

CHARACTERISTICS OF COMPANIES WITH A HIGHER RISK OF FINANCIAL STATEMENT FRAUD: FIVE CASE STUDIES

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Abstract

Various characteristics can be observed in the financials and the behaviour of companies engaging in accounting irregularities. This article explores the usefulness of such characteristics by analysing the financial statements of five companies accused of alleged accounting irregularities. The analysis involves quantitative and qualitative analyses for each of the companies, compared to a relevant control sample. The quantitative study consisted of financial statement analyses. The qualitative study involved an analysis of the narrative reports that form part of the published annual report. Nine of the characteristics initially identified were not reliable indicators of accounting irregularities. However, the nine remaining characteristics were positive indicators for the detection of accounting irregularities. Eight additional characteristics, not initially identified, were noted as potential indicators of accounting irregularities.

Keywords: Accounting Irregularities, Behaviour, Characteristics, Fraud Detection, Red Flag

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1. Introduction

A greater awareness of accounting irregularities may help individuals to detect irregularities earlier and even prevent its occurrence. Regular monitoring is essential to raise awareness (Cameron-Ellis, 2000). According to Rezaee (2002), the potential harmful effects of accounting irregularities include, but are not limited to its ability to undermine the quality and integrity of the financial reporting process and to jeopardise the integrity and objectivity of the accounting profession. Ryan et al. (2002) claim the reliability of accounting models are of limited use for decision making purposes, even without the presence of accounting irregularities. They make this statement because of the historical information content of accounting as well as its strict recognition and measurement rules. The presence of irregularities in accounting systems, however, makes accounting information even less useful. Accounting irregularities diminish confidence in the use of financial information for market-related valuations and therefore make the capital market less efficient, which has the potential to adversely affect a nation's growth and prosperity.

To detect and identify accounting irregularities, red flags act as useful indicators to detect irregularities. Red flags are all the conditions more likely to be present in the case of irregularities (Koornhof and Du Plessis, 2000, Cohen et al., 2012). Such red flags are useful to all interested parties who

observe financial statements and are concerned about irregularities (Krambia-Kapardis, 2002). In addition to the financial statements, Mulford and Comiskey (2002) remind users that the informational content of notes to the financial statements should not be underestimated. Glover and Aono (1995) point out that a lot can possibly be learnt from observing subjective aspects such as corporate culture, employee turnover, the average employee tenure, the nature of customer complaints, product quality, employee morale and employee benefits, corporate board meeting minutes and various policies and procedures. Rosplock (2001) adds to these aspects industry and economic data applied to determine trends, bankruptcy and cash flow risk, the rate of financing and substantial suits, liens or judgements that could affect the company. Any number of red flags may be observed if one knows what to look out for.

Fridson and Alvarez (2011) claim further financial analysis, particularly in the form of ratios, are useful for different purposes and are based on information available to the public. Even though ratio analysis is mostly used by investment managers, corporate financiers and commercial lenders, there is no reason why ratios cannot be successfully implemented by investors and creditors who want to secure their interests in a company against corporate misconduct.

Companies with a propensity for misconduct display distinctive characteristics. In a review of the work of prior researchers, the author identified a set of

characteristics generally displayed by companies who commit accounting irregularities. These findings correlate with those of Cohen et al. (2012), even though their study mainly focuses on managers' behaviour. The specific characteristic categories are (in alphabetical order):

- Accounting transactions
- Auditors
- Cash flow
- Company age
- Control
- Culture
- Debt
- Directors
- Financial distress
- Geographic location
- Industry
- Liquidity
- Management
- Personnel
- Receivables and inventory
- Remuneration
- Shareholding
- Structure

A gap exists in the literature, not because an insignificant amount of research has been done on accounting irregularities, but due to most of the research emanating solely from the United States while accounting scandals are not only limited to the United States (Albrecht et al., 2014). There has been limited academic research in South Africa on the topic of accounting irregularities. Papers in which the detection and identification of accounting irregularities are discussed tend to focus on auditors' responsibility to detect and identify such irregularities.

Shareholders have a vested interest to see the company they have a financial interest in prosper in terms of exceptional financial performance and a strong financial position. The company has to display a strong presence in the market and has a positive image in the media. To achieve this, ethical behaviour is essential. For this reason the characteristics that can identify unacceptable behaviour and possible irregularities in a company can help interested parties to safeguard their investments.

