanding credit usage behaviour of household members within the household will assist financial regulators in developing credit policies to prevent a financial crisis developing and providing an enabling environment within which credit products can be provided which meet the financial needs of individuals. Although some research has been done on the use of financial products by South Africans as well as reasons for

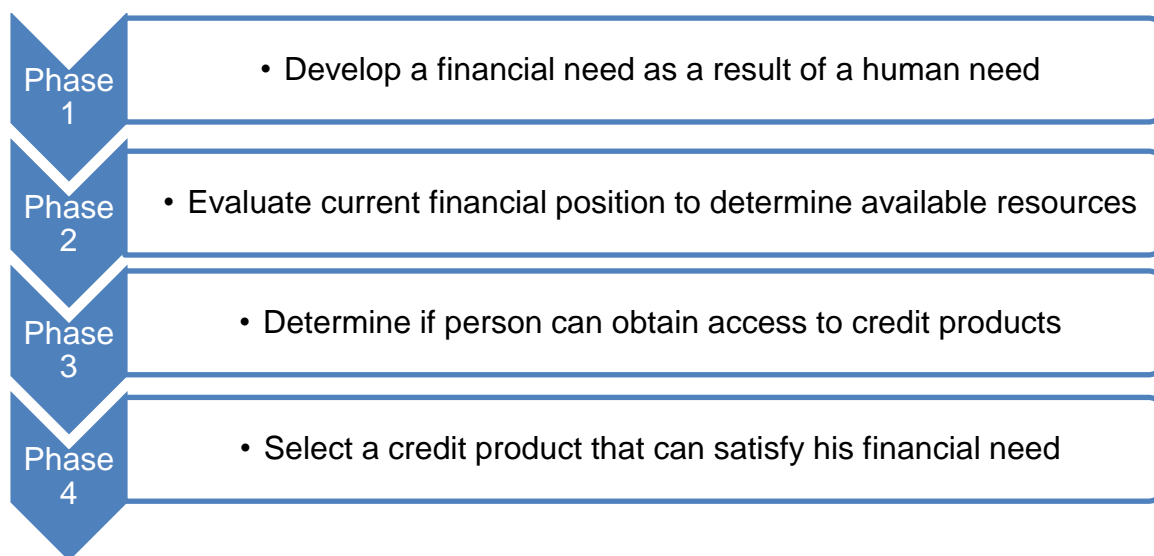
using credit (South African Audience Research Foundation (SAARF), 2014; FinMark Trust, 2013) this study is the first to investigate which credit products are used when fulfilling different types of financial needs. In this paper the following research question will be investigated: "Do South Africans use credit products to fulfil financial needs as intended?"

The research method applied in the paper consists of two phases. During the first phase a critical literature review is conducted to describe financial needs with reference to the process of selecting credit products to fulfil these needs. In the second phase of the research a quantitative research approach was adopted. The findings are presented to determine whether individuals use appropriate credit products to satisfy specific financial needs.

## **2. The Process of Selecting Credit Products**

The motives for using credit can be found in human needs (Goodall, Rossini, Botha and Geach, 2012). If credit is used to satisfy human needs and wants it is because the individual does not have sufficient resources to satisfy his needs immediately. The process of selecting a credit product to satisfy a specific need can be described by the credit products selection process (refer to figure 1).

Figure 1. Credit products selection process



The first phase of the credit product selection process is driven by the individuals in a household's human needs (Goodall *et al*, 2012; Maslow, 1943). In his theory of human motivation Maslow (1943) was the first to develop a framework describing human needs. In his theory he combined both emotional and physical needs to describe human behaviour. Maslow (1943) identified five different levels of needs. The first level refers to physiological needs, followed by safety and security needs, love and belonging needs, esteem needs and finally self-actualization needs. Through the decades various authors investigating the human needs and wants confirmed the work done by Maslow, for example Oleson (2004) and Seeley (1992). Although Maslow's theory of human motivation provided a sound theoretical framework it did pose some application problems; many of these were resolved by Alderfer when he developed his ERG theory (Alderfer, 1969).

Alderfer combined Maslow's five levels of needs into three levels, namely existence needs, relatedness needs and growth needs. Existence needs consist of material and physiological needs which include primary needs such as the need to eat and drink, to be clothed, to be safe and sheltered as well as the need for physical love and affection (Alderfer, 1969; Ball, 2012). Relatedness needs consist of secondary needs which involve the feeling of being recognised and secure and forming part of significant relationships with others such as family and friends, colleagues and employers (Alderfer, 1969). Examples of relatedness needs include entertainment needs, family and friends needs or communication needs. Growth needs are secondary needs related to the desire to develop oneself to become better (Alderfer, 1969). Growth needs, for example, include educational needs or the need to own one's own business. In order to satisfy these needs individuals normally have to make use of some service or buy

some goods. This results in a financial need, as the individual has to determine how he will pay for the need.

The second phase in the credit products selection process entails considering the individual's financial position. If an individual possesses enough assets (savings) such as cash in the bank or investment accounts, the individual can withdraw cash from his assets to fulfil his financial needs (Barba and Pivetti, 2009; Goodall *et al*, 2012). Individuals, who do not possess the necessary cash resources and do not want to wait to satisfy the needs, often use credit to satisfy their needs (Barba and Pivetti, 2009; Mashigo, 2006; Botha, du Preez, Geach, Goodall and Rossini, 2011). To this end certain credit products are specifically tailored to satisfy certain types of needs.

If the individual decides to use credit, he is confronted with the third phase in the process, namely determining if he can obtain access to credit. Previous studies identified that factors such as access to credit and demographic characteristics such as life stages, income, race, gender, and employment status, have an influence on the individual's decision whether or not to use credit (Finscope, 2010; Tippett, 2010; Schooley and Worden, 2010; Brown, Garino and Taylor, 2008; Thums, Newman and Xiao, 2008; Lee, Lown and Sharpe, 2007; Venter and Stedall, 2010; Yilmazer and DeVaney, 2005;).

If the individual has access to credit products the final phase in the process is to determine which product to use. Although the majority of credit products in South Africa was developed to satisfy specific needs the financial stress or over-indebtedness of households could result in individuals using financial products to satisfy needs other than those originally intended. The next section of the paper will investigate the characteristics of credit products to identify the financial needs that should be addressed by the credit product.

### 3. Financial Needs Satisfied By Credit Products

South Africa has a highly developed financial system (International Monetary Fund, 2008). Despite the existence of numerous credit products, financial institutions are constantly developing new credit products to meet customer needs. To facilitate an analysis of the large number of credit products available, some with similar characteristics but different names, various organisations developed classification frameworks.

The South African Reserve Bank classifies debt, according to the System of National Accounts (SNA), as long term products (credit repayable over a period of more than 12 months) or short term products (products that should be repaid within one year) (United Nations Statistical Commission, 2009). The National Credit Regulator classifies credit products as secured or unsecured credit products (products for which no pledge or personal security is provided)

(South Africa, 2006: Regulation 39(3)). Finscope (which conducts annual banking and financial surveys) classifies credit products as informal products (obtained from non-regulated financial institutions) or formal products (obtained from banks or regulated non-banking financial institutions) (Finscope, 2010). Similarly the System of National Accounts, the International Accounting Standards Board, classifies credit products as non-current liabilities (long term) or current (short term) credit products (International Financial Reporting Standards, 2010). By using these classifications credit products can be classified in different groups as formal or informal products, secured or unsecured products, or long and short term products.

In this paper credit products with similar characteristics have been grouped together for analysis purposes. Table 1 provides the main credit product groups as well as a list of the types of products included in the group.

**Table 1.** Credit product groups

Main credit product groups	Credit products in each main group
<b>Group 1</b> Informal unsecured short term loans	<ul style="list-style-type: none"> <li>• Friends, family or colleagues</li> <li>• Loans from spaza shops</li> </ul>
<b>Group 2</b> Informal secured long term loans	<ul style="list-style-type: none"> <li>• Payday loans</li> <li>• Loans from pawnbrokers</li> </ul>
<b>Group 3</b> Informal unsecured long or short term loans	<ul style="list-style-type: none"> <li>• Loans from a mashonisa</li> <li>• Loans from societies</li> </ul>
<b>Group 4</b> Formal unsecured short term loans	<ul style="list-style-type: none"> <li>• Micro-loans</li> <li>• Store cards and garage cards</li> <li>• Credit cards</li> <li>• Overdraft facilities</li> <li>• Emergency loans</li> </ul>
<b>Group 5</b> Formal unsecured long term loans	<ul style="list-style-type: none"> <li>• Store loans</li> <li>• Personal loans</li> <li>• Educational loans</li> </ul>
<b>Group 6</b> Formal secured long term loans	<ul style="list-style-type: none"> <li>• Loans against policies</li> <li>• Instalments or lease agreements</li> <li>• Property mortgage loans</li> </ul>

The characteristics of the credit products within each main credit product group indicate the purpose of the individual products for example a short term credit product is often used to satisfy a short term financial need normally associated with short term existence needs.

Applying Alderfer's ERG theory to the characteristics of the products in each of the groups the expected need(s) that should be addressed by each of the groups can be identified:

- Informal unsecured short term loans are mainly used to satisfy existence needs as they consist of loans obtained from friends, family or colleagues and spaza shops which are all used to fulfil primary needs. Loans from family, friends or colleagues are usually used to satisfy food, transport, electricity or medical needs (Finscope, 2010). Similarly loans from spaza shops are also used to buy small household

items (Spaza News, 2012). This group is therefore classified as satisfy existence needs.

- Informal secured long term loans are mainly used to fulfil existence needs in terms of Alderfer's ERG theory. This loan group consists of payday loans which are mainly used to satisfy primary needs and in most cases loans from pawnbrokers are also used to fulfil primary needs. This group can therefore be classified to fulfil existence needs in terms of Alderfer's ERG theory.

- Informal unsecured long or short term loans are often used to satisfy all three levels of needs in Alderfer's ERG theory as both loans from mashonisias and loans from societies are used to fulfil several needs, for example needs related to emergencies, home improvements, education, business expenses or repayment of debt (Micro Finance South Africa, 2012; Finscope, 2010). This group is therefore

classified as used to satisfy all three levels in Alderfer's ERG theory.

- Formal unsecured short term loans mainly include products which are used to satisfy primary needs. For example, credit cards are often used to pay for food and garage cards to pay for transport expenses (Goodall *et al* 2012; Standard Bank, 2012a). This credit product group is therefore used to satisfy existence needs in terms of Alderfer's ERG theory.

- Formal unsecured long term loans are used to satisfy different types of needs. The loans in this group are used at the user's own discretion as the need arises and therefore do not relate to one specific need (Goodall, *et al* 2012). This group is therefore

classified as satisfying all three levels of needs in Alderfer's ERG theory.

- Formal secured long term loans include property mortgage loans and instalment and lease agreements which are usually used to satisfy long term primary needs such as housing and transportation (Investec, 2012; Standard Bank, 2012b). This credit product group is therefore classified to fulfil existence needs in Alderfer's ERG theory.

A summary of the classification of the main credit product groups according to Alderfer's ERG theory is presented in table 2.

**Table 2.** Main credit product groups classified according to Alderfer's ERG theory

Main credit product group	Classification according to Alderfer's ERG theory
<b>Group 1</b> Informal unsecured short term loans	Existence needs
<b>Group 2</b> Informal secured long term loans	Existence needs
<b>Group 3</b> Informal unsecured long or short term loans	Existence needs Relatedness needs Growth needs
<b>Group 4</b> Formal unsecured short term loans	Existence needs
<b>Group 5</b> Formal unsecured long term loans	Existence needs Relatedness needs Growth needs
<b>Group 6</b> Formal secured long term loans	Existence needs

The objective of this paper is to compare the actual needs that are being addressed by the credit products used by individuals to the needs they were

developed for. The reasons provided by respondents were classified as existence, relatedness or growth needs; refer to table 3 below.

**Table 3.** A framework of financial needs

Alderfer's ERG theory	Different needs for each category of Alderfer's ERG theory
Existence needs	Food Utilities (water) Clothes Shelter (house) Transportation (including buying a motor vehicle) Utilities (electricity) Medical insurance Life insurance Disability insurance Funeral expenses Emergencies Personal care (beauty or barbershop, cosmetics) Household furnishings
Relatedness needs	Utilities (telephone, television, internet) Entertainment (movies, hobbies, sports club) Family and friends Contributions (gifts, school, church) Accessories (designer jewellery, shoes, handbags)
Growth needs	Education Going on vacations

(Source: Xiao and Noring, 1994; Garman and Fogue, 2010)

#### 4. Methodology

To answer the research question of this study, the latest data available for academic purposes which were obtained in the Finscope 2010 survey were used. The survey was performed nationwide by performing face-to-face interviews using a semi-structured questionnaire. The data in the survey was collected by 278 trained interviewers interviewing 3 900 randomly selected respondents of 16 years and older. Regional supervisors quality checked the responses

received from respondents before the data was scanned and exported into an electronic format. The coding of data was performed by a panel of experts. Applicable ethical standards were followed during the collection and analysis of data. Table 4 provides an overview of the profile of respondents that participated in the survey, as well as respondents that indicated that they are currently using or had in the past made use of debt.

**Table 4.** Demographics profile of respondents of sample

Demographic variable*	Total sample N	Debt users N	Debt users distribution **
Sample	3 900	1 729	
<b>Age ***</b>			
16 – 17	135	20	1.16%
18 – 29	1 195	444	25.81%
30 – 44	1 270	632	36.75%
45 – 59	776	402	23.37%
60+	511	222	12.91%
<b>Marital status</b>			
Married civil/religious	1 026	578	33.45%
Married traditional/ customary	308	158	9.14%
Living together	262	125	7.23%
Single/never married	1 727	614	35.53%
Widower/widow	380	158	9.15%
Separated	92	42	2.43%
Divorced	104	53	3.07%
<b>Province</b>			
Eastern Cape	499	217	12.55%
Free State	372	132	7.63%
Gauteng	636	354	20.48%
KwaZulu-Natal	624	295	17.06%
Limpopo	292	92	5.32%
Mpumalanga	336	95	5.50%
Northern Cape	259	123	7.11%
North West	327	114	6.59%
Western Cape	555	307	17.76%
<b>Monthly personal income</b>			
No income	561	155	11.19%
Irregular monthly income	426	148	10.69%
R1 – R999	531	204	14.73%
R1 000 – R1 999	684	269	19.42%
R2 000 – R3 999	314	161	11.62%
R4 000 – R6 999	283	157	11.34%
R7 000 – R9 999	187	117	8.45%
R10 000 – R14 499	123	88	6.35%
R14 500 – R19 499	57	32	2.31%
R19 500+	67	54	3.9%

\* Excluding refusals/uncertainties

\*\* % calculated based on the number of credit users

\*\*\* Continuous variable categorized for reporting purposes

Of the 3 900 respondents, 1 729 respondents indicated that they had used credit products in the past or were currently using credit products. Table 5 presents the number of each credit products used by

respondents. It should be noted that most respondents used more than one credit product, with 18 using 7 or more different credit products.

**Table 5.** Credit products used when fulfilling needs

Credit products used to fulfil needs	Number of times the credit product was used
<b>Informal unsecured short term loans</b>	<b>1 217</b>
Friends, family or colleagues	1 083
Loans from spaza shops	134
<b>Informal secured long term loans</b>	<b>141</b>
Payday loans	130
Loans from pawnbrokers	11
<b>Informal unsecured long or short term loans</b>	<b>245</b>
Loans from a mashonisa	125
Loans from societies	120
<b>Formal unsecured short term loans</b>	<b>556</b>
Credit card	398
Garage card	158
<b>Formal unsecured long term loans</b>	<b>530</b>
Personal loans	478
Store loans	52
<b>Formal secured long term loans</b>	<b>745</b>
Instalment or lease agreements	376
Property mortgage loans	369

## 5. Results and Findings

Respondents were required to indicate which credit products they used to fulfil certain types of needs. Table 6 indicates the needs satisfied by each of the

credit products used by respondents. The needs for which each product is used are provided according to Alderfer's ERG theory.

**Table 6.** Needs satisfied per credit product group

Credit product group and type	Existence needs	Related-ness needs	Growth needs	Total
<b>Informal unsecured short term loans</b>	<b>70%</b>	<b>15%</b>	<b>15%</b>	<b>100%</b>
Friends, family and colleagues	69%	15%	16%	100%
Loans from spaza shops	78%	11%	10%	100%
<b>Informal secured long term loans</b>	<b>65%</b>	<b>14%</b>	<b>21%</b>	<b>100%</b>
Payday loans	64%	14%	22%	100%
Loans from pawnbrokers	70%	15%	15%	100%
<b>Informal unsecured long or short term loans</b>	<b>59%</b>	<b>19%</b>	<b>22%</b>	<b>100%</b>
Loans from mashonisa	64%	17%	19%	100%
Loans from societies	53%	21%	26%	100%
<b>Formal unsecured short term loans</b>	<b>67%</b>	<b>17%</b>	<b>16%</b>	<b>100%</b>
Credit cards	60%	21%	19%	100%
Garage cards	83%	9%	8%	100%
<b>Formal unsecured long term loans</b>	<b>49%</b>	<b>21%</b>	<b>30%</b>	<b>100%</b>
Store loans	60%	21%	19%	100%
Personal loans	48%	21%	31%	100%
<b>Formal secured long term loans</b>	<b>88%</b>	<b>6%</b>	<b>6%</b>	<b>100%</b>
Instalment or lease agreements	90%	5%	5%	100%
Property mortgage loans	86%	7%	7%	100%

As can be seen in table 6 credit products are used to satisfy the three levels of needs in Alderfer's ERG theory. The analysis reveals that credit products are mostly used to fulfil existence needs confirming other research indicating that individuals do not possess enough cash resources to fulfil their basic needs (South African Reserve Bank, 2013). To get an understanding of whether individuals are using the credit products to satisfy the needs they were developed for, the needs satisfied by each product

group were analysed based on the framework of financial needs (table 3).

- **Informal unsecured short term loans**

In line with the expectation, informal unsecured short term loans are mainly used to fulfil existence needs. Although both credit products in the group have similar characteristics and are mainly used to satisfy existence needs, some credit usage differences exist. For example, loans from spaza shops are used to fulfil more existence needs and less growth needs

when compared to loans from friends, family and colleagues. When analysing the difference in credit usage between the credit products in the group it is clear that the majority of credit of loans from spaza shops is used to satisfy food and grocery needs whilst loans from family, friends and colleagues is used to satisfy more types of needs. Other differences between the two credit products include a lower credit usage to pay for existing debt and a higher credit usage to satisfy personal and transport needs when using loans from friends, family and colleagues compared to loans from spaza shops.

- ***Informal secured long term loans***

Consistent with the expectation, informal secured long term loans are mainly used for the fulfilment of existence needs. However, the types of credit usage among the products in the group differ from each other in that the credit usage to fulfil existence needs is higher when using loans from pawnbrokers and lower when satisfying growth needs compared to payday loans. One of the reasons for the difference in credit usage is that payday loans are used to fulfil more types of needs across Alderfer's three levels of needs. Loans from pawnbrokers are mainly used to satisfy personal and food and grocery needs. Although these needs are also fulfilled when using payday loans, a smaller portion of credit is used as more credit is used to pay for existing debt and educational needs when compared to loans from pawnbrokers.

- ***Informal unsecured long or short term loans***

The credit usage spread of informal unsecured long or short term loans differs from most other credit product groups. The expectation exists that this credit product group is used to fulfil all three levels of needs in Alderfer's ERG theory. Although products in this group are mainly used to fulfil existence needs, the credit usage to fulfil the other levels of needs seems higher than the credit usage in most other credit product groups.

When analysing credit usage among the products within the group, less credit from loans from societies is used to fulfil existence needs with a slightly higher credit usage when satisfying relatedness and growth needs. Although credit used from loans from mashonisas and societies fulfil needs similarly, respondents use loans from mashonisas to satisfy more food and grocery and electricity needs which explains the higher credit usage for gratification of existence needs. A higher percentage of personal needs is fulfilled by loans from societies with some differences in gratification of business expense needs, educational needs and family and friends needs, therefore explaining the higher credit usage when fulfilling needs in the relatedness and growth needs levels.

- ***Formal unsecured short term loans***

Consistent with expectations, formal unsecured short term loans are mostly used to fulfil existence

needs with a smaller percentage used to satisfy the other levels of needs. When analysing the credit usage of the products in this group it is clear that a different credit usage pattern exists between the products. Credit from garage cards is mainly used to fulfil existence needs while credit usage from credit cards is used to fulfil all three levels of needs. In line with the product's intended use, garage cards are mainly used to satisfy transport needs thereby explaining the higher gratification of existence needs. Credit usage from credit cards is more widely spread to satisfy different types of needs, especially personal needs, to buy goods and to pay for existing debt. Interestingly, less than a tenth of credit is used to fulfil food and grocery needs when using credit cards, explaining the lower gratification of existence needs.

- ***Formal unsecured long term loans***

The expectation exists that formal unsecured long term loans should be used to fulfil all three levels of needs in Alderfer's ERG theory. When compared to other credit product groups, formal unsecured long term loans have a very different credit usage allocation. Even though most credit is used to satisfy existence needs, a higher percentage of credit is used to satisfy the other two need levels. This is in line with the expectation that credit in this credit product group should be spread across all three levels. Notable credit usage differences exist when comparing the two credit products in the group. Store loans have a much higher credit usage when fulfilling existence needs with a lower gratification of growth needs compared to personal loans. Personal loans have a bigger credit usage spread across the different levels which is consistent with the expectation that loans in this group should be used to fulfil all the need levels. When analysing the needs satisfied by each credit product, it is clear that products are used to satisfy needs differently. Store loans are mainly used to satisfy personal and clothing needs, to pay for existing debt and to purchase goods. Personal loans are mainly used to satisfy personal needs while a small percentage of credit is also used to satisfy housing needs, to pay for existing debt and to satisfy educational and transport needs.

