

**TURNAROUND DETERMINANTS OF DISTRESSED FIRMS
FUNDED BY THE INDUSTRIAL DEVELOPMENT
CORPORATION.**

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

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Abstract

The study examines six factors identified by previous studies as having the potential to influence the outcome of turnarounds of firms. The six factors identified are efficiency strategy, severity, free assets, size, changes on the top management and black economic empowerment (BEE). This study is based on the propositions that the identified factors will influence the turnaround outcomes of the firms that were restructured by the Industrial Development Corporation.

A sample of 78 firms was obtained for the study. The sample consisted of 46 successful turnaround and 31 failed turnaround. Logistic regression was used to test the sample.

A significant finding of this study is that BEE is the only factor that has a positive influence on the outcome of the turnaround. This study is of use in identifying factors are useful to take into account when considering turning around a firm. The results of the study differ with most of the literature reviewed.

Keywords: Turnarounds, financial distress, restructuring

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Malose Makgeta

13 December 2010

Date

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CHAPTER 1: INTRODUCTION OF THE RESEARCH PROBLEM

1.1. Research title

Turnaround determinants of distressed firms funded by the Industrial Development Corporation (IDC).

1.2. Introduction

This study resembles the study “corporate turnaround and financial distress” by Smith and Graves (2005) and retests the variables that were identified by Smith and Graves (2005) to observe if they can be generalised to firms that were funded by a Developmental Funding Institution (DFI) in South Africa. Smith and Graves’ (2005) study explores whether information contained within annual reports is useful in distinguishing between distressed firms that demonstrate turnaround potential and those that eventually fail. The research conducted by Smith and Graves (2005) contributes to failure prediction by developing a model useful for identifying distressed firms that have turnaround potential. The authors also comment on the limited generalisability of the model, since their study focuses on firms in the United Kingdom operating in the manufacturing sector. They also commented that other variables may be statistically significant in discriminating amongst recovered and failed firms in other industries and countries.

Smith and Graves (2005) conducted a study to produce useful predictors of corporate turnaround using the information contained within companies' annual reports. Their study tested the role of the following variable on the outcome of the firm in financial distress:

- The role of efficiency-oriented strategies in the turnaround process
- The role of the firm size in the turn around process
- The role of the senior management turnover in the turnaround process
- The role of free assets in the turnaround process and
- The role of the severity of distressed state in the turnaround process

Francis and Desai (2005) also conducted a study, testing the ability of situational variables, manageable pre-decline resources and specific responses to decline, to classify performance outcomes (turnaround versus non-turnaround) in declining firms. According to the authors there are many unanswered questions about what characteristics differentiate successful organisational turnaround from failure. They state that future research could retest the variables that their study identified, to see if their generalisability holds true across other samples of firms. Most of the determinants identified by Francis and Desai (2005) and Smith and Graves (2005) are similar except that Smith and Graves (2005) included the role of senior management turnover in the turnaround process.

The study will focus on businesses funded by IDC as they should be focused on developing enterprises and assisting firms in financial distress as indicated by the establishment of a turnaround fund by the IDC to assist firms in financial distress. The IDC was identified as an organisation that will provide a large sample of firms in distress that they have assisted. The other reason that motivated the selection of IDC is the easy access to data.

Generally, the mandate of the DFIs is to provide funding to enterprises, in order to address market failure and to contribute to broad-based development enterprises and the economy, and should play an active role in assisting the distressed firms. According to Takahashi, Kurokawa and Watase (1984), financial institutions, particularly banks, have great influence over the fate of corporations. According to Baker and Collins (2003), commercial banks commit their resources for only a limited time, and normally rely on the realisation of sufficient collateral to cover the loan if clients default. When a business is in financial distress the banks would normally assist the firm in distress by loosening its financial constraints by postponing due repayments and interest payments or even providing additional loan finance and requiring additional collateral at the same time (Brunner and Krahn, 2001).

There is a general reluctance from lenders to assist in turnaround, or in rescuing businesses in financial distress and banks may be lazy and liquidate the firm prematurely (Franks and Sussman, 2005). Industrial projects and start-up businesses

form an integral part of the national economy. Therefore, they should be sufficiently supported when in financial distress. The SME sector is widely regarded as the driving force for economic growth and job creation in both developed and developing countries (Sunter (2000), as cited in Brink and Cant, 2003).

Similar to Smith and Graves (2005), the objective of this research is to:

- Contribute to existing research on the impact of organisational factors on turnaround outcome.
- Assist creditors, lenders, management and turnaround consultants to determine whether to attempt to turn around the firm in financial distress or to file for liquidation.
- Assist auditors in determining 'going concern' status of their clients in South Africa.

1.3. Research scope

The research will be defined by the following terms:

1.3.1. Developmental Funding Institutions (DFI)

DFIs are quasi-governmental organisations formed with the purpose of developing and/or rejuvenating core industries (Kane (1975), as cited in George and Prabhu, 2000).

DFIs provide long-term capital by disbursing loans or assuming equity positions in

private firms (George & Prabhu, 2000). The research will be limited to turnarounds and restructuring conducted by DFIs between the years 1998 and 2008.

The study will focus on businesses funded by the IDC. The Industrial Development Corporation of South Africa Ltd (IDC) is a self-financing, national Development Finance Institution (DFI) that promotes economic growth and industrial development in South Africa (IDC, 2010). The IDC's objectives are to stimulate rapid and sustainable economic growth, create employment and reduce poverty with a mandate to operate in a broad spectrum of industries to offer valid and appropriate financial assistance to a wide variety of individuals and firms (IDC, 2010).

1.3.2. Financial distress and corporate restructuring

Financial distress is defined according to Lin, Lee and Gibbs (2008), as a condition when a firm incurs more debt than its firm size, profitability and asset composition can sustain, with a declining ability to generate revenue, coupled with inadequate cash flow from operations.

According to Gibbs (1993), three types of corporate restructuring transactions occur:

- Financial restructuring, including recapitalisation, stock repurchases and changes in capital structure;

- Portfolio restructuring, involving divestment, acquisition and refocusing on core business(es), resulting in a change in the diversity of businesses in the corporate portfolio, and;
- Operational restructuring, including retrenchment, reorganisation and changes in business-level strategies.

According to Slatter, Lovett and Barlow (2006) the objectives of financial restructuring are to restore the business to solvency of both cash flow and balance sheet, and it involves changing the existing capital structure and/or raising additional finance.

Van de Vena and Poole (1995) (as cited in Chowdhury, 2002), found about twenty different turnaround process theories that vary either in terminology or in substance, or both. For this study, corporate turnaround is defined, according to Pandit (2000), as the recovery of a firm's economic performance following an existence-threatening decline. For this study 'turnaround' and 'restructuring' refers to the similar thing and will be used interchangeably. The suggestion here is that turnaround candidates are firms that have their very existence threatened unless radical action is taken and successful recovery is demonstrated or improved and if there is sustainable environmental adaptation Pandit (2000) and Chowdhury and Lang (1996) state that firms tend to take short run actions that are geared towards immediately improving profitability by increasing revenue and implementing cost cutting measures and reducing the assets of the firm.

1.3.3. Research motivation

How firms avoid a fate of bankruptcy and turn themselves around is of profound importance to those firms, their stakeholders and the economy at large (Sudarsanam and Lai, 2001).

Altman (1968) states that the discriminant model, if used correctly and periodically, has the ability to predict corporate problems early enough so as to enable management to realise the gravity of the situation in time to avoid failure. The potential useful applications of an accurate bankruptcy predictive model are not limited to internal consideration or credit evaluation purposes. He continues to say that if failure is unavoidable, the firm's creditors and stockholders may be better off if a merger with a stronger enterprise is negotiated before bankruptcy. But according to Pearce and Robbins (1993) the statistics on business failure rates corroborate the conclusion that neither academics nor practitioners have succeeded in designing a model to guide strategic management action during periods of decline.

According to the Department of Trade and Industry (DTI) (2005), they seek to ensure that adequate support and delivery mechanisms exist across the entire entrepreneurship continuum from pre-start-up to start-up, business survival, growth and expansion, and turnaround of ailing businesses. Mpahlwa (2005), the Minister of Trade and Industry, stated that the promotion of entrepreneurship and small business remains an important priority of the government of South Africa and that government is

committed to ensuring that small businesses progressively increase their contribution towards the growth and performance of the South African economy in critical areas such as job creation, equity and access to markets.

Baird and Morrison (2001) mention that when a firm encounters financial distress, there is a significant possibility that the firm may have to be shut down and its assets be sold but care must be taken not to destroy value that the firm has as a going concern. He continued to say that the firm's chances of reorganising successfully are less clear and there is a possibility of continuing with a loss making venture when the assets can be better utilised elsewhere. They mention that the stakeholders will benefit from the value of a 'going concern' by correctly classifying firms that can be turned around but care must be taken to ensuring that firms are not incorrectly classified as having a potential to turn around while they are facing bankruptcy.

According to Baird and Rasmussen (2002), bankruptcy judges are asked to identify quickly which firms will survive and which will not. The law of corporate reorganisations is conventionally justified as a way to preserve a firm's going concern value even though the going concern value of the business could be worth less than the assets sold piecemeal (Baird and Rasmussen, 2002). This emphasises the need for the turnaround determinants to assist the bankruptcy judges to identify the firm with potential to turnaround.

There are a number of arguments with regard to the general ability of state-owned institutions to affect the supply of funds available to creditworthy firms. They fail to appropriately assess the viability and risk a firm and lack funds distribution channels (Berger & Udell, 2004). Tsuruta and Xu (2007) argue that it is important for financial institutions and more so for state-owned developmental institutions, to invest risk capital in financially distressed small firms, because the distressed firms using more trade credits are less likely to survive. The banks could use the variables identified to decide whether to assist the SMEs in turnaround.

Brink and Cant (2003) state that it is estimated that the failure rate of start-ups is between 70% and 80%. Couwenberg and De Jong (2006) found that banks play a crucial role in the success and failure of distressed firms' restructuring efforts and that the firms that are supported by the banks in resolving financial distress are more successful than those that are not supported by the banks. Lin, Lee and Gibbs (2008) state that in a financial distress situation, bankers and other lenders will be stricter with credit terms and are less willing to give additional loans. According to Statistics SA (2010), the total number of firms that have been liquidated increased from 3 225 in 2005 to 4 133 in 2009, i.e. a 28% increase. This increase may be an indication that firms are perhaps not appropriately supported during global economic crisis to ensure that they continue contributing towards job creation. The rate of firms' failure could perhaps be explained by variables that are identified in this study and might assist in supporting/assisting SMEs in distress.

Hofer (1980) states that before a firm starts any turnaround efforts it should make an explicit calculation to determine whether the effort is worthwhile. He also said that, too often firms embark on turnaround efforts as a “knee-jerk” reaction to the myth that nothing can be worse than failure.

There are other business failure prediction models developed by Altman (1968), Ohlson (1980), Pant (1991), Casey, McGee and Stickney (1986), Pearce and Robbins (1993) Campbell (1996), LoPucki and Doherty (2002) and Kim, Kim and McNiel (2008) on turnaround determinants of firms in financial distress. According to Smith and Graves (2005), the existing failure prediction models are focused on ensuring that firms facing imminent bankruptcy are not incorrectly classified as being healthy. As a consequence, the models classify the firms with recovery potential as failure candidates, mainly because incorrectly classifying firms that are facing imminent bankruptcy as having recovery potential is more costly to creditors (Smith and Graves, 2005). According to Smith and Graves (2005), the models are overly conservative to the detriment of firms with the potential for recovery. They state that incorrectly classifying distressed firms with recovery potential as failure candidates may invoke a self-fulfilling prophecy, such that firms may not be able to attract the funds necessary to enact a recovery because lending decisions are based on such classification. Because of the incorrect classification, society incurred losses that they should not incur, i.e. legal costs and losses incurred by unsecured creditors, investors, employees and the community.

According to Sun (2006), auditors' 'going concern' judgments could be improved by considering not only firm-level factors (financial and non-financial) but also industry level factors (such as industry failure rate). According to Sun (2006), statistical models provide better bankruptcy prediction than auditors' opinions. Poston and Ken (1994) acknowledged the limitations of financial-ratio-based failure prediction methods and stressed the need to identify other variables that are relevant to the determination of the distressed firms that will survive and those which will ultimately fail.

According to Begley, Ming and Watts (1996), the use of the bankruptcy prediction model developed by Altman (1968) and Ohlson (1980) to indicate financial distress may introduce measurement error into the analysis of the current data, i.e. incorrectly classifying firms with recovery potential as facing bankruptcy. Grice and Ingram (2001) also suggest that the models of Altman (1968) and Ohlson (1980) are still useful for predicting distress. However, Grice and Ingram (2001) indicate that Altman's (1968) model is significantly less accurate in the period between 1988 to 1991 and the reasons for the decrease in accuracy of the models was not investigated. Grice and Ingram (2001) continue to say that Altman's (1968) model to estimate financial distress of a sample of firms should be interpreted cautiously as the ability of the model to accurately classify firms as being financially distressed is likely to differ considerably from that assumed by employing the model.

1.4. Research Objective

The purpose of the study is to test the abilities of the turnaround determinants identified to discriminate among financially distressed firms that are able to be successfully turned around and those which fail.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

The theoretical framework developed for this study builds on the work of previous researchers. The literature review is presented in the follows sequence:

- The background to the study is provided;
- The background on the turnaround and restructuring theory is presented in a time series manner starting from Altman (1968) to Kim, Kim and McNiel (2008), indicating how research in turnaround and restructuring determinants has evolved over the years since Altman (1968);
- The characteristics identified by Smith and Graves (2005) are assessed in to relation to the firms that were financed by IDC;
- An additional South African specific potential turnaround determinant is introduced in a form of Black Economic Empowerment (BEE);
- Other factors external factors that influence the outcome of the turnaround or restructuring;
- A combined model of all the determinants identified from literature is constructed.

2.2. Background

The study by Smith and Graves (2005) follows on the substantial amount of research that has been conducted into the prediction of corporate failure. Many models have been produced and they have their limitations and cannot be applied holistically.

According to Slatter, Lovett and Barlow (2006) firms that need to be turned around typically suffer from one or more of the following;

- Cash flow problems (inability of the firm to meet its cash flow requirements),
- Excessive gearing (firms with too much debt),
- Inappropriate debt structure (firms with debt to equity ratios that do not match the firms' cash flows), and
- Balance sheet insolvency (which means the liabilities of a firm exceeds its liabilities).

According to Smith and Graves (2005), research on turnaround strategies has considered a number of factors that influence the likelihood of recovery from an external perspective and internal perspective. Rasheed (2005) states that the competitive environment and maturity of the industry influences the choices and the effectiveness of the turnaround strategies implemented by firms in financial distress. The internal perspective, such as the severity of the financial deterioration and management failure, appears to be a dominant contributing factor to a turnaround strategy formulation and the likelihood of a successful recovery (Rasheed, 2005). Francis and Desai (2005)

found that the firms which succeeded in being turned around had more slack resources, higher productivity and undertook greater expenses and asset retrenchment compared to those firms that did not recover.

2.3. The background on the turnaround and restructuring theory

2.3.1. The study of financial ratios, multiple discriminant analysis and the prediction of corporate bankruptcy by Altman (1968)

Altman (1968) studied the listed firms in the manufacturing sector in the U.K. where the financial and economic ratios were investigated in a bankruptcy prediction context wherein a multiple discriminant statistical methodology was employed. According to Altman (1968) the discriminant-ratio model proved to be extremely accurate in predicting correctly in 94% of cases in the initial sample, with 95% of all firms in the bankrupt and non-bankrupt groups assigned to their actual group classification.

The model by Altman (1968) combined a set of financial ratios in a discriminant analysis approach to the problem of corporate bankruptcy prediction. According to Zikmund (2003), discriminant analysis is a process where an object is classified by a set of independent variables into two or more mutually exclusive categories. Altman's (1968) theory is that ratios, if analysed within a multivariate framework, will take on greater statistical significance than the common technique of sequential ratio comparison.

2.3.2. The study of financial ratios and the probabilistic prediction of bankruptcy by Ohlson (1980)

Using the econometric methodology of conditional logit analysis, Ohlson (1980) identified four basic factors as being statistically significant in affecting the probability of failure (within one year). The four basic factors identified by Ohlson (1980) are:

- The size of the company, which was measured by using total assets,
- A measure(s) of financial structure, measured as the total liabilities divided by total assets,
- A measure of performance, measured by dividing net income by total assets, and;
- A measure(s) of current liquidity, measured by dividing current liabilities by total assets.

According to Ohlson (1980), the predictive powers of linear transforms of a vector of ratios seem to be robust across large sample estimation procedures. Hence, significant improvement probably requires additional predictors.

Ohlson (1980) concluded that the predictive power of any model depends on the availability of the financial statement information. Ohlson (1980) relies on observations of 105 bankrupt firms and 2 058 non-bankrupt firms obtained from 10-K financial statements (document filed in the United States of America with the Security and

Exchange Commission which contains a detailed explanation of a business) as reported at the time.

2.3.3. The study of discriminating between reorganised and liquidated firms in bankruptcy by Casey, McGee and Stickney (1986).

Casey *et al* (1986) identified the following factors as discriminants between the firms that successfully reorganise:

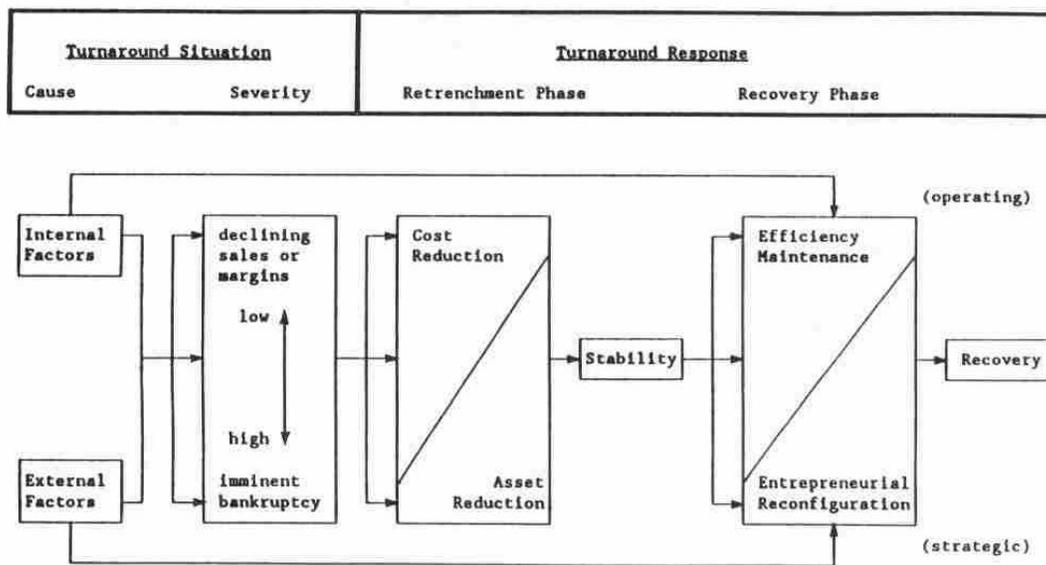
- Have more free assets, i.e. free assets being the assets not secured by previous borrowing,
- Large firms. The size variable is related to borrowing capacity,
- Have more attractive earning prospects, and;
- Have strong equity commitments by management.

Casey *et al* (1986) found that two factors, free assets and earnings prospects, were statistically significant as turnaround determinants, while the size and equity commitment by management were not found to be significant discriminating factors. The study by Casey *et al* (1986) was based on 67 bankrupt firms and 57 successful firms assembled under the heading “bankruptcies” in the Wall Street Journal Index for the years between 1970 and 1981. Casey *et al* (1986) conducted a probit analysis, the probit function is the inverse cumulative distribution function (CDF), or quantile function associated with the standard normal distribution. The probit function has applications in

exploratory statistical graphics and specialised regression modeling of binary response variables (Casey *et al*, 1986).