This study delivers evidence of how useful the characteristics identified by previous researchers are in a real-world situation and in South Africa in particular. This is attained by applying the above-mentioned list of characteristics to five case studies of South African companies with known allegations of accounting irregularities against them.

The primary objective of the study is to establish whether there exists a set of characteristics that can be used to detect and identify an increased risk for the occurrence of accounting irregularities.

The study commences with a short overview of accounting irregularities, followed by what this study

entails, an analysis of the characteristics, and the conclusions that can be made from the research.

2. Literature Review

2.1 Why do research on fraud?

A number of South African companies have experienced problems in the past with accounting irregularities, with specific reference to the manipulation of accounting records to artificially adjust the financial statements. Among companies that experienced such problems are Macmed, NAIL, Beige, Masterbond, Saambou, Regal Bank, Unifer, Leisurennet and NRB. Some of these companies still survive, but most of them collapsed after the irregularities were discovered, an indicator that accounting irregularities can cause harm to financial health.

Internationally, two of the largest and most well-known bankruptcies in the 1990s resulted from accounting irregularities, namely those of Enron and WorldCom (Altman and Hotchkiss, 2006). The cost of such activities is not borne by the perpetrators, but by parties with limited access to a company's information such as customers, investors, creditors, the government and insurance companies. Apart from the financial losses incurred, there are also other losses, such as decreased sales, decreased productivity, poor credibility and an adverse impact on people's professional ethics.

As far back as 1995, the United States Chamber of Commerce already estimated the aggregate annual cost of fraud to companies in America to exceed \$100 billion (Glover and Aono, 1995). The Association of Certified Fraud Examiners (ACFE, 2014) translates the impact of occupational fraud based on the estimated 2013 gross world product to a potential projected global fraud loss of more than \$3.7 trillion. The report also indicates the typical organisation loses 5% of its revenue to fraud each year. According to South African crime statistics, the incidence of commercial crime is on the increase (SAPS, 2014), with reported cases having increased by 46.7% from 2004/2005 to 2013/2014.

Governments and professional organisations around the world have started to devise and implement laws and guidelines with the goal to prevent the occurrence of accounting irregularities. These measures include the Sarbanes-Oxley Act in America, the Turnbull Guide on corporate governance in the United Kingdom and the King Report in South Africa. DeVay (2006) provides evidence that the threat of the Sarbanes-Oxley Act is not effective to prevent and detect irregularities in the accounting system of a company, which raises a question about the effectiveness of these systems.

According to Cressey (1986), there is a widespread belief that accounting irregularities will decline in frequency and severity if people know more about

irregularities and if such knowledge is used to prevent irregularities. Hussain et al. (2012) indicates employees need to be educated for them to better understand accounting irregularities, the internal controls and their role in the companies they work in. They found companies should not only rely on a yearly audit to detect accounting irregularities, but it is imperative for more individuals to know what to look for. A lack of education in the field is also a problem identified by DeZoort et al. (2012). They found tax professionals face increasing pressure to help manage the problem of irregularities, but tax literature lacks clear guidance in the area.

It is thus necessary to research the occurrence of accounting irregularities and fraud to protect investments and other interests in companies, since there are individuals who constantly identify new and ingenious ways to deceive their customers, investors, the government and others.

2.2 What are accounting irregularities?

Accounting irregularities are closely related to fraud, as it is the first step in the creation of fraudulent financial statements. Robertson (2002) defines fraud as “all means that human ingenuity can devise, and which are resorted to by an individual to obtain an advantage over another by false suggestions or suppression of the truth”.

Accounting irregularities, as the term is used in this study, falls within the ambit of corporate misconduct, which can be defined as "an intentional act by one or more individuals among management, those charged with governance, employees or third parties, involving the use of deception to obtain an unjust or illegal advantage" (Cohen et al., 2012, IFAC, 2013). Accounting irregularities are therefore committed by the management of a company with the goal to artificially improve the financial performance and position of the company.