- ***Formal secured long term loans***

The credit usage pattern of formal unsecured long term loans differs extensively when compared to other credit product groups. This credit product group consists of instalment or lease agreements and property mortgage loans and therefore it is expected that loans in this credit product group should be used to satisfy existence needs, especially housing and transport needs. Consistent with the expectation, respondents indicated that they mainly use this credit product group to fulfil existence needs. This group also has the highest credit usage to satisfy existence needs compared to the other credit product groups. Credit products in this group satisfy Alderfer's levels of needs very similarly. In line with each product's intended use, the majority of credit from instalment or

lease agreements is used to fulfil transport needs while the majority of credit from property mortgage loans is used to fulfil housing needs. The needs satisfied by each product are long term needs and therefore it is expected that long term credit products should be used to satisfy these types of needs.

### Concluding Remarks

In this study the human needs that are satisfied through the use of different credit product groups have been investigated. Although most credit products are developed to address specific financial needs of customers, the findings indicate that some products are used for their intended purposes but several individuals also use them for other purposes. The reasons for using products for needs other than those for which they are intended can be due to other factors. For example, long term loans generally have a lower interest rate than short term loans, resulting in individuals being able to borrow more with the same repayment. The effect of change in legislation due to the introduction of the National Credit Act, resulted in some individuals finding it more difficult to obtain access to certain credit products which results in products which they could get access to being used to satisfy needs. Respondents indicated that most credit products were used to fulfil existence needs. This confirms that South Africans struggle to satisfy their basic needs, possibly due to the high poverty and unemployment levels. This finding confirms previous research that found that South African households were experiencing financial strain resulting in them using whatever credit they could get access to, in order to satisfy the financial needs they had.

To obtain a further understanding of credit product usage, research should be done to indicate which credit product groups are mainly used when satisfying a certain type of need.

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# THE SINGLE INDEX MODEL & THE CONSTRUCTION OF OPTIMAL PORTFOLIO: A CASE OF BANKS LISTED ON NSE INDIA

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## Abstract

Risk and return plays an important role in making any investment decisions. Decisions that range from 'Should the investment be done?' and if yes, then 'which security should comprise portfolio?' In the present study 10 companies listed at National Stock Exchange (NSE) and CNX Bank Price Index was selected taking Jan 2009 to Dec 2013 as period of study. The monthly closing prices of the selected securities were used for the above mentioned period. Application of Single Index Model for the empirical analysis identified a portfolio of two companies based on the cut-off point.

**Keywords:** Risk & Return, Efficient Portfolio, Sharpe Index Model, CNX Bank, Cutoff Point

**JEL Classification:** G11, G21

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## 1. Introduction

Portfolio is a bundle of or a combination of individual assets or securities and the portfolio theory provides normative approach. It is based on the assumption that investors are *risk-averse*. This implies that investors hold well diversified portfolios instead of investing their entire wealth in a single or few assets. Investors who are risk-averse reject investment portfolios that are fair games or worse. Risk-averse investors are willing to consider only risk-free or speculative prospects with positive risk premiums. A rational investor is a person that desires to maximize their return with less risk on his investment in a portfolio. This means that the needs to construct an efficient portfolio minimum risk for a given expected return. This can be achieved with the help of single index (beta) model proposed by Sharpe.

### Markowitz Portfolio Theory

In the early 1950s, the investment community talked about risk, but there was no specific measure for the term. *Risk means uncertainty of future outcomes*. To measure risk or to avoid risk investor had to quantify their risk variable by building a basic portfolio model. The basic portfolio model was developed by Harry Markowitz (1952, 1959), who derived the expected

rate of return. Markowitz showed that the variance of the rate of return was a meaningful measure of portfolio risk under reasonable set of assumptions, and he derived the formula for computing the variance of a portfolio as variance is a measure of risk. The Markowitz model is based on several assumptions regarding investor behavior. (1) Investor considers each investment alternative as being represented by a probability distribution of expected returns over some holding period. (2) Investors maximize one-period expected utility, and their utility curves demonstrate diminishing marginal utility of wealth. (3) Investors estimate the risk of the portfolio on the basis of the variability of expected return. (4) Investors base decisions solely on expected return and risk, so their utility curves are a function of expected return and the expected variance of returns only. (5) For a given level of risk, investor prefers higher returns to lower returns. Under these assumptions, a single asset or portfolio of assets is considered to be efficient if no other asset or portfolio offers higher expected return with the same

### The Sharpe Index Model

Varian (1993) succinctly reviewed the history of modern portfolio theory as Markowitz's ground breaking research on portfolio optimization in his

quest he finds out that implementation of Markowitz model is much more time-consuming and more complex by the number of estimates required. Markowitz model suffers from two drawbacks [see, Bodie, Kane, Marcus, Mohanty (2009)].

- First, the model requires huge number of estimates to fill the covariance matrix.

- Second, the model does not provide any guidelines to the forecasting of the security risk premiums that are essential to construct the efficient frontier of risky assets.

Identification of these discrepancies, with an attempt develop simple index model for portfolio. William Sharpe's effort towards to simplify the Markowitz model resulted in developing a single index model which substantially reduces its data and computational requirements [see, Sharpe (1963)]. The simplified model assumed that the fluctuations in the value of stock relative to other stocks do not depend on the characteristics of those two securities alone. Relationship between securities occurs only through their individual relationships with some indexes of business activity. The reduction in the number of covariance estimates made the job of security analysis and portfolio- analysis computation somewhat easy. Thus the covariance data requirement reduces from  $(N^2 - N)/2$  under the Markowitz technique to only  $N$  measures of each security as it relates to the index. To find out proper covariance between securities Smith (1969) uses economic indexes such as gross national product and the consumer price index. The Sharpe technique requires  $3N + 2$  separate bits of information, as opposed to the Markowitz requirement of  $[N(N + 3)]/2$ .

The purpose of this paper is to construct the optimum portfolio by using single index model on Indian stock market (i.e. National Stock Exchange, Mumbai) and assuming a case where short selling is not allowed.

## 2. Literature Review

Markowitz (1952 and 1959) performed the pioneer work on portfolio analysis. The major assumption of the Markowitz's approach to portfolio analysis is that investors are basically risk-averse. This means that investors must be given higher returns in order to accept higher risk. Markowitz then developed a model of portfolio analysis. Markowitz (1952) and Tobin (1958) showed that it was possible to identify the composition of an optimal portfolio of risky securities, given forecasts of future returns and an appropriate covariance matrix of share returns. Sharpe (1963) attempted to simplify the process of data input, data tabulation, and reaching a solution. He also developed a simplified variant of the Markowitz model that reduces data and computational requirements. William Sharpe (1964) has given model known as Sharpe Single Index Model which laid down some steps that are required for construction of

optimal portfolios. Elton and Gruber (1981), and Elton, Grube and Padberg [1976, 1977A, 1978A, 1978B, 1979] have established simple criteria for optimal portfolio selection using a variety of models, such as single index, multi-index, and constant correlation models. These models are used to provide solution to portfolio problems by disallowing short sales of risky securities in portfolios and this can be done by using simple ranking procedures. Elton, Grube, Padberg (1977B) have also extended their analysis using a constant correlation model, as well as a single index model, to incorporate upper limits on investment in individual securities. Haugen (1993) stated that Index models can handle large population of stocks. They serve as simplified alternatives to the full-covariance approach to portfolio optimization. Although the Single Index Model offers a simple formula for portfolio risk, it also makes an assumption about the process generating security returns. According to Terol et al. (2006) Markowitz model is a conventional model proposed to solve the portfolio selection problems by assuming that the situation of stock markets in the future can be characterized by the past asset data. In addition, Bricc & Kerstens (2009) stated that Markowitz model contributes in geometric mean optimization advocated for long term investments. On the other hand, the Simple Index Model is no longer good approximations to multi period. As seen by Frankfurter et al. (1976) according to this study, under conditions of certainty, the Markowitz and Simple Index Model approaches will arrive at the same decision set in the experiment. These results demonstrate that under conditions of uncertainty, Simple Index Model approach is advantageous over the Markowitz approach. It was found that variation in performance is explained in terms of the two essential differences in the models. First, fewer and different estimators are used in the Simple Index Model to summarize past history. Second, the linear assumption of the Simple Index Model does not necessarily hold. They finally found that in experiments, the Simple Index Model process performs worse than Markowitz process, and gives superior results when only short data histories are available. Omet (1995) argued that the two models are similar. Simple Index Model can be used, which is more practical than the Markowitz model in generating ASE efficient frontier. Dutt (1998) used Sharpe single index model in order to optimize a portfolio of 31 companies from BSE (Bombay Stock Exchange). Nanda, Mahanty, and Tiwari (2012) selected stocks from the clusters to build a portfolio, minimizing portfolio risk and compare the returns with that of the benchmark index i.e. Sensex. Saravanan and Natarajan (2012) used Sharpe single index model in order to construct an optimal portfolio of 4 companies from NSE (National Stock Exchange of India) and used NSE NIFTY as market index. Meenakshi and Sarita (2012) stated that Sharpe's single index model is of great importance and the

framework of Sharpe's single index model for optimal portfolio construction is very simple and useful.

### 3. Research Methodology

#### I. THE SINGLE INDEX MODEL

The risk return model suggested by Sharpe is:

$$R_i = \alpha_i + \beta_i I + e_i \quad (1)$$

Where:

$R_i$  = expected return on security  $i$

$\alpha_i$  = intercept of a straight line or alpha coefficient

$\beta_i$  = slope of straight line or beta coefficient

$I$  = expected return on index (market)

$e_i$  = error term with the mean of zero and a standard deviation which is a constant

**A. Return:** The daily return on each of the selected stocks is calculated with the following formula.

$$R_{it} = \frac{P_{it}}{P_{it-1}} - 1$$

Where  $P_t$ ,  $P_{t-1}$  are the share price at time  $t$  and  $t-1$  for security  $i$ .

$R_{it}$  = Return on security 'i' at time 't'.

$t$  = price of security at time "t"

$t-1$  = price of security a year earlier or when portfolio was constructed if it's only a year old.

#### B. Standard Deviation:

The second phase in the context of testing of Sharpe's model for selection of appropriate securities in portfolio is used, the average returns of individual returns or portfolio are adjusted to that of risk free return (here 7.8 percent is considered as risk free rate based on the portfolio on 91-day Government of India treasury bills at the time of conducting a study). Therefore to estimate the coefficients with risk free adjusted average return on individual / portfolio and on market risk, the following model is used. The selection of any stock is directly related to its excess return - beta ratio:

$$\text{Excess return} = \frac{R_i - R_f}{\beta_i}$$

$R_i$  = the expected return on stock  $i$ ;  $R_f$  = the return on a riskless asset and  $\beta_i$  = the expected change in the rate of return on stock  $i$  associated with one unit change in the market return.

The excess return is the difference between the expected return on the stock and the riskless rate of interest such as the rate offered on the government security or Treasury bill. The excess return to beta ratio measures the additional return on a security (excess of the riskless assets return) per unit of systemic risk or non-diversifiable risk. This ratio provides a relationship between potential risk and reward.

#### C. Optimum Portfolio when Short Sales are Not Allowed

Ranking of the stocks is done on the basis of their excess return to beta. Portfolio managers would

like to include stocks with higher ratios. The selection of the stocks depends on a unique cut-off rate such that all stocks with higher ratios of  $(R_i - R_f) / \beta_i$  are included and the stocks with lower ratios are left out. The cutoff point is denoted by  $C^*$ .

$$C^* = \frac{\sigma_m^2 \sum_{i=1}^i \frac{(R_i - R_f)\beta_i}{\sigma_{ei}^2}}{1 + \sigma_m^2 \sum_{i=1}^i \frac{\beta_i^2}{\sigma_{ei}^2}} \quad (2)$$

Where:

$\sigma_m^2$  = variance in the market index.

$\sigma_{ei}^2$  = variance of a stock's movement that is not associated with the movement of the market index; this is the stock's unsystemic risk.

Assuming that the short sales is not allowed and unlimited lending and borrowing can take place at risk free rate of return ( $R_f$ ), the optimum amount of investment in security would be given by

$$X_i = \frac{Z_i}{\sum_{j \in K} K_{zi}} \times 100 \quad \text{For all } Z_i > 0 \quad (3)$$

Where:

$K$  is the set of securities in the optimal portfolio

$$Z_i = \frac{\beta_i}{\sigma_{ei}^2} \left[ \frac{\bar{R}_j - R_f}{\beta_i} - C \right] \quad (4)$$

#### II. DATA

Here in this study daily data have not been used for analysis purpose reason for this are being mentioned below:

a. Non normality: The daily stock return for an individual security exhibits substantial departures from normality that are not observed with monthly data. The evidence generally suggests that distributions of daily returns are fat-tailed relative to a normal distribution [Fama (1976)].

b. Variance estimation: The first issue is the time-series properties of daily data. As a consequence of non-synchronous trading, daily excess returns can exhibit serial dependence. Attempts to incorporate such dependence into variance estimates have appeared in the event study literature [see, Ruback (1982)]. The second issue is stationarity of daily variances. There is evidence that the variance of stock returns increases for the days immediately around events such as earnings announcements [see, Beaver (1968), Patell and Wolfson (1979)].

The monthly closing price of stocks listed on National Stock Exchange (NSE) and monthly closing index value of CNX BANK INDEX have been used for construction of optimal portfolio applying Sharpe's Single Index Model. The closing prices were collected for a period of five year starting from January 2009 and ending at December 2013. This study takes 9 banks listed on NSE. Selection is done on the basis of market capitalization. This study has used secondary data and for risk free securities 91 days T-Bill has been used as a proxy for risk free rate and sourced from Reserve Bank of India. Company's names are mentioned below in table 1.

**Table 1.** List of Companies

Company's Name
1. ICICI Bank Ltd
2. HDFC Bank Ltd
3. State Bank of India
4. Axis Bank Ltd
5. Kotak Mahindra Bank Ltd
6. IndusInd Bank Ltd.
7. Bank of Baroda
8. Yes Bank Ltd
9. Punjab National Bank
10. Federal Bank Ltd

Source: National Stock Exchange

**Overview of CNX BANK:**

The CNX Bank Index is an index comprised of the most liquid and large capitalized Indian Banking stocks. It provides investors and market

intermediaries with a benchmark that captures the capital market performance of the Indian banks. The Index has 12 stocks from the banking sector, NSE.

**Statistics of CNX BANK:**

**Table 2.** Statistics of CNX Bank

	Quarter To Date	Year To Date	1 Year	5 Year	Since Inception
Returns	11.92	11.91	12.15	25.24	19.55

Source: National Stock Exchange

	1 Year	5 Year	Since Inception
Standard Deviation	30.52	28.63	32.55
Beta (Nifty)	1.47	1.22	1.05
Correlation	0.87	0.89	0.82

Source: National Stock Exchange

**Fundamentals**

Profit Earning Ratio	Price to Book Ratio	Dividends
14.3	2.24	1.4

Source: National Stock Exchange

**4. Result and Discussion:**

Firstly the securities are ranked according to their excess return to beta ratio from highest to lowest. Among 9 companies 5 companies offer less return than risk free rate. The cut-off value has been calculated in order to find out optimum C\*. The

highest value thus achieved is considered as the optimum C\*. From table 3 it can be seen that out of 10 banks 2 banks are having excess return and their values are more than cut-off value. Here, the cut-off value is 0.438 see table 4.

**Table 3.** Optimal Portfolios

Optimal Portfolio ( $R_f = 7.8$ per cent)						
Bank	Rank	Mean Return ( $\bar{R}_i$ )	$(R_i - R_f)$	Beta	Unsystematic Risk	Excess Return
Federation Bank	1	30.156	22.356	0.933	0.5785	23.96
Yes Bank	2	8.62	0.82	1.332	0.2368	0.61
ICICI Bank	3	7.907	0.107	1.221	0.1144	0.087
Axis Bank	4	7.88	0.08	1.217	0.3168	0.065
PNB	5	7.141	-0.659	1.101	0.371	-0.598
SBI	6	6.405	-1.395	0.988	0.2132	-1.411
BOB	7	6.04	-1.76	0.934	0.363	-1.884
Kotak Mahindra Bank	8	5.668	-2.132	0.877	0.44	-2.431
HDFC Bank	9	4.309	-3.491	0.664	0.134	-5.257
IndusInd Bank	10	-8.49	-16.29	0.728	0.544	-22.38

Sources: Author own calculation

From the above table 3 it can be seen that on the basis of excess return ranks are given to different

companies. There are 10 securities in the table 3. They are already ranked. Ranking is done on the basis

of excess return. Selecting a security in an optimal portfolio it is necessary to compare excess return. It can be seen from the table that out of 10 securities returns on 4 securities are positive & other 6 securities have negative excess return. Here the excess return is largest for Federation bank and least for HDFC bank Ltd. further from among mentioned securities only four securities shows beta value are above 1 and rest are less than it.

It can be seen from table 4 that cutoff point is 0.438, two companies i.e. Federal Bank Ltd. & Yes Bank Ltd. shows C\* more than that of cutoff point. Other companies i.e. 8 companies cutoff point is lower than that of required. All the companies whose C\* is greater than that of cutoff point can be included in the portfolio.

**Table 4.** Determining the Optimal Portfolio (From January, 2009 to December, 2013)

Banks	Rank	$\frac{R_i - R_f}{\beta_i}$	$(R_i - R_f) - R_f$	$\beta_i$	$\frac{(R_i - R_f)\beta_i}{\sigma_{ei}^2}$	$\sigma_{ei}^2$	$\frac{\beta_i^2}{\sigma_{ei}^2}$	$\sum_{i=1}^i \frac{(R_i - R_f)\beta_i}{\sigma_{ei}^2}$	$\sigma_m^2$	$C_i$
Federal Bank	1	23.96	22.35	0.933	36.05	0.57	1.50	36.05557	0.008	0.300
Yes Bank	2	0.61	0.82	1.332	4.61	0.23	7.49	40.66807	0.008	0.385
ICICI Bank	3	0.087	0.10	1.221	1.14	0.11	13.03	41.81009	0.008	0.438*
Axis Bank	4	0.06	0.08	1.217	0.30	0.31	4.67	42.11741	0.008	0.374
PNB	5	-0.59	-0.65	1.101	-1.95	0.37	3.26	40.16173	0.008	0.347
SBI	6	-1.41	-1.39	0.988	-6.46	0.21	4.57	33.69709	0.008	0.306
BOB	7	-1.88	-1.76	0.934	-4.52	0.36	2.40	29.16861	0.008	0.252
Kotak Mahindra Bank	8	-2.43	-2.13	0.877	-4.24	0.44	1.74	24.91915	0.008	0.213
HDFC Bank	9	-5.25	-3.49	0.664	-17.2987	0.134	3.29	7.62046	0.008	0.087
IndusInd Bank	10	-22.38	-16.29	0.728	-21.80	0.544	0.974	-14.179	0.008	-0.105

Source: author own calculations

**Table 5.** Determining the Weights for an Optimal Portfolio

Bank	Rank	$\beta_i$	$\sigma_{ei}^2$	$\frac{\beta_i}{\sigma_{ei}^2}$	$\frac{R_i - R_f}{\beta_i}$	$\frac{\beta_i}{\sigma_{ei}^2} \left[ \frac{\bar{R}_j - R_f}{\beta_i} - C^* \right]$	$\frac{Z_i}{\sum_{j \in k} Z_j} \times 100$
Federal Bank	1	0.933	0.57	1.61	23.96	37.917	97.51
Yes Bank	2	1.332	0.23	5.62	0.61	0.967	2.49

Source: author own calculations

Table 5 explains the results of analysis. The optimal portfolio, under assumption that short sales is not allowed, consists of two securities, namely Federal Bank Ltd, and Yes bank Ltd. The total investment needs to be shall in proportion of 97.51 percent and 02.49 percent in Federal Ban ltd. and Yes Bank Ltd. respectively. All the securities which have excess return to beta ratio greater than that of cut-off point are included in the portfolio. Such portfolio is the optimum portfolio and the securities included in the portfolio are the efficient securities. The study that follows 10 stocks needs 32 numbers of inputs as against 65 numbers of inputs for Markowitz Model. So, it can be stated that implementation of Markowitz model is much more time-consuming and more complex. And the framework of Sharpe's single index

model for optimal portfolio construction is very simple and useful.

**Conclusion**

This study aims at analyzing the opportunity that are available for investors as per as returns are concerned and the investment of risk thereof while investing in equity of firms listed in the national stock exchange. Sharpe's single-index model was applied by using the monthly closing prices of 10 companies listed in NSE and CNX BANK price index for the period from January 2009 to December 2013. From the empirical analysis it can be concluded that out of 10 companies 2 companies are selected for investment purpose.

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# **DIGITAL FORENSIC TECHNOLOGIES AS E-FRAUD RISK MITIGATION TOOLS IN THE BANKING INDUSTRY: EVIDENCE FROM ZIMBABWE**

*Shewangu Dzomira\**

## **Abstract**

The paper investigates digital analytical tools and technologies used in electronic fraud prevention and detection, used in the banking industry. The paper is based on a descriptive study which studied digital forensics and cyber fraud phenomenon using content analysis. To obtain the data questionnaires and interviews were administered to the selected informants from 22 banks. Convenience and judgemental sampling techniques were used. It was found out that fraud detection and prevention tools and technologies would be most effective way of combating e-fraud if they can be utilized. It is concluded that banking institutions should reshape their anti-fraud strategies to be effective by considering fraud detection efforts using advanced analytics and related tools, software and application to get more efficient oversight.

**Keywords:** Digital Forensics, Data Analysis, Analytical Tools, Cyber Fraud, Cross- Channel Fraud

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## **1. Introduction**

It is an endless game of “cat and mouse” between banks and cybercriminals. There is a virtual arms race taking place online between financial institutions and cybercriminals who as soon as the bank deploys a new process or technology to prevent online fraud, they find a weakness to exploit (ACI, 2013). Cyber banking has recently become a necessity rather than a “superfluity” service across the banking industry. As a result recent developments have shown that most of brick and mortar banks are evolving themselves by shifting their focus towards up gradation of their own e-banking capabilities (Kesharwani & Radhakrishna, 2013).