2.3.4. The study toward improved theory and research on business turnaround by Pearce and Robbins (1993)

Figure 1: Turnaround process model



(Pearce and Robbins, 1993)

The above model by Pearce and Robbins (1993) indicate that distress is caused by both internal and external factors, and these factors will cause declining sales or margins. They found that if the severity is low when there are declining sales or margins, bankruptcy is imminent. Pearce and Robbins (1993) define severity of the turnaround situation as a measure of the firm's financial health, because it measures

the magnitude of the threat to the firm's survival. Pearce and Robbins (1993) state that the immediate concern of the firm is the extent to which the decline is a threat to short-term survival and it is a governing factor in estimating the speed with which the retrenchment response will be formulated and activated.

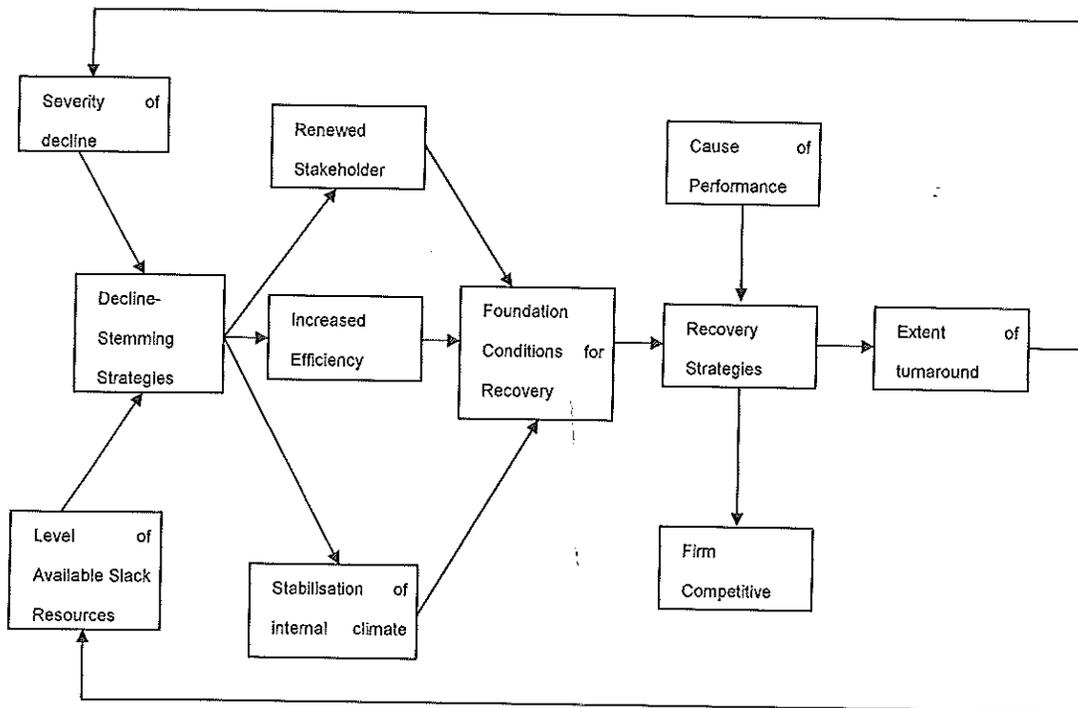
According to Pearce and Robbins (1993), the firms that recover respond to the declining sales or margins in two phases:

- Retrenchment phase, consisting of cost reduction and asset reduction, and;
- Recovery phase, consisting of efficiency maintenance and entrepreneurial reconfiguration.

Pearce and Robbins (1993) recommend cost reduction strategies for firms in a less severe turnaround situation, while drastic cost reduction coupled with assets reduction are recommended for firms in more severe turnaround situations.

2.3.5. The study of an integrative two-stage model of firms turnaround by Arogyaswamy, Baker and Yasi-Ardekani (1995)

Figure 2: Two stage contingency model of firm's turnaround.



(Arogyaswamy, Baker and Yasi-Ardekani, 1995).

According to the model by Arogyaswamy *et al* (1995), initially the firm's performance declines when it fails to adapt to the changing environment and the decline causes continual erosion of the external stakeholders' support, internal inefficiencies will grow and the internal climate and processes will deteriorate. According to Arogyaswamy *et al* (1995) most turnaround models focus too much on retrenchment as an initial response to decline and often fail to consider certain critical contingencies affecting the process. The time-sequential of these models is missing examining the interaction between two

stages, decline stemming strategies and recovery strategies, and this will lead to the understanding of turnarounds to be constrained by how the turnaround process has been modelled and empirically tested (Arogyaswamy *et al*, 1995). Arogyaswamy *et al*, 1995) argue that a more thorough view of the turnaround process cannot be established as literature lacks the fully integrated models that clearly define the stages in the turnaround process and highlight the critical stages contingencies that impact each stage.

Arogyaswamy *et al* (1995) argue that success in initially stemming decline requires managers to go beyond retrenchment or focusing on financial issues to include effective management of a firm's external stakeholders, and internal climate and decision processes.

2.3.6. The study to predict bankruptcy reorganisation for closely held firms by Campbell (1996)

Campbell (1996) developed a prediction model that accountants use to forecast the probability of bankruptcy reorganisation for closely held firms in the United States of America. Campbell (1996) tested the following factors to distinguish firms that are successful and those that fail:

- Larger firms are more likely to reorganise than small firms

- Firms with high asset profitability are more likely to reorganise than the firms with low assets profitability,
- Firms with few secured creditors are more likely to reorganise than firms with numerous secured creditors,
- Firms with free assets are more likely to reorganise than firms without free assets,
- Firms with numerous under-secured, secured creditors are more likely to reorganise than the firms with fewer under-secured creditors, and;
- Types of business – certain types of firms are more likely to reorganise in Chapter 11 than are other types of firms. Chapter 11 is the chapter in the United States bankruptcy code providing for reorganisation of firms in financial distress (Campbell, 1996).

While conducting a study predicting bankruptcy reorganisation for closely held firms, Campbell (1996) found five factors that have significant power to distinguish firms that reorganise versus those that liquidate. Campbell (1996) found that small businesses that successfully reorganise:

- Are larger;
- Have high levels of asset profitability;
- Have fewer secured creditors;
- Possess unencumbered assets; and,
- Have more under-secured creditors.

Campbell's (1996) study measured the firm size by the natural log of the market value of debtor's total assets. He obtained the market value measure from the balance sheet which was contained in the debtor's financial statements for the first month of operations in Chapter 11. Campbell (1996) defined the free assets as those assets not pledged as collateral security against previous borrowing and are available as collateral. Campbell (1996) used probit analysis to test the nine determinants that he identified on a sample of 121 firms and found the five identified factors influence the outcome of the firms in the financial distress significantly. Campbell (1996) concluded that firms with free assets are more likely to reorganise than firms without free assets.

2.3.7. The study on financial distress, reorganisation and corporate performance study Routledge and Gadenne (2000).

Routledge and Gadenne's (2000) conducted a study on whether companies that are financially distressed firms in Australia that reorganise can be distinguished from those that fail.

They tested the impact of the following proposition on the turnaround outcome:

- Highly leveraged firms are less likely to reorganise.
- Firms with higher levels of short-term liquidity are more likely to reorganise
- Firms with good earnings prospects are more likely to reorganise.
- Firms that have one substantial secured creditor are more likely to organise

They found that past profitability and greater liquidity are the distinguishing characteristics for firms that successfully reorganise. Their final sample for the successful and unsuccessful reorganisation was 32, consisting of 13 successful and 19 unsuccessful reorganisations.

2.3.8. The study of why are Delaware and New York bankruptcy reorganisations filing by LoPucki and Doherty (2002)

LoPucki and Doherty's (2002) study was designed to confirm that Delaware's and New York's higher bankruptcy re-filing rates indicate higher failure rates and to find the reasons for those higher failure rates. LoPucki and Doherty (2002) identified the following factors as determinants of the outcome of reorganising:

- The leverage and the extent of the losses before filing for bankruptcy.
- Large firms are more likely to succeed and reorganisation involving greater reduction in firm's size would also succeed more often. According to LoPucki and Doherty (2002), prior research show a strong relationship between size of the firm and success of the reorganisation when success is measured by confirmation or consummation of the plan. According to LoPucki and Doherty (2002), size is measured by assets and turnover.
- Manufacturing and retail trade firms were significantly more likely to fail than other industries, and;
- The faster reorganisation is significantly more likely to fail than the slower ones.

Their study analysed the reorganisations of all large public companies at the time they filed for reorganisation in a United States bankruptcy court and emerged from reorganisation as operating public companies during the period from 1991 to 1996. LoPucki and Doherty (2002) studied a total of 98 reorganisations. They studied 26 Delaware reorganisations, 60 New York reorganisations and 56 reorganisations in other courts.

2.3.9. The study of situational and organisational determinants of turnaround by Francis and Desai (2005)

Francis and Desai (2008) conducted the study to test the ability of situational variables, manageable pre-decline resources and how the specific firms' response to decline and to classify performance outcomes in declining firms.

Francis and Desai's (2008) study tested the following variables:

- Free assets;
- size;
- severity of decline; suddenness of decline: urgency of decline;
- Efficiency strategy - capital productivity; employee productivity; industry growth; asset retrenchment and expenses retrenchment

Francis and Desai (2008) found that contextual factors such as the urgency and severity of decline, firm productivity and the availability of slack resources, and firm

retrenchment can determine the ability of sample firms to turnaround. Overall, factors under the control of managers contribute more to successful turnarounds than situational characteristics. They found that the size of the firm does not have statistically significant influence on the outcome of the turnaround. They used a sample of 97 firms, with 49 turned around and 48 firms failed. They used Fisher's Linear Discriminant Analysis (FLDA) to test the variables identified in relation to the outcome of the turnaround.

2.3.10. The study of predicting survival prospects of corporate restructuring in Korea by Kim, Kim and McNiel (2008).

Kim, Kim and McNiel (2008) identified the success factors of corporate restructuring by studying the firms that have survived from the financial distress in Korea using the logit analysis. They identified the following to test if they influence the outcome of a turnaround:

- Firms risk,
- Free assets,
- Audit opinion,
- Liquidity,
- Firm size, and
- Period of existence.

They found that the audit opinion, risk of the firm and the firm size are the most important variables in predicting the survival prospects of financially distressed Korean firms. Kim *et al* (2008) used 59 firms and 35 firms that had recovered from the financial distress while 24 firms have failed and subsequently phased out. They used logit analysis to test the variables identified.

2.4. Other external factors that influence restructuring outcomes

According to Boyne (2006), it is important to understand the processes of organisational turnarounds and to identify strategies that are likely to lead to better results. Restructuring a firm in financial distress presents a multi-stage balancing act and there will be divergent interests, including shareholder-creditor conflicts, creditor–creditor conflicts, management-stakeholder conflicts and individual-organisational conflicts (Bernstein, 2006).

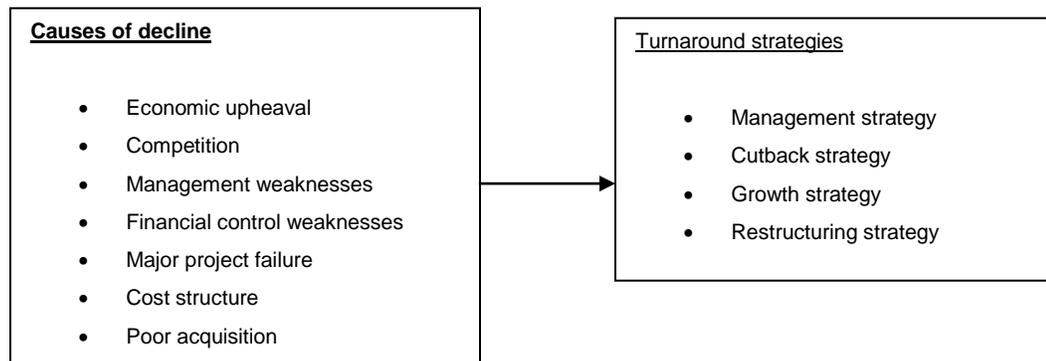
According to Francis and Desai (2005), the availability of resources either limits or enhances the options for firms attempting a turnaround strategy. Tan and See (2004) suggested that strategic choice is a function of organisational slack, size, and management's perception of external factors' controllability. However, according to Rasheed (2005), the effects of the degree of deterioration and limited resources available to assist small business owners on their strategic choice to turnaround the businesses have not been adequately addressed.

According to Cater and Schwab (2008), under some conditions, turnarounds may not be feasible and the organisation may lack the capabilities or resources to implement an appropriate turnaround strategy correctly. In a feasible setting, organisational outcomes of a turnaround still depend on emergent factors (e.g. competitors' actions), which can prevent or delay any turnaround (Cater and Schwab, 2008).

According to Arogaswamy, Barker and Yasai-Ardekani (1995) as cited in Smith and Graves (2005), turnaround attempts often face additional challenges in the form of severe time pressures, extremely limited slack resources and diminishing stakeholder support. Pindado, Rodriques and de la Torre (2006) found that debt structures of distressed and non-distressed small firms are not different because small firms lack the capacity to borrow more to react to the financial distress situation.

Below is the theoretical framework of the causes of decline and turnaround strategies by Sulaiman, Ali and Ganto (2005)

Figure 3: Theoretical framework of the causes of decline and turnaround strategies.



(Sulaiman, Ali and Ganto , 2005)

Sulaiman, Ali and Ganto (2005) argued that the relationship between the cause of decline and turnaround strategies are significantly related. According to Furrer, Pandian and Thomas (2007), the firm's decline is the result of managers' failure to maintain the alignment of a firm's strategy, structure and objectives with an evolving and changing environment. Organisational decline represents substantial resource losses over time and can be either a gradual process or a sudden, unexpected disruption (Whetten, 1987).

2.5. The assessment of characteristics identified by Smith and Graves (2005) in relation to the SMEs that were financed by DFIs

2.5.1. The role of efficiency-oriented strategies in the turnaround process

According to Lin, Lee and Gibbs (2008), operational restructuring has been considered as one important turnaround strategy for a firm in financial distress. This study was the first to explore the factors that govern the delisting risk of restructuring firms. They found that firms that undertake repetitive restructuring, massive workforce reduction, large-scale assets downsizing, are exposed to a high level of debt and fail to narrow their focus on core competencies are more likely to fail.

Chowdhury and Lang (1996) found that there are important differences in strategies for small and large firms' turnaround success. According to Chowdhury and Lang (1996), the turnaround strategies of small firms involve some elements of large firms' turnaround and they could involve efficiency and entrepreneurial initiatives. Furthermore, efficiency turnaround actions are concerned with better use of organisational resources and internal processes of a firm, while entrepreneurial turnaround actions are more market-oriented, focused on resource acquisition and revenue generation or changes in market niches. They found that small firms prefer efficiency strategies to entrepreneurial strategies to turnaround the small firms in financial distress.

While Robbins and Pearce (1992) were investigating retrenchment as an integral part of the overall turnaround process, they found that there is a significant relationship between both cost retrenchment and performance amongst firms that had experienced

severe turnaround situations. Regardless of the cause or the severity, a firm must begin with reducing operational costs through a sustainable retrenchment response.

According to Lin, Lee and Gibbs (2008), the firms which did not retrench had a significantly higher probability of turnaround failure. According to Rasheed (2005), a small firm's choice between perceived growth strategy and retrenchment strategies depend on the interaction between perceived performance and resource availability.

Sudarsanam and Lai (2001) found that failed firms chose more internally focused strategies such as an operational and financial restructuring, whereas successful firms choose investment and acquisition to lead them out of trouble.

2.5.2. The role of free assets in turnaround process

According to White (1984, 1989), cited in Routledge and Gadenne (2000) and Smith and Graves (2005), the distressed firms with sufficient free assets (i.e. an excess of assets over liabilities, or, more specifically, of tangible assets over secured loans), are more likely to avoid bankruptcy because the free assets increase their ability to acquire additional funds necessary to enact a successful turnaround and it encourages the continued support of existing lenders as sufficient assets are available to repay the loan, if required. According to Filatotchev and Toms (2006), the value of the assets limits the firms' selection of strategic turnaround options and it also influences the decisions by financiers to enable or restrict the implementation of such options.

According to Chowdhury and Lang (1996), the turnaround for smaller firms appears to entail somewhat different strategies by increasing employee productivity, disposal of old assets and extending accounts payable. According to Chowdhury and Lang (1996), smaller firms generally do not have the internal slack resources (such as inventory, liquid assets, etc.) compared to larger firms. According to Francis and Desai (2005), slack resources help a firm to absorb the effects of performance downturn and variability, and provide a base of resources from which to take effective action.

According to Lin, Lee and Gibbs (2008), firms that failed to reduce their debt are much more likely to fail. According to Lin, Lee and Gibbs (2008), the firms cut debt, using the proceeds from the liquidation of inventories, receivables, property, plant and equipment or a business division, to extinguish their obligations. Finkbiner (2007) argued that adequate bridging financing is an essential ingredient for successful turnaround.

2.5.3. The role of severity of distress state in the turnaround process

According to Hofer (1980), before beginning with turnaround, it should be ensured that the 'going-concern' value of the firm is substantially greater than its liquidation value. He argues that the current operating health is more important than the strategic health because the strategic health becomes irrelevant if the firm goes bankrupt in the near-term.

According to Scherrer (2003), for the turnaround to be successful, business decline must be acted upon as soon as warning signals are identified. According to Cater and Schwab (2008), substantial organisational decline leads to a crisis where the survival of the firm is threatened. Francis and Desai (2005) and Smith and Graves (2005) found that the severity of the decline plays a great part in determining the outcome of the turnaround and when in a severe situation a firm may not have the resources to promote its turnaround strategies.

2.5.4. The role of firm size in the turnaround process

Pant (1991) used the structure/conduct/performance framework as a foundation to investigate the attributes of turnaround firms. He found that turnaround and non turnaround firms indicated that size, research and development, and interaction between operating margin and advertising can be helpful in explaining some turnaround situations. More importantly, however, he found that smaller firms appear to be able to improve their results much quicker or more dramatically than larger firms.

According to Finkbiner (2007), the consensus among turnaround professionals is that large firm turnarounds are less difficult than small firm turnarounds and have a higher probability of success. He continued to say that the high-leverage drivers and strategies for a successful turnaround will be similar if not identical regardless of the firm size. However, Lin, Lee and Gibbs (2008) also found that larger firms have a greater chance of survival.

Beck, Demirguc-Kunt, Leaven and Maksimovic (2006) explored firms' characteristics that predict best the lack of financial assistance and found that age, size and ownership predict financing obstacles best. According to Beck *et al* (2006), categorising firms by their age, size and ownerships is useful to consider when determining the assistance that a firm receives from financing institutions.

Smith and Graves (2005) stated that larger firms are likely to have a higher probability of survival, as potential losses to stakeholders are greater and more efforts are made to ensure that they survive. Also, such firms are likely to have a higher profile and are therefore more likely to be kept alive. Distressed firms that enjoy a high level of stakeholder support are more likely to survive, as these firms will have continual support from creditors, employees and customers (Smith & Graves, 2005).

Small firms, when compared with large diversified corporations, have financial resource limitations attributable to size, lack of external financing and liquidity (Mahoney & Pandian, 1992). According to Smith (2006), smaller corporate businesses are exposed to bigger threats, as the financial base of large corporations allow room for downsizing and change, while the limited resources of smaller corporations allow less margin for error.

According to Rasheed (2005), the strategic alternatives available to small firms are sometimes limited to internal changes that are made through the reallocation of limited resources. Rasheed (2005) continued to state that founders of small firms at some point exhibit entrepreneurial characteristics associated with creating incremental wealth and assuming major risk, in terms of equity, time and career commitment. According to Rasheed (2005), because the founders have assumed a personal risk, they are likely to have a different strategic response from that of the manager of a financial institution, when faced with the loss of their life savings as well as their reputation.

2.5.5. Financially distressed firms that have a high incidence of senior management turnover

According to Hofer (1980), a precondition for almost all successful turnarounds is the replacement of the current top management of the business in question. According to Cater and Schwab (2008), the turnaround literature suggests that many firms experience severe crises due to the lack of expertise to initiate necessary changes. According to Schwartz and Menon (1985), the change in top management is far more prevalent among failing firms than among their healthy counterparts and that the size of the organisation did not influence the decisions to make changes to the Chief Executive Officer (CEO).

According to the turnaround literature, the top management changes are instruments that can be used to introduce a different management approach and to signal

turnaround activities to a firm's stakeholders (Slater (1984), referenced in Cater & Schwab, 2008). In contrast, Brunninge, Nordqvist and Wiklund (2007) argued that it is difficult for SME managers to accomplish strategic change calls alone irrespective of whether it is due to adverse environmental conditions or the emergence of new opportunities, they need the support of the stakeholders.