Accounting irregularities have to be distinguished from earnings management and accounting errors. Earnings management happens when a legitimate method, according to generally

accepted accounting practice, is applied to create favourable financial statements (Rezaee, 2002). Accounting errors are unintentional mistakes which appear in financial statements. Because of the lack of intent, errors are normally easier to detect, since perpetrators of accounting irregularities go to great lengths to conceal intentional misstatements. Unintentional errors are, however, looked upon critically, because it can lead to greater risk for accounting irregularities in the financial statements of a company.

Sherman et al. (2003) compare false accounting entries to landmines in the books of a company. These “landmines” are hidden in the financial records of companies and may never “detonate”. However, in a case where such an “accounting landmine” is discovered or “detonated”, its effects can have a devastating impact on the confidence of investors, creditors, the public and many other related parties.

2.3 The characteristics that accompany accounting irregularities

Accounting irregularities tend to happen within a certain organisational culture. The type of organisational culture which indicates an increased risk for accounting irregularities is generally perceived to be a positive one, where individuals identify strongly with the goals and well-being of a company and do everything they believe is best for the company and for themselves. The attributes valued by companies as traits preferred in employees include loyalty, cohesiveness, trust, and aggressiveness (Elliott and Willingham, 1980). However, those are also the traits of individuals who are more likely to commit irregularities. It can also happen that employees act with the best intentions and do not realise they are acting inappropriately.

Table 1 summarises the 18 characteristics which most often indicate an increased risk for accounting irregularities. Each characteristic is supplemented with an explanation on how it occurs in a company with an increased risk of being subject to accounting irregularities.

Table 1. Summary of the analysis of company characteristics which suggest a risk for accounting irregularities

No	Characteristic category	Occurrence
1.	Accounting transactions	Accounting practices and transactions tend to be complex. Subjective judgements are often used. Significant related-party transactions occur.
2.	Auditors	There are frequent changes of auditor. The relationship between management and auditors is strained. Attempts to influence auditors are made. There are disputes with auditors. Information is withheld from auditors.
3.	Cash flow	There is poor cash flow, especially in relation to profit.
4.	Company age	Companies with increased risk are often younger.
5.	Control	A poor/weak control environment leads to increased risk.
6.	Culture	Documentation to formalise processes (e.g. a code of conduct, an ethics policy or a fraud policy) are absent.

No	Characteristic category	Occurrence
7.	Debt	There is a tendency to high debt.
8.	Directors	Few outsiders are on the board of directors. There is a weak, or in some cases, no audit committee.
9.	Financial distress	The presence of high financial pressure can often be observed.
10.	Geographic location	Companies are decentralised.
11.	Industry	In volatile industries where changes (e.g. technology) are frequent and significant there is more risk. Industries with a high level of competition may face more risk. Economic factors may affect certain industries e.g. increased interest rate affect customers spend. Inconclusive results were obtained with regard to specific industries.
12.	Liquidity	At-risk companies often have poor liquidity.
13.	Management	An autocratic or dominant management team can encourage unethical behaviour. A high management turnover is often present. Conflicts of interests occur. There is an emphasis on shorter-term performance.
14.	Personnel	There is a rapid personnel turnover. Lavish lifestyles of personnel, especially management, may point to risk.
15.	Receivables and inventory	Unexplained increases in receivables and/or inventory may indicate risk.
16.	Remuneration	Remuneration mainly based on short-term performance increases the risk of a company.
17.	Shareholding	There are high levels of internal shareholding (by management and/or directors).
18.	Structure	Companies with complex structures are more at risk.

These characteristics will be used in the analyses of the case studies later in this research.

2.4 Reducing accounting irregularities

Greater awareness of possible accounting irregularities can help people to detect irregularities earlier and to prevent its occurrence. Cameron-Ellis (2000) states regular monitoring is essential to raise awareness. All parties with an interest in a company, especially personnel, ought to learn what risks there are and what accounting irregularities look like. This will lead to irregularities being identified early enough to limit the adverse impact it may have on a company's financial health. The risk faced by interested parties other than managers and auditors can be reduced if a set of characteristics exist which can be used to detect and identify accounting irregularities.

Some aspects of a company, such as its culture and internal controls, cannot be observed by outside parties and therefore cannot be judged by interested parties external to the company. This makes it all the more important for any interested party to be aware of the risks and to take reasonable steps to find out as much about the company as possible. Sherman et al. (2003) also emphasise the importance for investors' to recognise there are no shortcuts to successful investments. Investors must make an effort to inform themselves by doing their own investigations and find data before it comes to them. A vast amount of information is available, especially on the Internet. This does not mean an individual investor will be able to detect accounting irregularities, but to be observant can help to some extent.