According to Bhasin (2013), Sherlock Holmes is considered to be the first forensic accountant (Kahan, 2004), the term coined by Peloubet in 1946 (Joshi, 2003). Kautilya, from India was the first economist to openly recognise the need of a forensic accountant after mentioning the famous forty ways of embezzlement during the ancient times. In the Egyptian times, 3300-3500BC, commercial transactions were recorded on clay tablets, which would be sealed and if later found to be tampered with, investigations would take place (Nurse, 2002), cited Bhasin (2013). He adds that any discovered employee crime attracted punishment of a fine, mutilation or death in some cases.

Today, the challenge of combating fraud directed against a business is increased by the

diversity and deceptive nature of workplace fraud and a company may realize too late that it has been victimized (KPMG, 2006). Bailard et al. (2013) observe that fraudsters, hackers and cybercriminals are improving their methods for account takeover and compromised identities that target bank’s customers and employees. The growth of complexity and access to technology has made susceptibility to ‘hi-tech’ crime which is a threat to businesses in the financial domain where the risk is very high (KPMG, 2012). Also, cybercrime is on the rise; large-scale fraud attacks, consumer data breaches and politically motivated Distributed Denial of Service (DDoS) attacks on financial institutions are costing them billions of dollars annually (41<sup>ST</sup> Parameters, 2013).

According to Raghavan & Parthiban (2014), Information Communication Technology (ICT) has brought unintended consequences in form of different cybercrimes which have affected different industries and the banking sector is one of them which have witnessed debit/card fraud, phishing, funds transfer, account takeover, identity theft, DoS and many others. Crane (2013) posits that, one problem is that digital forensics is not just about computer any more – smart phones, tablets, thumb drives and more each present unique challenges in accessing data.

Although researches have been done on electronic banking in Zimbabwe, the author found no research that specifically addressed digital forensic technologies as a cyber-fraud risk mitigation tool in the banking industry.



In light of the above background, the paper aims to achieve the following objectives:

- to explore the possibility of reducing electronic fraud cases using digital forensics in the banking industry,
- to examine digital technologies being used on electronic fraud prevention and detection in the banking industry.

The following parts of this article outline the review of the literature, methodology, analysis of the findings, conclusions and recommendations.

## **2. Literature review**

Whilst no one can dispute the paradigm that technology in the financial domain has brought efficiency and convenience in the way business transactions are executed however, the challenge still remains on the adequacy of effective digital technologies and systems to mitigate the risk associated with digital transactions. Digital forensics tools have allowed for fast and reliable data acquisition and analysis, which is imperative in a world where information can disappear quickly (Crane, 2013). Computer forensics emerged in response to the escalation of crimes committed by the use of computer systems either as an object of crime, an instrument used to commit a crime or a repository of evidence related to a crime (Baryamureeba & Tushabe, 2004; Agarwal, et al, 2011).

Today's business environment generates vast amounts of data and information and hundreds of billions of dollars are lost annually due to fraud, financial mismanagement or other malfeasance such as information deletion, policy violation or unauthorised access (Deloitte, 2013). Fraud detection and prevention is crucial to maintaining a successful web business and no merchant can afford to overlook the need for protection against fraud (Authorize.Net, 2006). In addition to that Bhasin (2013) cited that, forensic accounting has come into lime light due to rapid increase in financial frauds and white collar crimes.

Digital forensics has been defined by many authors as the use of scientifically derived and proven analytical techniques towards the preservation, collection/extraction, examination, validation, identification, analysis, interpretation, documentation and presentation of data from digital/electronic sources or magnetically stored/encoded for evidentiary purposes and root cause analysis (Baryamureeba & Tushabe, 2004; IIA, 2009; PWC, no date; Mercuri, 2005; Carrier, 2003). However, according to Garfinkel (2010), golden age of digital forensics is quickly coming to an end and increasingly organisations encounter data that cannot be analysed with today's tools because of format incompatibilities, encryption, or simply a lack of training. Given the inherent complexity of the online banking platform and the dramatic increase in mobile banking,

preventing online fraud presents financial institutions with the number of highly complex challenges to overcome (ACI, 2013).

Moreover, digital crime has increased in frequency and inflicts immense damage to users and systems and the level of sophistication has been reached that makes it hard to track its sources of origins especially with the advancements in modern computer networks and the availability of diverse electronic devices (Selamat et al, 2013; Alharbi et al, 2011). In the modern era, digital forensics is an important tool for solving digital fraud crimes committed (for example phishing, money laundering and other bank frauds) as well as solving crimes where evidence resides in a computer (Garfinkel, 2010). A framework for digital forensics, therefore needs to be flexible enough so that it can support future technologies and different types of incidents (Carrier & Spafford, 2004).

While there is no fool proof way of preventing fraud, certain fraud prevention techniques have proven to be successful (PWC, no date). Cyber security is not a technology problem that can be "solved", it is a risk to be managed by a combination of defensive technology, astute analysis and informative warfare and a traditional diplomacy (KPMG, 2012). The primary reason of data analytics in tackling fraud is because a lot of internal control systems have serious control weaknesses and its key aspect is the ability for the technology to maintain comprehensive logs of all performed activities and electronic transactions fraudulent activity or heightened fraud risk. While it is important and a win to uncover fraudulent activity that has been going on for several years but identifying the issue before it is material serves the organisation immensely on financial damage (ACL, 2013; ACL, 2014). According to Usman & Shah (2013), fraud in e-banking services occur as a result of various compromises in security ranging from weak authentication systems to insufficient internal controls. However, to attain a better situation banks apply more rigorous technologies for identifying and tracking hostile devices and using more sophisticated link analysis tools that search for connections between seemingly disparate events (41<sup>ST</sup> Parameters, 2013).

Data analytics tools can mine through digital data and identify hidden relationships and red flags thereby enabling banks to proactively identify potential fraudulent transactions before they manifest themselves years down the line (Deloitte, 2013). More so, there is a spectrum of analysis that can be deployed to detect fraud, that ranges from point-in-time analysis conducted in an ad hoc context for one-off fraud investigation or exploration, through to repetitive analysis of business where fraudulent is likely to occur (ACL, 2014). To test and monitor internal controls effectively, organisations should analyse all relevant transactions against control parameters, across all systems and all applications and

examining transactions at source level helps assure the integrity and accuracy of the information (IIA, 2009).

Common digital analysis would include media analysis, media management analysis, file system analysis, application analysis, network analysis, operating system analysis, executable analysis (intrusion investigations), image analysis, video analysis and memory analysis (Carrier & Apafford, 2004; Carrier, 2003). According to ACL (2014) & IIA (2009), analytical fraud detection techniques include the following: calculation of statistical parameters, classification, stratification of numbers, Benford's law (digital analysis), joining different diverse sources, duplicate testing, gap testing, summing of numeric values and validating entry dates.

Cyber criminals know bank fraud systems rarely monitor customer behaviour across multiple accounts, channels and systems and this weakness opens the door for cross-channel fraud, in which a fraudster gains access to customer information in one channel and uses that to commit fraud through another (Joyner, 2011).

Financial institutions are faced with a number of ways to prevent and detect cyber fraud crime complementing digital forensics tools. Advances in technology increasingly allow organisations to implement automated controls to help prevent and detect fraud and to move from static or periodic fraud monitoring techniques such as detective controls, to continuous, real time fraud monitoring techniques (IIA, 2009). However, given that conventional methods of authentication via usernames and passwords are no longer sufficient (Vandommele, 2010), biometric technology has been identified as one of the potential technologies to improving security and prevent e-fraud (Usman & Shah, 2013). More so, to achieve better situational awareness, banks are improving customer visibility across lines of business and enhancing coordination between channels and educating the customer on how to help prevent online banking fraud defences (41<sup>ST</sup> Parameters, 2013; ACI, 2013).

Rowlingson (2004) cited that, Yasinsac & Manzano (2002) noted that enterprise policies can enhance computer and network forensics and proposed; retention of information, planning the response, training, accelerating the investigation, preventing anonymous activities and protecting the evidence. An online fraud detection model is an online operational risk management system specifically designed to optimize online fraud investigation resources by queuing high-risk online banking activities in real-time for investigation (Pandey, 2010). The ultimate goal of intrusion detection is to identify, preferably in real-time, unauthorized use, misuse and abuse of computer systems by both systems insiders and external perpetrators (Balon et al, no date). Some intrusion detection systems (IDS) have the ability to store all

sessions for a short period of time so that if something suspicious is detected, the previous activity in the same session can be preserved (intrusion prevention capabilities) (Kent et al, 2006). According to Joyner (2011), in a case study 2007, FBPB implemented a complete, end-to-end IT platform for detecting, preventing and investigation both opportunistic and organised first-party fraud. Rather than take a reactive approach to fraud detection by relying solely on tips and whistle-blower programs, banks should include an evaluation by internal auditing of the operating effectiveness of internal controls, along with an analysis of transaction-level of data for specific fraud indicators (IIA, 2009).

### **3. Methodology**

The research on which this paper reports pertains to digital forensic tools and technologies as electronic fraud (cyber fraud) risk mitigation tool in the banking industry using Zimbabwe as a unit of analysis. The study was based on descriptive research. The purpose of descriptive study is to describe the characteristics of phenomena, relations between variables or relationships between phenomena and can be the purpose of qualitative and quantitative studies (Plooy-Cilliers et al, 2014). The descriptive study is popular in research because of its versatility across management disciplines (Cooper & Schindler, 2011). Descriptive research is intended to merely describe a phenomenon and the researcher does not manipulate any variables, and makes no effort to determine the relationship between variables (Brink et al., 2012). In this study the use and application of digital forensic tools to combat the risk of e-fraud in the banking industry, forms the phenomenon. The primary data was collected on the basis of self-completion questionnaires and interviews administered to various respondents from different banks. According to Bryman & Bell (2003), self-completion questionnaire, respondents answer questions by completing the questionnaire themselves.

### **4. Sampling**

In this research the non-probability sampling technique has been used. Purposive and convenience sampling techniques were used. Purposive or judgmental sampling is based on the judgment of the researcher regarding participants that are typical or representative of the study phenomenon or who are especially knowledgeable about the question at hand (Brink et al, 2013). Convenience or accidental or availability sampling refers to situations when population elements/participants are selected based on the fact that they are easily and conveniently or readily available for the study (Kobus et al, 2013; Brink, 2013). In this study both purposive and convenience sampling were applied and the researcher targeted all 22 banks, from where the participant

sample was selected. Tables 1 and 2 below show architecture of Zimbabwe's banking sector and the sample structure of CEOs, auditors, risk managers and BAZ members respectively.

**Table 1.** Architecture of Zimbabwe's Banking Sector as of December 2012

Type of Institution	Number
Commercial Banks	16
Building Societies	3
Merchant Banks	2
Savings Banks	1
Total Banking Institutions	22

Source: RBZ Monetary Policy Statement issued on the 31<sup>st</sup> of January 2013 by G. Gono.

**Table 2.** The sample structure of CEOs, Auditors, Risk Managers and BAZ members

Description for CEO	Number	Percentage %
Distributed questionnaires for CEOs	22	100
Total Response of CEOs	15	68
Uncompleted questionnaires returned	4	18
Usable questionnaires	11	50
Description for Auditors	Number	Percentage %
Distributed questionnaires for Auditors	66	100
Total Response of Auditors	36	55
Uncompleted questionnaires returned	6	9
Usable questionnaires	28	42
Description for Risk Managers	Number	Percentage %
Distributed questionnaires for Risk Managers	22	100
Total Response of Risk Managers	18	82
Uncompleted questionnaires returned	2	9
Usable questionnaires	15	68
Description for BAZ members	Number	Percentage %
Distributed questionnaires for BAZ members	5	100
Total Response of BAZ members	4	80
Uncompleted questionnaires returned	1	20
Usable questionnaires	3	60

### Universe

All the bank institutions which were studied have their head offices situated in one geographical area, Harare and therefore it was convenient to the researcher in contacting the survey. The targeted respondents (CEOs, Risk Managers, Auditors, Bankers' Association of Zimbabwe (BAZ) members) of these banks were as well stationed at head offices and were selected on the basis of what they know about cyber fraud risk and digital forensics.

### 5. Tools for analysis

In this study a qualitative analysis was done using content analysis of data. According to Kobus et al, (2013), content analysis is a systematic approach to

qualitative data analysis that identifies and summarizes message content (Neuendorf, 2002). Its breadth makes it a flexible and wide ranging tool that may be used as a stand-alone methodology or as a problem-specific technique (Cooper and Schindler, 2011). Once the data has been analyzed and the units categorized and measured, the researcher can then seek to identify themes and relationships between the observed frequencies, for example, of the units (Crowther and Lancaster, 2009). Graphical displays and observed frequencies were used in this study. As with descriptive statistics, the appropriate graphical analysis depends upon the measurement scale for the variable that is being analyzed (Page and Meyer, 2000).

**6. Findings**

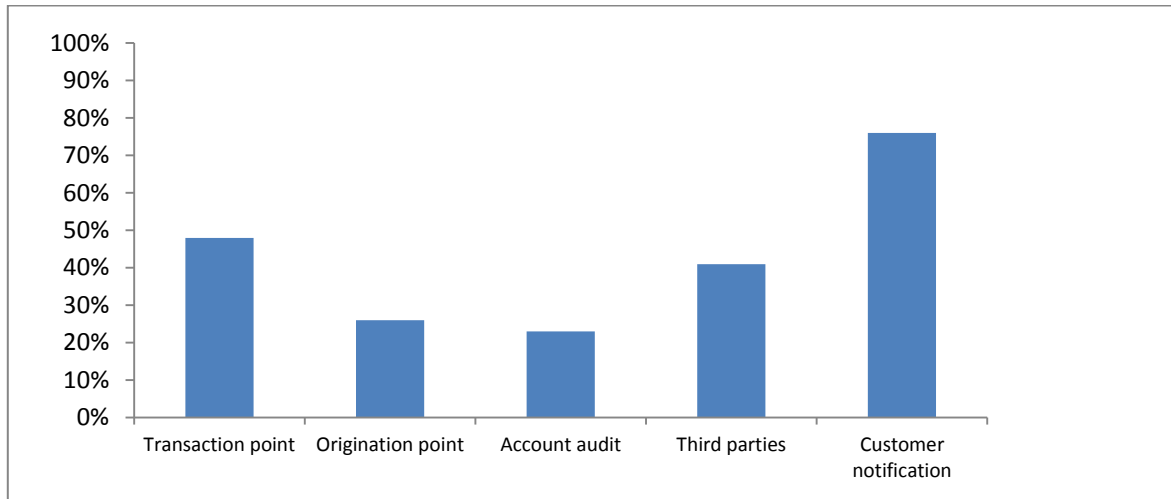
**Table 3.** Profile of Responding Auditors

Academic and Professional Qualification	Frequency (n)	%
Ordinary Levels	28	100
Advanced Levels	24	86
Professional Digital Forensic Qualification	0	0
Other Banking Qualifications	12	43
Auditing Related Qualification	10	36
Orientation Courses	23	82
Other Background Experience e.g. police	24	86

All the 28 respondents at least had passed Ordinary level and joined their respective institutions having acquired that qualification. A number of them (86%) had passed their Advanced Levels. Few of the respondents (43%) had bank related qualifications, such as Institute of Bankers Certificate or Diploma (IOBZ), while none had professional digital forensic

qualification. Out of the total respondents, 82% indicated that they had undergone an orientation course in digital forensic auditing. It was discovered that 86% of the total respondents were ex-police officers, particularly from the Serious Fraud Unit of the Criminal Investigations Department.

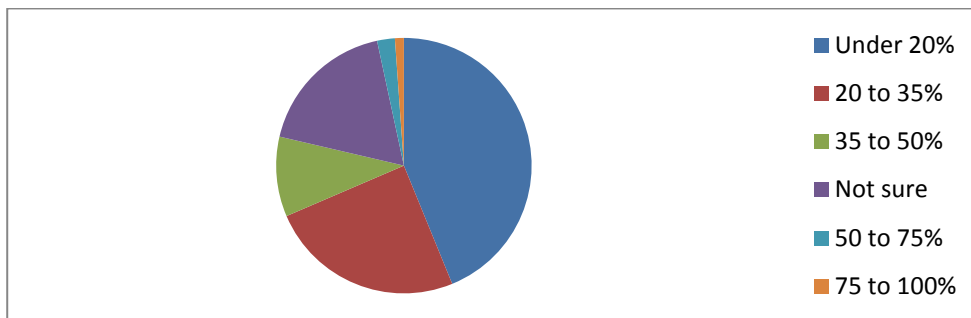
**Figure 1.** Fraud incident detection



A total of 76% of the respondents learn about the fraud incidents from the customers, 48% of the total respondents indicated that they detect fraud cases at the point of transaction, 41% of the respondents showed that they get to know of the fraud incidents from third party notification. About 26% of the

respondents revealed that at the point of origin that's when they learn about fraud incidents using detecting techniques tools and the 23% of the respondents indicated that during account audit or reconciliations that is when they know discover the fraud incident.

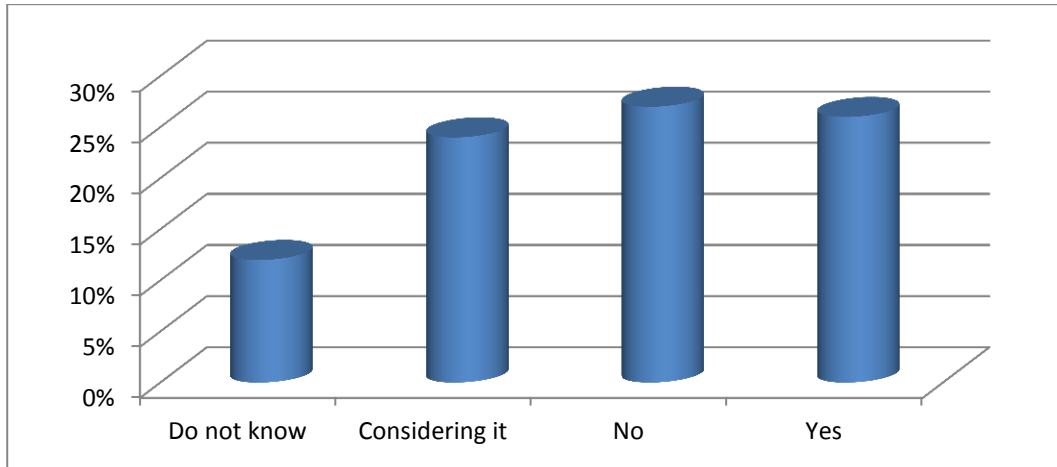
**Figure 2.** Cross-channel fraud



A total of 61% indicated that up to 35% of their fraud incidents are cross-channel while 16% were not sure about cross-channel fraud and 12 % revealed that

from 35% up to 100% of their fraud cases is cross-channel.

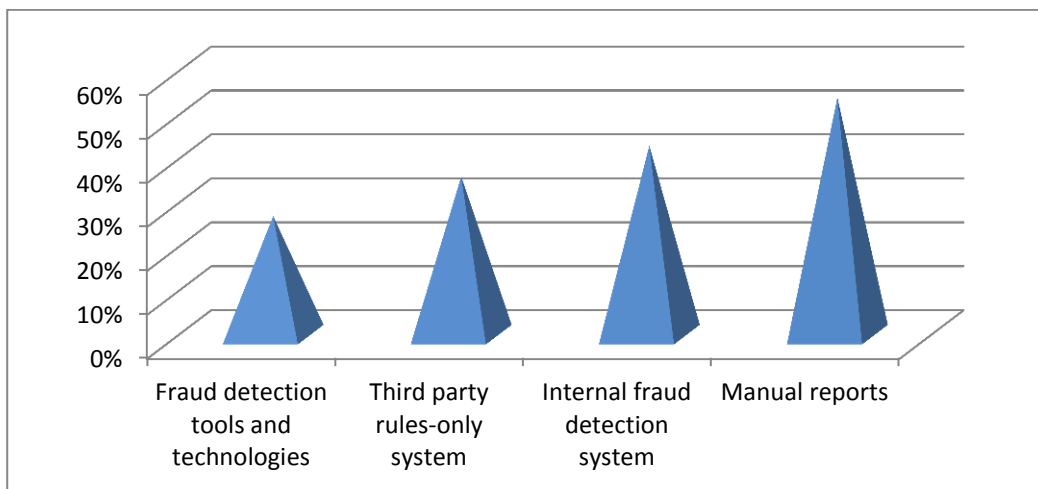
**Figure 3.** Team assigned to execute plan and controls to detect cross-channel fraud



27% of the respondents said “no” they do not have a defined plan, a team assigned to execute this plan and controls to detect cross-channel fraud. 26% said “yes” they do have the plan, team and controls

whilst 24% indicated that they were working on it and 12% of the respondents indicated that they “do not know”.

**Figure 4.** Fraud detection tools employed



Of the total respondents 54% rely on manual reports to detect frauds. 43% of the respondents indicated that they rely on internal fraud detection system whilst 36% showed that they rely on third

party rules-only system and 27% indicated that they rely on independent fraud detection tools and technologies for each channel.

**Table 4.** Alignment of fraud detection tools to detect cross-channel patterns

Description	Response (%)
No	38%
Yes	16%
Working on considering it	8%
To some extent	21%

About 38% of the total respondents indicated that their organisation's fraud detection tools are not aligned to detect cross-channel patterns, 16% of the

respondents showed that there is alignment whilst 8% indicated that they are still working on it and 21% said to some extent they are aligned.

**Figure 5.** Number of people assigned for fraud prevention



63% of the total respondents indicated that between 4 to 5 people are assigned for fraud prevention. 21% showed that 5 to 15 people are assigned for prevention of fraud whilst 4% revealed

that there are unwilling staff. 7% indicated that 16 to 25 people are assigned in fraud prevention and 2% of the respondents indicated that 25 plus are assigned for prevention of fraud.