According to Scherrer (2003), key elements of successful turnaround include competent management, the cooperation of firm stakeholders and sufficient bridge capital to carry out the turnaround plan. According to Bibeault (1982) (as cited in Sudarsanam and Lai, 2001), the top management change is widely thought of as a precondition for a successful turnaround. Parker, Peters and Turetsky (2005) argued that auditors perceive CEO replacement in the financially distressed firm as a sign of lowered viability and CEO turnover decreases the firm's probability of survival. According to Auchterlonie (2003), a lack of proper investigation of the causes of the distress contributes to a higher incidence of dismissal of the CEO and is unnecessary and harmful to the business because the cause of the distress may not be due to poor management.

Lohrke, Bedeian and Palmer (2004) examined the role and importance of the top management team on turnaround strategy formulation and implementation. Finkbiner (2007) argued that management capability is essential to turn a business around. According to Bernstein (2006), people viewed the replacement of management as an

indication of blame of the past, instead of recognition of specialised skills needed to turnaround a firm in financial distress.

According to Slatter *et al* (2006), in publicly traded firms turnaround is usually triggered by the coalition of directors firing the CEO or by first initiating a strategic review of the business with outside consultants/advisers and which eventually leads to a new CEO being appointed and a new strategy introduced. Slatter *et al* (2006) continued to say that in both debtor- and creditor-led turnarounds, it is usual for a new leader to be appointed at the instigation of one or more major stakeholders and in some instances the mere arrival of the new leadership can be enough to shock the organisation awake.

Cuny and Talmor (2007) argued that meaningful corporate value creation may require the firm to address the operational problems, replacing management and changing the incentive structure. According to Cuny and Talmor (2007), when a firm is underperforming unless there is something structurally wrong with the business, deteriorating performance may arise either due to not properly rewarding competent management or from keeping incompetent managers. They continued to say that a firm has three alternative strategies:

- Management may hire a turnaround specialist,
- The board may hire a turnaround specialist with a wider mandate of recovery plans including management change, or
- The firm can be sold.

Smith and Graves (2005) conducted a study of 104 firms using multi discriminant analysis on the abovementioned factors.

2.6. Introduction of an additional South African specific potential turnaround determinant to the Graves and Smith (2005) model – Black Economic Empowerment (BEE)

Smith (2006) states that corporate businesses in South Africa operate in a unique environment and the current emphasis on BEE has a potential for a profound impact on the survival of South African corporate businesses. The IDC kick started BEE in 1993 by facilitating the R137 million acquisition of New Africa Investment Ltd by black investors. From 1990 to 2002 the IDC financed 802 empowerment deals providing some R7.7 billion worth of loan capital for other black ventures, including the hugely successful Mobile Telecommunications Network (MTN) cell phone company. The bulk of IDC's funding flowed into manufacturing, followed by communications, mining, and retail and wholesale sectors (Iheduru, 2004). In 2003, IDC lowered the minimum investment capital required to obtain start-up loans from 10% to 2.5% (Iheduru, 2004). The small number of black consortia involved in most of the BEE transactions lacked capital and depend on highly-g geared financing structures, and this means that they are very vulnerable to poor performance of the investee firm and they, at times, overpay for the assets (Ponte, Roberts and van Sittert, 2007). The government has sought to promote the new black bourgeoisie, it is acutely aware of its failings and disasters and

at times, black businessmen are criticised for having become nothing more than renter capitalists (Southall, 2007).

The challenge facing South Africa is for managers to harness the richness of the many ethnic groups to enhance productivity and the effective management practices can be learned and should be the focus of management education and development education and development (Thomas and Bendixen, 2000). The fundamental point was that black business was involved primarily in financial investment rather than entrepreneurship and BEE tends to overpay for the assets and the deals turn out to favour the whites rather than the new businesses (Thomas and Bendixen, 2000).

This study introduces BEE as a new turnaround determinant variable to the model by Smith and Graves (2005) based on the following:

- Smith's (2006) conclusion that BEE has a potential for a profound impact on the survival of South African corporate businesses,
- The data used is from the IDC and it played a significant role in funding BEE and the high number of BEE transactions that it has funded. This presents a difference from previous studies as they focused more on listed firms rather than firms that were funded by a developmental institution, and

- There are questions about the success of the BEE and it will add value to assess if BEE influences the success or failure of businesses in financial distress,

The South African government introduced the BEE Act with its main objective being to increase the number of black people that manage, own and control enterprises and productive assets (Broad Based Black Economic Empowerment Act, 2003). Black empowered firms tend to receive preferential procurement from government and businesses that would like to meet their BEE score and this can have a positive impact on firms that are in financial distress

BEE investors are not motivated to add value to the firms that they invest in because they had little to lose in the deal, because the principal financial risk lay with the institutional investors rather than with the BEE group. For their part, institutional investors failed to appreciate that, unlike their other investments, BEE groups often needed their specialised support (Southall, 2007).

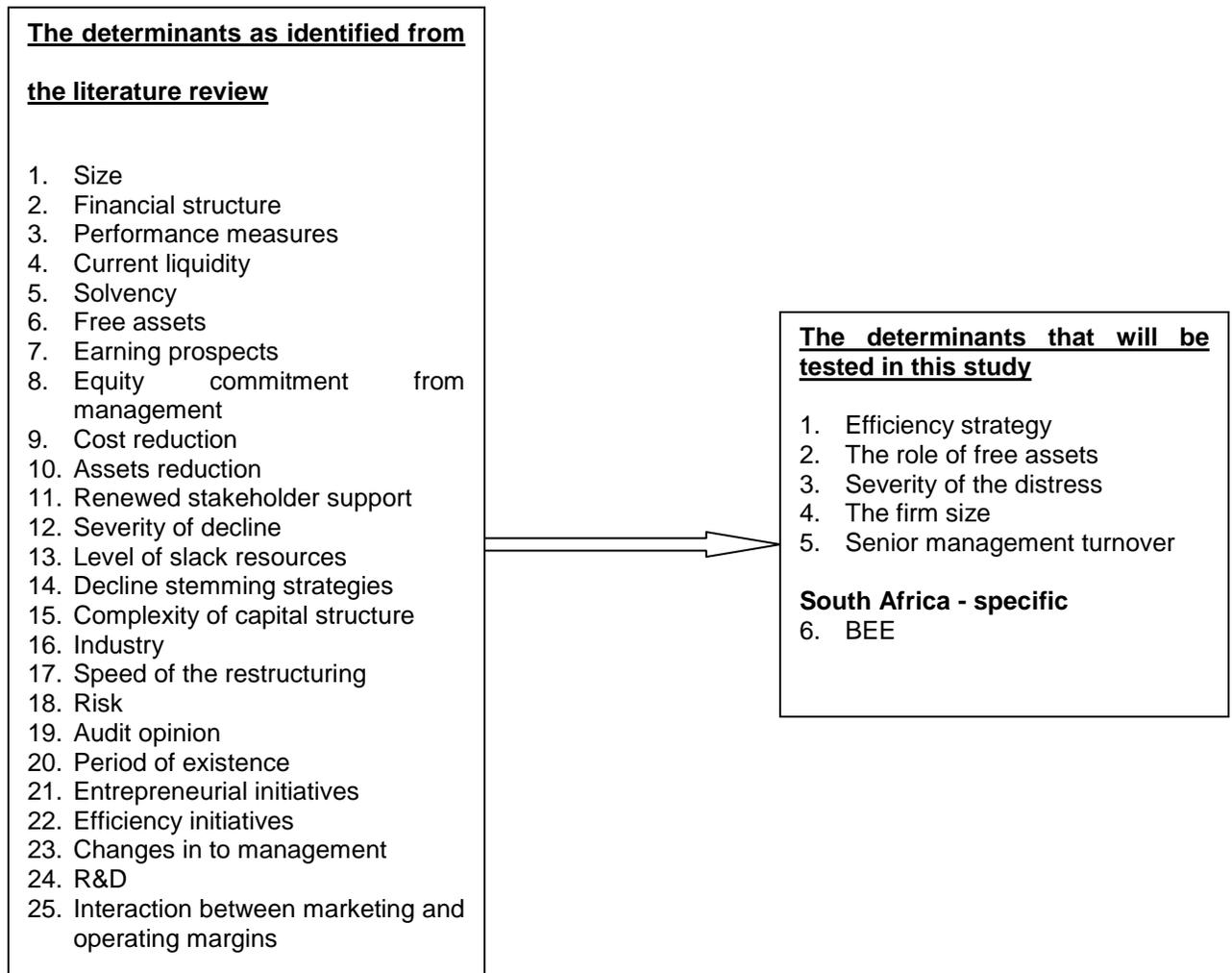
There is a low rate of survival in the small enterprise therefore the black businesses need all the support they can get due to the shortcomings inherent to this sub sector, including limited education and funding (The Centre for Development of Enterprise, 2007).

According to Ponte, Roberts and van Siottert (2007), BEE has been a major thrust of the democratic government administrations in South Africa since 1994 in attempts to redress the effects of *apartheid*, which excluded black South Africans from economic participation. According to Sartorius and Botha (2008), the success or failure of BEE in South Africa has been hotly debated and the climate of rising inflation and interest rates threatens the future of BEE mainly because of the gearing as a result of BEE funding. According to Ponte, Roberts and van Siottert (2007), there has been a sharp increase in BEE related mergers and acquisitions which coincided with better performance of the stock exchange. According to Iheduru (2004), there are popular claims that BEE has failed, highlighting the corruption, fronting for white capital and lack of state capacity to monitor compliance with BEE as evidence of the failure of BEE.

2.7. The combined model of all the determinants identified from literature is constructed.

Based on the literature review, the list of turnaround outcome determinants was compiled and the most common determinants, in most studies reviewed, with significant influence on the outcome of the restructuring/turnaround were identified and they will be the variables to be tested for this study. The following model was developed:

Figure 4: Turnaround determinants to be tested



“The determinants as identified from the literature review” list the entire list of variable identified by the abovementioned literature of the predictors of the outcome of the turnaround and restructuring. The determinants that will be tested in this study were identified based on the variables that were tested more than three times by the abovementioned researchers. Included will be BEE as a South African specific determinant.

CHAPTER 3: RESEARCH PROPOSITIONS

3.1. Introduction

Based on the literature review, important factors that influence the turnaround outcome were identified. These factors informed the development of the propositions for this study.

3.2. Presentation of research propositions

Proposition 1: The degree to which financially distressed firms implement “efficiency strategies” is positively related to the likelihood of successful turnaround.

According to Francis and Desai (2005), Rasheed (2005), Lin, Lee and Gibbs (2008), Chowdhury and Lang (1996), Robbins and Pearce (1992), Sudarsanam and Lai (2001) and Pearce and Robbins (1993), a successful turnaround is associated with efficiency-oriented strategy and not entrepreneurial strategy. According to Smith and Graves (2005), however the measure of downsizing activities suggests that firms which apply the entrepreneurial strategy of expanding their assets base (as opposed to selling off productive assets) are more likely to recover. Lin, Lee and Gibbs (2008) argue that the firm which undertakes repetitive restructuring, massive workforce reduction, large-scale

asset downsizing, has high level of debt and fails to narrow its focus on core competencies, is more likely to fail.

Proposition 2: The severity of financial distress is negatively related to the likelihood of successful turnaround.

Francis and Desai (2005), Smith and Graves (2005), Hofer (1980), Pearce and Robbins (1993), Scherrer (2003) and Cater and Schwab (2008), all found that the severity of the financial distress significantly affects the outcome of the turnaround.

Proposition 3: Financially distressed firms with a larger amount of free assets available are more likely to turnaround successfully.

Cater and Schwab (2008), Pindado, Rodriques and de la Torre (2006), Routledge and Gadenne (2000), Filatotchev and Toms (2006), Francis and Desai (2005), Lin, Lee and Gibbs (2008) and Campbell (1996) found that the availability of resources has a positive correlation with successful turnaround.

Proposition 4: Financially distressed firms that have a high incidence of senior management turnover are more likely to turn around successfully than firms which have a low incidence of CEO turnover.

Hofer (1980), Cater and Schwab (2008), Schwartz and Menon (1985), Sudarsanam and Lai (2001) and Bernstein (2006) found that changes in top management have a positive relationship with a successful turnaround. However, Parker, Peters and Turetsky (2005) and Auchterlonie ((2003) found that the changes in top management could have a negative effect on turnaround. Smith and Graves (2005) found no significant relationship between successful turnaround and change in top management.

Proposition 5: Large distressed firms are more likely to turn around than small distressed firms.

Mahoney and Pandian (1992) Smith and Graves (2005), Beck, Demirguc-Kunt and Maksimovic (2006), Smith (2006), Kim, Kim and McNiel (2008), Rasheed (2005) and Finkbiner (2007) found that the size of the firm influences the outcome of the turnaround and large firms have a better chance to implement a successful turnaround than small firms.

Proposition 6: BEE firms in financial distress are likely to fail than non-BEE firms.

According to Ponte, Roberts and van Siottert (2007), Sartorius and Botha (2008) and Iheduru (2004) there are many questions about the success and failure of BEE. The success or failure of BEE could have an impact on the firms that have done BEE

transactions and they are in financial distress. The positive value will indicate that there was expansion instead of downsizing while the negative figure will indicate downsizing, which is an indication of implications of efficiency strategies. The assets will be measured at cost and not the book value.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. Introduction

Routledge and Gadenne (2000) used descriptive research to conduct similar research to determine whether firms that reorganise can be distinguished from those that liquidate under voluntary administration. In addition, they examined the performance of restructured firms to determine variables that distinguish successful from unsuccessful restructurings. Francis and Desai (2005) used descriptive research to investigate the situational and organisational determinants of turnaround. Smith and Graves (2005) used descriptive research to explore whether information contained within the annual financial reports is useful in distinguishing between distressed firms that enact a turnaround and those that fail.

According to Zikmund (2003), descriptive research is designed to describe characteristics of a population or a phenomenon. Similar to the studies by Routledge and Gadenne (2000), Francis and Desai (2005) and Smith and Graves (2005), the purpose of this study is to describe the characteristics that determine the outcome of turnaround. Descriptive research is therefore appropriate for this study.

4.2. Population and unit of analysis

The population of this study is all the firms that were transferred to the Workout and Restructuring Department (W&R) at the IDC. The total number of firms that were transferred from Specific Business Unit (SBU) to W&R is 407. SBU are operational units that do the funding. According to W&R, firms are transferred from the SBUs to W&R when one or more of the following occurs: Any capital and/or interest payments owed by a client of IDC fall in arrears by more than 3 months.

- A client who requests a second deferment of capital, and/or interest to be capitalised whilst still in an already extended capital moratorium period.
- IDC decides to issue summons against a client.
- IDC or another creditor obtains judgement against a firm to a value of more than 10% of the client's Net Asset Value.
- IDC or another creditor attaches the assets of a client.
- IDC or another creditor applies for liquidation of a client.
- The client ceases or intends to cease its operations.
- A major disruption affecting the future viability of the client occurs.
- A client fails to honour the redemption terms on preference shares held by IDC.
- A client fails to honour an agreed dividend policy applicable to ordinary or preference shares held by IDC.

According to the Workout and Restructuring Department (W&R), firms are transferred back from W&R to SBU when the reason for the transfer of a client to W&R has disappeared or when both the following criteria apply:

- A restructuring plan as proposed by W&R has been approved and successfully implemented.
- The client has strictly adhered to the terms of the restructuring (e.g. revised payment terms) for at least 6 consecutive months (or less if properly motivated) following the implementation of the restructuring plan.

The reports submitted to the committees for approval are stored on the database system called Documentum and the monitoring of the transactions done through SAP.

The unit of analysis for the study is businesses funded by IDC. The relationship tested in this study will be the turnaround outcomes as a function of the turnaround determinants. According to Zikmund (2003), the researcher must specify the level of investigation that he/she will focus on when collecting and analysing data. This study is focused on the turnaround determinants of the businesses funded by IDC. Therefore, the businesses funded by IDC are the appropriate unit of analysis.

4.3. Sampling

To test the hypotheses above, the convenience sampling method will be used. According to Zikmund (2003), convenience sampling refers to sampling by obtaining units that are most conveniently available. Because of the confidential nature of the restructuring, the financial institutions do not provide easy access to their restructuring information and it was difficult to access that information other than at the IDC. A random sample will be selected from the turnaround and restructuring performed by the IDC which cover the fiscal years 1998-2008. According to Zikmund (2003), it is unnecessary to select every item in a population because the results of a good sample should have the same characteristics as the population as a whole. The restructuring which cover the fiscal years 1998-2008 were selected mainly because the data from the IDC is available from 1998 and the restructurings that were done in 2008 will provide two years evidence of whether the restructuring was successful or not. As the restructuring outcome is measured for two years after restructuring, the firms that were impacted by the global crisis of 2008 and 2009 are not included in this study.

The sample will consist of the clients that have been restructured and were subsequently written off by IDC or have been transferred back to the SBU because the restructuring was successful. According to Poston and Ken (1994), most past research efforts have used the sample firms' ultimate outcomes as the basis for entry into the sample and this methodology results in a biased sample for the studying failure

Campbell (1996) tested 121 firms in their study and using this number as a guide, 130 firms were selected for testing and only 78 firms met all the criteria of this study. Therefore the final sample for this study is 78 firms. From the 78 firms drawn on, 31 of the restructurings failed, while 47 were successful. The initial sample selected is 24.98% of the total population while the final sample represents 19.16%.

The 52 firms that did not meet the criteria for this study were mainly due to following:

- 28 firms failed before the W&R could restructure and were subsequently written off from IDC's systems.
- 3 firms reached a settlement agreement with the IDC before the restructuring.
- For 15 firms, the restructuring report could not be found, and;
- 6 firms' restructurings did not include financial statements

According to Albright, Winston and Zappe (2009), most analysts suggest a sample size greater than 30 as a rule of thumb for normal approximation of the population. W&R does not maintain a database of the firms that have been restructured due to financial distress. The sample was selected from the clients transferred to W&R. The sample will consist of the firms that have had at least two years of negative net income before restructuring and they requested the IDC to restructure the debt because they could not afford to maintain the loan repayments.

Successful turnaround will be defined as two years of repayment of debt from cash from operations. Similar to Smith and Graves (2005), Chowdhury and Lang (1996) and Pearce and Robbins (1993), this study's turnaround cycle time period in which the decline and recovery occurs, will be four years. According to Smith and Graves (2005), a four-year period should be sufficient time to observe a successful turnaround.

Some of the successful turnarounds and restructurings are not always transferred back to the SBU and to confirm the accuracy of the outcome of the turnaround and restructuring, the information from the report database were corroborated with the information on SAP.

4.4. Variables and measures

4.4.1. Dependent variables:

The study will measure whether the turnaround outcome was successful or unsuccessful. According to Zikmund (2003), the variable with a limited number of distinctive values is categorical. The turnaround outcome can be either successful or unsuccessful – therefore, the dependent variable is categorical.

4.4.2. Independent variables

P1: The severity of financial distress is negatively related to the likelihood of successful turnaround. Smith and Graves (2005) used a proprietary Z-score model developed by Taffler (1983), in the identification and selection of financially distressed firms, as it is

recognised as one of the most reliable in predicting failure in the UK. Smith and Graves (2005) used the well-established method in the strategy and finance literature of Altman's (1968) Z model. According to Robbins and Pearce (1992), the most prominent and reliable measure for predicting the likelihood of bankruptcy within a specified period of time is Altman's Z value method. According to Robbins and Pearce (1992), firms are classified as high or low severity, based on whether they have a low or high Z value greater than the Z median. This study will use Altman's (1968) model as it is a well-established model.

P2: The degree to which financially distressed firms implement "efficiency strategies" is positively related to the likelihood of successful turnaround. Efficiency will be measured similarly to Francis and Desai (2005), using employees' productivity, capital productivity, reduction of expenses and asset retrenchment. Smith and Graves (2005) also use asset retrenchment as a measure of efficiency-oriented strategies to measure downsizing. Pearce and Robbins (1993) consider cost reduction and asset reduction as an efficiency strategy.

