The effect of job insecurity and restructuring on the safety performance in the chemical manufacturing industry

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It all starts here ™

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PREFACE

Acknowledgements

Firstly I want to thank the management of Sasol Chemical Operations for the opportunity to conduct this workplace survey in the organisation, and all the participants who completed the questionnaire for me. I hope that the outcome of the research will assist the organisation in the future to reach a level of zero harm.

Secondly a word of deep appreciation to mr Johan Jordaan for his leadership and support in the execution of the mini-dissertation.

A special word of thanks to ms Marelize Pretorius from the statistical consultation services of the NWU, for the statistical support and SPSS data.

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As well as a word of thanks to ms. Wilma Pretorius for editing this mini-dissertation.

I also want to thank my family and friends for their support during my MBA studies at the NWU School of Business & Governance.

ABSTRACT

Background: Since the implementation of the new Sasol business model, the recordable incident case rate at the Sasol chemical operations plant, increased dramatically. It is therefore imperative that attention is focused on understanding the factors that lead to this unexplained sharp rise in recorded cases. In this research project, the aim is to test the influence, if any, that the restructuring of the business had on the safety performance of Sasol's chemical operations. For the management team of the Nitro unit, it is important to have the relevant information. It is also important to provide the management of Sasol's chemical operations with the relevant data regarding the possible influence that the restructuring process had on the business unit. This will aid in understanding the impact it might have had and can lead to possible management strategies being instituted to prevent such negative consequences in future. Management needs to understand the possible impact that the restructuring had on the employees' job security and whether this had directly affected the safety performance of the employees.

Methods: In September 2016, 174 employees from Nitro, a division of Sasol's chemical operations, were sampled; a total of 110 responded (response rate of 63.21%). The respondents were from different departments in the division. They completed a questionnaire which included four constructs, namely restructuring, job insecurity, risk taking and workplace injuries. The data was analysed with SPSS.

Results and conclusion: Eighty-nine percent of the respondents were male, which corresponded with the gender composition of the organisation. On average, employees had worked at the company for 14.15 years. A total of 41.5% of the employees did not have a grade 12 qualification, with 5.3% reporting a graduate/higher diploma. From the group, 78% of the respondents fell into the production department and shift schedule. The results of this study confirm that there is a moderate relationship between restructuring, job insecurity/uncertainty and workplace injuries. The results of this study confirmed previous research suggesting that restructuring is related to safety performance. It is important to note that job insecurity is related to workplace injuries.

Recommendations: In a climate of restructuring, it is imperative that the organisation carefully considers the messages being conveyed to the employees who are seeking clues to the optimal means of retaining their jobs. The results of this study suggest that organisations that embark on restructuring must display clear signals, demonstrating the importance of safety. Job insecurity may contribute to negative safety outcomes. The unwanted results of job insecurity might be minimized to an extent by an organisation's strong safety culture. The present findings clearly show that individual differences in perception regarding an organisation's restructuring,

moderate its safety outcomes. It is, therefore, important for an organisation to deal with restructuring in the form of organisational change and complete an organisational-level diagnosis. The restructuring of an organisation influences the organisation on group as well as individual level, therefore a complete change management approach should be initialised.

Keywords: Job insecurity, workplace injuries, safety compliance, job satisfaction, safety motivation, recordable case rate, Chemical Manufacturing South Africa, work stress, safety climate, safety concerns, organisational communication, restructuring, safety outcomes.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 - NATURE AND SCOPE OF THE STUDY