**Table 5.** Most effective ways of fraud prevention and detection

Way	Response (%)
Fraud detection tools and technologies	80%
Real-time decision tools	43%
Monitoring of accounts manually	22%
Customer awareness on techniques used by fraudsters such as phishing, pharming etc	77%
Training of employees on identification and response to fraudulent activities.	76%

Of the total respondents 80% indicated that fraud detection tools and technologies is the most effective way of combating fraud. 43% of the respondents showed that real-time decision tools are effective in preventing fraud. 22% showed that monitoring of accounts is effective whilst 77% indicated that customer awareness is most effective of preventing fraud and 76% of the respondents revealed that training of employee putting emphasis on

identification and response to fraudulent activities is the most effective way of preventing fraud in organisations.

Whilst, according to Deloitte (2013) survey in Tanzania most of the organisations use the following financial crimes detection mechanisms (50%); risk based internal audits (100%), ongoing risk based transaction monitoring (50%), technology solutions and whistleblowing/hotline (50%).

**Table 6.** Usage of other digital technologies on fraud prevention and detection

Way	Response (%)
Prevention technologies intrusion	87%
Fraud case management system	76%
End-to-end encryption	68%
Neural net fraud detection technologies	70%
Strong authentication, out-of-band authentication and knowledge-based authentication	65%

A total of 87% of the respondents indicated that they are planning to use prevention technologies intrusion. About 76% of the total respondents showed

that fraud case management system be planned for use, 68% of the respondents revealed that they intend to use end-to-end encryption in future, whilst 70%

indicated that they plan to apply neural net fraud detection technologies and 65% of the respondents plan to use strong authentication, out-of-band authentication and knowledge-based authentication as on-going fraud prevention and detection program in future.

However, Deloitte (2013) survey found that in Tanzania regular trainings on financial crimes' trends and risks, ongoing monitoring of employees' activities in high risk departments, technology solutions and robust financial crimes control mechanisms forms the major prevention mechanisms.

## Conclusions

From the above one can conclude that most electronic fraud incidents were learnt from customers' complaints followed by detection on point of transaction and third party notification respectively. Also fraud incidents detection was noted at origination point and through internal audits. Cross channel fraud can be concluded to be unfamiliar to most of the banks while other banks are experiencing it. Other banks do not have a defined plan and teams assigned for detection of cross channel fraud and others are working towards its implementation.

More so, it can be concluded that majority of the fraud cases are still detected through the formal and informal mechanisms. Internal audit reviews are used to detect fraud whilst other cases are detected accidentally and by anonymous complaints from third parties. This indicates that apart from anti-fraud strategies adopted by the banks, a significant number of frauds are detected by ways outside the organisation's electronic fraud control framework. However, the respondents felt that fraud detection tools and technologies would be most effective way of combating fraud risk and real time decision tools. Most banks are prepared to use intrusion technologies, fraud case management system, end-to-end encryption and application of neural net fraud detection.

However, banking institutions should reshape their anti-fraud strategies to be effective by considering fraud detection efforts using advanced analytics and related tools, software and application to get more efficient oversight. These would also help enhance fraud deterrence and also show regulators an enterprise-wide commitment.

Banks should create risk based layered fraud defences to remain competitive with threats of cyber fraud crimes rather than relying on one approach. Financial institutions must continually test, retest and revise their strategies in relation to changes in the threat landscape through an embraced security portfolio of related tools, tactics and strategies.

Financial institutions should also have programs for fraud prevention and detection incorporating a spectrum of transactional data analysis ranging from ad hoc, to repetitive, to continuous. Application of

such programs would reduce likelihood of greater losses since fraud can be detected earlier.

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# **ARE SOUTH AFRICAN FINANCIAL ADVISOR ADDRESSING THE ESTATE PLANNING OBJECTIVES THAT ARE IMPORTANT TO THEIR CLIENT?**

**J.M.P. Venter\***

## **Abstract**

Estate planning is an important aspect of any effective financial plan. When preparing an estate plan several objectives identified by the individual planner, as well as several pieces of legislation have to be considered. In South Africa the actions of financial advisors are regulated by the Financial Advisory and Intermediary Services Act. The act aims to ensure that the financial advisor act in the best interest of his / her client. If the act meets its set objectives there will be an alignment of objectives set by a financial advisor and his / her client. This study investigates the existence of an expectation gap between the estate planning objectives considered to be important by the financial advisor and the importance allocated to these factors by the clients. The study found that there was an expectation gap for three of the objectives that should be considered in the estate plan.

**Keywords:** South Africa, Financial Advisor, Estate Planning

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## **1. Introduction**

The Financial Advisory and Intermediary Services Act, 37 of 2002 were introduced to ensure that there is a better alignment in the objectives of financial advisors and clients (individual planners). This article investigates the importance assigned to different estate planning objectives by financial advisors and individual planners in order to determine if the new succeed in its objective of reducing the expectation gap between financial planners and their clients.

Financial planners and their clients are not only faced with the legal requirements set out in the Financial Advisory and Intermediary Services Act but depending on the nature of the assets and liabilities in the estate an additional 18 pieces of South African legislation could also apply. Although estate planning is an essential part of any comprehensive financial plan, the effectiveness of the estate plan can only be measured after the person's death (Casner & Pennell, 2013). This implies that effective communication between financial planners and their clients are critical to ensure that the client's objectives are met when the financial plan is prepared and executed after their death. This paper contributes to the body of knowledge as it determines if the objectives identified as important by individual planners (clients) when doing estate planning are the

same as those deemed to be important by financial planners that prepare financial plans.

Every person that owns assets should have an estate plan. At the very least a person should prepare a will to set out how his assets should be divided amongst his heirs (King & Victor, 2013). This article firstly identifies the estate planning objectives which could be addressed as part of an estate plan from the literature. In the second part of the article a comparison will be made between the importance allocated to each of these objectives by individual planners and financial advisors. The comparison will identify a possible expectation gap that exists when an estate plan is prepared by a financial advisor. The results of the article will assist policy makers in determine if the legislation that is aimed at aligning the objectives of financial planners and clients have met at least in part met its objective.

## **2. Research Objectives and Method**

### **Research objectives**

In order to achieve the aim of the article, namely to identify if an expectation gap exist between South African financial planner and their client in relation to estate planning objectives, the following objectives have been set:

- Describe the estate planning objectives that can be met by an estate plan; and
- Determine if there are significance differences in the importance allocated to each estate planning objective by individual planners and financial advisors in South Africa.

### **Research method**

The research methodology applied to meeting the primary research objectives of the study is explained in this section. In the first phase of the study a comprehensive literature review was performed to identify the possible objectives that could be addressed by the estate plan of a South African planner. Similar objective were then combined to prepare a list of estate planning objectives that was used in the primary data collection phase of the study.

The study population consisted of two groups, namely users of financial services and financial advisors. Currently no comprehensive data base of users of financial services exists in South Africa. Following the approach applied by Jordaan (2007), individuals to be include the in sample were identify by using the online directory for residential telephone number (TDS Directory Operations (Pty) Ltd), a stratified-random sample were selected. As the most basic form of estate planning is the preparation of a will it was used as selection criteria it should however be noted that in terms of South African legislation only persons 16 years of age or older may prepare a valid will (Wills Act, 1953). The respondents were therefore limited to people above 16 years of age.

The Financial Services and Intermediary Act, 37 of 2002, requires all South African financial service providers to register with the Financial Services Board. Using the Financial Services Board's online search function a random sample of registered financial advisors was selected.

A 32,1% response rate was achieved for the users of financial services survey and a 24.4% response rate for the financial advisory survey. The reliability of the responses received was tested using the Cronbach's alpha test. The users of financial services survey had a 0.875 alpha value and financial advisor survey a 0.743 alpha value. These values indicate that the data is reliable (Pallant 2007:95). A statistician was consulted to perform statistical analysis on the data and to determine if the respondent of the users of financial services survey had a comparable profile to the clients of the respondents of the financial advisor survey. The results of the Pearson's Chi-square analysis indicated that the results of the two surveys were comparable.

### **3. Literature Review**

In this section the estate planning process is investigated. During the estate planning process the financial advisor obtain information regarding the

planner, his assets and his wishes. This information is used to prepare an estate plan that can meets as much of the planners estate planning objectives. There are various techniques and vehicles that can be considered when preparing an estate plan. The technique or vehicle used in the plan will be determined by the estate planning objectives that must be met.

### **The process of planning an estate**

Olivier & Van der Berg describes the estate planning process as a process that takes place in three phases (1991:13). During the first phase information is gathered about the planner, his family and his assets and liabilities (Price & Donaldson, 2008). The aim of this phase is to understand the planner's family situation and the assets he has available which can be used for planning purposes. The second phase of the estate planning process is only applied if there are basic problems that can be addressed in the short term. This phase is used as a bridging phase until a complete estate plan has been prepared, for example the drawing up of a will.

The last phase of the process consists of various steps that should be taken to be in a position to provide the planner with an appropriate estate plan. The first step is determining what the planner's objectives are, for example who does he want to inherit his assets (Clifford, 2013). Having identified the objectives with which the plan must conform, the next step will be to determine what vehicles or instruments can be used to meet the set objectives, for example prepare a will; donations; use of insurance; use of a trust; use of a company; investment allocation; and specifically identified needs (Botha, 2010).

The third step during the last phase is to identify problems that will still exist with the proposed plan or problems in general relating to the planner or his family. (Olivier & Van der Berg, 1991:20) This step also includes an analysis of the estate's potential liability for estate duty and other estate costs; this will provide an indication of possible liquidity problems in the estate (Botha, 2010). Reasons why all the planner's wishes cannot be complied with should be discussed to determine to what existent these wishes can be complied with.

The final step is to implement the plan agreed upon and regularly revisit the plan to ensure that all changes have been accommodated (Oliver & Van der Berg, 1991:23).

### **Objectives of estate planning**

The factors that influence the effectiveness of an estate plan are numerous and varied. These factors range from totally unpredictable factors, for example economic growth and changes in legislation, to more fixed and definite factors, for example the objective to

protect assets against claims from creditors. The following objectives must be considered when preparing a estate plan.

#### ***Flexibility of estate asset***

Flexibility refers to the ability of the estate plan to change when there is a change in the legal environment, personal and family circumstances of the estate planner or economic environment. Rigid estate plans can result in serious problems and unnecessary hardship and misery for dependants of the planner. Flexibility does not only refer to the structure of the plan, but also to the use of the tools in that plan (Davis *et al.*, 2013). The flexibility of an estate plan is always subject to the ideas and concerns of the planner.

#### ***Minimisation of estate duty***

Although minimising estate duty is often seen as the major objective of an estate plan and the reason why most people do estate planning, it is only one of the building blocks of the estate plan. Meeting all the objectives or as many as possible of the objectives of estate planning should be the overriding aim of the plan. If this results in a saving of estate duty it should be seen as a bonus (Huxham & Haupt, 2013). In order to implement a plan that results in a reduction of the estate duty payable, all the provisions of the Estate Duty Act, no 45 of 1955, should be considered.

#### ***Minimisation of tax liabilities on estate assets***

There are different types of taxes that should be considered when preparing an estate plan:

- ***Income tax:*** When preparing an estate plan the implications of income tax must be considered. Not only must the possible implication for the planner be considered but also what the possible income tax implications for the beneficiaries are (Venter *et al.*, 2013). The Income Tax Act, no 58 of 1962, has various tax avoidance rules that results in a person being taxed on income he does not receive himself. One of the sections that normally apply as a result of estate planning is section 7 of the Income Tax Act, which deems income received as a result of a donation to be taxable in the hands of the donor.

- ***Capital gains tax:*** With the introduction of capital gains tax on 1 October 2001, a major new liability was introduced that should be considered when preparing an estate plan (Viljoen, 2006:3). When assets are transferred from the estate planner to another entity it could result in a capital gains tax liability. Certain transitions of events can also result in capital gains tax being payable (Income Tax Act 1962:Eighth Schedule par. 11-12, 74-83). Normally the plan will attempt to prevent the introduction of any adverse effects of capital gains tax rather than make a conscious attempt to reduce capital gains tax (Stein, 2011).

- ***Other taxes:*** Different assets attract different types of taxes, for example the transfer of fixed property is subject to transfer duty and the transfer of listed shares is subject to marketable securities taxes (Botha, 2010). Careful planning are therefore required

to limit the tax and cost that must be incurred to comply with the tax regulations. When dealing with international assets the minimisation of foreign taxes is often extremely important. In addition, a forward-looking approach is critical to achieve this objective. Attempts should be made to identify taxes which may be introduced in the future, the impact of these taxes should as far as possible be anticipated in the estate plan (King & Victor, 2013).

#### ***Provision of liquidity in estate***

Sufficient cash should be available to meet the estate duty and other liabilities following the planner's death. In order to achieve this objective estate planners usually make use of life assurance policies (Walzwinski & Jack, 2013). If there is not sufficient liquidity in the estate of the planner to meet the liabilities, assets will have to be disposed of. This disposal could take place at the wrong time and at relatively low prices. (Huxham & Haupt, 2013)

Dependants of the deceased will also need money during the period when the estate is being wound up. This problem is obviously particularly acute where the bulk of the estate consists of one or more large assets which should preferably not be disposed of, for example a farm or where shares are held in private companies which may not be readily saleable (Susman, 2013).

Liquidity might also be required in terms of a buy-and-sell agreement between partners or co-shareholders. This contract allows the partners or shareholders to buy the deceased's share in the partnership or company at a determine price over a specified period (Botha, 2010).

#### ***Provision of retirement capital and income***

Planning for retirement is obviously an important objective in the planning process, if a planner transfers assets to his beneficiaries the possibility exist that he could retire with insufficient capital and therefore become dependant on his beneficiaries for survival (Trachtman, 1965). This is especially relevant in South Africa where the general view is that the South African retirement market lack cost effective methods to meet the need of low and middle income households (National Treasury 2004:5).

In many structures the planner's growth assets are legally separated from him. Before executing the plan it is important to ensure that normal commercial considerations are kept in mind, for example who will be able to make decisions to sell an asset (Cooper, 1990:52). Where growth assets are transferred it is important to ensure that the future growth potential of the assets are not restricted or limited in any way (Botha, 2010).

Assets should be protected against the insolvency of not only the planner, but also his future beneficiaries and spouses of beneficiaries. The plan must not be vulnerable to such events and beneficiaries must not be in a position to endanger the position of other beneficiaries or to deprive them of

long-term benefits which might have been planned for (Huxham & Haupt, 2013). Where the planner or one of the beneficiaries plans to emigrate proper planning should be in place (Davis *et al.*, 2013).

Where the planner has business interests care has to be taken to protect the business. Special attention should be given to ensuring business continuity and making retirement provisions for employees and directors (Financial Planning Association, 2006).

The Yankelovich Partners Inc. study found that 85% of Americans optimistic about their financial future with 24% expecting a higher standard of living after retirement. The study found that only 7% were concerned about out living their capital (Anon, 1998:14). Culter identified the following factors that impacts on a person's perspective of the adequacy of his retirement income:

- perception of personal mortality;
- personal health;
- economic factors, such as inflation; and
- increases in health care cost. (1994:43)

#### **Provision of capital and income for dependants**

Capital that was accumulated during the life of the planner should be used to produce sufficient income for dependants after his death, especially where a regular income such as a salary or pension ceases on death. This problem often arises in relation to private companies, where the major part of the assets in the estate consists of shares in and loan accounts to private companies it normally cannot generate sufficient income for the dependants. The reason for this is the growth requirements of companies that cannot adequately service the debt without prejudicing the company. Where the planner is involved in the company and receives income from it, servicing of the debt is normally not required; the problems arising after death should be addressed (Waldman & Dymond, 2013).

The protection of the assets against the intervention of third parties who become involved in the family is often high on the list of priorities of estate planners. The planner normally wants some control over the use of assets after death, due to the fear of dissipation of the assets after death through

inept administration or the spendthrift ways of succeeding beneficiaries. (Davis *et al.*, 2013)

#### **Cost of implementation of the plan**

Any potential saving of taxes (normally estate duty) must be carefully considered against the cost that has to be incurred immediately. If assets are transferred at less than market value, donations tax (currently at 20% of the value of the donation) could be payable within six months. Where fixed assets are transferred transfer duty and legal fees will be payable before the transfer takes place. If shares are transferred there might be brokerage fees over and above the securities tax that needs to be paid. If the planner you collective investment units there will probably be commissions payable. (Botha, 2010)

#### **Facilitation of the administration of the estate**

This is one of the most important objectives. It aims to ensure that any duty levied is duly provided for and paid without any problems for dependants. The smooth administration of the estate during the lifetime of the planner and after his death should be considered when the plan, is drawn up. Attempts should therefore be made to simplify the plan as much as possible. It is of critical importance where the spouse and/or dependants are not able to take control of the assets (Stein, 2011).

#### **Summary**

In this section the estate planning objectives that should be considered in an estate plan was discussed. In the following section some of the instruments that be used to achieve these objectives will be discussed.

## **4. Empirical Study**

### **Estate planning objectives**

When preparing an estate plan there are various objectives that can be considered and specifically planned for. A list of the objectives as identified during the literature review was compiled and respondents were asked to indicate how important each of the objectives was to them. Table 1 indicates how important respondents in the users of financial services survey rated different estate planning objectives.

**Table 1.** Importance of estate planning objectives - users of financial services survey

Estate planning objective	Score (percentage) (1 = not important to 5 = very important)				
	1	2	3	4	5
Flexibility of estate plan	1.5	1.5	24.6	43.1	29.2
Minimisation of estate duty	0.0	6.2	16.9	30.8	46.2
Minimisation of taxes	0.0	4.6	15.4	29.2	50.8
Provision of liquidity in estate (i.e. enough cash)	0.0	1.5	7.7	41.5	49.2
Provision of capital for dependants	4.6	4.6	15.4	30.8	44.6
Provision of retirement capital for myself	0.0	3.0	12.1	22.7	62.1
Provision of retirement income for myself	0.0	1.5	4.6	20.0	73.8
Provision of income for dependants	0.0	4.6	21.5	33.8	40.0
Cost of implementation of the plan	0.0	7.7	30.8	23.1	38.5

Respondents indicated that the most important objectives when drafting an estate plan is the provision of retirement income and retirement capital for themselves.

When a financial advisor prepares an estate plan for a client he has to decide which of the objectives would be important for clients. Using the previously

described list of objectives financial advisor respondents were asked to indicate how important each of the objectives was when preparing a financial plan. Table 2 indicates how important financial advisors respondents rated different estate planning objectives.

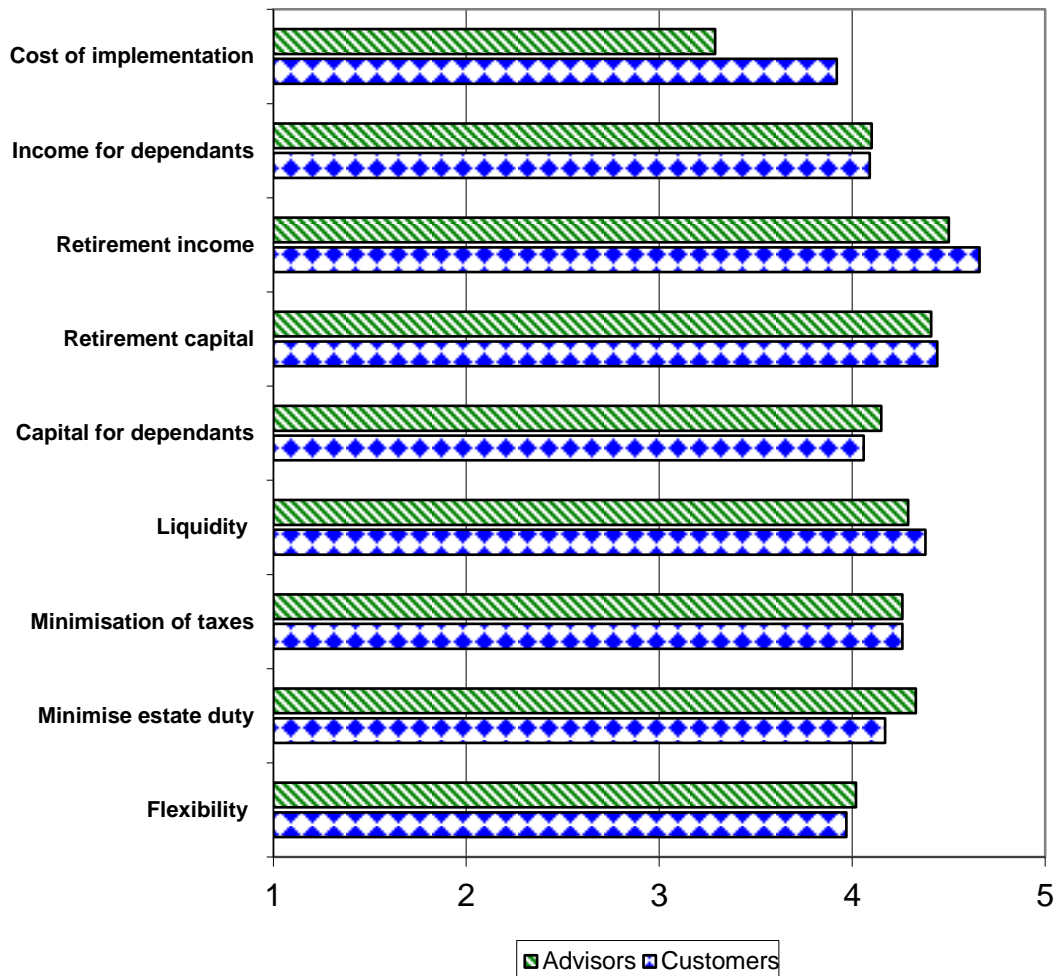
**Table 2.** Importance of estate planning objectives – financial advisors

Estate planning objective	Score (percentage) (1 = not important to 5 = very important)				
	1	2	3	4	5
Flexibility of estate plan	0.0	0.0	21.4	54.8	23.8
Minimisation of estate duty	0.0	2.4	4.8	50.0	42.9
Minimisation of taxes	0.0	0.0	9.5	54.8	35.7
Provision of liquidity in estate	0.0	0.0	11.9	47.6	40.5
Provision of capital for dependants	0.0	0.0	17.1	51.2	31.7
Provision of retirement capital for myself	0.0	2.4	4.9	41.5	51.2
Provision of retirement income for myself	0.0	2.4	2.4	38.1	57.1
Provision of income for dependants	0.0	0.0	31.0	28.6	40.5
Cost of implementation of the plan	7.1	16.7	31.0	31.0	14.3

Respondents also indicated that the most important objectives when doing an estate plan was provision of retirement income and retirement capital for themselves.