P3: Financially distressed firms with a larger amount of free assets available are more likely to turn around successfully. Studies conducted by Casey, McGee and Stickey (1986), Campbell (1996), Routledge and Gadenne (2000), Smith and Graves (2005) and Francis and Desai (2005) found the free assets available to be a significant predictor of corporate recovery, but they differed in the calculation of the way in which

they chose to measure free assets. According to Smith and Graves (2005), the measure proposed by Casey *et al.* (1986) – that of total secured collateral assets divided by total tangible assets – is arguably the most sound in a technical sense, as it identifies the amount of assets that can be used as collateral for future financing. Casey *et al.* (1986) will therefore be used to measure free assets for this study.

P4: Financially distressed firms that have a high incidence of senior management turnover are more likely to turn around successfully than those that have a low incidence of senior management turnover. According to Smith and Graves (2005), previous studies identified the CEO, president, chairman of the board, vice-president and above, and directors of the firm as part of senior management. Similar to Smith and Graves's (2005) study, the incidence of change in CEO and/or chairman during the financial year, other than due to retirement, is used as a measure of internal climate and board stability.

P5: Large distressed firms are more likely to turn around than small distressed firms. Previous studies have identified that “sales revenue”, “total assets” and “number of employees” have been used as a measure of a firm's size. According to Smith and Graves (2005), because size is linked with borrowing capacity, the use of assets rather than sales or the number of employees is considered a more appropriate base for capturing borrowing capacity. Similarly to Smith and Graves (2005), total tangible assets and sales revenue will be used as a measure of firm size in this study.

P6: BEE firms in financial distress are likely to fail than non-BEE firms. The BEE firm will be defined as firm that has done BEE transaction within two years prior to the restructuring and where the BEE partners are actively involved in management and owns a controlling equity in the business.

According to Zikmund (2003), the variable that has an infinite number of possible values is the continuous variable. The independent variables of this study have an infinite number of possible values, therefore the continuous variable will be used.

4.5. Data analysis

This study predicts the outcome of turnaround, based on several independent variables. According to Balcaen and Ooghe (2006), Altman (1968) introduced a statistical multivariate analysis technique called multiple discriminant analyses to the problem of firm failure prediction. According to Zikmund (2003), multiple discriminant analyses (MDA) is a statistical technique for predicting the probability that an object will belong in one of the two or more mutually exclusive categories (dependent variable), based on several independent variables. According to Balcaen and Ooghe (2006), logistic regression (Logit) is a conditional probability model that allows the use of the non-linear maximum likelihood method to estimate the probability of failure conditional on a range of firm characteristics.

According to Smith and Graves (2005), various alternative multivariate techniques have been used to develop failure prediction models, including quadratic discriminant analysis, logit and probit, non-parametric methods and neural nets. According to Altman (1968), after careful consideration of the nature of the problem of discriminant analysis, a MDA was chosen as an appropriate statistical technique, even though MDA is not as popular as regression analysis. According to Ohlson (1980), there are problems with the use of MDA as there are certain statistical requirements imposed on the distributional predictors like the variance-covariance matrices of the predictors should be the same for both groups (failed and successful firms) and if the only purpose of the model is to develop a discriminating device.

Ohlson (1980) and Kim *et al* (2008) used the econometric methodology of conditional logit analysis but according to Smith and Graves (2005), there is no evidence of significantly superior performance associated with such approaches, compared with traditional linear discriminant analysis. According to Francis and Desai (2005), Fisher's Linear Discriminant Analysis (FLDA) is appropriate since the focus of the study is on the turnaround outcome and not specifically on the magnitude of performance and FLDA allows to assess the ability of relevant variables to discriminate between the two outcomes (turnaround and non-turnaround). According to Altman (1968), the MDA technique has the advantage of considering an entire profile of characteristics common to the relevant firms and the interaction of those characteristics.

According to Balcaen and Ooghe (2006), even though MDA is called a continuous scoring system, it should be bear in mind that a discriminant score is simply an ordinal measure that allows the ranking of firms.

The nature of the data used for this study is categorical with both nominal and categorical variables, i.e. the variable “size” has order with small following large depending how one prefers to order size and the variable “efficiency strategy has no order” since it cannot be said that “yes” come before “no” or *vice-versa*. This conclusion also holds true for the response variable “turnaround outcome”. The turnaround strategy is either successful or unsuccessful in saving a company depending on the turnaround determinants, which appear below.

Balcaen and Ooghe (2006) analysed the use of regression logit analysis and MDA and they came up with the following assessment:

- Until the 1980s, the MDA technique dominated the literature on business failure prediction and has recently been replaced by less demanding statistical techniques such as logit analysis (LA).
- When applying LA, no assumptions are made regarding prior probabilities of failure or the distribution of the independent variable, basically LA does not require multivariate normal distributed variables or equal dispersion matrices.
- LA has two basic assumptions. First, the LA method assumes the dependent variable to be dichotomous, with the groups being discrete, no overlapping and

identifiable. Second, the cost of type I and type II error rates should be considered when defining the optimal cut-off score of the logit model.

Due to the limitations of the MDA and the less demanding LA, and similarly Ohlson (1980), Campbell (1996), Kim *et al* (2008) and Routledge and Gadenne (2000), the regression logit analysis will be used for this study. Balcaen and Ooghe (2006) support the observation by Smith and Graves (2005) that despite the extensive literature, there seems to be no superior statistical modelling method in predicting the outcome of turnaround. Balcaen and Ooghe (2006) continue to say that most studies reach mixed conclusions and point in different directions.

Turnaround Outcome = f (efficiency strategy, severity of financial distress, large amount of free assets, management turnover, size, BEE)

4.5.1. Efficiency strategy

Efficiency strategy is mainly the downsizing and reduction of expenses, and will use measures similar to Robbins and Pearce (1992), Chowdhury and Lang (1996) and Smith and Graves (2005). Downsizing will be measured as follows:

$$\frac{\text{Tangible assets (t)} - \text{Tangible assets (t-1)}}{\text{Tangible assets (t-1)}}$$

$$\text{Tangible assets (t-1)}$$

Similar to Francis and Desai (2005), expenses reduction will be measured as follows:

$$\frac{\text{Expenses (t) - Expenses (t -1)}}{\text{Expenses (t-1)}}$$

Expenses (t-1)

With t being a period after restructuring and t-1 being a period before restructuring. The assets will be measured at cost and not the book value.

The positive value will indicate that there was expansion instead of downsizing while the negative figure will indicate downsizing, which is an indication of implications of efficiency strategies.

4.5.2. Severity of financial distress

Severity of financial distress will be measured using the Altman (1968) Z-score. The final discrimination function by Altman (1968) was as follows:

$$Z = (0.12 \times X1) + (0.014 \times X2) + (0.033 \times X3) + (0.006 \times X4) + (0.999 \times X5)$$

The initial discrimination function by Altman (1968) was designed based on the listed firms and it was later adapted as follows to be relevant to private firms

$$Z = (0.717 \times X1) + (0.847 \times X2) + (3.107 \times X3) + (0.420 \times X4) + (0.998 \times X5)$$

Where Z =Score Bankruptcy Model:

$X1 = (\text{Current Assets} - \text{Current Liabilities}) / \text{Total Assets}$

$X2 = \text{Retained Earnings} / \text{Total Assets}$

$X3 = \text{Earnings before Interest and Taxes} / \text{Total Assets}$

$X4 = \text{Book Value of Equity} / \text{Total Liabilities}$

$X5 = \text{Sales} / \text{Total Assets}$

Zones of Discrimination:

$Z > 2.9$ - "Safe" Zone

$1.23 < Z < 2.9$ - "Grey" Zone

$Z < 1.23$ - "Distress" Zone

According to Castrogiovanni, Balanga and Kidwell (1992), symptoms of performance decline illustrate the problem of severity associated with each stage of decline accordingly. Below are the stages of severity according to (Castrogiovanni, Balanga and Kidwell, 1992).

Table 1: The stages of severity

Stages	Actions	Results
Stage 1	Blinded	Decrease margins Decrease capital investment Decrease R & D Increase inventories

Stage 2	Inaction	Initial decline in profit
Stage 3	Faulty action	Sustained decline in profit Occasional losses
Stage 4	Crisis	Problematic cash flow Z Score less than 2
Stage 5	Dissolution	Z Score less than 1.5

(Castrogiovanni, Balanga and Kidwell, 1992)

4.5.3. Free assets

Free assets will be measure similar to Smith and Graves(2005) methodology as follows:

$$\frac{\text{Total tangible assets} - \text{Secured loans}}{\text{Total tangible assets}}$$

Total tangible assets

The higher value indicates the large amount of free assets and the low and negative amount indicate the low amount of free assets.

4.5.4. Management turnover

Management turnover will measures similar to Smith and Graves (2005). Smith and Graves (2005) used the incidence of change in CEO and/or the chairman during the financial year, other than due to retirement will used as a measure of internal climate and board stability.

4.5.5. Size

According to Smith and Graves (2005), size is linked with borrowing capacity, the use of assets rather than sales or the number of employees is considered a more appropriate base for capturing borrowing capacity. The size of the firms will be based on the definition of National Small Business Amendments Act (2003), using combinations of assets. The study will separate between large and small businesses by classifying small as per the Act and large will be defined as any firms larger than R23 000 000 is

identified by the Act. SMEs are defined by the Act, depending on the sector, as businesses with turnover between R600 000 and R51 000 000 per annum, employees between 20 and 200 and gross assets valued between R1 000 000 and R23 000 000 (excluding fixed property).

4.5.6. BEE

BEE will be measured by the control of at least 25.1% of equity by previously disadvantaged people and management control (operational involvement) as recommended by Black Economic Empowerment Commission (2003).

4.6. Potential research limitations

This research has the following limitations:

- The study is limited to restructuring conducted by IDC;
- The study is limited to unlisted firms; it could be extended to include listed firms.
- Bias of industry – IDC focus mainly on the industrial projects
- Because of the use of convenience sampling, projecting the result beyond the specific sample will not be appropriate.

CHAPTER 5: RESULTS

5.1. Introduction

The objective of this study was to examine the individual effects of the abovementioned variables on the turnaround outcomes. The sample of firms consisted of 78 firms, with 31 firms where the turnaround strategy failed and 47 firms where the turnaround strategy succeeded.

The logistic regression analysis was conducted to examine the discriminatory power of selected variables between successful and failed turnarounds. The results of the logistic regression analysis are presented below.

In order to interpret the odds ratio, it should be noted that an odds ratio of 1 indicates that the odds are even, so that the turnaround determinant has no significant influence on the outcome of the restructuring. Since it is unlikely to get an odds ratio of exactly 1, to test whether an odds ratio is significantly different from 1, the standard error is therefore calculated and then the confidence interval is used.

5.2. Overall results of the sample selected

Figure 5: The total turnaround outcomes in numbers.

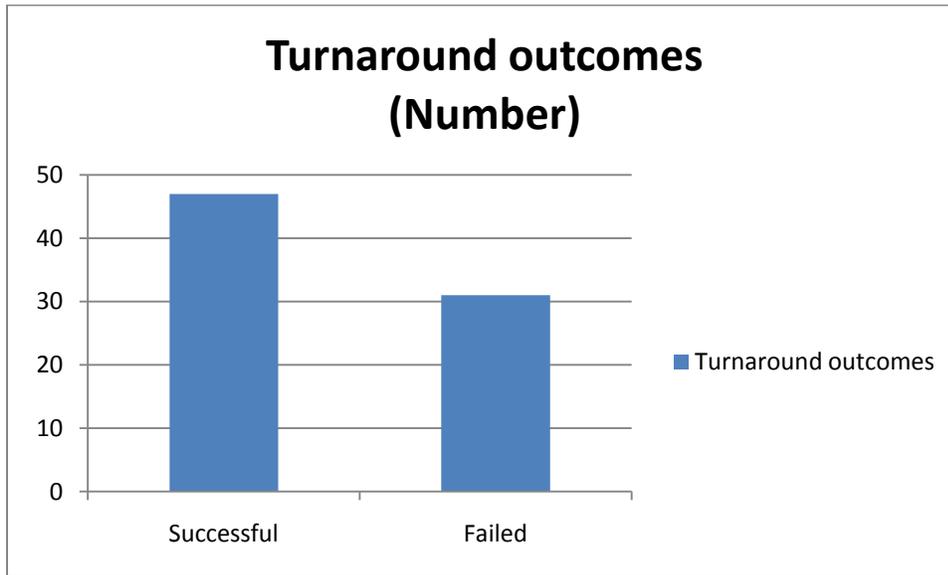


Figure 6: The total turnaround outcome in percentages.

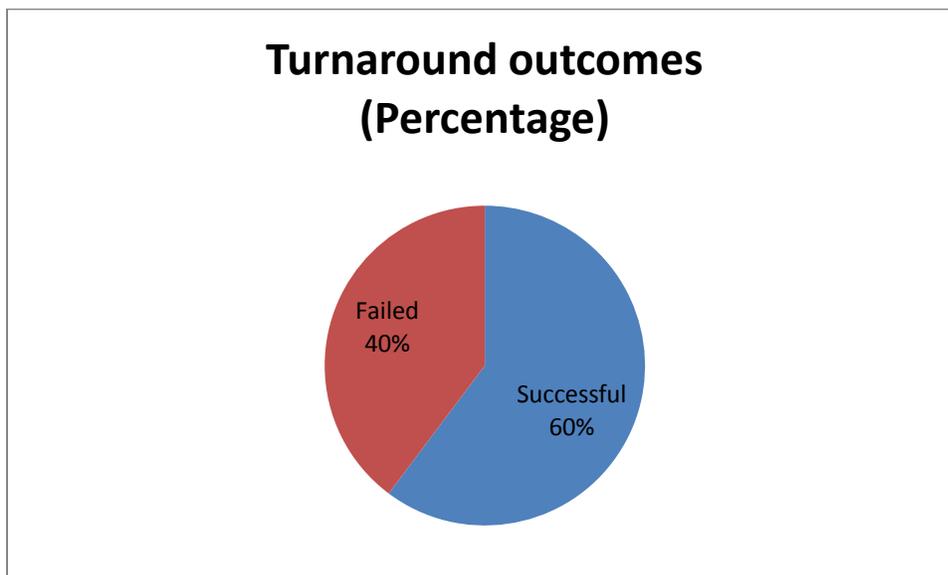


Table 2 : The outcomes of the turnaround based on the propositions.

No.	Determinants	Total number of firms	Number of firms that succeeded	Number of firms that failed	% Success	% Failure
1	Firms that implemented efficiency strategies	8	7	1	88%	13%
2	Firms that were not severely financially distress	24	16	8	67%	33%
3	Firms with large amounts of free assets	36	22	14	61%	39%
4	Firms that changed top management	14	6	8	43%	57%
5	Large firms	25	14	11	56%	44%
6	Firms with no BEE	57	28	29	49%	51%
	Total	164	93	71	57%	43%

The above table indicates the turnaround outcomes based on the proposed factors that suppose to have positively influenced the outcome of the turnaround.

Table 3: The outcomes of the turnaround based on the contrary factors

No.	Determinants	Total number of firms	Number of firms that succeeded	Number of firms that failed	% Success	% Failure
1	Firms that did not implemented efficiency strategies	70	40	30	57%	43%
2	Firms that were severely financially distress	54	31	23	57%	43%
3	Firms without large amounts of free assets	42	25	17	60%	40%
4	Firms that did not change top management	64	41	23	64%	36%
5	Small firms	53	33	20	62%	38%
6	Firms with BEE	21	19	2	90%	10%
	Total	304	189	115	62%	38%

The above table indicate the turnaround outcomes based on the contrary factors to the proposed factors that suppose to have positively influenced the outcome of the turnaround.

5.3. The analysis of the identified variables related to the outcome of the restructuring

5.3.1. Implementation of efficiency strategies

Figure 7: Overall efficiency strategy turnaround outcomes in percentages

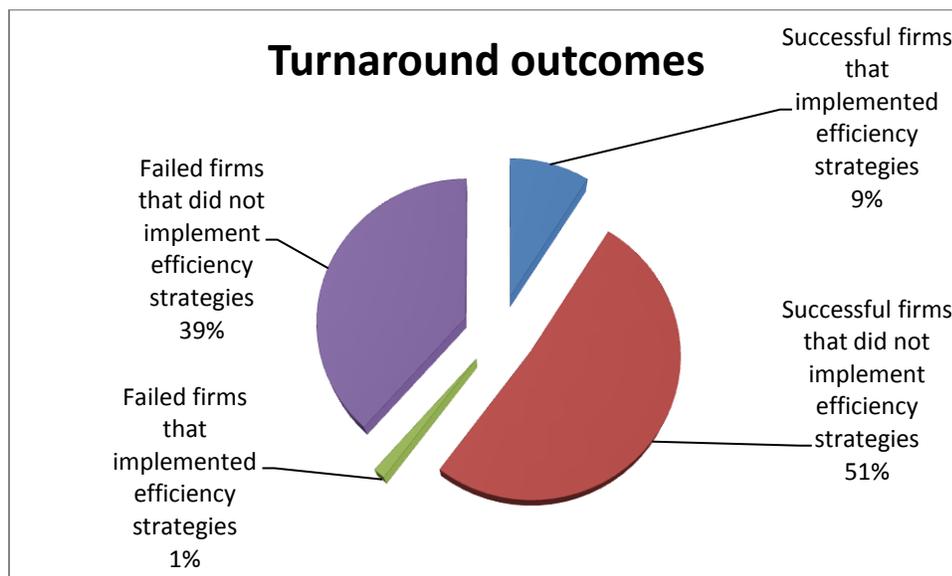


Figure 8: Successful turnarounds – Efficiency strategies



Figure 9: Failed turnarounds – Efficiency strategies

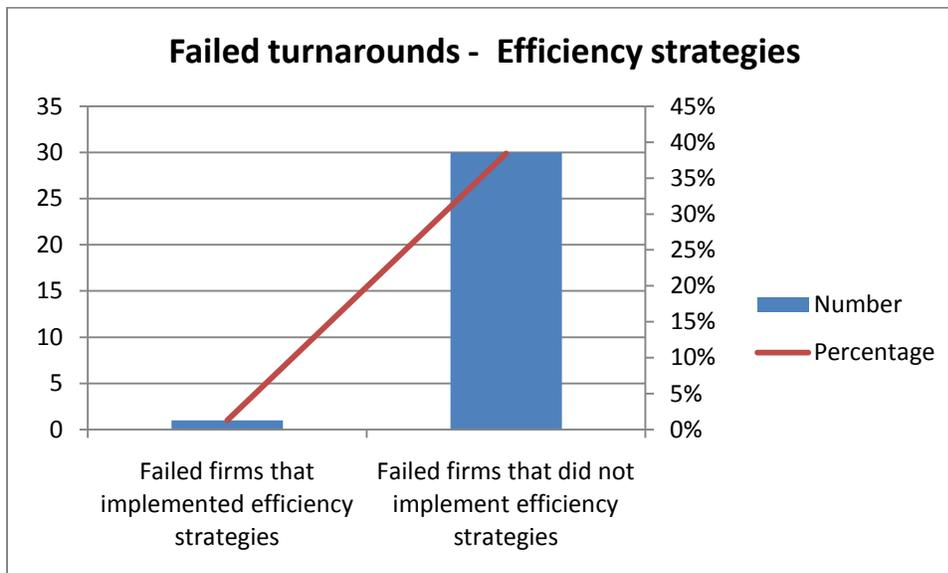


Table 4: Overall outcome of efficiency strategy in numbers

Efficiency strategies	Turnaround		Total
	Failed	Successful	
Yes	1	7	8
No	30	40	70
Total	31	47	78

5.3.1.1. The probability of a firm succeeding given efficiency strategies

- Probability of a firm succeeding given that it has implemented efficiency strategy is $(7/8)$ 0.88
- Probability of a firm succeeding given that it did not implement efficient strategy is $(40/70)$ 0.57
- The relative risk (RR) of a firm succeeding is the ratio between the two conditional probabilities given above $(0.86/0.57)$ 1.54

A firm is 1.54 times likely to succeed if the strategy is efficient than when the strategy is not efficient.