Accounting irregularities will decline in frequency and severity if more is learnt about it and if such knowledge is used to prevent it (Cressey, 1986). No company is immune against the onslaught of misconduct and it is the responsibility of everyone to be aware of accounting irregularities and the means to prevent it.

2.5 The use of analysis for the detection and identification of accounting irregularities

Rosplock (2001) mentions various measures which can be used in an investigation for accounting irregularities. The more important measures are financial information and ratios, industry and economic trends, bankruptcy and cash flow problems, information disclosed in notes, the rate of financing and substantial suits and liens or judgments which can all have an effect on the company. This information is publicly disclosed and is most often found in the financial statements or the notes which accompany financial statements.

More information can also be derived from additional subjective aspects such as corporate culture, employee turnover, average employee tenure, the nature of customer complaints, product quality, employee morale and employee benefits, the corporate board meeting minutes and other policies and procedures. Information which can be helpful and is often available in the annual reports is: credit ratings; investment in employee development; warranty expenses; and comparisons of wages with industry averages. Industry trait information is publicly available and includes industry trade journals, business periodicals and newspapers from which new trends can be observed (Glover and Aono, 1995). It requires a lot of time and effort to research these information resources, a commodity a private investor or other interested party may not have.

Schilit (1993) provides a list of documents that can be observed to detect and identify accounting irregularities, namely:

- the auditor's report, whether a qualified report was given and/or if an opinion was withheld;
- the proxy statement for pending litigation and executive compensation;
- footnotes for accounting policy changes, related-party transactions and other contingencies or commitments;

- the chairman's letter to determine the forthrightness of management; and
- other quantitative documentation which may give more information on management practices, disputes/disagreements and past performance.

Pinches et al. (1975) found financial ratios useful for prediction purposes and in the same way, help to identify accounting irregularities. This corresponds with the findings of Horrigan (1965), who claims the co-linearity between ratios means only a few ratios are needed to capture a significant amount of information. The most significant ratio predictor categories identified by Horrigan (1965) were return on investment, capital turnover, inventory turnover and financial leverage. Three specific ratios for each category were sales/total assets, debt/total capital and debt/total assets. Three other significant ratios which did not fall into any of the categories were cash flow/total debt, working capital/total assets and net income plus interest/interest.

Because collinearity can differ between different types of ratios and sometimes also between industries, Wells (1997) recommends the use of vertical and horizontal analysis for the detection and identification of accounting irregularities. In a vertical analysis, all the numbers in the financial statements are expressed as percentages of a chosen significant item. In the income statement, all items are mostly expressed as a percentage of sales, and in a balance sheet as a percentage of total assets. This is also called the "percentage" or the "common form" income statement (Fridson and Alvarez, 2011). In a horizontal analysis, the percentage of change in figures from one period to the next is calculated and analysed. Adverse results obtained from these methods need not be indicative of accounting irregularities, but can perhaps be explained as the effect of other factors such as organisational, industrial and economic factors and conditions.

Financial distress is an indicator of an increased risk of the presence of accounting irregularities in a company, because financial distress creates a crisis situation where individuals may find it necessary to use improper means to improve their financial position. Fridson and Alvarez (2011) recommend the use of Altman's Z-score in financial analyses. Therefore, if financial distress is an indicator of the presence of accounting irregularities, Altman's Z-score may be helpful in an analysis for accounting irregularities. In the same way, other financial ratios which are applied to determine financial distress or even those for liquidity, solvency, profitability and growth can be helpful to detect and identify accounting irregularities.

Kaminski et al. (2004), however, question the use of financial ratios to identify irregularities, as little is still known about the use of financial ratios for this purpose. In a study of 21 financial ratios, they found only 16 to be significant in the identification of accounting irregularities. However, they do believe a

model similar to Altman's Z-score for bankruptcy can be developed for accounting irregularities. They indicate ratios are perfectly capable to classify a company as being honest in its activities (98%), but the identification of a company that engages in accounting irregularities was not as successful (24% to 59%).