The mean score given by both groups for each of the objectives are provided in figure 1.

**Figure 1.** Estate planning objectives comparison



I visual inspection of the results indicate notable differences between the two groups in rating provided for certain estate planning objectives. In order to determine if there are any statistically significant

differences statistical analysis using Pearson's Chi-square tests was performed, the results are provided in table 3.

**Table 3.** Analysis of estate planning objectives

Factor	Pearson's Chi-square Test		
	X <sup>2</sup>	df	p
Flexibility of estate plan	1.404	2	.496
Minimisation of estate duty	6.375	2	<b>.041*</b>
Minimisation of taxes	7.288	2	<b>.026*</b>
Provision of liquidity in estate	0.819	2	.664
Provision of capital for dependants	4.435	2	.109
Provision of retirement capital for myself	4.765	2	.092
Provision of retirement income for myself	3.234	1	.072
Provision of income for dependants	0.434	2	.805
Cost of implementation of the plan	10.480	3	<b>.015*</b>

\*p<0.05 significant

The statistical analysis indicated that three factors had statistically significant difference (at 95% confidence level) namely:

- cost of implementing an estate plan (p=0.015)
- Minimisation of taxes (p=0.026)
- Minimisation of estate duty (p=0.041)

For clients the cost of implementing the plan was much more important than the rating given to it by financial advisors. 23.8% of advisors indicated that cost was not important when preparing an estate plan compared to only 7.7% of users.

50.8% of users indicated that it was very important to save on other taxes whilst only 35.7% of financial advisors indicated that it was very important. Interestingly 23.1% of users indicated that saving estate duty was not important when doing estate planning compared to only 7.7% of financial advisors.

Having identified the estate planning objectives that should be met the next step is to identify the correct estate planning instrument to use.

## Conclusion

This article makes a new contribution to the literature by analysing the importance of different estate planning objectives for individual planners (clients) and then comparing the importance of these factors when financial planners (advisors) prepare financial plans for clients.

The estate plan forms an integral part of the financial plan that a financial advisor should develop for clients. In this study the different objectives that can be addressed by a well defined estate plan was identified and investigated.

This theoretical framework was developed from the literature and used to in a questionnaire testing the importance of different estate planning objectives and instruments. The survey was conducted amongst users

of financial instruments and registered financial advisors that advise users on financial matters.

Despite the introduction of the Financial Services and Intermediary Act, the survey amongst the two groups found that there were statistically significant differences for three of the nine estate planning objectives being investigated. The most important of the differences that were identified was the cost on implementing the estate plan with clients being much more price sensitive than what advisors think. Clients must therefore ensure that they understand the cost associated with the proposed plan before they agree to implement the plan.

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# **RISK MANAGEMENT IS EVERY MANAGERS' RESPONSIBILITY: ARE HR PRACTITIONERS READY FOR THE CHALLENGE**

*Pascal Sipehelele Zulu\**

## **Abstract**

Risk and Enterprise Risk Management has become a strategic imperative in most organisations and government departments over the years. Most company boards and government entities in South Africa have adopted various corporate governance frameworks as a mechanism to direct and control the operations of their organisations. As a result, risk management and enterprise risk management has become every manager's responsibility. The key question that the study investigates is whether HR managers are aware of this strategic imperative and ready to be risk champions in their environment. Data was collected from forty eight (48) HR Managers and Practitioners from private companies and sixty eight (68) HR Managers and Practitioners from government departments and government companies in Durban, Kwazulu-Natal and Cape Town, Western Cape using both personal interviews and questionnaires which were distributed to one hundred and fifty (150) employees, of which one hundred and sixteen (116) questionnaires were completed (return rate 77.3%). The results of this paper indicate that, in general and across all sectors, HR practitioners' levels of understanding of corporate governance and risk management is limited.

**Keywords:** Risk Management, HR Managers as Risk Champions, Dual Labour Market System, South Africa

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## **1. Introduction**

According to Coetzee et al, (2011), risk management is a relatively new addition to the wider concept of corporate government. This is both for the private and public sector.

For Coetzee et al, (2011), with the evolution of corporate governance in general and specifically risk management, formalised risk management frameworks have been recognised by many as an effective tool in assisting management with their responsibilities. They argued that in South Africa, this is supported by the fact that risk management is included in the leading corporate governance codes and in legislation, such as Public Finance Management Act, No1 of 1999 and the King Report on Governance, 2009.

## **2. Literature Review and Hypothesis Development**

According to Rikhardson, et al, 2006 cited by Nsele (2011) on his research report, as business competitiveness becomes the way to survive for

humankind, more cutting edge business innovations have been observed in the 19th and 20th century than ever before. The open market environment has been continuously changing at a macroeconomic level and subsequently at a microeconomic level. According to Rikhardson et al, (2006) cited by Nsele (2011), the activities of each economic participant contribute towards the direction of the economy as a whole. As the economic participants try different coping methods for survival, there lies an uncertainty to the business sustainability and outlook. For example, Rikhardson et al, (2006) cited by Nsele (2011), state that the advancement of computer technology has a continuous impact on the way business is done. Similarly, the risk of being heavily reliant on computer technology demands effective management of any ensuing profit or loss. All businesses operate in the uncertain environment, therefore nothing is guaranteed, and hence the need for effective management of potential risks is an imperative. Grant (2008:302) cited by Nsele (2011), identifies two main sources of uncertainty, namely, technological and market uncertainties. He states that technological uncertainty arises from unpredictable evolution and



complex dynamics of selecting technical standards and dominant designs. Market uncertainty relates to the size and growth rates of the markets for products.

### **3. Theoretical Framework**

According to Mallin (2013), corporate governance has only recently come to prominence in the business world. The term 'corporate governance' and its everyday usage in the financial press is a new and relatively new phenomenon, with its growing usage in the last twenty years or so.

For Mallin (2013), the theory underlying the development of corporate governance, and the areas it encompasses, date from much earlier and are drawn from a variety of disciplines including finance, economic, accounting, law, management, and organisational behavior. For Mallin (2013), it must be remembered that the development of corporate governance is a global occurrence and, as such, is a complex area, including legal, cultural, ownership, and other structural differences.

Mallin (2013), argued that, therefore, some theories may be more appropriate and relevant to some countries than others, or more relevant at different times depending on what stage an individual country or group of countries is at. Nonetheless it is fair to say that corporate governance, as yet, does not have a single widely accepted theoretical base nor does it have a commonly accepted paradigm. The subject lacks a conceptual framework that adequately reflects the reality of corporate governance.

According to Wixley et al, (2010), while issues of corporate governance have become prominent only relatively recently, the origins of corporate governance go back thousands of years to when ownership and management enterprises were first separated. This means that owners had a need for mechanisms to monitor the performance of managers. This monitoring included development of various strategies and systems that enabled company boards and company owners to identify risk and develop mitigating controls.

According to Havenga (2006) cited by Nsele (2011), the later part of the 20th century has seen more and more emphasis on risk management. Entities have established functions that have risk management as their primary responsibility.

For Havenga (2008), with respect to the embedding of enterprise risk management in the South African environment, research has shown that risk management is now exiting the infancy stage. This gives a glimpse of hope that South Africa will continue to carry the torch for the African continent. At the same time this observation indicates that there is still more work to be done for South Africa to be at world class level in managing risks

According to Havenga (2008) cited by Nsele (2011), existing empirical academic research has focused more on the extent of the implementation of

risk management practices by financial institutions, therefore remaining at a high strategic level. The operation of components of the risk management process has remained under studied.

According to Jackson (2012), in his article *Encouraging Excellence in Risk Management sector South Africa's risk management standards compared with the best of international best practice*, as demonstrated by this year's Institute of Risk Management SA (IrMSA) annual Awards. This optimistic assessment of the state of SA's risk management expertise comes from Gillian le Cordeur, CEO of IrMSA. For le Cordeur, there is a greater need for the better understanding of not only the current risks, but for greater research to be done on risks emerging. In the next five to ten years, he says that as the world continues to grow. This growth and complex risks will have consequential effects on one another and introduce greater systemic risk into the system. That requires a better and more detailed insight into the world around us, constant research and an imperative to understand that we need to lift the ethical game, while at the same time having a clearer risk-based picture of the world around us.

#### **3.1 Corporate Governance and Risk Management in South Africa**

As stated by Mallin (2013), in 1992 a Committee on Corporate Governance was established in South Africa. Chaired by Mervin King, the Committee produced the King Report on Corporate Governance (the King) late in 1994. The King report contained some of the most far-reaching recommendations at that time. Some eight years later, the King Report was published in 2002.

For Mallin (2013), between the dates of the two reports (1994-2002) there was extensive legislation and the King II report needed to take account of these developments. He argued that in common with its earlier version, the King II is one of the most comprehensive and most innovative reports published to date anywhere in the world. It takes an inclusive approach, in other words, the company should not develop its strategies and carry out its operations without considering the wider community, including employees, customers, and suppliers.

An interesting culture is mentioned in the context of labour relations, and people management, which is the tradition of consultation practised by African chiefs. Clearly, consultation is part and parcel of the African psyche and so a company should take this into account in its relationship with employees and people generally (Mallin; 2013: 340).

According to Haw (2004), the second report on corporate governance placed the discipline of risk management squarely on the boardroom table. For Haw (2004), managers have been obliged to assume responsibility for overseeing the process within their units, leaving board members to focus on the more

significant risks that affect the organization business strategy. However, better informed, forward – thinking managers are exceeding expectations, says Kay Darbourn, President of the Institute of Risk Management SA and GM: Risk Management for Eskom cited by Haw (2004). They are managing risk and making the most of opportunities presented by the process. The risk management process, which involves risk identification, evaluation, control or mitigation and transfer, gives managers an additional tool which they can use to effectively direct decisions regarding specific constraints or opportunities that may result in the success or failure of initiatives. Darbourn believed that companies that have integrated risk into their daily process in many cases by using enterprise-wide risk management techniques are benefiting from a more proactive approach.

According to Castanheira et al, (2010) cited by Coetzee et al, (2011), in South Africa corporate governance, has developed considerably since the introduction of the second King report (IOD 2002) in 2002 and, in particular, since the third King report (IOD 2009) in 2009, which requires, among other things, an effective risk based internal audit. However, since the introduction of King III, according to Castanheira et al (2010) cited by Coetzee et al (2011), organisations and the internal audit profession have not adhered to all the elements of risk management and risk –based internal Audit.

Even though South Africa is making noticeable progress in corporate governance, according to Wixley et al, (2010) South Africa experienced numerous corporate failures in the 1990's. Such failures have continued in South Africa in the 2000's, with cases such as Regal Treasury Private Bank (liquidated) Absa limited, at a cost of some R1.8 billion. What is particularly alarming is that several of these corporate collapses were financial institutions subject to external regulations (Wixley et al; 2010:7).

Clearly, for Wixley et al, (2010), the regulatory powers proved to be somewhat ineffectual in protecting the public, possible, good corporate governance by directors closer to the action might have prevented some of the collapses which occurred. The King II contains the Code of Corporate Practices and Conduct which contains principles in a number of areas such as Risk Management.

It has always been understood that these challenges of risk management and corporate governance are not unique to South Africa. For stance, in United States of America (USA), monitoring risk and controls is driven by section 404 of Sarbanes-Oxley Act of 2002. In light of corporate scandals that gave rise to the downfall of big corporate such Enron, the USA government put into law requirements to govern the quality of financial reporting by entities listed on their security exchange. Section 404 of this act requires entities to publish information in their financial reports regarding the scope and adequacy of their internal control structure

and procedures for financial reporting. This information is required to be attested by a firm of independent auditors. Experience has shown that compliance with this regulatory requirement call for an ongoing review of internal controls and timely rectification of control weaknesses identified by management. This is followed by attestation by external auditors about the adequacy and effectiveness of control environment. The result of this is that a lot of effort goes into the monitoring of controls by management because information about quality of risk management is a share price sensitive matter. It must be noted that satisfaction by Sarbanes Oxley requirements, puts more emphasis on the management of risks relating to financial reporting which is does not necessarily cover risks relating to the operation of the business” (Nsele; 2011:21).

“Contrary to the USA, it is not a regulatory requirement for South African companies to report on quality of control environment. A review of recent annual reports of South African bank shows that all banks do make an effort to report on risk management, however there is no consistency on the structure and the content of the report. Some reports are extensive and some cover minimum comments about certain aspects of Basel 2. This information is not independently verified to the level of Sarbanes Oxley 404 requirement” (Nsele; 2011:21)

According to Sim Tshabalala, Deputy CEO of Standard Bank, cited by Sure Kambunga (2011) in his article *Risk Management still a work in progress* published by the University of the Free State, the recent crisis has definitely resulted in an increased awareness of risks and risk management within banks. The risk culture is more pronounced in the sense that staff at all levels within the various organisations better understand their role in the management of the risk.

The board is responsible for the overall risk management process, with management being accountable to the board for the actual day-to-day risk management. It is the board's responsibility to form an opinion on the effectiveness of the risk management process. It stands to reason that the board should identify areas where the business may be particularly vulnerable, and utilise accepted risk management controls and framework to ensure that such risks are appropriately monitored. The Code points out that risk management, rather than perhaps being viewed as only a negative process, may also give rise to opportunity to create competitive advantage. (Mallin; 2013:341-2)

While King III predecessor, King II was mandatory for JSE-listed companies, King III has a significantly further reach, as the code of good governance is now applicable to all legal business entities. Terry Booyesen, CEO of CGF Research Institute, cited in an article by Enterprise Risk (2010) says: good intentions are no longer good enough where corporate governance is concerned. Executive

could find themselves in serious trouble if they do not ensure that their business conduct and operations meet the provisions of the likes of King III, the new Company Act, and many other legal and regulatory measures (<http://reference.Sabinet.co.za>).

According to Sanchia Temkin, in his article published by the University of Free State, the King III report takes a process-driven approach to risk management that emphasises the overall responsibility of a company's board, which should have a risk management policy and plan in place. However, Wixley (2010), a corporate governance analyst and co-author of the book *Corporate Governance*, cited by Sanchia Temkin, says the King III report has gone "overboard in engineering risk management". It tends to make risk management bureaucratic rather than part of the company (<http://reference.Sabinet.co.za>).

Wixley et al, (2010), argued that one of the dangers of implementing a complex risk management system is that the process of identifying and managing risk can become unwieldy. Care should be taken to ensure that line managers retain responsibility and that the risk system of management does not become a parallel system of management,

### **3.2 Risk Management and Enterprise Risk Management (ERM): What is it about?**

If more entities, both in private and public sectors, are risk alert, this then raises questions such as; what is risk management and whether enterprise risk management is guaranteed against failures.

Wixley et al, (2010), argued that good corporate governance, and by extension Enterprise Risk Management (hereafter ERM), is not guaranteed against failures but it should ensure that there is adequate disclosure of the risks undertaken and that, where enterprises do run into difficulties, those are handled with wisdom and integrity, in the best interest of the enterprise and adequately communicated to stakeholders.

According to Fourie et al (2013), numerous changes to laws and to business conditions have increased the levels of accountability and responsibility for the entity's wellbeing required from the board of directors. According to Fourie et al (2013), this translates into pressure that extends from the board of directors to the audit committee and to management. Management is required to design, implement and maintain internal controls to manage the risks faced by the business, highlighting the importance of management's accountability role. Internal controls therefore play an important role in any organisation. For them, however, without a balancing authority, management's controls could be biased and weak, thus allowing personal gain and other non-business interests to take root. Internal Auditors play a key balancing role in this area,

independently assessing the efficiency and effectiveness of the internal controls implemented by management.

According to Nsele (2011), Committee of Sponsoring Organisations (COSO (2004), defines Risk Management as a process that involves the identification, assessment and controlling of events that could happen and have a negative or positive impact on the organisation's pursuits of its business objectives.

An article from The University of Free State sourced in *Financial Mail* (2010), defines risk management as being about preparing for the unexpected and being able to cope when it happens, or to mitigate the impact. This is important in business, investments, politics and life in general.

Neneh et al (2002), define risk management as the identification, assessment and mitigation of risks involved in a project. With this definition, it is necessary to understand what risk entails, in order to better comprehend the definition of risk management. Following ISO standardised classification, risk is defined as "the effect of uncertainty on (achievement of) objectives" (ISO 2009), Neneh et al (2002).

According to Ranong et al (2009), cited by Nsele (2011), risk is a function of the likelihood of something happening and the extent of loss arising from that incident. "Risk can be classified into systematic and unsystematic risk" (Al-Tamimi and Al-Mazrooei, 2007) cited by Nsele (2011). Ranong et al (2009), cited by Nsele (2011), says systematic risk refers to a risk inherent to the entire system or entire market. It is sometimes called market risk, systemic risk or un-diversification. In other words; it is risk that cannot be avoided through diversification. Whereas, unsystematic risk is risk associated with individual assets and hence can be avoided through diversification. "It is also known as specific risk, residual risk or diversifiable risk", says Ranong et al (2009). For Simon van Wyk and Carin Joyce on their article: *Grappling with risk complexity: an insight into multi-scalar and multi-dimensional risk scenarios*, risk is an inherent part of any business. The fact of the matter is that risk cannot be viewed in a silo form. The silo effect typically applies to the more historical forms of assessing risk. Examples include disaster risk, financial risk, operational risk, fire risk and the list goes on.

According to Skeen (2012), the word "risk" itself carries negative connotations of accidents, hiccups and unexpected problems. In *Exploiting Future Uncertainty* (2010) David Hillson, cited by Skeen (2012), encourages the Risk-Opportunity dichotomy suggested by the Chinese pictogram for risk: *wei ji*. This includes two elements, one meaning "danger", whilst the other meaning "opportunity". The suggestion is that for every potential risk, there is an opportunity waiting to be discovered. Clearly not all risks include a positive element, but without risky endeavours, there would be no progress, innovation or

discovery, and the concept of positive risk or opportunity should not be neglected as part of the risk management process. In each case of an identified risk event, the potential benefits should be investigated, whether it be potential cost saving via value engineering, improved technical solutions which could be used in future to overcome similar problems, or simply an opportunity to learn from similar situations in the past. Once risks have been identified and assessed, they are tabulated and their likelihood and severity used to evaluate the impact of a potential risk event. Each risk is typically assigned to a responsible individual to monitor and act should the risk event occur.

According to Wixley, et al (2010), one of the biggest dangers in dealing with risk is the assumption that we can predict all or most eventualities and that risk management is simply a matter of dealing with potential problems that have already been identified and analysis. They argued that the lesson is that risk management strategies should never discount the likelihood and potential impact on highly improbable events. King III recognises that some risks are unpredictable. The main thrust of King III in relations to risk management is that the risk assessment process should be comprehensive, accurate, thorough and complete.

“The author of the *Black Swan* would argue that it is neither possible nor economically justifiable to anticipate every possible risk, improbable or not. In the view of the author, risk management can play an important role in assisting companies to avoid or reduce many of the risks that businesses face and that it provides a useful framework for ensuring sound and cost-effective systems if internal controls. However, it is essential to appreciate the inherent limitations of risks management system and to recognise the possibility of unpredictable events that may threaten a company’s future.” (Wixley et al, 2010, 84)

Van Wyk et al (2012), argued that risk management, in the true sense, encompasses a greater paradigm shift from reactive measures which underpin the notion that ‘prevention is better than cure’. According to van Wyk et al (2012), when applying this philosophy to operational risk a few ‘potential’ solutions come to mind. A number of risk assessment methodologies are available on the global market. However, determining the correct and most appropriate methodology can become taxing on an organisation. A good place to start is the international standards for risk management, namely ISO 31000:2009 and ISO 31010:2009 which set out risk management principles and guidelines for addressing risk management in its broadest sense. Having said that; operational risk assessments, which for all intents and purposes, are elements of risk management, should be practical and centered on understanding an organisation's activities and associated risks. This can be achieved by using multiple methodologies that provide a robust and

holistic understanding of the risks that an organisation may (Van Wyk et al; 2012).

According to Wixley et al (2010), cited from COSO (2004), enterprise risk management is a process, established by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of business objectives. Cited by Nsele (2011), Havenga (2006) traces the origins of Enterprise Risk Management (ERM) for early twentieth century. Havenga (2006) describes ERM as another phase of risk management. He states that, during twentieth century, risk management developed from a component of business goal setting, to more insurance based management action, to more enhanced component of financial risk management and then eventually the creation of a more integrated organisation-wide approach to risk management towards the latter part of the 1990’s known as the origin of ERM. Lately, Chimbayambuya (2007) developed a risk management model that he calls Holistic Risk Management (HRM). The HRM model extends risk management beyond risk function of the enterprise and prescribes a risk based approach in conducting the business. This is also supported by Galloway et al, (2000) cited by Nsele (2011), who argued that the sources of enterprise risk solutions are many – from the qualitative world of audit and control, the actuarial world of insurance and risk management, the six sigma world of quality and engineering risk management, to the quantitative world of financial, market and credit risk management. Each set of solutions speaks a different risk management language. These multiple languages of risk all need to be translated to the one language that is relevant to management – the language of value.