5.3.1.2. The probability of a firm failing given efficiency strategies

- Probability of a firm failing given that it has implemented

efficiency strategies is $(1/8)$ 0.13

- Probability of a firm failing given that it did not implement efficient strategies is $(30/70)$ 0.43
- The relative risk (RR) of a firm failing is the ratio between the two conditional probabilities given above $(0.13/0.43)$ 0.30

A firm is 0.30 times likely to fail when it implement efficiency strategies than it does not implement efficiency strategies.

5.3.2. Severity of financial distress

Figure 10: Overall severity of financial distress turnaround outcomes in percentages

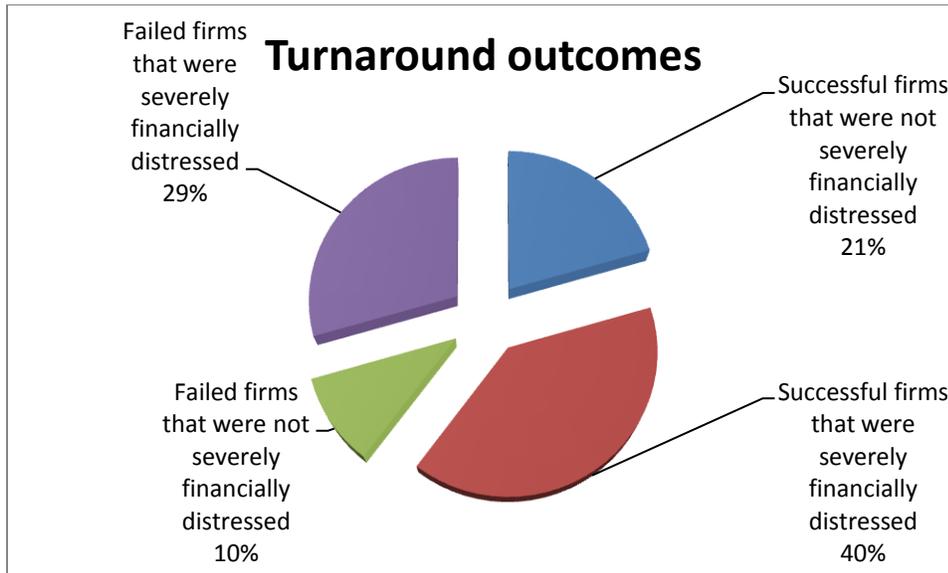


Figure 11: Successful turnarounds – Severity

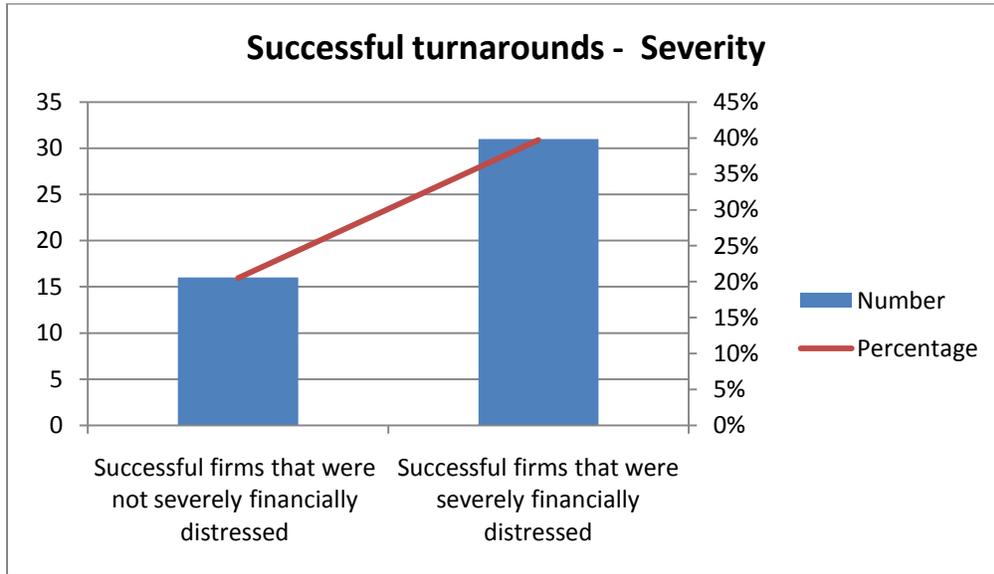


Figure 12: Failed turnarounds – Severity

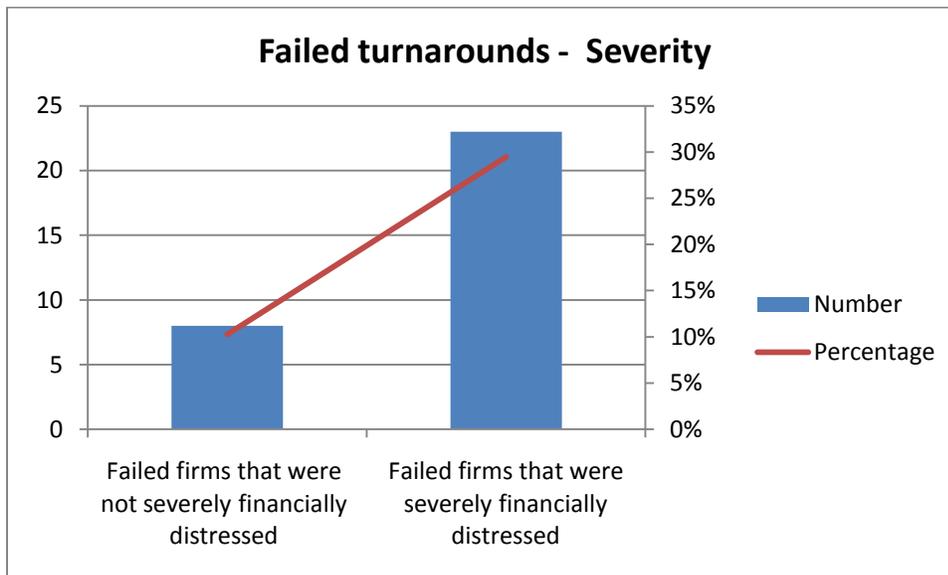


Table 5: Overall outcome of severity in numbers

Severity	Turnaround		Total
	Failed	Successful	
Not Severely financially distressed	8	16	24
Severely financially distressed	23	31	54
Total	31	47	78

5.3.2.1. The probability of succeeding given the severity

- Probability of a firm succeeding given that it is not severely financially distressed is $(16/24)$ 0.67
- Probability of a firm succeeding given that it is severely financially distressed is $(31/54)$ 0.57
- The relative risk of a firm succeeding is the ratio between the two conditional probabilities given above $(0.67/0.57)$ 1.18

A firm is 1.18 times likely to succeed when it is not severely financially distressed than when it is severely financially distressed.

5.3.2.2. The probability of failure given the severity

- Probability of a firm failing given that its situation is not severely financially distressed is $(8/24)$ 0.33
- Probability of a firm failing given that it is severely financially distressed is $(23/54)$ 0.43
- The relative risk of a firm failing is the ratio between the two conditional probabilities given above $(.33/0.43)$ 0.77

A firm is 0.77 times likely to fail when it is not severely financially distressed than when it is severely financially distressed

5.3.3. Availability of large amount of free assets

Figure 13: Overall availability of large free assets' turnaround outcomes in percentages

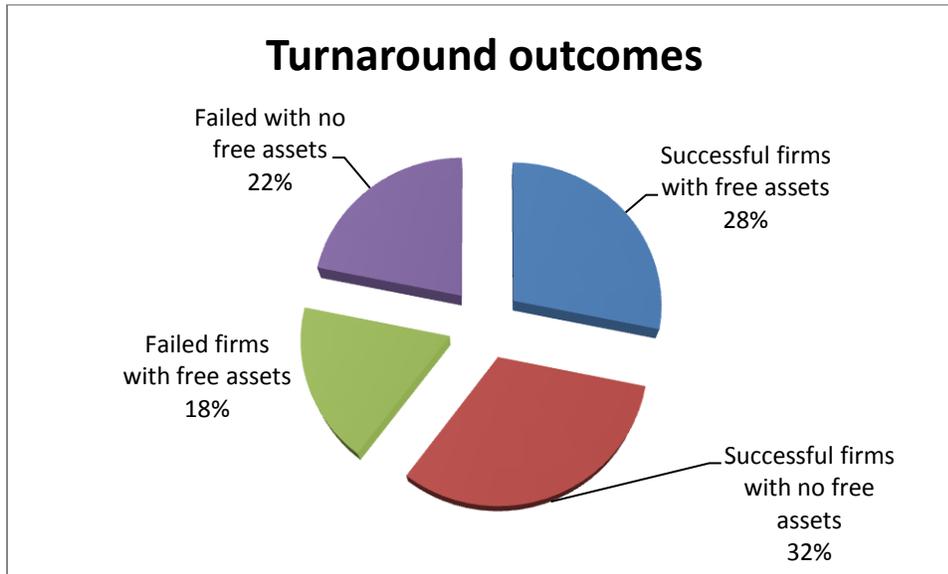


Figure 14: Successful turnarounds – Free assets

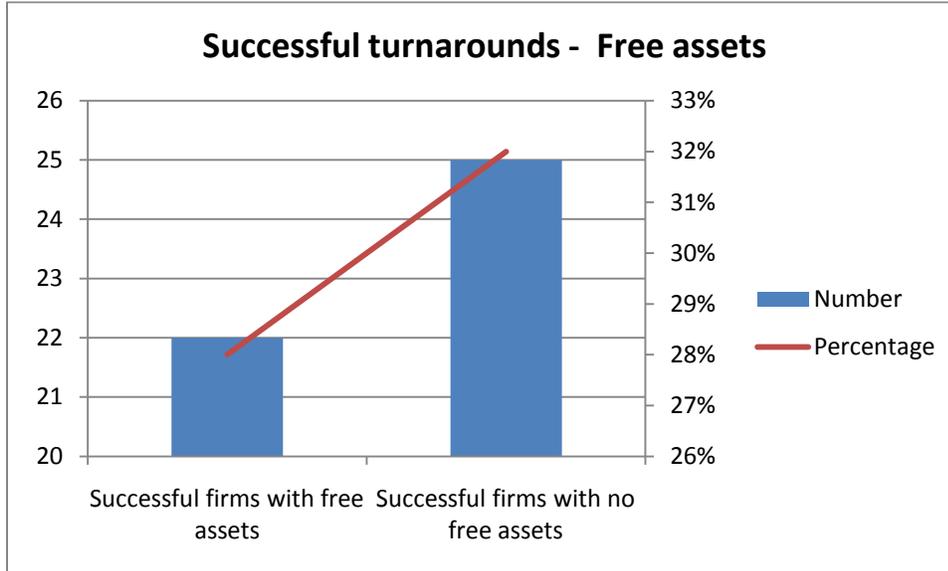


Figure 15: Failed turnarounds – Free assets

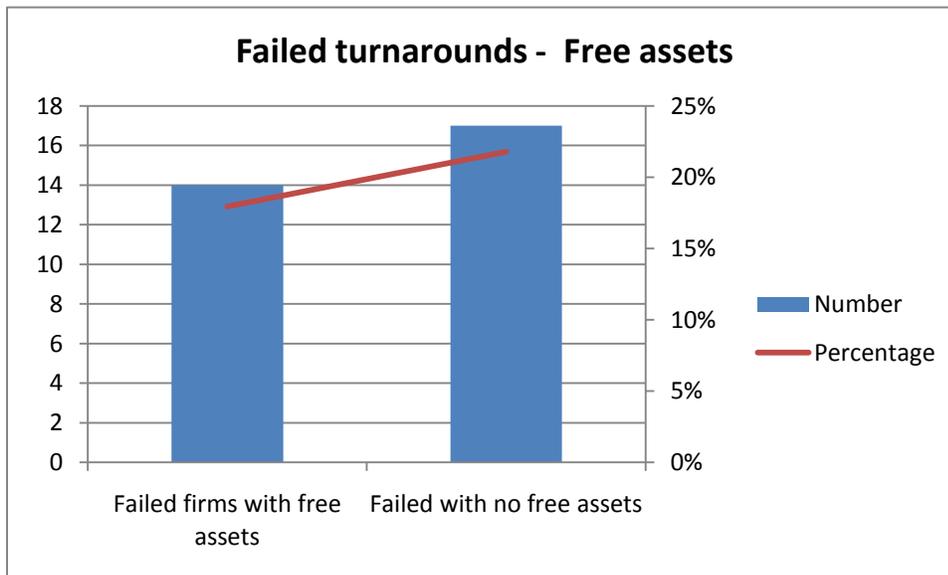


Table 6: Overall outcome of free assets in numbers

Free assets	Turnaround		Total
	Failed	Successful	
Free Assets available	14	22	36
No free assets available	17	25	42
Total	31	47	78

5.3.3.1. Probability of a firm succeeding given the free assets

- Probability of a firm succeeding given that it has free assets is $(22/36)$ 0.61
- Probability of a firm succeeding given that it lacks free assets is $(25/42)$ 0.60
- The relative risk (RR) of a firm succeeding is the ratio between the two conditional probabilities given above is $(0.61/0.60)$ 1.02

A firm is 1.02 times likely to succeed when it has free assets than when it lacks free assets.

5.3.3.2. Probability of a firm failing given the free assets

- Probability of a firm failing given that it has free assets is $(14/36)$ 0.39
- Probability of a firm failing given that it lacks free assets is $(17/42)$ 0.40

- The relative risk (RR) of a firm failing is the ratio between the two conditional probabilities given above is $(0.39/0.40)$ 0.98

A firm is 0.98 times likely to fail when it has free assets than when it lacks free assets.

5.3.4. Change in top management

Figure 16: Overall top management changes turnaround outcomes in percentages

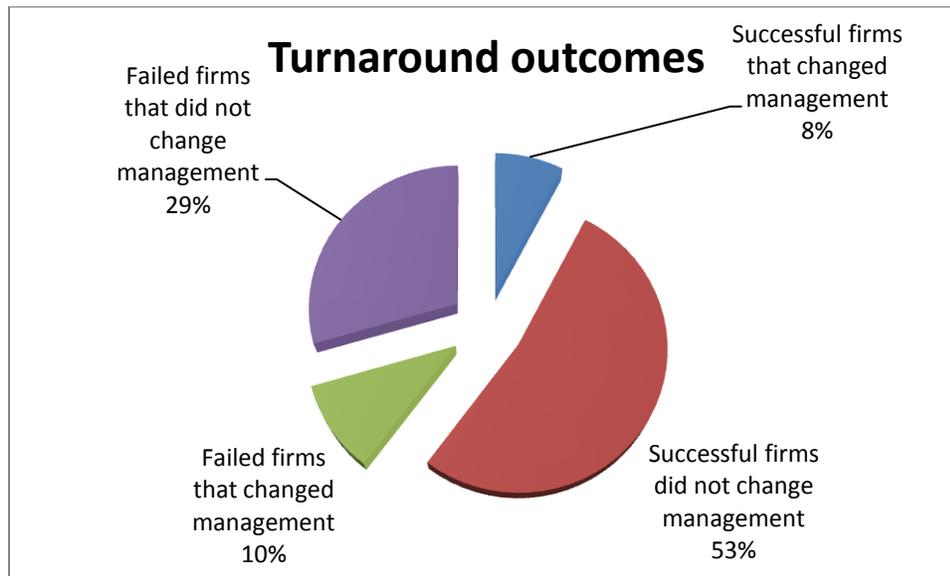


Figure 17: Successful turnarounds - top management changes

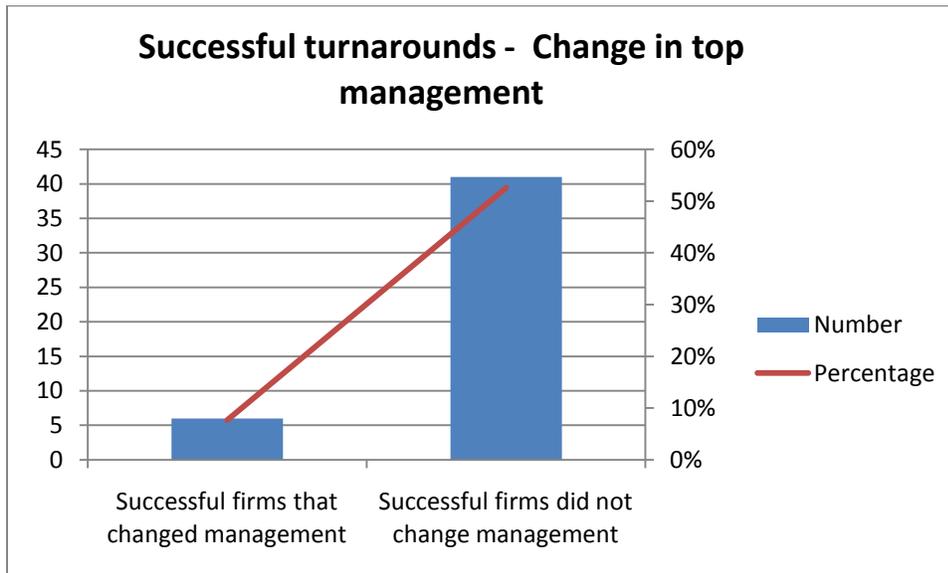


Figure 18: Failed turnarounds - top management changes

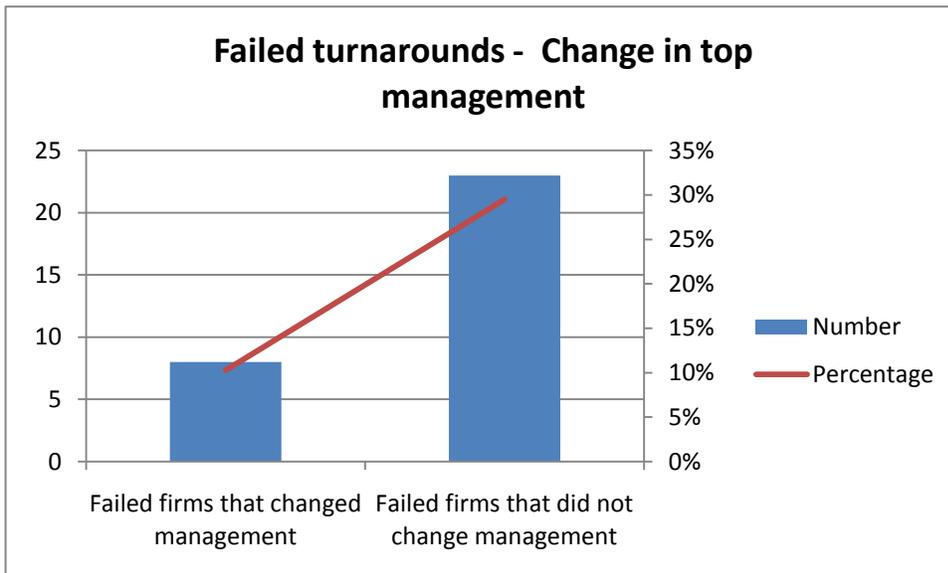


Table 7: Overall changes in management outcome in numbers

Management	Turnaround		Total
	Failed	Successful	
No Management change	23	41	64
Management change	8	6	14
Total	31	47	78

5.3.4.1. The probability of a firm succeeding given that there were changes in management

- Probability of a firm succeeding given that it had no change of management is $(41/64)$ 0.64
- Probability of a firm succeeding given that it had a change of Management is $(6/14)$ 0.43
- The relative risk (RR) of a firm succeeding is the ratio between the two conditional probabilities given above is $(0.64/0.43)$ 1.49

A firm is 1.49 times likely to succeed when it had no change of management than when it had change of management.

5.3.4.2. The probability of a firm failing given that there were changes in management

- Probability of a firm failing given that it had no change in top management is $(23/64)$ 0.36
- Probability of a firm failing given that it had change in top management is $(8/14)$ 0.57
- The relative risk (RR) of a firm failing is the ratio between the two conditional probabilities given above is $(0.36/0.57)$ 0.63

A firm is 0.63 times likely to fail when it had no change of management than when it had change of management.