3. Research Method

3.1 Research design structure

Robson (2011) categorises research into various types. According to his allocation this study falls into the category of exploratory research, since it involves a relatively new field of research. The collection and analysis of the data from five companies, which form the most integral part of the research, calls for a case-study approach. Robson (2011) defines a case study as an in-depth analysis of one or a few cases and also states a case study is ideal for exploratory research to observe a situation created by a new research area. The fact that case studies are useful for exploratory research is confirmed by Yin (2014) and that it is common in accounting research is confirmed by Ryan et al. (2002).

According to Yin (2014), case study research arises from a need to understand social systems and relationships. The use of case study analysis allows a researcher to obtain and observe realistic characteristics of real-life events. The use of a case study approach in this particular study can be motivated through a number of arguments. The first is that limited data on the phenomena is available for the analyses. Secondly, case studies allow one to investigate contemporary phenomena in a real-life context. Thirdly, a case study enquiry copes with a situation where there are significantly more variables of interest than data points. Finally, case study research is ideal where the prior development of theoretical propositions is used to guide data collection and analysis.

3.2 The study

The study sets out to establish whether a set of characteristics exist which can be used in a practical way to detect and identify accounting irregularities. The annual reports of five case study companies were analysed to establish in what way the 18 characteristics identified by previous authors can be observed to be present in companies that engage in accounting irregularities. If the presence of certain characteristics can be observed in the case-study companies, such characteristics can be used by interested parties to detect and identify accounting irregularities.

To test whether the characteristics are present in companies with accounting irregularities, a sample of companies with a history of irregularities are

identified. The annual reports of the companies are analysed in detail through horizontal and vertical analyses of the financial statements, ratio analysis and an analysis of the narrative reports which form part of an annual report. The goal is to identify whether accounting irregularities can be detected through such means.

3.3 The data set

A sample of five firms identified through the media and the Johannesburg Securities Exchange South Africa (JSE) with allegations of accounting irregularities are examined. This method to identify companies was also used by Cohen et al. (2012). The remaining companies without known violations from the same sectors are used as control samples for the quantitative analyses, and one company from each sector is used as the control sample for the qualitative analysis.

Detailed media searches revealed the following five companies as to have had accounting irregularity allegations against them:

- Beige Holdings Limited;
- Johannesburg Consolidated Investments (JCI) Limited;
- Macmed Healthcare Limited;
- Saambou Holdings Limited; and

- Tigon Limited.

The allegations against the chosen companies were specifically related to accounting irregularities, such as misrepresentation of revenue, expenses, asset values and liabilities by means of manipulation of accounting records.

The control samples for each company are the totalled amounts in the financial statements of all the companies in the relevant sector, excluding the case study companies. For example, the Health Sector control sample is created by adding up the individual line items in the financial statements of all four companies in the sector with no known allegations of accounting irregularities.

For Beige Holdings Limited and Macmed Healthcare Limited (both from the health sector), the same control sample is used. However, the year-ranges of the health sector control sample differ to be in line with those of the respective companies.

The financial statements for the periods as set out in Table 2 are used for the purpose of the analyses, since these are the periods in which the accounting irregularities allegedly occurred for the five case study companies. To be consistent over all the case studies, it was decided to use a period of five years for the analysis of each company.

Table 2. Periods for which the analyses were done

Company under investigation	Period
Beige Holdings Limited	1998 – 2002
Johannesburg Consolidated Investments (JCI) Limited	1999 – 2003
Macmed Healthcare Limited	1995 – 1999
Saambou Holdings Limited	1999 – 2003
Tigon Limited	1997 – 2001

The financial statements for the companies with accounting irregularity allegations and the control samples are obtained from the INet BFA database. The INet BFA database calculates 42 ratios and no attempt is made to calculate any ratios not available from the INet BFA database, as the aim of the study is to work with information readily available to interested parties without the need to calculate various ratios.

For the purposes of the qualitative analyses, the company which appears first alphabetically in each sector is chosen to be used as a comparison. The same company is used as a comparison for Beige Holdings Limited and Macmed Healthcare Limited (both from the health sector), but the year-range differs. The companies used for comparison with the five case study companies are presented in Table 3.