Galloway et al (2000), cited by Nsele (2011), identified the opportunity to lower risk management costs and the need for competitive advantage in a rapid and evolving risk environment as the two drivers for the need for enterprise risk management. They further described four factors that characterise the risk environment of which they have their roots in value creation and preservation. They summarize these factors using an acronym ‘FAST’ which stands for ‘Focused and Simple Transparent’. The focus of this study will be on ERM framework as developed by Committee of Sponsoring Organisations.

According to Havenga (2006), cited by Nsele (2011), ERM emerged in the beginning of the twenty first century as a new paradigm of risk management, instead of relying on a traditional, intra departmental strategy where each area of the organisation manages its own risk (Havenga, 2006). Following increasing realisation of the importance of risk management due to increasing uncertainty, COSO developed principles

known as Enterprise Risk Management Framework, which are now widely accepted as useful tools in managing risk across the enterprise.

According to Nsele (2011), in September 2004, COSO released a second addition of Enterprise Risk Management (ERM) Framework. According to this framework, enterprise risk management is the a process effected by the board of directors, management and other personnel of the entity, applied in the strategy setting of the enterprise, to identify

potential events that may affect the entity and manage risk to be within the entity's risk appetite, to provide reasonable assurance with regards to the achievement of the entity objectives. According to Nsele (2011), Bowling and Rieger (2005), in their analysis, broke down COSO's definition of enterprise risk management as shown in Figure 1. ERM focuses on the causes and effects that keep companies from achieving their strategic business objectives.

**Figure 1.** Understanding Risk Enterprise Risk Management

To get a better understanding of the ERM framework, COSO's ERM Executive Summary suggests taking a closer look at the key words in the definition:

- **A process:** a means to an end
- **Effected by people:** in contrast to exclusive reliance on written policies, surveys or forms
- **Applied in a strategy setting:** take a big picture view
- **Across the enterprise:** take a portfolio (rather than narrow) view of risk
- **Identifying events:** consider in the context of the entity's appetite for risk
- **Reasonable assurance:** no absolute guarantees
- **Achievement of organisational objectives:** can occur in one or more overlapping categories

### 3.3 Risk Management in HR Environment

Human resource management practices (HRM) is defined as "a set of distinct but interrelated activities, functions and processes that are directed at attracting, developing, and maintaining (or disposing of) a firm's human resources", according to Tocher and Rutherford (2009: 457), cited by Neneh et al, (2012)

According to Collins, Ericksen and Allen (2005), cited by Neneh et al, (2012), elucidate that HRM practices are primarily aimed at effectively managing people. They established a general process through which HRM practices impact on the performance of a firm as follows: effective employee management practices lead to positive employee outcomes.

Neneh et al, (2012), argued that when dealing with organisation risk, little or no focus is made to the human resources (HR) environment. The tendency seems to be more on what is termed "core" and "risky" environments like finance. The academic literature has little information on initiatives taken by companies and government entities to regulate or put control measures to mitigate against risks in HR environment. This is despite HR literature which suggests that a well-functioning HR environment may have benefits such as organizational performance.

According to Neneh et al (2012), various studies (Hoyt, Moore & Liebenberg 2006; Nocco & Stulz 2006) have shown that the use of risk management practices increases a firm's performance. Risk management practices include purchasing insurance, maintaining cash reserves, installing security systems, diversification, recruiting, safety, training, coaching, policy and procedure development, dealing effectively with employee complaints of harassment or

discrimination, and uniform termination procedures. A study by Ow (2007) further emphasised that in order to enhance business performance, risk management practices should be simplified and embedded into normal business operations, planning and budgeting processes, and organisational culture (Neneh et al, 2012).

According to Butler (2010), cited by Marius et al (<http://www.sajhrm.co.za>) on the article: *Human Resources risk management: Governing people risks for improved performance*, against a backdrop of uneven and uncertain economic recovery, the worldwide economic recession has led to a renewed focus on managing risk. He continues to state that, at a local level, the King III Code on Governance in South Africa has been in effect from 01 March 2010. In response to King III, the South African Board for People Practices (SABPP) recently released an opinion paper on the human resource implications of King III (SABPP, 2009) (<http://www.sajhrm.co.za>).

Given the important role of HR directors in supporting King III, and the sound governance of South African organisations in particular, the Human Resource Research Initiative of SABPP identified the management of HR risk as one of the most important opportunities that HR practitioners have for adding value to the new governance dispensation in the country.

In fact, the 2009 Ernest and Young Business Risk Report highlighted the importance of HR risk management. Christopher Lipski, HR Risk Management Service Line Leader in the United States of America (USA), said that 'managing risk in the HR area has become an increasingly important issue for global executives (<http://www.sajhrm.co.za>).

“In his new book on successful South African entrepreneurs, Brian Joffe, Chief Executive Officer (CEO) of the Bidvest Group, states: ‘A key risk in future – just like today – is people risk.’ We live in a country with a dearth of skills. So a key test of entrepreneurship is how you develop people. One of the big lessons from Bidvest is that you grow by growing people and working together. You rarely find bad people in business. The problem is usually a bad fit. Give people the right opportunity, the right tools and training, and they will perform” (<http://www.sajhrm.co.za>).

This article gives a brief overview of the importance of managing risk from an HR risk management perspective. The point of departure is that, in addition to other factors in business, a lack of proper HR risk management contributes to poor governance because businesses often use a reactive approach to HR management with no or little regard for managing risk (<http://www.sajhrm.co.za>).

According to COSO (2004:83-4; IOD 2009:73), cited by Coetzee et al (2011), the majority of the parties involved in the business environment recognise that the responsibility for risk management lies with the board and senior management in private sector and with the Accounting Officer in the South African public sector (RSA 1999: S38 (1) (a) (i), RSA 2003: S62 (1) (c) (i)). To manage risk efficiently and effectively, management should have an understanding of the concept of risk in general and of the specific risks that threaten the organisation in particular, and should then establish a proper risk management framework to mitigate key risks (Coetze and Lubber, 2011: 30).

According to Gillingham (2007), in his article; *Weak areas in assessment of risk can create problems*, South Africa has made progress in its core understanding of risk management principles and is well developed in terms of property and hazard-related risks. However, Volker von Widden, Managing Director (MD) of Risk Consulting at Marsh SA, cited by Gillingham (2007), states that there are some issues on the application of broader risk-management principles in the current business environment. It is challenging to identify and access the appropriate risk-management expertise needed. According to Von Widdern cited by Gillingham (2007), in the South African situation, large numbers of new projects are being approved and capacity is stretched to the limit. People capacity risk management has become an integral part of companies overall risk management strategies as they realise the importance of optimising management and employees in their business strategies. For Pieter de Bruyn, cited by Gillingham (2007), who leads the people capacity solution team at Ovation, says over the past decade or so risk management has evolved from health and safety issues to insurable risk and thereafter integrated and managed risk. People are now being added to the mix as companies recognise

that their competitive edge often lies in their people. De Bruyn identifies five main people risk – management themes, key individual, intellectual capital invested in individuals through the organisation, worker groupings such as trade unions, performance management, and optimising people potential. According to De Bruyn, companies should review their processes so they are optimising their people and not only using technology to save the day.

This implies that companies should put their structures around people, rather than people around the structure. While people, rather than technology, are being seen increasingly as providing companies with competitive leverage, they are also being seen as consisting of a risk that needs to be managed, such as loss of key people through death and resignation or strike action, underperformance and inadequate recruitment.

He says top management is involved in people issues rather than abdicating them to human resources. As South Africa’s employment environment has become so regulated, companies have to invest quality management time in minimising people return.

According to Marius Meyer, Gert Roodt and Michael Robbins in their article *Human Resources Risk Management: Governing people risks for improved performance* (<http://www.sajhrm.co.za>), Risk management, as an emerging management discipline, has gone from strength to strength over the last decade. Various universities have started to offer short academic courses in managing risk and companies employ risk managers to ensure that risk management receives the attention that it deserves.

The appointment of risk managers also had its downside because it meant that senior managers saw managing risk as a separate organisational function that risk managers controlled. Now, in the new governance regime that King III proposed, managing risk has been elevated to board level using the best practice guideline that companies should appoint a chief risk officer (CRO) to boards. In a similar vein, King III elevated and repositioned risk management at board level by referring to the ‘governance of risk’. In fact, governing risk is now a whole chapter in King III (chapter 4) (<http://www.sajhrm.co.za>).

Managing risk should therefore form part of the strategic plan of an organisation. However, as Taleb (2007) warns, companies must be careful of becoming risk complacent when they assume that they can forecast the future accurately. Who could have predicted 9–11, the tsunami and the worldwide economic recession? All of these dramatic events had a major effect on business all over the world but risk managers and boards could not forecast any of these events. Thus, managing risk has indeed become an emerging field. However, businesses need a more integrated and proactive approach to ensure that they become resilient and develop capacity to handle risks and disasters (<http://www.sajhrm.co.za>).

Significantly, the King III Report specifically mentions HR as an important area for identifying and reducing risk. Boards should report annually on risks and sustainability issues, like social development, transformation, ethics, safety and the acquired immune deficiency syndrome (AIDS) (IOD, 2009). In fact, in high-risk environments, businesses may need more frequent management reports. Therefore, companies should assess people or HR risks as part of their overall management of risk (SABPP, 2009). German banks have taken the lead in developing strategies to manage HR risks (Paul & Mitlacher, 2008). In addition, Deloitte (2008) highlights the importance of managing HR risk in the modern business environment (<http://www.sajhrm.co.za>).

However, some risk management experts feel that King III does not address managing risks adequately. They feel that King III is not sufficiently aligned to the ISO risk management standard and is out of touch with typical modern risk management practices at leading organisations (<http://www.sajhrm.co.za>).

A study by Ernest and Young shows that reputation makes up as much as 50% of a company's share price. The Exxon Valdez oil spill cost the company \$2 billion in the first two months and a further \$10 billion to restore the environment. As if this was not enough, the United States (US) government fined it another \$5 billion. From a risk management perspective, the most important question is what caused the tragedy. Was it bad environmental practice, poor management, a lack of control or negligence? It was probably all of these, but the root cause analysis showed a remarkable origin - a faulty HR policy. This resulted in under staffing and poor working conditions. In essence, the cause was aggressive cost cutting at the company (<http://www.sajhrm.co.za>).

A company needs to consider the value of its goodwill and intellectual property in its annual valuation, especially in the event of a sale. Often, companies feel that contractors are less of a risk. However, one can challenge this when the company sells intellectual property but does not actually own the property it intends selling or which it wants valued (<http://www.sajhrm.co.za>).

This has become evident in audits because companies felt that the absence of a long-term relationship reduces risk. However, they had not considered that:

- the top staff are not actually bound to the company or its policies and procedures

- the company and labour brokers are legally, jointly and severally liable, so contractors and labour brokers do not reduce risk as much as managers think they do.

A study by Beatty, Ewing and Sharp (2003), also showed that HR risk was associated with higher organisational risk. The very nature of global HR poses several risks, like political instability, fraud, terrorism, regulations, health and safety, human rights abuses and intellectual property issues (<http://www.sajhrm.co.za>).

Therefore, managing risk is the process by which a board, in consultation with managers, decides which risks to eliminate, accept, reduce or transfer (Naidoo, 2002). An HR risk is any people, culture or governance factor that causes uncertainty in the business environment that could adversely affect the company's operations (<http://www.sajhrm.co.za>).

#### **4. Results and Discussion**

This section presents the results and discusses the findings obtained from the questionnaire in this study. The data collected from the responses was analysed with SPSS version 20.0. The results will be presented in the form of graphs, cross tabulations and other figures.

The research findings from both public and private organisations identified for purposes of the study indicate that in general, the level of understanding of what corporate governance and risk management is, is limited among HR practitioners at all levels.

Table 1 below indicates that almost 19.0% of respondents in the public sector, across all categories of employment, strongly disagreed with a view that they have a very good understanding of what corporate governance is about, while 48.3% of respondents disagreed. About 8.6% of the respondents who disagreed with the statement were senior management, while 31.0% was middle management. Only 1.7% of respondents at senior management level have a very good understanding of what corporate governance is all about.

In the private sector, the picture is slightly different. The table below indicates that about 47.7% of respondents across all categories employment have a good understanding of what corporate governance is all about. In this figure, 25.0% of respondents are middle management while 11.4% is junior management.

**Table 1.** I have a very good understanding of what corporate governance is about \* Category of employment Cross tabulation

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I have a very good understanding of what corporate governance is about	SD	0	0.0	0	0.0	0	0.0	0	0.0	2	3.4	5	8.6	4	6.9	0	0.0
	D	0	0.0	1	2.3	1	2.3	0	0.0	5	8.6	18	31.0	1	1.7	4	6.9
	N	0	0.0	0	0.0	0	0.0	0	0.0	1	1.7	3	5.2	4	6.9	2	3.4
	A	2	4.5	11	25.0	5	11.4	3	6.8	1	1.7	3	5.2	3	5.2	2	3.4
	SA	0	0.0	13	29.5	4	9.1	4	9.1	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.696 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.063 (no significant relationship)

Interpretation: Private: Fisher's Exact Test p-value = 0.696 (no significant relationship between "Category of employment" and "I have a very good understanding of what corporate governance is about")

Interpretation: Public: Fisher's Exact Test p-value = 0.063 (no significant relationship between "Category of employment" and "I have a very good understanding of what corporate governance is about")

NOTE: A non-significant result means that the column variables did not affect the way the row variables were scored, and vice versa.

**Table 2.** All managers in my company are aware of what corporate governance is about

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
All managers in my company are aware of what corporate governance is about	SD	0	0.0	1	2.3	0	0.0	0	0.0	1	1.7	5	8.5	1	1.7	2	3.4
	D	0	0.0	2	4.5	0	0.0	2	4.5	8	13.6	17	28.8	7	11.9	5	8.5
	N	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	6.8	4	6.8	1	1.7
	A	2	4.5	22	50.0	10	22.7	5	11.4	0	0.0	3	5.1	0	0.0	1	1.7
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.479 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.625 (no significant relationship)



Table 2 provides a very concerning trend, given the fact that the responsibility to operationalise corporate governance plans rest with management. What further complicates matters is that Table 2 below indicates that 62.7% of respondents in the public sector do not believe that all managers in their company are aware of what corporate governance is about. About 13.6% and 28.8% of the 62.7% is from senior management and middle management respectively. This, again, is contrary to the private sector where 88.6% of respondents agree with the view that all managers in their company are aware of what corporate governance is about. About 50.0% of respondents in middle management in the private sector agree that all managers in their company are

aware of what corporate governance is about. This is a very strong indication that somehow private companies take corporate governance issues seriously in comparison with the public sector.

Table 3 below indicates that, in the private sector, those with higher academic qualifications have some understanding of what corporate governance is all about. The information reveals that about 25.0% of respondents agreed, while the other 25.0% strongly agree that they have a very good understanding of what corporate governance is about. The picture is different with the public sector. About 20.3% of respondents with B Degree disagreed that they have an understanding of what corporate governance is all about, while only 1.7% in the same category agreed.

**Table 3.** I have a very good understanding of what corporate governance is about

			I have a very good understanding of what corporate governance is about				
			SD	D	N	A	SA
Private	National Certificate	N	0	0	1	1	0
		%	0.0	0.0	2.5	2.5	0.0
	National Diploma	N	0	1	0	5	4
		%	0.0	2.5	0.0	12.5	10.0
	B. Tech	N	0	0	0	2	3
		%	0.0	0.0	0.0	5.0	7.5
	B. Degree	N	0	1	0	10	10
		%	0.0	2.5	0.0	25.0	25.0
	B. Degree (Hons)	N	0	0	0	2	0
		%	0.0	0.0	0.0	5.0	0.0
Public	National Certificate	N	0	3	2	2	0
		%	0.0	5.1	3.4	3.4	0.0
	National Diploma	N	1	2	4	3	0
		%	1.7	3.4	6.8	5.1	0.0
	B. Tech	N	3	5	0	1	0
		%	5.1	8.5	0.0	1.7	0.0
	M. Tech	N	0	0	1	1	0
		%	0.0	0.0	1.7	1.7	0.0
	B. Degree	N	3	12	4	1	0
		%	5.1	20.3	6.8	1.7	0.0
	B. Degree (Hons)	N	2	4	0	1	0
		%	3.4	6.8	0.0	1.7	0.0

Private: Fisher's Exact Test  $p$ -value = 0.427 (no significant relationship)

Public: Fisher's Exact Test  $p$ -value = 0.152 (no significant relationship)

The table 4 below indicate statistical information on the number of respondents in the public sector that know what risk management is about. About 11.9% of senior management and 28.6% of middle management do not know what risk management is about, while 38.1% across all categories were neutral. The response from the public sector respondents is very different when compared to the respondents in the private sector. About 19.0% of middle management and 11.9% of junior management know what risk management is about. The table also indicates that, even at low levels of operations,

respondents in private sector understand what risk management is about. About 9.5% of the respondents who understand what risk management is about, are HR practitioners.

Table 5 below reveals that in the public sector respondents who have worked between 5 to 10 years have little understanding or no understanding at all of what risk management is about. About 8.7% of respondents in the public sector who have worked less than 5 years and 19.6% of those respondents who have worked between 5 to 10 years do not know what risk management is about.

**Table 4.** I know what Risk Management is about

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I know what Risk Management is about	SD	0	0.0	0	0.0	0	0.0	0	0.0	2	4.8	1	2.4	1	2.4	1	2.4
	D	0	0.0	3	7.1	2	4.8	1	2.4	5	11.9	12	28.6	3	7.1	1	2.4
	N	1	2.4	7	16.7	1	2.4	1	2.4	1	2.4	7	16.7	6	14.3	2	4.8
	A	0	0.0	8	19.0	5	11.9	4	9.5	0	0.0	0	0.0	0	0.0	0	0.0
	SA	1	2.4	7	16.7	0	0.0	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.840 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.199 (no significant relationship)

**Table 5.** I know what Risk Management is about

		Private												Public													
		How long have you been working? (in years)																									
		Less than 5				5 - < 10		10 - 15		16 - 20		21 - 25		More than 25		Less than 5				5 - < 10		10 - 15		16 - 20		21 - 25	
N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I know what Risk Management is about	SD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.2	1	2.2	2	4.3	1	2.2	0	0.0
	D	0	0.0	3	7.3	0	0.0	1	2.4	0	0.0	0	0.0	4	8.7	9	19.6	4	8.7	3	6.5	4	8.7	3	6.5	0	0.0
	N	0	0.0	5	12.2	4	9.8	1	2.4	0	0.0	0	0.0	3	6.5	4	8.7	3	6.5	4	8.7	3	6.5	0	0.0	0	0.0
	A	3	7.3	8	19.5	6	14.6	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	SA	2	4.9	2	4.9	4	9.8	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.528 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.918 (no significant relationship)

Furthermore, about 20.5% of respondents in the public sector who have been in the employment of the organisations identified for this research between 3 and 6 years and 9.1% in the employment between 7 and 9 years do not know what risk management is all about. About 50.0% of all categories do not know what risk management is all about. The information gathered from the public sector

respondents differs significantly if compared to responses received from the private sector. About 15.0% of respondents employed between 3 and 6 years know what risk management is about, while 15.0% of the same category strongly agreed with the view that they understand what risk management is about. About 17.5% of respondents employed by participating companies for between 10 and 12 years, know what risk management is about.

**Table 6.** I know what Risk Management is about

		Private								Public											
		Tenure								Tenure											
		3 - 6 years		7 - 9 years		10 - 12 years		13 - 15 years		Less than 3 years		3 - 6 years		7 - 9 years		10 - 12 years		13 - 15 years		More than 15 years	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I know what Management is about	SD	0	0.0	0	0.0	0	0.0	0	0.0	2	4.5	1	2.3	0	0.0	1	2.3	1	2.3	0	0.0
	D	0	0.0	1	2.5	2	5.0	1	2.5	2	4.5	9	20.5	4	9.1	3	6.8	2	4.5	2	4.5
	N	5	12.5	0	0.0	2	5.0	2	5.0	0	0.0	4	9.1	3	6.8	1	2.3	2	4.5	7	15.9
	A	6	15.0	4	10.0	7	17.5	1	2.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	SA	6	15.0	3	7.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.046 (there is a significant relationship)

Public: Fisher's Exact Test p-value = 0.106 (no significant relationship)

**Table 7.** I have been trained by my company on Risk Management

		Private				Public			
		Permanent		Temporary		Permanent		Temporary	
		N	%	N	%	N	%	N	%
I have been trained by my company on Risk Management	SD	0	0.0	0	0.0	0	0.0	0	0.0
	D	12	30.0	1	2.5	26	54.2	3	6.3
	N	8	20.0	1	2.5	8	16.7	1	2.1
	A	15	37.5	3	7.5	10	20.8	0	0.0
	SA	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.990 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.624 (no significant relationship)

**Table 8.** I have been trained by my company on Risk Management

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I have been trained by my company on Risk Management	SD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	D	1	2.3	6	14.0	2	4.7	3	7.0	5	9.1	20	36.4	6	10.9	3	5.5
	N	1	2.3	5	11.6	3	7.0	3	7.0	1	1.8	4	7.3	2	3.6	3	5.5
	A	0	0.0	14	32.6	4	9.3	1	2.3	2	3.6	4	7.3	3	5.5	2	3.6
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.336 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.605 (no significant relationship)

The fact that some respondents have been in the employ of the selected companies and departments for a longer period did make them understand or get exposed to risk management practices. The table above indicates that about 20.5% of respondents in the public sector who have been employed between 3 and 9 years, and 6.8% of respondents who have been employed between 10 and 12 years do not know what risk management is about. In the private sector, 10.0% of respondents who have been employed between 7 to 9 years, and 17.5% of respondents employed between 10 to 12 years know what risk management is about. In both sectors, the more people are in the employ of the selected companies, the less they know what risk management is about. The assumption is that the more people are in the employ of the company, the more they will be exposed to risk management and internal controls practices and training.

Not much investment has been made by government departments to capacitate or train its employees across all levels on risk management. About 54.2% of respondents who are permanently employed were not trained on risk management, while only 20.8% were trained and 16.7% were neutral. In comparison, with the table below, participating companies appear to have invested in employees through training in dealing with risk management. The table below reveals that about 37.5% of respondents have been trained by their companies on risk management, while 30.0% disagreed.