5.3.5. Firm size

Figure 19: Overall firm size turnaround outcomes in percentages

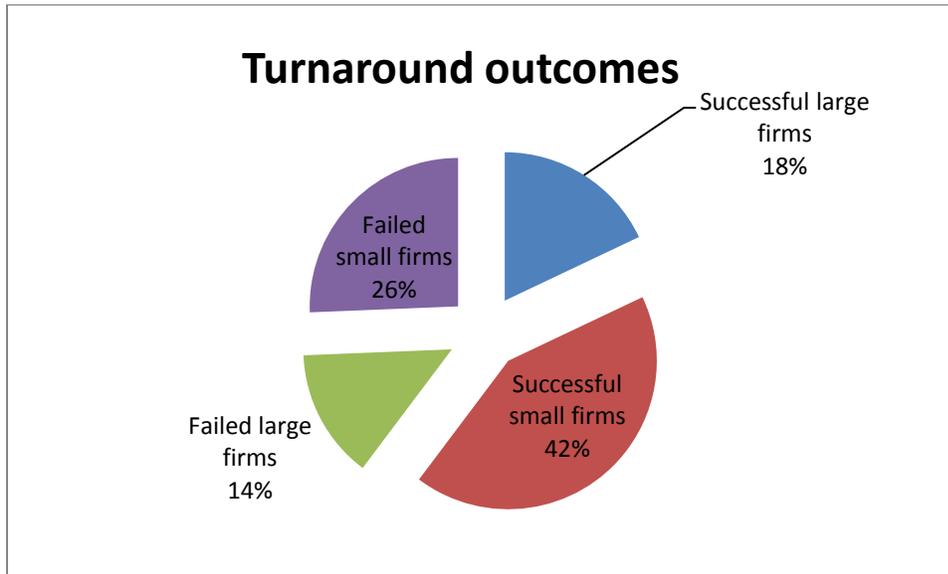


Figure 20: Successful turnarounds – Size

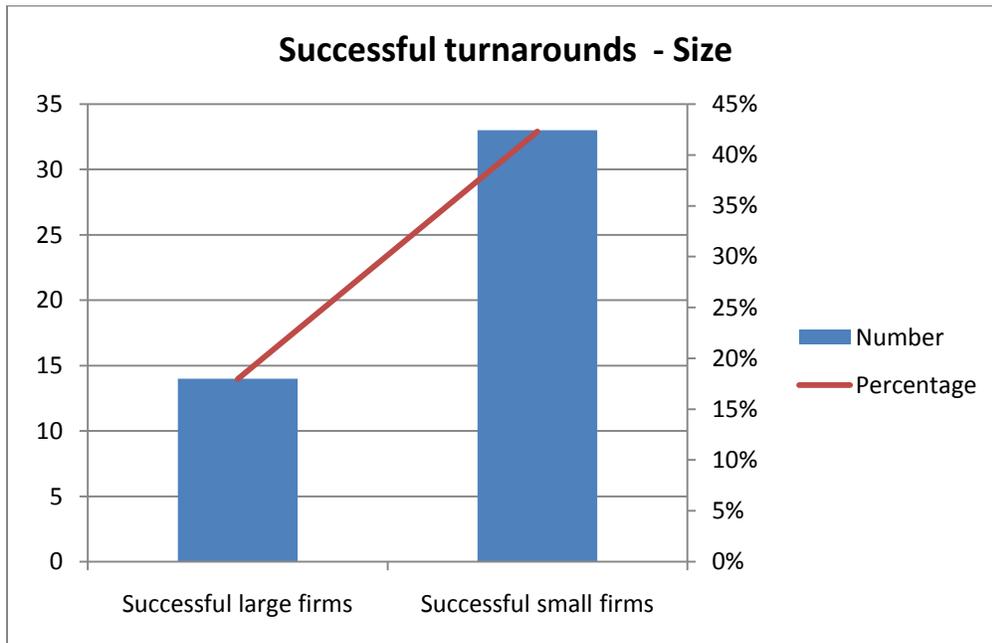


Figure 21: Failed turnarounds – Size

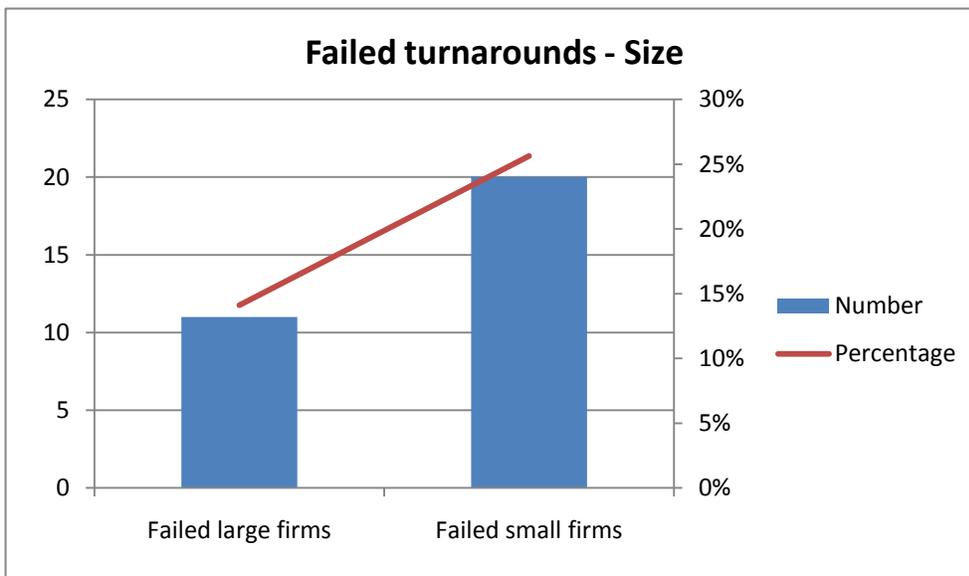


Table 8: Overall outcome of size in numbers

Size	Turnaround		Total
	Failed	Successful	
Large	11	14	25
Small	20	33	53
Total	31	47	78

5.3.5.1. Probability of success given the size

- Probability of a firm succeeding given that it is large is (14/25) 0.56
- Probability of a firm succeeding given that it is small is (33/53) 0.62
- The relative risk (RR) of a firm succeeding is the ratio between the two conditional probabilities given above is (0.56/0.62) 0.90

A firm is 0.90 times likely to succeed when it is large than when it is small.

5.3.5.2. Probability of failure given the size

- Probability of a firm failure given that it is large is (11/25) 0.44
- Probability of a firm failure given that it is small is (20/53) 0.38
- The relative risk (RR) of a firm failing is the ratio between

the two conditional probabilities given above is $(0.44/0.38)$

1.16

A firm is 1.16 times likely to fail when it is large than when it is small.

5.3.6. BEE

Figure 22: Overall BEE turnaround outcomes in percentages

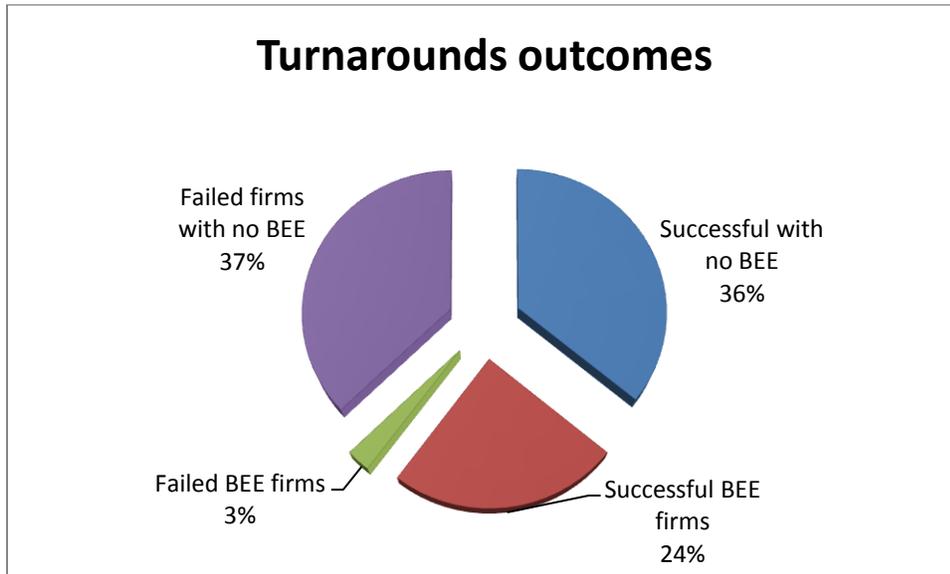


Figure 23: Successful BEE turnaround outcomes

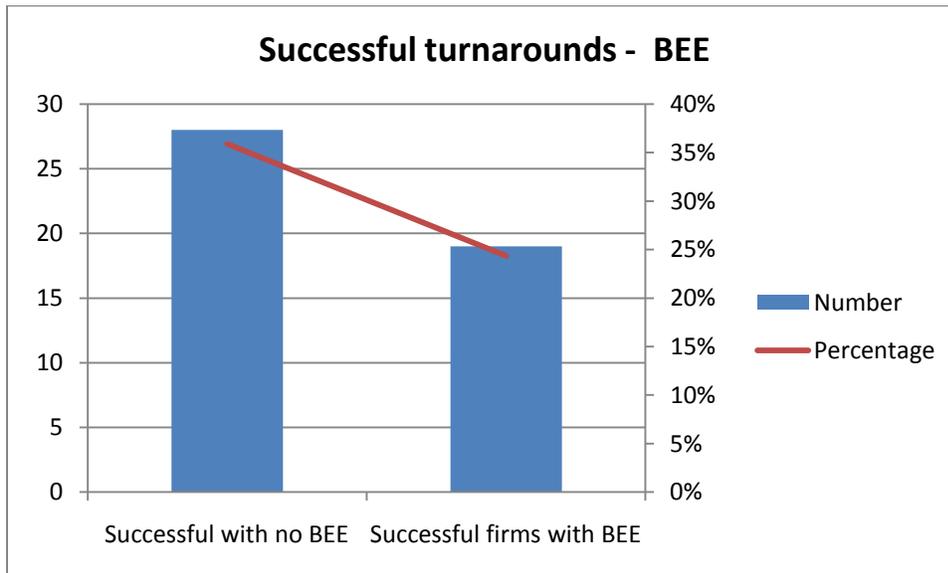


Figure 24: Failed BEE turnaround outcomes

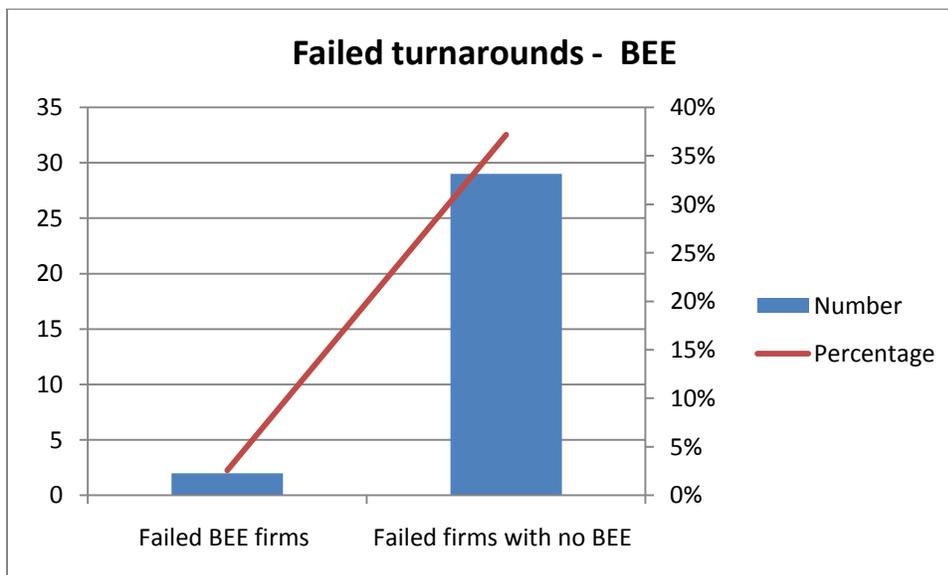


Table 9: Overall BEE outcome in numbers

BEE	Turnaround		Total
	Failed	Successful	
No BEE transaction	29	28	57
BEE Transaction	2	19	21
Total	31	47	78

5.3.6.1. The probability of a firm succeeding given that there is no BEE

- Probability of a firm succeeding given that it had no BEE transaction is $(28/57)$ 0.49
- Probability of a firm succeeding given that it had BEE transaction is $(19/21)$ 0.90
- The relative risk (RR) of a firm succeeding is the ratio between the two conditional probabilities given above is $(0.49/0.90)$ 0.54

A firm is 0.54 times likely to succeed when it had no BEE transaction than when it had BEE transaction

5.3.6.2. The probability of a firm failing given that there is no BEE

- Probability of a firm failing given that it had no BEE transaction is $(29/57)$ 0.51
- Probability of a firm failing given that it had BEE transaction is $(2/21)$ 0.10
- The relative risk (RR) of a firm failing is the ratio between the two conditional probabilities given above is $(0.51/0.10)$ 5.1

A firm is 5.1 times likely to fail when it had no BEE transaction than when it had BEE transaction

5.4. Regression analysis:

The logistic regression analysis was conducted to statistically determine if the factors are significant to failure and success. The results were confirmed using chi square (χ^2) test, which gives p-value greater than 0.05 and the variables' p-value is below 0.05 indicate that the variable is statistically significant.

Table 10: The analysis of the variables/determinants in relation to the outcome of the turnaround:

Determinant	Odds ratio	Confidence Interval	P-value	Comment
Size	1.296	[0.494, 3.40]	0.5982	Not significantly different to 1
Efficiency	5.250	[0.61,44.99]	0.1303	Not significantly different to 1
Severity	0.674	[0.25, 1.84]	0.4418	Not significantly different to 1
Free Assets	1.069	[0.43, 2.66]	0.8865	Not significantly different to 1
Management	0.421	[0.13, 1.36]	0.1488	Not significantly different to 1
BEE	9.839	[2.09, 46.21]	0.0038	This is significantly different to 1

All variables exhibiting p-value of 0.05 or higher, regardless of the sign, are considered significant.

5.5. Estimated Correlation Matrix

The table below presents the correlation matrix. The correlation matrix presents the correlation between the identified variables in relation to the outcome of the turnaround.

Table 11: Correlation Matrix

Parameter	Intercept	Efficiency strategy	Management	BEE	Free assets	Severity	Size
Intercept	1.0000	-0.0602	-0.2384	-0.2196	-0.2806	-0.7076	-0.1951
Efficiency strategy	-0.0602	1.0000	-0.1918	-0.1070	0.0962	0.0024	-0.0898
Management	-0.2384	-0.1918	1.0000	0.0194	-0.0017	0.0902	-0.0644
BEE	-0.2196	-0.1070	0.0194	1.0000	0.0672	0.0900	-0.1052
Free assets	-0.2806	0.0962	-0.0017	0.0672	1.0000	-0.1855	-0.0950
Severity	-0.7076	0.0024	0.0902	0.0900	-0.1855	1.0000	-0.0321
Size	-0.1951	-0.0898	-0.0644	-0.1052	-0.0950	-0.0321	1.0000

The above correlation matrix examines the correlation between the identified factors in relation to the outcome of the restructuring. Any correlation between two variables closer to 1 indicates that the combination between the two variables are highly correlated in relation to the outcome of the turnarounds.

CHAPTER 6: DISCUSSION OF RESULTS

6.1. Introduction

This chapter discusses the results of the study within the context of the propositions that were developed from the literature reviewed. The objective of this chapter is to determine the extent to which the results obtained are in accordance with the literature reviewed.

As stated in Chapter 5, the turnaround factors were tested as follows:

- Firstly, to assess whether the influence of the proposition on the outcome of the turnaround is higher than the opposite in absolute terms;
- Secondly, the factors were individually tested to determine whether their influence on the outcome of the turnaround is statistically significant;
- Thirdly, the correlation matrix between the factors in relation to the failure, success and combined turnaround results (success and failure), is examined, to observe if there are some factors that have a strong correlation in relation to the outcome of the restructuring.

The results indicated that 60.26% of IDC's restructurings were successful, compared to failures at 39.74%. These figures do not support the observation by Berger and Udell

(2004) that the state-owned institutions generally lack the ability to assess the viability and risk of firms.

An integrative study was conducted to understand the influence of the identified factors on the outcome of the turnaround, as they should generally impact each other and the turnaround outcome.

6.2. Key findings of the research

6.2.1. P1: The degree to which financially distressed firms implement “efficiency strategies” is positively related to the likelihood of successful turnaround.

As presented in Chapter 5, the study tested the efficiency strategies against the outcome of the restructuring. The results are considered in the context of the outcome of the restructuring being either successful or failed.

Only 10% (8 firms) of the firms from the sample had implemented efficiency strategies. This indicates that only a small number of firms that IDC restructures, implement efficiency strategies. The main contributing factor is the fact that IDC is a developmental institution and it focuses on creating employment and expanding industries rather than

focusing purely on the financial return from its investment. Efficiency strategies involve retrenchment of employees, reduction of assets and costs of a firm, which conflicts with the mandate of the IDC. Hence only 10% of the firms restructured by the IDC have implemented efficiency strategies.

The percentage of firms that implemented efficiency strategies and succeeded is significantly higher at 88% whereas 12% failed. This indicates that a significant number of firms that implement efficiency strategies are successful and this supports the proposition that efficiency strategies have a positive influence on the turnaround outcomes.

The percentage of firms that did not implement efficiency strategies and succeed is 57% whereas 43% failed. This indicates that the probability of a firm not implementing efficiency strategies succeeding is higher than that of a firm not implementing efficiency strategies failing. This is contrary to the suggestion of 'Proposition 1' that the implementation of efficiency strategies will have a positive influence on the outcome of the turnaround.

Based on the results above it cannot be concluded if the firms that implement efficiency strategies or those that do not implement efficient turnaround strategies have a better chance of succeeding.

The implementation of efficiency strategies has a p-value of 0.1303 in relation to the outcome of the turnaround strategy, which is higher than the confidence level of 0.05 used for this study. This means that even though the firms that implemented efficiency strategies were more successful, in percentage terms, than the firms that did not implement efficiency strategies, the difference is not statistically significant enough to be able to conclude that the firms that implemented the turnaround strategies are more successful than the firms that did not. The measures of efficiency strategies were not statistically significant in the turnaround model. The results indicated that the efficiency strategies implemented in a restructuring are not strongly linked with the likelihood with either success or failure.

The correlation between the factor, implementation of efficiency strategies, and other factors, was conducted to determine whether the combination of the variables is statistically significant in influencing the outcome of the restructuring. The correlation of implementation of efficiency strategies with other individual factors was not statistically significant in the turnaround model.

Even though this study supports the proposition that efficiency strategies will positively influence the outcome of the restructuring in percentage terms, it is not statistically significant. The findings of this study differ from the bulk of the literature reviewed, which suggests that efficiency strategies enhance the probability of restructurings being successful. The results contradict the findings of Francis and Desai (2005), Rasheed (2005), Lin *et al.* (2008), Chowdhury and Lang (1996), Robbins and Pearce (1992), Sudarsanam and Lai (2001) and Pearce and Robbins (1993), who suggest that a successful turnaround is associated with efficiency-oriented strategies and not entrepreneurial strategies.

This study also contradicts the observation by Chowdhury and Lang (1996), that firms tend to take short-run actions that are geared towards immediately improving profitability, by increasing revenue, implementing cost-cutting measures and reducing the assets.

The results correspond with Smith and Graves (2005), who suggest that implementation of efficiency strategies are less likely to affect the recovery.

The outcome of this study on implementation of efficiency strategies should be interpreted in the context that the approval report was used to identify firms that implemented efficiency strategies rather than from the actual implementation of those strategies. This means that the actual implementation of the strategies may differ with the plans that were presented on the approval report.

6.2.2. P2: The severity of financial distress is negatively related to the likelihood of successful turnaround.

As presented in Chapter 5, the study tested the severity of the financial position of firms against the outcome of the restructuring. The results are considered in the context of the outcome of the restructuring was either successful or failed.

The firms that were severely financial distressed before the turnaround were 69% (54 firms) of the sample. This indicates that the majority of the firms that the IDC restructures are severely financially distressed. The main contributing factor is that the IDC is a developmental institution and uses a patient approach, which means that it does not take action immediately after realising that the firm is in financial distress.

The percentage of firms whose financial position was severe during the turnaround and succeeded is 57% whereas 43% failed. This indicates that the probability of a firm that

is severely financially distressed succeeding is higher than that of a firm that is severely financially distressed failing. This means that the firms that are severely financially distressed have a positive influence on the outcome of the turnaround, which is contrary to the suggestion of 'Proposition 2' that the severely financially distressed should have a negative influence on the turnaround outcome.