Table 3. Control sample companies chosen as a comparison in the qualitative analysis

Sector	Control sample company
Health – Pharmaceutical and cosmetic	Aspen Pharmacare Holdings Limited
Basic resources – Mining	Aflease Gold Ltd (formerly Sub Nigel Gold Mining Company Ltd)
Financials – Banks	ABSA Group Limited
Financial services – General financial	African Bank Investment Limited

In the qualitative analysis, the focus is mainly on reports and documents not regulated by generally accepted accounting principles or GAAP. This includes, for example, the chairman's report,

director's report and the audit report. The statements regulated by GAAP are sufficiently analysed in the quantitative analysis. The size of the company and its control sample were not considered, since the aim was

mainly to observe whether the narrative reports of the case study companies and its control sample companies contained the same trends as in the industry.

The data set contain some limitations. Firstly, there are only five companies to evaluate with their control groups. Secondly, the availability of financial information is limited because the five companies listed at different stages before accounting irregularities allegedly occurred and delisted (if they delisted) at different stages after the allegations. Therefore the accounting irregularities occurred at different stages in the five-year periods for the companies, to make even the calculation of an overall average for the five companies impossible. Thirdly, the calculation of detailed statistics was also seen to be of little value. Due to the vast number of variables in the analysis (namely all the financial statement line items, as well as all the ratios) a statistical T-test cannot be calculated.

For the above reasons, a decision was made to do an analysis where changes in each financial statement line item or ratio is individually observed to establish whether there are any significant trends or patterns to discern.

3.4 Quantitative analysis

The quantitative financial analyses consisted of horizontal and vertical financial statement analyses as well as a complete ratio analysis for each company and its control sample. Horizontal, vertical and ratio analysis was chosen since it expresses changes and trends in the financial statements in terms of percentages. This eliminates the problem of size, since the control samples were in each of the cases the total of the industry/sector and therefore much larger than the companies with allegations of accounting irregularities.

As a result of varying fraud periods for the different companies and because irregularities allegedly occurred at different stages within the five-year periods chosen for the companies, the only way to analyse the financial statements quantitatively was to observe the changes or trends for each line item.

3.5 Qualitative analysis

To observe the qualitative aspects, characteristics and/or implications of irregularities in financial statements, the narrative reports which accompany the published annual reports of the companies and the relevant control samples are analysed. The analysis is done by reading through the narrative reports for each company and its control sample and noting where differences exist. An example is where one company report difficulties in the industry and another do not.

4. Results

The 18 characteristics initially identified as potentially useful can be split into two groups – those not to be of use to detect and identify accounting irregularities and those of use to detect and identify accounting irregularities. In addition, seven more characteristics were identified as useful indicators of the possibility of accounting irregularities. The groups are mentioned below and a more detailed discussion follows thereafter.

Through the financial analysis of the five case-study companies, nine of the 18 characteristics are useful as indicators of accounting irregularities. The characteristics are, in alphabetical order:

- cash flow patterns;
- company age;
- company culture;
- debt levels;
- directors' behaviour and character;
- financial distress;
- geographic location;
- management behaviour and character; and
- receivables and inventory.

From the characteristics initially identified, the following nine characteristics are of limited use as indicators of an increased risk of accounting irregularities:

- complexity of accounting transactions;
- company-auditor relationships;
- control structure and procedures;
- industry;
- liquidity;
- personnel behaviour;
- remuneration;
- shareholding; and
- organisational structure.

Additional observations have been made in the analyses of the case study companies. These can serve the purpose of additional characteristics which need to be observed when a company is analysed for possible accounting irregularities. The additional observations are:

- acquisitions, mergers and other changes to a company's size and structure;
- a tendency to avoid the payment of dividends;
- share price ratios which follow a decreasing trend over the period in which accounting irregularities occurred;
- only small values are reported for tax charges or tax liabilities compared to figures reported by other companies in the related sector;
- financial statement line items with a tendency to have changes contrary to those of the sector;
- a leading or lagging effect with regard to significant changes in the financial statements of the company and the sector; and
- in most cases irregularities occurred for two years or less before the irregularities were detected and identified.

5. Discussion

From the literature it can be observed that accounting irregularities are a real problem in the corporate world and that it affects various parties. These parties include the tax authorities, the securities exchanges, investors and creditors. It is especially a problematic situation for those parties with a contractual relationship and a legitimate interest in a company, such as investors and creditors. These entities do not have access to the internal information of a company, which makes it difficult for them to detect cases of accounting irregularities.