Furthermore, about 61.8% of respondents across all categories of employment strongly disagreed with suggestions that they had been trained by their organisations on risk management. About 9.1% of the 61.8% in the public sector were senior management, while 36.4% was middle management. While 44.2% of respondents across all categories of employment have been trained by their companies on risk management. Of this 44.2%, 32.6% is from middle management in the private sector.

Despite long years of employment, about 8.8% of respondents who have been working between 16 and 20 years cannot identify risk in their environments. While 11.8% of the respondents who have been employed between 5 and 10 years have a similar challenge.

Even though the picture is not significantly different to that is the public sector, about 7.3% of respondents who have worked between 5 to 10 years and 10 to 15 years respectively, know how to identify risk in their environment.

The information gathered from the respondents in the public sector indicates that only 3.2% of middle management can be able to identify risk in their

environment, while 6.4% of senior management, 19.4% of middle management and 11.3% of junior management cannot identify risk in their environments.

The information gathered from the respondents in the private sector indicates that only 16.7% of middle management can be able to identify risk in their environment, while 7.1% of junior management can be able identify risk in their environments. About 28.6% of middle management and 2.4% of senior management in the private sector do not know how to identify risk in their environments. There was no significant difference between the private and public sector's responses. About 6.5% of senior management and 19.4% of middle management in the public sector do not know how to identify risk in their environments.

Further to the above, about 55.0% of respondents in the public sector is of the view that risk management is for senior management. Of this 55.0%, 31.7% is from middle management, while 6.7% is from senior management and junior management respectively. About 30.0% of middle management in the private sector agrees that risk management is for senior management. About 10.0% of respondents in the private sector were neutral, while 12.5% of junior management disagreed.

Ironically, about 11.7% of senior management do not see the relevance of risk management on their day-to day responsibilities. The table below further indicates that 25.0% of middle management in the public sector is also of the view that there is no relevance of risk management on their day to day responsibilities. Instead, in table below, about 33.9% of respondents in the public sector are of the view that risk management is for operational managers.

About 40.9% of middle management and 15.9% of junior management respondents strongly disagreed with the view that they do not see the relevance of risk management on their day-to-day responsibilities. This is very much contrary to the responses gathered from public sector respondents.

Further, the table 13 below also indicates that about 7.1% of senior management and 16.1% of middle management respondents in the public sector agreed with a view that risk management is for operational managers, while 2.3% of senior management and 18.6% of middle management in the private sector share the same sentiment. About 14.0% of junior management and 11.6% of HR practitioners in the private sector disagreed with the view that risk management is for operational managers. In the public sector, in the same categories, about 3.6% and 5.4% respectively disagreed with the statement.

**Table 9.** I know how to identify risk in my environment

		Private											Public												
		How long have you been working? (in years)											How long have you been working? (in years)												
		Less than 5		5 - < 10		10 - 15		16 - 20		21 - 25		More than 25		Less than 5		5 - < 10		10 - 15		16 - 20		21 - 25		More than 25	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I know how to identify risk in my environment	SD	1	2.4	3	7.3	0	0.0	0	0.0	0	0.0	0	0.0	2	2.9	5	7.4	4	5.9	3	4.4	1	1.5	0	0.0
	D	1	2.4	13	31.7	7	17.1	2	4.9	0	0.0	0	0.0	5	7.4	8	11.8	6	8.8	6	8.8	3	4.4	0	0.0
	N	1	2.4	3	7.3	2	4.9	0	0.0	0	0.0	0	0.0	2	2.9	7	10.3	3	4.4	6	8.8	5	7.4	0	0.0
	A	2	4.9	0	0.0	3	7.3	3	7.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.5	0	0.0	1	1.5	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.029 (there is a significant relationship)

Public: Fisher's Exact Test p-value = 0.966 (no significant relationship)

**Table 10.** I know how to identify risk in my environment

		Private								Public							
		Category of employment								Category of employment							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I know how to identify risk in my environment	SD	0	0.0	2	4.8	1	2.4	0	0.0	2	3.2	5	8.1	3	4.8	3	4.8
	D	1	2.4	12	28.6	4	9.5	5	11.9	4	6.5	12	19.4	7	11.3	4	6.5
	N	0	0.0	4	9.5	1	2.4	1	2.4	3	4.8	12	19.4	2	3.2	3	4.8
	A	0	0.0	7	16.7	3	7.1	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	3.2	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.986 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.895 (no significant relationship)

**Table 11.** Risk Management is for Senior Management

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Risk Management is for Senior Management	SD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	D	1	2.5	5	12.5	5	12.5	3	7.5	1	1.7	5	8.3	1	1.7	0	0.0
	N	1	2.5	4	10.0	0	0.0	0	0.0	1	1.7	5	8.3	3	5.0	1	1.7
	A	0	0.0	12	30.0	3	7.5	4	10.0	4	6.7	19	31.7	4	6.7	6	10.0
	SA	0	0.0	2	5.0	0	0.0	0	0.0	3	5.0	2	3.3	3	5.0	2	3.3

Private: Fisher's Exact Test p-value = 0.311 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.438 (no significant relationship)

**Table 12.** I do not see the relevance of Risk Management on my day-to-day responsibilities

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I do not see the relevance of Risk Management on my day-to-day responsibilities	SD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	D	1	2.3	18	40.9	7	15.9	3	6.8	1	1.7	5	8.3	3	5.0	1	1.7
	N	0	0.0	3	6.8	2	4.5	2	4.5	1	1.7	8	13.3	4	6.7	5	8.3
	A	1	2.3	5	11.4	0	0.0	2	4.5	7	11.7	15	25.0	5	8.3	0	0.0
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	3.3	0	0.0	3	5.0

Private: Fisher's Exact Test p-value = 0.332 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.024 (there is a significant relationship)

**Table 13.** Risk Management is for Operations Managers

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Risk Management is for Operations Managers	SD	0	0.0	2	4.7	1	2.3	0	0.0	1	1.8	2	3.6	0	0.0	0	0.0
	D	1	2.3	7	16.3	6	14.0	5	11.6	2	3.6	7	12.5	2	3.6	3	5.4
	N	0	0.0	7	16.3	0	0.0	1	2.3	0	0.0	6	10.7	2	3.6	3	5.4
	A	1	2.3	8	18.6	3	7.0	1	2.3	4	7.1	9	16.1	4	7.1	2	3.6
	SA	0	0.0	0	0.0	0	0.0	0	0.0	1	1.8	4	7.1	3	5.4	1	1.8

Private: Fisher's Exact Test p-value = 0.419 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.897 (no significant relationship)

**Table 14.** Risks Management is for Company Board

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Risks Management for Company Board	SD	0	0.0	0	0.0	0	0.0	0	0.0	1	2.3	5	11.6	1	2.3	1	2.3
	D	1	2.2	10	22.2	5	11.1	1	2.2	4	9.3	7	16.3	5	11.6	3	7.0
	N	1	2.2	6	13.3	1	2.2	2	4.4	3	7.0	5	11.6	2	4.7	2	4.7
	A	0	0.0	10	22.2	4	8.9	4	8.9	0	0.0	3	7.0	0	0.0	1	2.3
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.606 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.944 (no significant relationship)

In Table 15 below, about 37.1% of respondents in the public sector across all categories of employment disagreed with the view that their job description includes risk management, while 35.5% strongly disagreed. Of the 37.1% disagreeing, 6.5% is from senior management, while 17.7% and 8.1% is from middle management and junior management respectively.

Further, the table indicates that, similar to responses received from respondents in the public sector; the job descriptions of a significant number of respondents in the private sector also do not include risk management. About 41.0% of the respondents in middle management disagreed with the fact that their job description includes Risk Management. About 12.8% of the same category strongly disagreed.

According to the table below, about 43.9% of respondents in the public sector disagreed with the notion that risk management issues are discussed in their HR Departmental meetings. Of the 43.9%, 10.6% are respondents who have worked between 5 to 10 years, while 12.1% are the respondents who have been working between 10 to 15 years. Only 6.1% and 3.0% in the same category agree that risk management issues are discussed in HR departmental meetings. The picture in the private sector is no different to that of the private sector respondents. About 18.2% of respondents who have been working between 5 to 10 years and 15.9% of respondents who have worked between 10 to 15 years disagreed that risk management issues are discussed in HR Departmental meeting.

Those who are expected to be leading in creating a culture of risk management by keeping risk management issues as standing agenda items in HR Departmental meetings do not do so. About 6.7% of senior management and 23.3% of middle management respondents in the public sector disagreed with the view that risk management issues are discussed in HR Departmental meetings. About 2.2 % and 22.2% in the same category in the private sector. About 13.3% of middle management in the private sector were neutral.

Only about 37.2% of respondents in middle management and 16.3% of respondents in junior management in the private sector disagreed with the views that in their environments there are strong internal controls mechanism. With only about 20.9%

of the middle management agreeing with the statement. In the public sector, the picture was no different. About 20.0% of middle management respondents and 11.7% of junior management respondents disagreed with the statement. About 26.7% of middle management respondents were neutral.

Strong internal control mechanisms to manage risk seem not to be in place despite 17.8% of middle management and 2.2% respondents in the private sector agreeing with the view that, in their companies, there are company-wide risk management plans, while about 28.9% of middle management were neutral. The picture was no different in the public sector. About 14.8% of middle management and 3.3% of senior management agreed with the view that, in their companies, there are company-wide risk management plans, while about 21.3% of middle management was neutral.

The table 20 below indicates that about 22.5% and 12.5% of respondents who have worked between 5 to 10 years and 10 to 15 years respectively in the private sector, agree with the view that their companies have lost financially over the past two years due to none existence of a Risk Management Plan, while only about 7.5% and 10.0% in the same category disagreed. The picture is slightly different with the public sector. About 11.5% of respondents who have worked between 5 and 10 years agreed with the view that their companies have lost financially over the past two years due to none existence of a Risk Management Plan. In the same category, about 11.5% strongly disagreed. A significant number of respondents in both sectors were neutral.

Generally, in both sectors, the respondents' overall rating of their companies' approach to risk management is poor. The table below indicates that about 17.2% of middle management and 6.9% of junior management in the private sector rate their companies' approach on risk management very poor. About 5.2% of senior management in the same sector rate their companies' approach as poor. In the public sector, about 30.9% of middle management and 10.9% of junior management rate their companies approach as poor, while about 3.6% of senior management in the same sector rate their companies approach as poor.

**Table 15.** My Job Description include Risk Management

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
My Job Description include Risk Management	SD	0	0.0	5	12.8	3	7.7	1	2.6	3	4.8	13	21.0	3	4.8	3	4.8
	D	1	2.6	16	41.0	6	15.4	3	7.7	4	6.5	11	17.7	5	8.1	3	4.8
	N	1	2.6	2	5.1	0	0.0	1	2.6	0	0.0	2	3.2	2	3.2	4	6.5
	A	0	0.0	0	0.0	0	0.0	0	0.0	2	3.2	5	8.1	2	3.2	0	0.0
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.495 (no significant relationship) Public: Fisher's Exact Test p-value = 0.376 (no significant relationship)

**Table 16.** Risk Management issues are discussed in our HR Department meetings \* How long have you been working? (in years)

		Private												Public											
		How long have you been working? (in years)																							
		Less than 5		5 - < 10		10 - 15		16 - 20		21 - 25		More than 25		Less than 5		5 - < 10		10 - 15		16 - 20		21 - 25		More than 25	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Risk Management issues are discussed in our HR Department meetings	SD	1	2.3	2	4.5	1	2.3	0	0.0	0	0.0	0	0.0	3	4.5	3	4.5	1	1.5	2	3.0	1	1.5	0	0.0
	D	4	9.1	8	18.2	7	15.9	0	0.0	0	0.0	0	0.0	5	7.6	7	10.6	8	12.1	5	7.6	4	6.1	0	0.0
	N	0	0.0	6	13.6	3	6.8	2	4.5	0	0.0	0	0.0	1	1.5	3	4.5	2	3.0	4	6.1	1	1.5	0	0.0
	A	0	0.0	4	9.1	3	6.8	1	2.3	0	0.0	0	0.0	0	0.0	4	6.1	2	3.0	1	1.5	0	0.0	0	0.0
	SA	0	0.0	0	0.0	0	0.0	2	4.5	0	0.0	0	0.0	0	0.0	4	6.1	0	0.0	3	4.5	2	3.0	0	0.0

Private: Fisher's Exact Test p-value = 0.114 (no significant relationship) Public: Fisher's Exact Test p-value = 0.673 (no significant relationship)

**Table 17.** Risk Management issues are discussed in our HR Department meetings

		Private								Public							
		Category of employment															
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Risk Management issues are discussed in our HR Department meetings	SD	0	0.0	2	4.4	1	2.2	1	2.2	1	1.7	4	6.7	1	1.7	4	6.7
	D	1	2.2	10	22.2	4	8.9	3	6.7	4	6.7	14	23.3	6	10.0	1	1.7
	N	1	2.2	6	13.3	1	2.2	3	6.7	2	3.3	5	8.3	2	3.3	2	3.3
	A	0	0.0	7	15.6	3	6.7	0	0.0	2	3.3	3	5.0	1	1.7	0	0.0
	SA	0	0.0	1	2.2	1	2.2	0	0.0	0	0.0	4	6.7	2	3.3	2	3.3

Private: Fisher's Exact Test p-value = 0.809 (no significant relationship) Public: Fisher's Exact Test p-value = 0.496 (no significant relationship)



**Table 18.** My HR environment has strong internal control mechanisms to manage risk

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
My HR environment has strong internal control mechanisms to manage risk	SD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.7	0	0.0	0	0.0
	D	1	2.3	16	37.2	7	16.3	3	7.0	3	5.0	12	20.0	7	11.7	3	5.0
	N	0	0.0	0	0.0	0	0.0	0	0.0	6	10.0	16	26.7	2	3.3	3	5.0
	A	1	2.3	9	20.9	3	7.0	3	7.0	0	0.0	1	1.7	3	5.0	3	5.0
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.868 (no significant relationship) Public: Fisher's Exact Test p-value = 0.065 (no significant relationship)

**Table 19.** My Company has an a Companywide Risk Management Plan \* Category of employment Cross tabulation

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
My Company has an a Companywide Risk Management Plan	SD	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6	3	4.9	2	3.3	0	0.0
	D	0	0.0	1	2.2	2	4.4	1	2.2	1	1.6	6	9.8	1	1.6	1	1.6
	N	1	2.2	13	28.9	4	8.9	5	11.1	5	8.2	13	21.3	5	8.2	5	8.2
	A	1	2.2	8	17.8	2	4.4	0	0.0	2	3.3	9	14.8	4	6.6	3	4.9
	SA	0	0.0	4	8.9	2	4.4	1	2.2	0	0.0	0	0.0	0	0.0	0	0.0

Private: Fisher's Exact Test p-value = 0.557 (no significant relationship) Public: Fisher's Exact Test p-value = 0.983 (no significant relationship)

**Table 20.** My company has lost financially over the past two years due to none existence of Risk Management Plan \* How long have you been working? (in years) Cross tabulation

		Private												Public											
		How long have you been working? (in years)																							
		Less than 5		5 - < 10		10 - 15		16 - 20		21 - 25		More than 25		Less than 5		5 - < 10		10 - 15		16 - 20		21 - 25		More than 25	
N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
My company has lost financially over the past two years due to none existence of Risk Management Plan	SD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	11.5	3	4.9	4	6.6	3	4.9	0	0.0
	D	0	0.0	3	7.5	4	10.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	N	0	0.0	7	17.5	4	10.0	3	7.5	0	0.0	0	0.0	6	9.8	4	6.6	5	8.2	6	9.8	2	3.3	0	0.0
	A	3	7.5	9	22.5	5	12.5	2	5.0	0	0.0	0	0.0	1	1.6	7	11.5	2	3.3	2	3.3	2	3.3	0	0.0
	SA	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6	2	3.3	1	1.6	2	3.3	1	1.6	0	0.0

Private: Fisher's Exact Test p-value = 0.523 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.532 (no significant relationship)

Public: Fisher's Exact Test p-value = 0.555 (no significant relationship)

**Table 22.** Overall how would you rate your company's approach on Risk Management?

		Private								Public							
		Senior Management		Middle Management		Junior Management		HR Practitioner		Senior Management		Middle Management		Junior Management		HR Practitioner	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Overall how would you rate your company's approach on Risk Management?	Very Poor	0	0.0	10	17.2	4	6.9	2	3.4	0	0.0	0	0.0	0	0.0	0	0.0
	Poor	3	5.2	5	8.6	0	0.0	3	5.2	2	3.6	17	30.9	6	10.9	5	9.1
	Neutral	6	10.3	10	17.2	4	6.9	2	3.4	1	1.8	2	3.6	3	5.5	1	1.8
	Good	0	0.0	4	6.9	4	6.9	1	1.7	0	0.0	5	9.1	2	3.6	1	1.8
	Excellent	0	0.0	0	0.0	0	0.0	0	0.0	5	9.1	4	7.3	0	0.0	1	1.8

## 5. Conclusion

The study has revealed that HR practitioners have a limited understanding of corporate governance, in general, and risk management, in particular. The fact that, at senior management level and middle management, there was a significant number of respondents who could not appreciate the importance of putting controls in place in an HR environment is concerning. Based on the findings established through this study, risk management issues are not necessarily part of HR culture in both public and private sectors. This was consistent with both sectors' lack of commitment to invest in risk management trainings as part culture change programmes. What further complicates matters is the fact that some HR practitioners' job descriptions, at all levels, do not include risk management as one of key permanence areas. This is despite the fact some companies and government department have suffered financial losses due to weak controls. Clearly, this will require a major shift in attitude for HR practitioners.

According to Coetzee et al (2011), with regard to the organisational culture, leadership from senior management and the governing body to incorporate a risk mindset into the organisation's culture is a critical element in the drive to achieving an effective risk management framework. This change will also have to be driven by Audit Committees, through asking critical questions on HR practitioners' role in inculcating the culture of risk management and control. More investment is also required to effect such behavioral change. This will include training and capacity programmes at all levels.

## 5.1 Proposed Model

An analysis of the private sector results lends itself to a model, constructed from selected variables related to the research question. The ANOVA p-value (0.018) indicates that, collectively, the chosen predictors adequately predict the dependent variable.

Even though the public sector p-value is slightly greater than the level of significance ( $p = 0.093$ ), the same variable is significant (Risk Management issues are discussed in our HR Department meetings). The equation that governs the model is summarised as follows:

My Company has an a Company-wide Risk Management Plan =  $2.828 + \{0.317 \times \text{Risk Management issues are discussed in our HR Department meetings}\} - \{0.081 \times \text{Risk Management is for every manager's responsibility}\}$

In effect, the model indicates that there is a direct link between an organisation having a company-wide risk management plan and the discussion of risk management issues in HR Department meetings. Company policy dictates that issues are discussed in meetings. A lack of policy would result in less discussions in meetings, and vice versa. This would probably impact on the levels of understanding that managers would have as a result.

The model is an initial attempt at identifying possible interactions that would affect manager knowledge levels regarding risk management due to the existence of policies. A more extensive study would need to selectively identify parameters that affect knowledge systems and applications relating to managers.

**Table 23.** Private Sector

Variables Entered/Removed <sup>a</sup>			
Model	Variables Entered	Variables Removed	Method
1	Risk Management is for every manager's responsibility, Risk Management issues are discussed in our HR Department meetings <sup>b</sup>	.	Enter
a. Dependent Variable: My Company has an a Companywide Risk Management Plan			
b. All requested variables entered.			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.405 <sup>a</sup>	.164	.127	.793
a. Predictors: (Constant), Risk Management is for every manager's responsibility, Risk Management issues are discussed in our HR Department meetings				

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.534	2	2.767	4.404	.018 <sup>b</sup>
	Residual	28.278	45	.628		
	Total	33.813	47			
a. Dependent Variable: My Company has an a Companywide Risk Management Plan						
b. Predictors: (Constant), Risk Management is for every manager's responsibility, Risk Management issues are discussed in our HR Department meetings						

The F-value is 4.404. The p-value associated with this F value is 0.018. These values are used to answer the question "Do the independent variables

reliably predict the dependent variable?" The p-value is compared to the alpha level (typically 0.05) and, if smaller, it can be concluded that the predictors can be

used to give a good indication of performance since the significance value is less than 0.05. In this case, since the p-value is smaller than 0.05, it can be stated

that the independent variables predict the dependent variable.

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.828	.491		5.756	.000
	Risk Management issues are discussed in our HR Department meetings	.317	.112	.386	2.821	.007
	Risk Management is for every manager's responsibility	-.081	.112	-.098	-.720	.475

a. Dependent Variable: My Company has an a Companywide Risk Management Plan

This table shows the predictor variables. The first variable (**constant**) represents the constant, also referred to in textbooks as the Y intercept, the height of the regression line when it crosses the Y axis. In other words, this is the predicted value of **My Company has a Company-wide Risk Management Plan** when all other variables are 0.

The highlighted p-values imply that the coefficients for the variables are not zero, i.e. they do affect the model.

These are the values for the regression equation for predicting the dependent variable from the independent variable. These are called

unstandardized coefficients because they are measured in their natural units. As such, the coefficients cannot be compared with one another to determine which one is more influential in the model, because they can be measured on different scales.