The percentage of successful firms that are not severely financially distressed is 67% whereas 33% failed. This indicates that a large number of firms that are not severely financially distressed are successful and it supports the proposition that severely financially distressed has a negative influence on the turnaround outcome.

The percentage of successful firms that were not severely financially distressed is higher than that of successful firms that were severely financially distressed but it cannot be concluded if the severity of the financial distress influences the outcome of the turnaround.

The severity of financial distress has a p-value of 0.4418 in relation to the outcome of the turnaround strategy which is higher than the confidence level of 0.05 used for this study. This means that even though the turnaround of firms that are not severely financially distressed were more successful than the firms that were severely financially

distressed, the difference is not sufficiently statistically significant to conclude that severity of financial distress influences the outcome of the turnaround negatively. The results indicated that the severity of the financial position in a restructuring is not strongly linked with either success or failure.

The correlation between the factor, severity of financial distress, and other factors was conducted to determine whether the combination of the variables is statistically significant in influencing the outcome of the restructuring. The correlation of severity with other individual factors was not statistically significant in the turnaround model.

The findings of this study differ from the bulk of the literature reviewed, in that severity of financial distress negatively affects the probability of the firm's restructuring being successful. The results do not support the findings by Francis and Desai (2005), Smith and Graves (2005), Hofer (1980), Pearce and Robbins (1993), Scherrer (2003) and Cater and Schwab (2008), who all found that the severity of the financial distress significantly affects the outcome of the turnaround.

The results of this study, in relation to the severity of the firms' financial position, do not show it to have a significant influence on the outcome of the turnaround. The measure of severity was not statistically significant in the turnaround model.

6.2.3. P3: Financially distressed firms with a larger amount of free assets available are more likely to turnaround successfully.

As presented in Chapter 5, the study tested the availability of large amount of free assets of the firm against the outcome of the restructuring. The results are considered in the context of the outcome of the restructuring being either a success or a failure.

The firms with large amounts of free assets available were 46% (26 firms) of the sample. This indicates that a slight majority of the firms that the IDC restructures do not have large amounts of free assets available.

The percentage of firms with large amounts of free assets available that succeeded is 61% whereas 39% failed. This indicates that more firms with large amount of free assets are succeeding than failing. This supports the proposition that firms with large amounts of free assets available are likely to turnaround successfully.

The percentage of firms which do not have large amounts of free assets available that succeeded is 60% whereas 40% failed. This indicates that the restructuring of firms without large amounts of free assets is more likely to be successful. This means that the firms that do not have large amounts of free assets also have a positive influence on the

turnaround outcome, which is contrary to the suggested proposition that the unavailability of large amount free assets has negative influence on the turnaround outcome.

The abovementioned allocation of the availability of free assets between success and failure indicates that there is no major difference in the outcome of restructuring, based on the availability of free assets. The availability of free large assets does not significantly influence the turnaround outcome.

The free assets have a p-value of 0.8869 in relation to the outcome of the turnaround strategy, which is higher than the confidence level of 0.05. Because the p-value is closer to 1, this indicates that there was no major difference between the outcomes of the firm with or without free assets. The difference of the outcome is not statistically significant enough to conclude that this has an impact on the outcome of the restructuring.

The correlation between the factor 'availability of large amount of free assets' and other factors was conducted to determine whether the combination of the variables was statistically significant in influencing the outcome of the restructuring. The correlation of

free assets with other individual factors was not statistically significant in the turnaround model.

Contrary to Proposition 3, the results of this study indicated that the availability of large amounts of free assets does not have a statistically significant influence on the turnaround outcome. The measure of the availability of large amount of free assets is not statistically significant in the turnaround model.

The results of the study differ from most of the literature reviewed in this study which suggests that the availability of large amounts of free assets positively affects the probability of the firm's restructuring being successful. The results do not support the findings by Casey *et al.* (1986), Cater and Schwab (2008), Pindado *et al.* (2006), Routledge and Gadenne (2000), Filatotchev and Toms (2006), Francis and Desai (2005), Lin *et al.* (2008) and Campbell (1996), as they concluded that the availability of resources has a positive correlation with successful turnaround.

The results correspond with the conclusion by Kim *et al.* (2008) that free assets are not found to be statistically significant to determine the outcome of the turnaround.

6.2.4. P4: Financially distressed firms that have a high incidence of senior management turnover are more likely to turn around successfully than firms which have a low incidence of CEO turnover.

As presented in Chapter 5, the study tested the changes in top management of the firm against the outcome of the restructuring. The results are considered in the context of the outcome of the restructuring being either successful or failed.

The firms that were restructured and had changes in top management before the restructuring, were 18% (14 firms) of the sample. This indicates that the majority of the firms that IDC restructures do not have changes in top management. The main contributing factor is that IDC finances owner-managed firms, and according to Campbell (1996), these firms do not readily change their top management.

The percentage of firms that changed the top management and succeeded is 43% whereas 57% failed. This indicates that a majority of the firms that have changed top management fail. This means that the changes in top management has a negative influence on the outcome of the turnaround, which is contrary to 'Proposition 4'.

Change in top management has a p-value of 0.1488 in relation to the outcome of the turnaround strategy, which is higher than the confidence level of 0.05 used in this study. Because the p-value of the variable is greater than 0.05, this indicates that the changes in top management do not have statistical significance to influence the outcome of the turnaround. The difference of the outcome is not statistically significant to conclude that the firms that change/do not change in management has an impact on the outcome of the restructuring.

The results contradict the proposition that the changes in the top management of a firm before the restructuring have a positive influence on the turnaround outcome. The measure of the changes in top management is not statistically significant in the turnaround model.

The correlation between the factor 'changes in top management' and other factors was conducted to determine whether the combination of the factors was statistically significant in influencing the outcome of the restructuring. The correlation of changes in top management with other individual factors was not statistically significant in the turnaround model.

The results of this study contradicts much of the literature reviewed, that changes in top management positively affect the probability of the firm's restructuring being successful. The results are in contradiction with the findings by Hofer (1980), Cater and Schwab (2008), Schwartz and Menon (1985), Sudarsanam and Lai (2001) and Bernstein (2006), that the changes in top management have a positive relationship with a successful turnaround. The results also contradict the conclusion by Bibeault (1982) (as cited in Sudarsanam & Lai, 2001) that the top management changes is a precondition for a successful turnaround.

The findings of this study are in support of the observation by Arogyaswamy *et al.* (1995) that there is no conclusive evidence that changing top management actually lead to a more successful turnaround attempt in terms of the firm's performance. Based on the absolute percentages, the results tend to support the conclusion by Parker *et al.* (2005) and Auchterlonie (2003), that the changes in top management could have a negative effect on turnaround. The results correspond with the suggestion by Smith and Graves (2005) that there is no significant relationship between successful turnaround and change in top management.

Contrary to Proposition 4, the results indicated that the change in top management of a firm before the restructuring has a negative impact on the outcome of the turnaround, even though it is not statistically significant. The study results, in relation to the changes in top management of the firms, do not have a statistically significant influence on the outcome of the turnaround.

6.2.5. P 5: Large distressed firms are more likely to turn around than small distressed firms.

As presented in Chapter 5, the study tested that the size of the firm against the outcome of the restructuring. The results are considered in the context of the outcome of the restructuring being either the restructuring was successful or failed.

Large firms were 32% (25 firms) of the sample. This indicates that a majority of firms that the IDC restructures are small firms. The percentage of large firms that succeed is 56% while 44% failed. This indicates that the majority of large firms were successful.

The percentage of small firms that succeed is 62% whereas 38% failed. This indicates that majority of small firms that were restructured are successful. The percentage of the small firms that are successful is higher than that of large firms. This is contrary to the

proposition that large distressed firms are more likely to turnaround than small distressed firms.

The p-value of 0.5982 is above the confidence level of 0.05 and this indicates that even though the firms that are large were less successful than the small firms in percentages, the differences are not statistically significant to conclude that size influences the outcome of the firm in turnaround. This means that the size of a firm is not statistically significant in the turnaround model.

The correlation between the factor, size, and other factors was conducted to determine whether the combination of the variables is statistically significant in influencing the outcome of the restructuring. The correlation of the size of a firm with other individual factors is not statistically significant to influence the outcome of the turnaround.

The findings of this study contradicts much of the literature reviewed in this study which suggests that large firms are more likely to successfully turnaround than the small firms. The results contradict the findings by Mahoney and Pandian (1992), Smith and Graves (2005), Beck, Demirguc-Kunt and Maksimovic (2006), Smith (2006), Kim *et al* (2008), Rasheed (2005) and Finkbiner (2007) that the size of the firms influences the outcome of the turnaround and large firms have a better chance to implement a successful

turnaround than small firms. The results lean towards supporting the findings by Pant (1991) that smaller firms appear to be able to improve their results much quicker or more dramatically than larger firms.

The findings of this study must be interpreted in the context that a majority of the firms from the sample are small.

Contrary to the proposition that the size of the firm influences the outcome of the turnaround, the results indicated that the size of the firm before the restructuring has no statistical influence on the outcome of the turnaround. The study does not support the proposition that the size of a firm before the restructuring is strongly linked with the likelihood with either success or failure of the restructuring.

6.2.6. P6: BEE firms in financial distress are likely to fail than non-BEE firms.

As presented in Chapter 5, the study tested that BEE firms are more likely to turn around than non BEE firms against the outcome of the restructuring. The results are considered in the context of the outcome of the restructuring being either successful or failed.

The non-BEE firms before the restructuring are 73%(57 firms) of the sample, this indicates that the majority of the firms that IDC restructures are not BEE. The expectation was that as IDC has been a pioneer of BEE there will be more BEE transactions than it was discovered.

The percentage of firms that are not BEE and succeeded is 49% whereas 51% failed. This indicates that the turnaround outcome of firms that are not BEE is not significantly different and this is contrary to the proposition that BEE firms in financial distress are likely to fail than non- BEE firms.

The percentage of successful firms that are BEE during the turnaround is 90% whereas 10% failed. This indicates that the successful turnarounds of BEE firms are significantly higher than those who fail and this contradicts the proposition that BEE firms in financial distress are likely to fail than non- BEE firms. In percentages, there are more successful BEE firms than non-BEE.

BEE firms have a p-value of 0.0038 in relation to the outcome of the turnaround strategy, which is lower than the confidence level of 0.5%. This means that BEE firms are statistically significant to the outcome of the turnaround.

The correlation between the factor, BEE, and other factors was conducted to determine whether the combination of the variables is statistically significant in influencing the outcome of the restructuring. The correlation of BEE with other individual factors was not statistically significant in the turnaround model.

These results appear to contradict the observation by Ponte *et al.* (2007), Sartorius and Botha (2008) and Iheduru (2004), that there are many questions about the success of BEE. BEE could have an impact on the turnaround outcome of the firms that have done BEE transactions and are in financial distress. The findings of this study must be interpreted in the context that minority of the firms that were tested for this study were BEE.

The firms that were restructured by the IDC and were BEE, have a statistically significant positive influence on the outcome of the turnaround. The results contradict Proposition 6, that non-BEE firms are more likely to turn around than BEE firms.

6.3. The response of DFIs to firms in financial distressed

The findings of this study must be interpreted in the context that the IDC is a developmental funding institution and its response to distressed firms may differ with the response of a commercial bank and other financial institutions, i.e. it is unlikely that

most of the restructuring will implement efficiency strategies as IDC's mandate is to create jobs and grow industries while efficient strategies involve assets reduction and cost cutting which mostly include retrenchments of employees.

DFIs tend to be patient with the clients in distress and by the time they perform the restructuring the firm may be severely financially distressed. Berger & Udell (2004) state that there is an argument about the general ability of state-owned institutions to support and effect the supply of funds available to creditworthy businesses. The above mentioned argument about the ability of the state-owned institution to service the market could be a contributing factor to the results of this study.

DFIs are mostly the only/significant funders of the firms that are being restructured and DFI's funding is not necessarily based on the availability security but based on viability, which means the availability of large amount of free assets may not influence the support and assistance that the DFIs offer to firms in financial distress.

The findings of this study must be interpreted in the context that most of the businesses funded by the IDC are industrial projects and small businesses. These businesses are mostly family owned, or owned by one or a few individuals, of which it is unlikely and not easy to replace the top management.

IDC is the pioneer of BEE in the country and it could perhaps have high motivation to ensure that there are resources applied to BEE firms to turn them around.

6.4. Conclusion of the discussion

The percentage of firms that succeeded and had factors that were contrary to the proposition is 62% while the firms that succeeded with the factors supporting the proposition is 57%. This indicates that in overall the firms with factors contrary to the proposition has a better chance of succeeding than those with factors supporting the propositions.

6.5. Limitations

The results should be interpreted with the fact that external factors were ignored in determining the factors that influence the outcome of the restructuring. As Sulaiman *et al.* (2005) state, the cause of the decline influences the turnaround strategies that are being implemented and can have a significant impact on the outcome of the restructuring.

Single company data was used and this could lead to bias in the type of transaction and the processes that the IDC follows to restructure the firms. Given that the sample was

obtained from a single firm, that means the ability to draw inferences about the turnaround and restructuring in South Africa, is limited.

There are other limitations that must be taken into account when interpreting the results as identified in the literature review section, as they can influence the outcome of the turnaround, in conjunction with the variables identified in this study. The following factors were identified in the literature review, even though they were not tested in this study :

- The importance of understanding the processes of organisational turnarounds by management and the identification of situational factors that are likely to lead to better results (Boyne, 2006).
- Bernstein (2006) states that restructuring a firm in financial distress presents a multi-stage balancing act and there will be divergent interests.
- The availability of resources either limits or enhances the options for firms attempting a turnaround strategy (Francis and Desai, 2005).
- Capabilities and resources should also be taken into account (Cater and Schwab, 2008).
- The debt structures of the distressed firms must be taken into account (Pindado *et al.*, 2006).

Based on the assessment by Balcaen and Ooghe (2006), there are inherent problems with regard to the statistical failure prediction models and the following important

aspects of business failure prediction should be taken into account when making conclusions on the influence of the variables:

- There are problems related to the neglect of the time dimension of failure; the models ignore the fact that companies change over time.
- The use of annual account information, i.e. the researchers implicitly assume that the annual accounts give a fair and true view of the financial situation.
- Neglect of the multidimensional nature of success or failure of a firm.
- Most failure prediction models result from an empirically-based variable selection. They start from an extensive initial series of variables, often arbitrarily chosen on the basis of their popularity in the literature and their predictive success in previous research. The theoretical basis for the selection of variables has always been limited, which has prevented a better selection of variables.

The logistical regression was used, and Ohlson (1980) states that there is always the possibility that an alternative estimating technique, other than the logit model used, could yield a more powerful discriminatory device. This may hold true for this study.

CHAPTER 7: CONCLUSION

The study was focussed on six factors that have been identified by other studies as determinants of the turnaround outcome. These factors were applied to businesses funded and restructured by the IDC. The study tested the factors identified from a literature review to determine if these factors could be applied in South Africa. The attributes of successful turnaround determinants are often inferred as determinants of the outcome of the turnaround but such perceptions are neither universally accurate nor consistent between different industries, countries and types of firms.

A sample of 78 firms was obtained from IDC's database. The firms were classified by the outcome of the turnaround as either successful or failed. From the sample, 47 of the firms were successful whereas 31 failed. This study differ with the majority of prior studies on failure prediction, it could be mainly because this study used data from firms funded by a single firm while a majority of the previous studies used data from public sources/stock exchanges.

The results were analysed using the logistic regression to determine if the influence of the identified factors is statistically significant to the outcome of the turnaround. Other researchers used different statistical methods but according to Smith and Graves

(2005), there is no superior statistical method in predicting the outcome of the turnarounds.

The results indicated that implementation of efficiency strategies have a positive relationship with the outcome of the turnaround but not sufficiently statistically significant to conclude that the implementation of efficiency strategies have a positive relationship with the outcome of the turnaround. These results mean that the findings of Francis and Desai (2005), Rasheed (2005), Lin *et al.* (2008), Chowdhury and Lang (1996), Robbins and Pearce (1992), Sudarsanam and Lai (2001) and Pearce and Robbins (1993), that a successful turnaround is associated with efficiency-oriented strategies cannot be applied universally but have some level of applicability to the firms that were funded by the IDC in South Africa. The results support the findings by Pearce and Robbins (1993) that turnaround cannot be influenced by a single factor. Therefore, to successfully turnaround a firm in financial distress, other factors have to be taken into account, i.e. industry, financial and industry structure, economic condition, country and type of funding/funder.

The results of the firms that had available free assets indicated that there are no major differences in the turnaround outcomes of firms that had available free assets and those that lacked free assets. The results do not support the findings by Casey *et al.* (1986), Cater and Schwab (2008), Pindado *et al.* (2006), Routledge and Gadenne (2000),

Filatotchev and Toms (2006), Francis and Desai (2005), Lin *et al.* (2008) and Campbell (1996), that the availability of resources have a positive correlation with successful turnaround. Free available assets provide additional security to financial institutions. The results on availability of free assets may not be representative of all turnarounds outcomes mainly because the IDC is a DFI and security cover is not a major consideration when deciding whether to support a firm in financial distress or not. This may not be true for commercial banks or other financial institutions because security is critical to their decision whether to support a firm in financial distress.

The results indicated that severe financial distress have a negative relationship with the turnaround outcomes but the influence was not proved to be statistically significant. The results indicated that the findings by Francis and Desai (2005), Smith and Graves (2005), Hofer (1980), Pearce and Robbins (1993), Scherrer (2003) and Cater and Schwab (2008), that the severity of the financial distress significantly affects the outcome of the turnaround, cannot applied universally but have some level of applicability to the firms that were funded by the IDC in South Africa. The results suggest that severity of financial distress should be considered during an attempt to turnaround a firm in financial distress.

The results of size, change of top management and non-BEE firms indicated that these factors have a negative relationship with the turnaround and this contradicted the

literature reviewed and propositions of this study. The proposition of this study stated that these factors have a positive relationship with the outcome of the turnaround. Between the three factors that contradicted the propositions of this study, only BEE was statistically significant to influence the outcome of the turnaround. Previous research had not included BEE as a turnaround determinant.

The results of this study indicated that the factors that were identified as turnaround determinants could lead to incorrect classification of a firm which is a success candidate as a failure candidate, which according to Smith and Graves (2005), may invoke a self-fulfilling prophecy, such that firms may not be able to attract the funds necessary funds/resources to enact a recovery because lending decisions are based on such classification or classifying distressed firms that are failure candidates as having recovery potential. This could lead to stakeholders spending money and time attempting to resuscitate these firms while they are unlikely to recover. Because of the incorrect classification, stakeholders could incur losses that they should not have incurred, i.e. legal costs, equity and time invested in trying to turnaround the incorrectly classified businesses that are destined to fail.

This study found that the outcome of five factors identified are not statistically significant enough to influence the turnaround outcome and only one factor, BEE, is statistically significant influence on the outcome of the turnaround. These results support the

conclusion by Pearce and Robbins (1993) that neither the academics nor turnaround practitioners have succeeded in designing a model to guide strategic management action during periods of financial decline. Pearce and Robbins (1993) continued to state that there is a need for systematic theory building based on carefully designed and skilfully executed empirical research on turnaround situations and responses.

The observation by Pearce and Robbins (1993) is also supported by Arogyaswamy *et al* (1995) when they state that a more thorough view of the turnaround process cannot be established as literature lacks the fully integrated models that clearly defines the stages in the turnaround process and which highlight the critical stages that impacts each stage.

The findings of this study supported Arogyaswamy's *et al* (1995) conclusion that success in initially stemming decline requires managers to go beyond retrenchment or focusing on financial issues to include effective management of a firm's external stakeholders and internal climate. Like Arogyaswamy's *et al* (1995), this study questioned generalisability of the turnaround model and some existing assumptions about turnarounds and extended the theory in several key areas.

The results of this study were in line with the conclusion by Balcaen and Ooghe (2006) that most studies reach mixed conclusions about the turnaround prediction and point in different directions.

As a developmental institution, the IDC's approach to funding is different from a commercial financiers as it has a high appetite for risk and it focuses on long-term projects. Almost all the turnarounds considered in this study were led by IDC as it is the main funder of most of the transactions in its portfolio.