One has to consider there are some limitations to the generalizability of a study like this. One cannot trust the presence of red flags to always indicate fraud even though it has the potential to be an important indicator.

5.1 Indicators of possible accounting irregularities

The first characteristic with the possibility to assist in the detection and identification of accounting irregularities is the cash flow pattern of the company. Poor cash flow was identified as a positive indicator of an increased risk for accounting irregularities.

The age of the company is another indicator of an increased risk for accounting irregularities. Age, in this context, is the length of time a company has been listed on the Johannesburg Securities Exchange (JSE) South Africa. It is found problems are more likely to occur in companies listed for a shorter length of time. This may be a result of the fact that a newly listed company may struggle to cope in the competitive environment of listed companies and perhaps to comply with the listing requirements.

Company culture, together with the directors' behaviour and character, plays a significant role in how companies are directed and managed, and what types of people are employed. The subjective impression from the case studies is that the majority of companies had a board of directors largely goal-driven and competitive and with a focus on performance. This can be observed in the narrative reports that accompany the financial statements. It is likely when these characteristics are present in a board of directors; the management of companies involved with misstatements and accounting irregularities are also goal-driven, competitive and performance-oriented.

It is not the intention of this observation to claim it is negative when the characteristics of being goal-driven, competitive and concentrated on performance are present in a board of directors or a management team. However, if these traits are expressed too forcefully, it can result in managers' and/or employees' feeling a need to manipulate accounting records to improve the income statement and the balance sheet. This is especially true for companies

where the remuneration of directors and managers is based on company performance. As a consequence, it is found from the companies in the case studies that total remuneration to directors and managers is higher in the companies with accounting irregularities problems.

Debt levels refer to another characteristic found to be a consideration in the case of accounting irregularities. Contrary to what one may initially suspect, the debt levels of the companies with allegations of accounting irregularities are on average lower than those of the industry in which they operated. However, it is also found most of the companies experience financial distress problems over the periods in which irregularities occur. It is possible debt levels can be deliberately understated to make the financial statements appear more favourable. The financial distress measure (Altman's Z-score) is a ratio calculated on the basis of various financial statement items and will therefore show financial distress even in a case where a company artificially manipulate its debt to appear lower.

With regards to liquidity, most of the case studies display strong liquidity positions while the industry does not have adequate working capital to sustain acceptable liquidity levels. One can speculate and say a company overstates its assets or understates its liabilities if its liquidity appears more favourable than the liquidity of the industry it operates in. However, when receivables and inventory are separately observed, no distinctive patterns could be identified as being useful to develop further specific liquidity-related indicators of the presence of accounting irregularities.

5.2 Items which are not clear indicators of accounting irregularities

It is difficult to identify specific industries in which irregularities are most likely to occur. Two of the companies from the case studies operated in the health and pharmaceutical sector, but on the basis of such a small sample there is no significant evidence companies in the health and pharmaceutical sector can be identified as at a greater risk of accounting irregularities than other sectors. Overall, it is found irregularities are more likely to occur if the industry in which a company functions experiences difficulties in terms of economic and financial factors.

As part of proper corporate governance principles, companies are compelled to have control systems in place and must report on them in the annual report. It is, however, impossible to determine from the annual report whether such systems are properly maintained and whether the management of the companies has any opportunity to override the system to manipulate the accounting records.

The geographic locations of the case study companies do not provide any clear indicators. The only significant observation is that all of the case

study companies had subsidiaries or branches at remote locations, whether national or international. This can have an effect on the extent of control to be exercised, but it is not necessarily an indicator of increased risk for accounting irregularities.

From the analysis of the annual reports of the case study companies, it does not appear as if there is a link between the shareholding structure of a company and its likelihood to engage in any manipulation of accounting records and accounting irregularities.

5.3 Additional observations which may indicate accounting irregularities

A number of additional observations which may be helpful in the detection and identification of accounting irregularities were observed in the analyses of the case study companies.

The first is the role of acquisitions, mergers and other changes to a company's size and structure. A drive for growth and expansion may be an indicator of accounting irregularities, as it gives the directors and/or management a motive to manipulate accounting records, because of the significant amount of resources restructuring requires. Acquisitions, mergers and other major changes are especially useful to indicate the presence of increased accounting risk and/or possible accounting irregularities when other companies in the industry do not seek to expand in the same way.