The regression equation can be presented as follows:

$$Y_{\text{predicted}} = b_0 + b_1 \cdot x_1 + b_2 \cdot x_2 \text{ (in general)}$$

$$\text{My Company has an a Companywide Risk Management Plan} = 2.828 + \{0.317 \times \text{Risk Management issues are discussed in our HR Department meetings}\} - \{0.081 \times \text{Risk Management is for every manager's responsibility}\}$$

**Table 24. Public Sector**

Variables Entered/Removed <sup>a</sup>			
Model	Variables Entered	Variables Removed	Method
1	Risk Management is for every manager's responsibility, Risk Management issues are discussed in our HR Department meetings <sup>b</sup>		Enter

a. Dependent Variable: My Company has an a Companywide Risk Management Plan  
b. All requested variables entered.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.276 <sup>a</sup>	.076	.045	.823

a. Predictors: (Constant), Risk Management is for every manager's responsibility, Risk Management issues are discussed in our HR Department meetings

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.342	2	1.671	2.466	.093 <sup>b</sup>
	Residual	40.658	60	.678		
	Total	44.000	62			

a. Dependent Variable: My Company has an a Companywide Risk Management Plan  
b. Predictors: (Constant), Risk Management is for every manager's responsibility, Risk Management issues are discussed in our HR Department meetings

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.784	.317		8.797	.000
	Risk Management issues are discussed in our HR Department meetings	.186	.086	.281	2.169	.034
	Risk Management is for every manager's responsibility	-.119	.112	-.138	-1.068	.290

a. Dependent Variable: My Company has an a Companywide Risk Management Plan

## 5.2 Recommendation

Further development and testing of a model can be done at a later stage for these results.

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## RESIDENTIAL MORTGAGE CRISIS - AN ISLAMIC FINANCE PERSPECTIVE

Mostafa Beheshti Seresht\*, Hasna Haj Najafi\*\*

### Abstract

In this paper, we try to analyze the US residential mortgage crisis in the light of the financial principles of *Shari'ah*. For this purpose, we will firstly present a summary of the US residential mortgage crisis. Then, in the second part of the paper, we will explore relevant financial principles of *Shari'ah* law. In this part, special attention is paid to analyze the residential mortgage crisis according to *Shari'ah* principles and *Shia* interpretation of *Shari'ah* through Civil Code of Iran. The main claim is that if mortgage transactions had been concluded in compliance with the principles of *Shari'ah* law, the whole chain of crisis would not have occurred.

**Keywords:** Credit Crisis of 2007, Islamic Finance, *Shari'ah* Law

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### 1. Introduction

The severity of the recent financial crisis has resulted in the evaluation of the roots of the problem and the exploration for alternative ideas and possible solutions. Different legal, economic, regulatory, financial, and political reformations are proposed in order to find a means for escape from the current credit crisis. In this respect, attention has been turned, mainly by Muslim economists and jurist, to principles of Islamic finance as a potential cure for ailments of the capitalist financial system. Also, capacity of Islamic finance was implicitly or explicitly emphasized even through the works of non-Muslim scholars.<sup>1</sup>

Islamic finance is based on ethical precepts of *Shari'ah*, an Arabic term that is often translated into "Islamic law". *Shari'ah* provides guidelines for multiple aspects of Muslims' life, including worship, personal life, economics, politics, banking, business and aspects of the legal system. *Shari'ah*-compliant finance seeks to shape financial practices and legal instruments that conform to Islamic principles. The

expression "Islamic finance" comprises two competing forces at its core. On one hand, the word "finance" suggests that Islamic financial institutions, similar to conventional institutions, deal with the allocation of financial credit and risk. On the other hand, the term "Islamic" implies that there are some fundamental differences between Islamic finance and its conventional counterparts.

It is worth to mention that since *Shari'ah* law is not a single codified framework of legal rules and is open to interpretation, the opinions of *Shari'ah* scholars may differ on the same question of *Shari'ah* law depending on the school of thought of which particular scholars are adherent. However, there are still fundamental *Shari'ah* principles derived from primary Islamic sources (*Quran*, and prophetic words (*Hadith*)) accepted by all Islamic schools such as prohibition of interest (*riba*).<sup>14</sup> For the purpose of this paper, we try to study financial crisis from the viewpoint of these fundamental *Shari'ah* principles commonly accepted by nearly all interpretations. Also, wherever necessary, reference is made to *Shia* interpretation of *Shari'ah* law that has been the basis for legal rules in Iran especially after the Islamic Revolution of 1979.

### Summary of Residential Mortgage Crisis

A "financial crisis" is generally defined to be "a wider range of disturbances, such as sharp declines in asset prices, failures of financial intermediaries, or

<sup>1</sup> For example, Nobel Prize Winner, Maurice Allais believes that the way out of such financial crises is best achieved through structural reforms by adjusting the rate of interest to 0% and revising the tax rate to nearly 2%. This proposition has attracted attention to principles of Islamic finance, since many believe that what Allais proposes is the core element of Islamic finance. See Hussein Alasrag, Global Financial Crisis and Islamic finance, published online at: <http://ssrn.com/abstract=1591563>, at 3-4.

disruption in foreign exchange markets".<sup>2</sup> Financial crises are common phenomena in history hitting the market from time to time. Current financial crisis, which started in the summer of 2007, is the severest and most widespread crisis after the Great Depreciation of 1929-1943.<sup>3</sup> The Bank for International Settlement (BIS) has mentioned on its 2008 annual report that the root of almost all crises has been excessive and imprudent lending by banks.

Almost every one agree that the root of current financial crisis returns to high-risk and high-cost subprime mortgage lending, which was an established part of the market by the mid-1990s and exploded during 2001-2006. Subprime mortgages were issued to borrowers who were perceived to pose a high risk of default. These loans had substantially higher interest rates than prime mortgages, and were more likely to include costly terms such as prepayment penalties.

In the past, bankers who originated loans and held them to maturity, avoided to lend to subprime customers. By emerging financial innovations such as CDO<sup>4</sup> and CDS<sup>5</sup>, bankers eagerly competed to attract as more customers, including subprime customers, as possible through originate-to-distribute model. Originate-to-distribute is a model in which the originator of the loan sells it to someone called Special Purpose Vehicle (SPV) who combines the loan in a portfolio of similar loans and then issues new securities that hold a claim against the income provided by the loan portfolio. The process of SPV works as a type of securitization for originator banks.

The purpose of securitization is either to transfer the risk involved with underlying assets, or to refinance the assets, or both. Through securitization, the default risk was no longer a concern since mortgage originators passed the risk to investors who bought mortgage-backed securities (MBSs). Moreover, bankers reached to the new source of financing as securitization increased the liquidity of their assets.

A large portion of the financial institutions (investors) that were potential purchasers of these mortgage-backed securities were restricted from buying subprime debt because it was considered too risky. To solve his problem, the SPVs enhanced the risk of MBSs through tranching, a process in which the SPV held MBSs in a pool as the underlying assets and divided the cashflow originated from them into different levels (tranches). Senior tranches were paid completely before the junior tranches and equity tranches. When any of the subprime borrowers in the pool defaulted, losses were first borne by the equity securities, next by the junior tranches, and finally by

the senior tranches. Next SPVs got the rating agencies to assign credit ratings to each tranche. The higher levels (senior tranches) which were the last to take losses if mortgages defaulted were given the highest credit ratings and the lower levels (equity tranches) that were the first to take losses were given the lowest ratings. Through this procedure, SPVs could easily sell high-rated tranching MBSs to potential buyers (investors). For the low-rated tranching MBSs and in order to provide protection against default, either the SPVs or the buyer of MBSs (investors) purchased an especial type of insurance called Credit Default Swap (CDS). By owning this instrument, the creditor (holder of MBSs and CDSs) pays a premium to an insurer<sup>6</sup> for the compensation it will receive when the debtor defaults.<sup>7</sup>

The combination of low-rated MBSs and CDSs made some investors to think that there are arbitrage opportunities in the market.<sup>8</sup> So, these investors purchased MBSs only for the purpose of securitization through issuing Collateralized Debt Obligations (CDOs) and sold them to other investors. Also, some investors who expected default for MBSs (or CDOs) just purchased CDSs from insurance companies without owning the debt security. Moreover, since the credit risk to be transferred in the swap might be very, very large, insurance companies arranged synthetic CDOs which were a portfolio of credit default swaps, and offered them to the investors. The investors who sold the synthetic CDO got premiums because they were betting the referenced securities (MBSs or CDO's) will perform. The investors who bought the synthetic CDO paid premiums because they were betting the referenced securities will default. The buyer received a large payout from the seller if the referenced securities default.<sup>9</sup>

The economic incentives provided to the originators of mortgages loans, along with the rapid appreciation of house prices in the US market, increased the number of subprime mortgages from 7.2% of total loans in 2001 to 20.1% in 2006.<sup>9</sup> Approximately 80% of these mortgages were adjustable-rate mortgages. In June 2004, the Federal Reserve had begun to increase shortterm interest rates from 1% so that it reached to 5.25% in 2006. When US house price began to decline in 2006 and into 2007, adjustable-rate mortgages began to reset at higher rates, and refinancing became more difficult. The decrease in home prices resulted in many owners finding themselves in a position of negative equity - with mortgage debt exceeding the value of the underlying property. The dramatic rise in mortgage

<sup>2</sup> Roy E. Allen, *Financial Crises and Recession in the Global Economy*, 3<sup>rd</sup> ed., (Cheltenham: Edward Elgar Publishing, 2009), at 116.

<sup>3</sup> Marc Jarsulic, *Anatomy of A Financial Crisis*, (New York: Palgrave MacMillan, 2010), at 55.

<sup>4</sup> Collateralized Debt Obligation

<sup>5</sup> Credit Default Swap

<sup>6</sup> These insurers, known as monolines, unlike regular insurance companies, which are required by law to keep capital reserves, did not maintain appropriate reserves for their exposures. *Supra* note 8 at 63.

<sup>7</sup> *Supra* note 12 at 66-70.

<sup>8</sup> Jochen Felsenheimer & Philip Gisdakis, *supra* note 13 at 106.

<sup>9</sup> *Supra* note 6 at 6.

delinquencies and foreclosures in the United States

triggered borrowers' defaults, and bankruptcies.

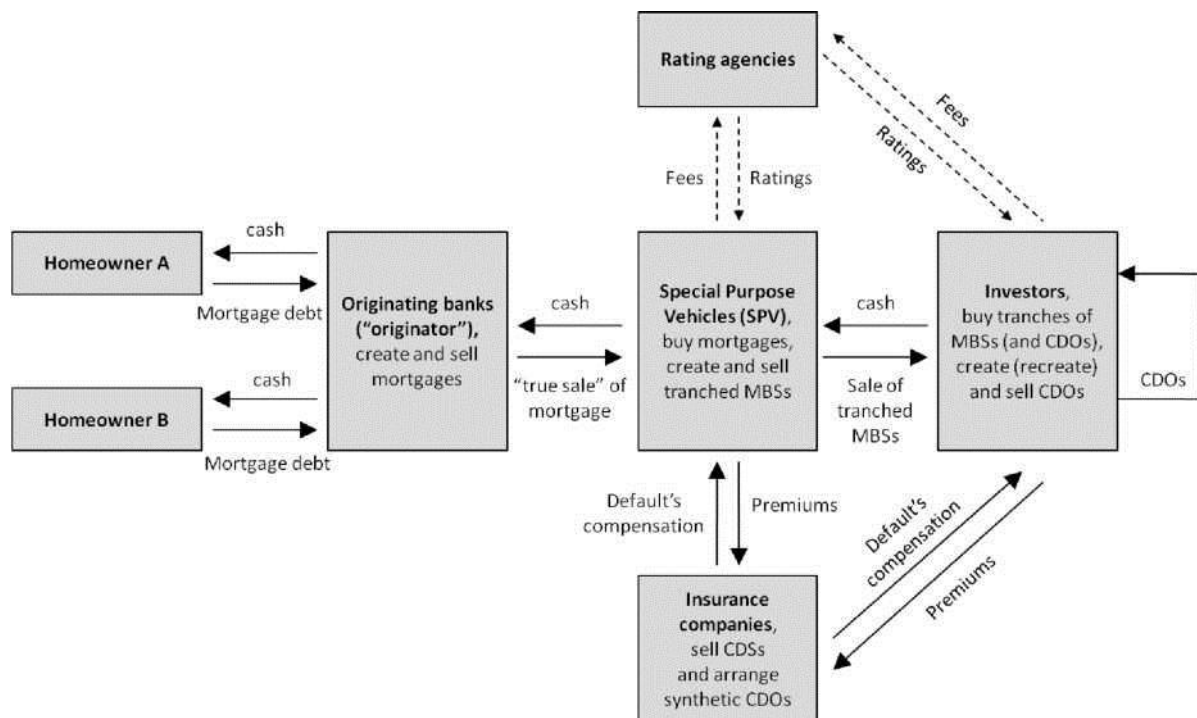


Figure 1. Residential mortgage crisis at a glance

Source: Larry Cordell et al, "The Contribution of Structured Finance to the Financial Crisis" at 241, (with adoption)

### Residential Mortgage Crisis in the light of Shari'ah principles

There are a number of key Shari'ah principles and prohibitions relevant to finance and commercial transactions which were violated in the issue of residential mortgage crisis in the US

These Shari'ah principles include prohibition of interest (riba), prohibition of uncertainty (maysir and gharar), and prohibition on securitization of unreal assets.

#### Prohibition on interest (riba)

Shari'ah principle:

The prohibition of interest or riba, which is based on a number of verses from the Quran, is the most distinguishing feature of Islamic finance. The literal meaning of riba is "increase", "addition", or "surplus". In the Shari'ah, the word "riba" stands for any unjustifiable addition to the principal whether through loans or sales. More precisely, any positive, fixed, and predetermined rate that is guaranteed regardless of the performance of the investment is considered riba and is prohibited. Islamic scholars believe that riba covers not only usury (to fix the interest rate higher than what is declared as legal), but also charging, paying, or receiving any kind of predetermined interest.

Prohibition of interest is so crucial to Islamic finance that some scholars describe Islamic finance simply as an "interest-free" financial system. This description, however, does not provide a true picture of the system as a whole. Undoubtedly, prohibition of interest is the nucleus of Islamic finance, but Islamic finance also includes other financial principles.

Prohibition of riba is mainly based on the argument that Shari'ah does not recognize the time value of money; therefore it is not permissible to make money by lending it. Making money from money is unfair, exploitative in nature, and thus forbidden. Money must be used to create real economic value and it is only permissible to earn a return from investing money in permissible commercial activities which involve the financier or investor taking some commercial risks. According to Shari'ah principles, money is only a means of exchange and not an independent commodity per se. Therefore it cannot grow without being invested in a permitted investment to realize returns. As a result, Islamic finance establishes more connections to the real economy rather than financial sector.

Islamic finance is based on the core principle of risk-sharing instead of risk-transferring. Shari'ah law requires both the financier and the entrepreneur to equitably share the profit as well as the loss. The financier can not shift the whole burden of losses to the entrepreneur or the borrower by fixing a predetermined interest rate. As a result of distribution of risk, financial institutions try to assess risks more



carefully. They also monitor the use of funds by borrowers more precisely. Some scholars believe that the double assessment of risks by both the financier and the entrepreneur results in a higher level of performance in Islamic finance in comparison with the conventional financing.<sup>10</sup>

#### *Residential Mortgage Crisis Analysis:*

Interest (riba) played a significant role in the gravity of the situation. According to the Shari'ah principles, making money from money is forbidden. The prohibition of interest and the rule of profit-and-loss-sharing in Islamic finance guarantee that both the lender and the borrower will rarely face with negative equity and default. Since loss of the borrower is also at the expense of the lender, banks and financial institutions are more prudent and are not caught in the trap of lending too much money to earn fixed interests. As it was discussed in the first part, the BIS believes that the root of almost all crises is excessive and imprudent lending by banks.

Financial crisis statistics show that nearly 80% of subprime mortgages issued in the US especially between 2004 and 2007 had "adjustable" rates of interest. As a result, when house prices began to decline in 2006, refinancing became more difficult and as adjustable-rate mortgages began to reset at higher rates, mortgage delinquencies soared. On one hand, subprime borrowers faced with the decrease in the price of their houses and on the other, they were required to pay more interest rates to the financier. In a word, it could be said that adjustable rates of interest consist the first step of the catastrophe.

#### **Prohibition of uncertainty (maysir and gharar)**

##### *Shari'ah principle:*

Certainty of terms in commercial transactions is a key requirement under the Shari'ah law. As a result, Islamic finance prohibits transactions based on gambling or speculation (maysir). Gambling in the context of Islamic finance refers to any transaction in which each party relies on pure chance, unknown events or contingencies. Gambling transactions are comparable to the notion of zero-sum game.<sup>11</sup>

Also prohibition of uncertainty in commercial agreements requires that contractual agreements should be cleared from any uncertainty or hazard caused by lack of clarity regarding the subject matter

or the price in a contract or exchange. In other words, transactions based on principles of Islamic finance should not include any effective contractual ambiguity (gharar). The ban on gharar in commercial agreements implies that every party should know exactly the counter-value of what is offered and what is accepted in a transaction.

The word "gharar" in Arabic means "risk". According to the prophetic words (hadith), Muslims are forbidden from participating in transactions that they do not know completely. However, of course a degree of commercial uncertainty is acceptable but there must not be any major uncertainty about the key terms of the transaction resulted in major risk-taking by one party. For instance, in a sale agreement, in order to avoid gharar, parties should make sure that both the object of the sale and the price exist. Also, characteristics, quantity, quality and method of delivery of both the object of the sale and the price should be specified.

#### *Residential Mortgage Crisis Analysis:*

One of the major causes that considerably intensified the current financial crisis was the huge transaction of CDSs and synthetic CDOs by those who did not own MBSs or CDOs. These investors who bet speculatively on the default rate of mortgages, exposed insurers with extra risk whose obligated amount was several times more than the real mortgages issued by the lenders.

Under the principles of Islamic finance, it is acceptable that the lender asks the third party to give security for the borrower. In this way, it is also acceptable that the lender pays premiums, usually on the behalf of the borrower, to the third party for the compensation it will receive when the debtor defaults. So, the purchase of CDSs by the owners of MBSs (or CDOs) was Shari'ah-compliant. But, if someone who does not own MBSs, just purchases CDSs (or synthetic CDOs) due to his expectation of default for mortgages, acts as a gambler regarding to Islamic finance principles. This kind of transaction is considered as gambling since both the buyer and the seller of CDSs (or synthetic CDOs), without having any real economic interest, rely on pure chance and unknown events.

Furthermore, the increasing complexity of CDOs, which were the result of "securitization of securitizations", hid the underlined risk of these securities. So the investors, insurers and the rating agencies entered into a game with the huge "uncertainty". Under the Islamic finance principles, buying and selling complex CDOs are forbidden due to the lack of clarity regarding the subject matter of these securities.

<sup>10</sup> Supra note 2 at 7; also Waleed Khana, Fatimah B. M. Iliasub, and Sajjad Chowdhry, supra note 25 at 7-8.

<sup>11</sup> Sami Ibrahim Al-Suwailem, "Decision-making under uncertainty: an Islamic perspective", in Munawar Iqbal, and David T. Llewellyn, eds., *Islamic Banking and Finance: New Perspectives on Profit-Sharing and Risk*, (Cheltenham: Edward Elgar Publishing, 2002), at 24-25, also Waleed Khana, Fatimah B. M. Iliasub, and Sajjad Chowdhry, supra note 25 at 5.

## Prohibition on securitization of unreal assets

### *Shari'ah principle:*

According to the popular opinion in Islamic law, securities should be definite real assets and pledges of intangibles are not admissible. Securitization is a means to assure the secured creditor that he will get his claim even if the debtor refuses to pay his debt. According to principles of Islamic finance, a collateral or pledge can not be a debt, since the assurance that securitization of a debt brings about for creditor is conditional; because the third party debtor whose debt has been securitized for another debt may not pay the debt on time. As a result, to provide the high level of assurance, Shari'ah law prescribes that "the object of collateral must be real, and pledging of a debt or a profit is void".<sup>12</sup>

According to the Shari'ah law the secured asset still remains in the property of the debtor. However because of the security right, secured creditor has legal power to sell the property on the behalf of the debtor and take his claim provided that the debtor refused to pay the debt on time. If the secured property is sold for the higher price, the remainder is for the debtor; and if it is sold for lesser price, secured creditor refers to the debtor for the remainder of his claim.

### *Residential Mortgage Crisis Analysis*

The securitization of debt obligations was the engine of current financial crisis. Putting debt as the pledge of new debt not only increases the risk of defaults, but also makes the financial activities far from the real economy. For example, in 2006, the financial innovations such as collateralized debt obligations, attracted net financial inflow of approximately \$800 billion from the rest of the world to the United States; an amount that explicitly was greater than the absorption capacity of the US real economy.<sup>13</sup>

Regarding to Islamic finance principles, securitization of unreal asset, such as debt, is forbidden. Fundamental to Islamic finance is the requirement that financial transactions must be supported by real economic activity. So, the originate-to-distribute model, as well as issuing tranching mortgage backed securities and especially issuing collateralized debt obligations, could not be practiced under Islamic finance principles.

## Conclusion

The current financial crisis resulted in a search for understanding the roots of the catastrophe and proposing potential solutions. While some economists and conventional finance scholars try to find cures for

current financial crisis through better economic policies, better resolutions, better regulations, and better supervisions, Muslim scholars believe that Islamic finance has the capacity to propose incomparable insights in the search for a new financial architecture.

The inherent features of Islamic finance have the potential to serve as a basis to address several of the issues and challenges that have plagued the conventional financial system. According to Shari'ah law, charging, paying, or receiving any kind of pre-determined interest (riba) is forbidden. Islamic finance emphasizes on a strong linkage to productive real economic activities and profit-and-loss sharing. Also, Islamic finance requires high level of transparency and certainty in commercial transactions. As it was discussed in this paper, if Shari'ah law had governed the residential mortgage transactions, the credit crisis would have been avoided.

The future of Islamic finance is promising; however its further growth and development depends on introducing organizational and jurisprudential regulations that would ensure its precise application. Also, it worth mentioning that the ultimate objective of Islamic finance (i.e. social justice and economic prosperity) can not be fully achieved only through legal stratagems trying to make conventional financing superficially compatible to Shari'ah law. Islamic finance scholars should go beyond finding Shari 'ah-compliant financial instruments, and try to innovate Shari 'ah-based ones.

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