There were limitations of the generalisability of the results as the data use was from one firm and there were other restructuring that did not meet the criteria which were excluded from this study. Routledge and Gadenne (2000) state that small sample size and missing data present limitations, although these are common problems with research in the area of financial distress.

This study raised more questions about the ability of the turnaround determinants to influence the outcome than providing solutions. The results of this study further raised questions about the generalisability of critical factors that were identified as important to the outcome of the turnaround. Turnaround of a firm is complex and it cannot be determined by internal factors of the firm only, there are other factors that needs to be

considered to be able to develop a model that can universally predict the turnaround outcome. The factors to be considered should include but not limited to the cause of the decline and the external factors such as the industry and economic conditions.

This study indicated that there are no turnarounds determinants that can be applied universally without considering the environment and circumstances of the distressed firm. It is important for the creditors, lenders, management and turnaround consultants to take into account the findings of this study when executing turnarounds.

Commercial banks and other financial institutions should consider financing more of black economic empowered firms as this study has shown that BEE firms in financial distress are more likely to succeed than non-BEE firms. BEE has a positive influence on the outcome of the turnaround, and should the firms that they financed become financially distressed, BEE will improve the probabilities of those firms recovering.

7.1. Future research

Future research is necessary to identify a more complete conceptual framework taking into consideration the complex interactions between the factors of business turnaround.

There is a need for further research to determine factors that can be applied universally (geographic and industry) to predict the outcome of the turnaround.

Future research is also required to develop a turnaround predictor model that combines the internal and external factors and the cause of the distress.

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APPENDICES

APPENDIX 1 : CONSISTENCY MATRIX

Research Propositions	Literature Review	Data Collection Tool	Analysis
P1: The degree to which financially distressed companies implement “efficiency strategies” is positively related with to the likelihood of successful turnaround.	Hofer (1980), Francis and Desai (2005), Rasheed (2005), Lin, Lee and Gibbs (2008), Chowdhury and Lang (1996), Robbins and Pearce (1992), Sudarsanam and Lai (2001) and Pearce and Robbins (1993)	Restructuring report	Logistic regression
P2. The severity of financial distress is negatively related to the likelihood of successful turnaround.	Altman (1968), Francis and Desai (2005), Smith and Graves (2005), Hofer (1980), Pearce and Robbins (1993), Scherrer (2003) and Schwab (2009)	Financial statements on the Restructuring report	Logistic regression
P3: Financially distressed companies with a larger amount of free assets available are more likely to turnaround successfully.	Hofer (1980), Cater and Schwab (2009), Cater and Schwab (2008), Pindado, Rodriques and de la Torre (2006), Routledge and Gadenne (2000), Filatotchev and Toms (2006), Francis and Desai (2005), Lin, Lee and Gibbs (2008) and Campbell (1996)	Financial statements on the Restructuring report	Logistic regression
P4. Financially distressed companies that have a high incidence of senior management turnover are more likely to turn around successfully than those that have a low incidence of senior management turnover.	According to Hofer (1980), Cater and Schwab (2008), Schawartz and Menon (1985), Sudarsaam and Lai, 2001 and Bernstein (2006)	Restructuring report	Logistic regression
P5: Large distressed companies are more likely to turn around than small distressed companies.	Pant(1991), Mahoney and Pandian (1992) Smith and Graves (2005), Beck, Demirguc-Kunt and Maksimovic, (2006), Smith (2006), Kim, Kim and McNiel (2008), Rasheed (2005) and Finkbiner (2006)	Financial statements on the Restructuring report	Logistic regression
P6: BEE firms in financial distress are likely to fail than non-BEE firms	Ponte, Roberts and van Soittert (2007), Sartorius and Botha (2008) and Iheduru (2004)	Restructuring report	Logistic regression

APPENDIX 2 : SAMPLE

			Size	Efficiency st	Severity	Free asset	Managem	BEE					
1	Company	Failed	2	no	1	2	no	no		Size	1 = Large		
2	Company	Failed	1	no	1	2	no	no			2 = Small		
3	Company	Failed	2	no	1	2	no	no					
4	Company	Failed	2	no	1	1	no	no		Effeciency	Yes = Efficiency staratgey imple		
5	Company	Failed	1	no	1	2	no	no			No = No effeciency strategy wa		
6	Company	Failed	1	no	1	1	no	no					
7	Company	Failed	2	no	2	1	no	yes		Severity	1 = Severe		
8	Company	Failed	2	no	2	2	no	no			2 = no severe		
9	Company	Failed	1	no	2	2	no	no					
10	Company	Failed	2	no	1	1	Yes	no		Free asset	1= Free assets available		
11	Company	Failed	1	yes	1	2	yes	no			2 = No free assets		
12	Company	Failed	2	no	1	1	no	no					
13	Company	Failed	1	no	2	2	no	no		Managem	Yes = Management changes		
14	Company	Failed	2	no	1	2	yes	no			No = No Managment Chanag		
15	Company	Failed	1	no	1	2	yes	yes					
16	Company	Failed	2	no	1	2	no	no		BEE	Yes = BEE Transaction		
17	Company	Failed	2	no	2	2	yes	no			No - No BEE Transaction		
18	Company	Failed	2	no	1	2	no	no					
19	Company	Failed	2	no	2	1	no	no					
20	Company	Failed	2	no	1	1	no	no					
21	Company	Failed	2	no	1	2	no	no					
22	Company	Failed	2	no	2	1	yes	no					
23	Company	Failed	1	no	1	2	no	no					
24	Company	Failed	2	no	1	1	no	no					
25	Company	Failed	2	no	2	2	no	no					
26	Company	Failed	2	no	1	1	no	no					
27	Company	Failed	2	no	1	1	yes	no					
28	Company	Failed	1	no	1	2	yes	no					
29	Company	Failed	2	no	1	1	no	no					
30	Company	Failed	1	no	1	1	no	no					
31	Company	Failed	1	no	1	1	no	no					
32	Company	Successfu	2	no	1	1	no	no					
33	Company	Successfu	1	no	1	1	no	yes					
34	Company	Successfu	2	Yes	1	1	no	no					
35	Company	Successfu	1	Yes	2	1	yes	yes					
36	Company	Successfu	2	no	2	2	no	yes					
37	Company	Successfu	2	Yes	2	2	No	Yes					
38	Company	Successfu	2	no	1	2	no	no					
39	Company	successful	2	no	1	2	no	no					
40	Company	Successfu	1	no	1	1	no	yes					
41	Company	Successfu	1	no	2	1	no	yes					
42	Company	successful	2	no	1	1	no	no					
43	Company	successful	1	yes	2	2	no	yes					
44	Company	Successfu	2	no	1	1	no	no					
45	Company	Successfu	1	no	2	1	no	no					
46	Company	successful	2	no	2	2	no	yes					
47	Company	Successfu	2	no	2	2	no	no					
48	Company	Successfu	2	yes	1	2	yes	yes					
49	Company	Successfu	2	no	1	2	no	no					
50	Company	Successfu	2	no	2	2	no	yes					
51	Company	successful	2	no	2	2	no	yes					
52	Company	Successfu	2	no	1	2	no	no					
53	Company	Successfu	1	no	1	2	no	yes					
54	Company	Successfu	2	no	1	2	no	yes					
55	Company	Successfu	1	no	1	1	no	no					
56	Company	Successfu	2	no	1	1	no	no					
57	Company	successful	2	no	2	1	no	yes					
58	Company	Successfu	2	no	1	2	no	Yes					
59	Company	Successfu	2	no	1	1	no	no					
60	Company	Successfu	2	no	2	2	no	no					
61	Company	successful	2	no	1	1	no	yes					
62	Company	Successfu	2	no	1	1	no	no					
63	Company	successful	1	no	1	1	no	no					
64	Company	Successfu	2	no	2	2	yes	no					
65	Company	successful	2	no	1	2	no	no					
66	Company	Successfu	1	no	1	1	no	no					
67	Company	Successfu	1	Yes	1	2	no	yes					
68	Company	Successfu	2	no	1	2	no	no					
69	Company	Successfu	2	no	1	2	no	yes					
70	Company	Successfu	2	no	1	1	no	yes					
71	Company	Successfu	2	no	1	2	no	no					
72	Company	successful	1	no	1	1	no	no					
73	Company	Successfu	1	no	2	1	yes	no					
74	Company	Successfu	2	no	1	1	no	no					
75	Company	successful	1	no	1	2	yes	no					
76	Company	Successfu	2	no	2	2	no	no					
77	Company	Successfu	2	no	1	1	yes	no					
78	Company	Successfu	2	yes	2	2	no	no					

APPENDIX 3 : STATISTICS

Test for the abilities of the turnaround determinants

The sample of companies consists of 78 companies, with 31 companies where the turnaround strategy failed and 47 companies where the turnaround strategy succeeded.

Classification by status of companies	Number of companies
Failed	39.74%
Successful	60.26%
Total	100.00%

The table above shows that there is higher success rate than failure rate. We now look at the distribution of each turnaround determinant:

Variable	Mean	Std Dev

Size	0.3205128	0.4696943
Severity	0.6923077	0.4645258

Free_assets	0.4615385	0.5017452
Turnaround	0.6025641	0.4925350
Efficiency_strategy	0.1025641	0.3053524
Management	0.1794872	0.3862436
BEE	0.2692308	0.4464311

Relative risks of companies failing

Relative risk conditional to size

Probability of a company failing given that it is large is 0.44

Probability of a company failing given that it is small is 0.38

The relative risk (RR) of a company failing is the ratio between the two conditional probabilities given above 1.17

What this means is that a company is 1.17 times likely to fail when it is a large than when it is small.

Relative risk conditional to severity

Probability of a company failing given that its situation is severe is 0.43

Probability of a company failing given that its situation is not severe is 0.33

The relative risk (RR) of a company failing is the ratio between the two conditional probabilities given above 1.28

What this means is that a company is 1.28 times likely to fail when its situation is severe than when it is not severe

Relative risk conditional to efficiency or inefficiency of the strategy

Probability of a company failing given that the strategy is efficient is 0.13

Probability of a company failing given that the strategy is not efficient is 0.43

The relative risk (RR) of a company failing is the ratio between the two conditional probabilities given above 0.29

What this means is that a company is 0.29 times likely to fail if the strategy is efficient than when the strategy is not efficient

Relative risk conditional to availability or lack of free assets

Probability of a company failing given that it lacks free assets is 0.39

Probability of a company failing given that it has free assets is 0.40

The relative risk (RR) of a company failing is the ratio between the two conditional probabilities given above 0.95

What this means is that a company is 0.95 times likely to fail when it has free assets than when it lacks free assets

Relative risk conditional to change or lack of change of management

Probability of a company failing given that it had change of management 0.57

Probability of a company failing given that it had no change of management 0.36

The relative risk (RR) of a company failing is the ratio between the two conditional probabilities given above 1.59

What this means is that a company is 1.59 times likely to fail when it had change of management than when it had no change of management

Relative risk conditional to change or lack of change of management

Probability of a company failing given that it had BEE transaction 0.10

Probability of a company failing given that it had no BEE transaction 0.51

The relative risk (RR) of a company failing is the ratio between the two conditional probabilities given above 0.19

What this means is that a company is 0.19 times likely to fail when it had BEE transaction than when it had no BEE transaction

From the table of relative failure risks, we observe that the relative failure risks of a company with respect to size, severity, and free assets are close to 1, that is 1.17, 1.28, and 0.95 respectively. This means that the effect of these variables to the failure or success of the company is not considerable.

These small differences from 1 could be as a result of chance, thus we need to statistically test if the situation is not as a result of chance.

To statistically determine if relative failure risks are significant, we turn to odds ratios.

The odds of a given company failing given that it is a large company are 11/25 to 14/25,

or 11/14 to 1 0.785714

The odds of a given company failing given that it is a small company are 20/53 to 33/53,

or 20/33 to 1 0.606061

Thus, the odds ratio is $(11/14) / (20/33) = (11 * 33) / (14 * 20)$ 1.296429

The above results mean that a turnaround strategy is 1.3 times likely to fail if a company is large compared to when it is small

In order to interpret the odds ratio, note that an odd ratio of 1 indicates that the odds are even, so that the turnaround determinant has no effect on the probability of the outcome of the turnaround strategy. Since one would seldom get an odds ratio of exactly 1, one needs a method to test whether an odds ratio is significantly different from 1. This is done by calculating a standard error, and then using a confidence interval, or doing a test.

The odds ratio is 1.296 with confidence interval CI[0.494, 3.404]. This is not significantly different to 1. This can be confirmed by a χ^2 test, which gives p-value greater than 0.1. This means that the size of the company does not have much influence in the success or failure of the turnaround strategy.

Similar analysis can be performed on the remaining variables/determinants:

Determinant	Odds ratio	Confidence Interval	P-value	Comment
Size	1.296	[0.494, 3.40]	0.5982	Not significantly different to 1
Efficiency	5.250	[0.61,44.99]	0.1303	Not significantly different to 1
Severity	0.674	[0.25, 1.84]	0.4418	Not significantly different to 1
Free Assets	1.069	[0.43, 2.66]	0.8865	Not significantly different to 1
Management	0.421	[0.13, 1.36]	0.1488	Not significantly different to 1
BEE	9.839	[2.09, 46.21]	0.0038	This is significantly different to 1

From the table above, we can conclude that only BEE transaction is significantly different from 1. This means that BEE has an effect on the success or failure of a company. There is nothing statistical that we can say about the remaining variables, as their odd ratios are not significantly different from 1.

Below, we try and look at the correlation matrix to see if there are some variable with strong correlation. The only variable with strong correlation is the severity determinant, which is about 70% correlated to the intercept. Which this situation is telling us is that there is no combination of determinant that can give us a different picture.

Estimated Correlation Matrix

Parameter	Intercept	Efficiency			Free	Severity
		strategy	Management	BEE	assets	
Size						
Intercept	1.0000	-0.0602	-0.2384	-0.2196	-0.2806	-0.7076
-0.1951						
Efficiency strategy	-0.0602	1.0000	-0.1918	-0.1070	0.0962	0.0024
-0.0898						
Management	-0.2384	-0.1918	1.0000	0.0194	-0.0017	0.0902
-0.0644						
BEE	-0.2196	-0.1070	0.0194	1.0000	0.0672	0.0900
-0.1052						
Free assets	-0.2806	0.0962	-0.0017	0.0672	1.0000	-0.1855
-0.0950						
Severity	-0.7076	0.0024	0.0902	0.0900	-0.1855	1.0000
-0.0321						
Size	-0.1951	-0.0898	-0.0644	-0.1052	-0.0950	-0.0321
1.0000						

Logistic Regression Results

The LOGISTIC Procedure

Model Information

Data Set	WORK.SAMPLE_TO_STATISTICIAN
Response Variable	Turnaround_c
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read 78

Number of Observations Used 78



Response Profile

Ordered Value	Turnaround_c	Total Frequency
1	1	47
2	0	31

Probability modeled is Turnaround_c=1.

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	106.825	101.697
SC	109.182	118.194
-2 Log L	104.825	87.697

R-Square 0.1972 **Max-rescaled R-Square** 0.2667

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	17.1281	6	0.0088
Score	14.7030	6	0.0227
Wald	10.9828	6	0.0889

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	0.0172	0.4583	0.0014	0.9701
Size_c	1	-0.4819	0.5651	0.7271	0.3938
Free_assets_c	1	0.3520	0.5318	0.4380	0.5081

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Efficiency_strategy_	1	1.5158	1.2616	1.4436	0.2296
Severity_c	1	0.1250	0.6071	0.0424	0.8369
Management_c	1	-0.9936	0.6971	2.0311	0.1541
BEE_c	1	2.1523	0.8245	6.8149	0.0090

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Size_c	0.618	0.204	1.870
Free_assets_c	1.422	0.501	4.032



Odds Ratio Estimates

Effect	Point Estimate	95% Wald	
		Confidence Limits	
Efficiency_strategy_	4.553	0.384	53.970
Severity_c	1.133	0.345	3.724
Management_c	0.370	0.094	1.452
BEE_c	8.605	1.710	43.303

Association of Predicted Probabilities and Observed Responses

Percent Concordant	69.4	Somers' D	0.457
Percent Discordant	23.7	Gamma	0.491
Percent Tied	6.9	Tau-a	0.222

**Association of Predicted Probabilities and
Observed Responses**

Pairs 1457 **c** 0.729

Profile Likelihood Confidence Interval for Parameters

Parameter	Estimate	95% Confidence Limits	
Intercept	0.0172	-0.8950	0.9233
Size_c	-0.4819	-1.6174	0.6219
Free_assets_c	0.3520	-0.6844	1.4154
Efficiency_strategy_	1.5158	-0.6564	4.6894
Severity_c	0.1250	-1.0745	1.3385
Management_c	-0.9936	-2.4601	0.3333
BEE_c	2.1523	0.7159	4.0976



Wald Confidence Interval for Parameters

Parameter	Estimate	95% Confidence Limits	
Intercept	0.0172	-0.8811	0.9154
Size_c	-0.4819	-1.5895	0.6258
Free_assets_c	0.3520	-0.6903	1.3943
Efficiency_strategy_	1.5158	-0.9569	3.9884
Severity_c	0.1250	-1.0649	1.3148
Management_c	-0.9936	-2.3599	0.3728
BEE_c	2.1523	0.5364	3.7682

Profile Likelihood Confidence Interval for Adjusted Odds Ratios



Effect	Unit	Estimate	95% Confidence Limits	
Size_c	1.0000	0.618	0.198	1.862
Free_assets_c	1.0000	1.422	0.504	4.118
Efficiency_strategy_	1.0000	4.553	0.519	108.783
Severity_c	1.0000	1.133	0.341	3.813
Management_c	1.0000	0.370	0.085	1.396
BEE_c	1.0000	8.605	2.046	60.197

Wald Confidence Interval for Adjusted Odds Ratios

Effect	Unit	Estimate	95% Confidence Limits	
Size_c	1.0000	0.618	0.204	1.870
Free_assets_c	1.0000	1.422	0.501	4.032



Wald Confidence Interval for Adjusted Odds Ratios

Effect	Unit	Estimate	95% Confidence Limits	
Efficiency_strategy_	1.0000	4.553	0.384	53.970
Severity_c	1.0000	1.133	0.345	3.724
Management_c	1.0000	0.370	0.094	1.452
BEE_c	1.0000	8.605	1.710	43.303

Estimated Covariance Matrix

Parameter	Intercept	Size_c	Free_assets_c	Efficiency_strategy_c	Severity_c	Management_c	BEE_c
Intercept	0.210044	-0.07617	-0.14807	-0.0431	-0.11465	-0.06007	-0.06192
Size_c	-0.07617	0.319365	-0.02855	-0.06404	0.011006	-0.02537	-0.04904
Free_assets_c	-0.14807	-0.02855	0.282809	0.064572	0.059882	-0.00062	0.029445
Efficiency_strategy_c	-0.0431	-0.06404	0.064572	1.591581	-0.00182	-0.16869	-0.1113
Severity_c	-0.11465	0.011006	0.059882	-0.00182	0.368537	-0.03817	-0.04506
Management_c	-0.06007	-0.02537	-0.00062	-0.16869	-0.03817	0.486011	0.011126
BEE_c	-0.06192	-0.04904	0.029445	-0.1113	-0.04506	0.011126	0.67974

Estimated Correlation Matrix

Parameter	Intercept	Size_c	Free_assets_c	Efficiency_strategy_c	Severity_c	Management_c	BEE_c
Intercept	1.0000	-0.2941	-0.6075	-0.0745	-0.4121	-0.1880	-0.1639
Size_c	-0.2941	1.0000	-0.0950	-0.0898	0.0321	-0.0644	-0.1052
Free_assets_c	-0.6075	-0.0950	1.0000	0.0962	0.1855	-0.0017	0.0672
Efficiency_strategy_c	-0.0745	-0.0898	0.0962	1.0000	-0.0024	-0.1918	-0.1070
Severity_c	-0.4121	0.0321	0.1855	-0.0024	1.0000	-0.0902	-0.0900
Management_c	-0.1880	-0.0644	-0.0017	-0.1918	-0.0902	1.0000	0.0194
BEE_c	-0.1639	-0.1052	0.0672	-0.1070	-0.0900	0.0194	1.0000