In the analyses of the case studies it is found companies more likely to engage in accounting irregularities are less likely to pay out dividends relative to other companies in the industry. A lack of dividends may indicate a company is under pressure to perpetrate accounting irregularities. It can, however, also be a positive indication that the company has projects to invest in and prefers to use retained earnings. This characteristic therefore needs to be considered in conjunction with other issues, for example, the state of the economy and the situation in the industry, to determine whether there may be other reasons behind the reduced dividend payouts.

For each of the case studies, the share price ratios follow a decreasing trend over the period in which accounting irregularities occurred. It also appears that the case study companies only report small amounts for tax charges or tax liabilities compared to industry figures. In addition, many of the financial statement line items of the case study companies show a tendency for changes contrary to those of the industry. This may indicate the companies manipulate their records to show more favourable results, while other companies in the industry do not take such measures to "improve" performance. This leads to different trends than what can be observed in the industry. It was also found companies who engage in accounting irregularities attempt to conceal the fact by statements about

expected inconsistencies – with reasons – published in the annual report through the chairman's report and other narrative notes and disclosures. For example, a statement can be published to indicate working capital may change significantly in future. There may be legitimate reasons for such anticipated changes, but interested parties should be aware of the possibility of planned future misstatements.

Another observation to be made in the comparison with industry figures is that, in some of the case studies, there is a leading or lagging effect with regard to significant changes in the financial statements of the company and the industry. This means significant changes in the financial statements of the company often occur in the year before or after significant changes occur in the industry. The period from the occurrence of accounting irregularities until its detection and identification is, in most cases, no longer than two years. This characteristic indicates cases of accounting irregularities are often poorly hidden and can therefore be detected rather easily.

The rest of the characteristics previously identified do not show conclusive results in the analyses of the case studies. Some of these inconclusive results arise from a lack of information about the specific characteristics. These characteristics include the complexity of transactions, information about organisational structure, personnel behaviour, personnel character and relationships with auditors. As information about these characteristics tend to be insufficient, it is not possible to make any sound judgement on their ability to assist users of statements to detect and identify an increased risk for accounting irregularities.

In conclusion, it is found there are a number of useful indicators of accounting irregularities which can be readily observed from the annual reports of a company and which can act as indicators of an increased risk for accounting irregularities. The list of possible red flags or categories of red flags is not exhaustive but do represent some areas of a company's operations which have been associated with fraud in the past.

6. Recommendations

The list of possible red flags or categories of red flags is not exhaustive but do represent some areas of a company's operations that have been associated with fraud in the past. It is also important to note the presence of certain characteristics by a company does not necessarily indicate the presence of accounting irregularities, but it is worth giving consideration to these to detect and identify accounting irregularities sooner. There are a number of characteristics which can act as indicators of possible accounting irregularities. An attitude of scepticism and close scrutiny of the annual report for these characteristics will reveal more about a company's activities than the management of a company may want the report to do.

All cases of accounting irregularities are different, because each company has a different reason to engage in the manipulation of accounting records and accounting irregularities and each also finds a different way to perpetrate it. This implies the display of the different indicators will be different in each case. It is therefore necessary for an investor or other interested party to observe all the characteristics and compare it with figures from the relevant industries to see if any outliers can be identified.

Even though a comparison of a company's financial figures and qualitative disclosures with industry figures can be helpful to detect and identify irregularities, this may in some cases not be possible due to a lack of available information and limited time. If a reader of the annual report is, however, concerned about a figure or comment in the annual report, it is recommended that the figure or comment is compared with the same in the annual report of a similar company. An example of the predictive power of this practice is poor performance by a company which is explained away as the result of a poor economic environment. If a company in the same industry does not report similar poor economic conditions, it may be a ruse to explain away poor performance or other hidden problems.

Parties with a legitimate interest should take note of the additional benefits attached to analyse the annual report with accounting irregularities in mind. It ensures the reader pays attention to a variety of different quantitative and qualitative items which may be overlooked in other situations. An analysis of the annual report with the goal to detect and identify accounting irregularities provides opportunities to reveal other problems, for example, financial distress. When one analyses the annual report with another goal in mind, for example, to detect financial distress, this will not necessarily lead to the detection and identification of accounting irregularities.

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