1.1 Introduction

This study was executed to determine the influence that restructuring has on the safety incidence rate, commonly referred to as “recordable case rate”, of a chemical organisation. On the first of July 2014, Sasol’s new value-chain based operating model came into effect according to which the Sasol group is organised into two upstream business units, three regional operating hubs, and four customer-facing strategic units, supported by fit-to-purpose functions. The Sasol Nitro Fertiliser production facility now forms part of the Sasol Secunda Chemical Operations business unit. The Fertiliser production facility was part of the Sasol Nitro business unit previously, which included the marketing and sales functions of the fertiliser business. The business unit structure allows the production facilities to focus on those aspects that are common to production units, resulting in a focussed approach to chemical production. The intent is to become a more effective and competitive organisation. The Secunda Chemical Operations (SCO) business unit consists of the Solvents-, Polymers-, Fertilisers- and Explosives production facilities. Changing to the new model was achieved by conducting a total restructuring of the Sasol group in South Africa. The restructuring was done in phases, affecting the entire group, as the new business units were established. Sasol’s workforce is divided into salaried personnel (SP) (consisting of supervisory level, administrative levels and support personnel) and monthly salaried personnel (MSP) (that consists of operational and maintenance personnel). The restructuring of the units lead to the reassignment of employees to alternative positions. All the monthly salaried personnel (MSP) were reassigned in the new business model. This meant that employees could apply for voluntary retrenchment packages. The remaining workforce was redeployed and, where needed, re-trained for their new roles and responsibilities. The salaried personnel (SP) were also offered the opportunity to apply for voluntary retrenchment packages. The remaining workforce was redeployed and personnel who could not be placed, were retrenched.

The safety performance in Sasol is monitored with the recordable case rate (RCR), a mathematical calculation that describes the number of employees per 100 employees that have been involved in recordable injuries or illness; measured over a specific timeframe. The recordable case rate is calculated by multiplying the number of recordable cases by 200000 and then dividing that by the number of labour hours at the company.

$$\text{RCR} = \frac{\text{number of recordable cases} * 200{,}000}{number\ of\ employee\ labor\ hours\ worked}$$

The recordable case rates are used to determine how different companies or divisions compare to each other with regard to past safety performance. The company's recordable case rate is also used to track its own performance over time.

When studying the Bird triangle, designed by Frank E Bird Jr in 1969, it gives the typical ratio between the fatality rate, lost workday cases and recordable injuries, as depicted in the diagram.

Figure 1-1: Bird triangle**.**

Adapted from (German *et al.*, 2011:184).

According to the Bird ratio analysis, a raise in the RCR should increase all the other ratios and should therefore result in an increased rate of fatal injuries. All injuries to employees have a negative impact on the employees' morale and on the work performance of the entire workforce of the organisation. A fatal injury in an organisation may have a devastating impact on the reputation of the organisation. This can lead to stakeholders withdrawing from of the organisation or a public outcry against the organisation. Therefore it is important to manage all potential negative impacts on the organisation's recordable case rates in order to reduce the risk of employee injuries.

Previous research was conducted on the relationship between job insecurity and safety, by Probst (2004b:10). They examined the organisational safety climate as a potential moderator of the negative effects of job insecurity on self-reported safety outcomes. The results of this study

suggest that an organisation's safety climate has a key moderating effect on the negative consequences of job insecurity. When an organisation's safety climate is weak; job insecurity results in more accidents occurring, as well as other negative safety outcomes.

A study carried out in 2006 by Fred Størseth, aimed to identify focus areas for possible reduction of job insecurity and its outcomes. He compiled a model to specify predictions for health and safety. The model consisted of perceived job insecurity, organisational factors, and short-term stress reactions. This model was tested as a prediction model for risk-taking behaviours (Størseth, 2006:547).

An investigation was done on the possible interaction effects between job insecurity and the type of employment contract, (temporary versus permanent). Results showed that permanent workers had higher expectations regarding job security. The breach of these expectations furthermore mediated the relationship between job insecurity and job satisfaction as well as organisational commitment and life satisfaction (De Cuyper & De Witte, 2007:82).

A meta-analysis was done to examine how three demographic variables of employees, namely organisational tenure, age, and gender, moderated the relationship between job insecurity and job- and health-related consequences. It confirmed the negative impact of job insecurity on employees. It also revealed that different types of employees displayed signs of job insecurity and react to job insecurity in different ways. Younger employees and employees with shorter tenures tend to have a stronger intention to leave the organisation. Older employees with longer tenures are more affected in terms of their physical and psychological health (Cheng & Chan, 2008:291).

Another study explored the influence of job insecurity as a function of several elements of the cultural value of uncertainty avoidance. It was found that a likely strategy for coping with a work stressor is to psychologically withdraw from work. As expected, such withdrawal is reflected in negative work attitudes such as reduced job satisfaction, reduced organisational commitment and higher turnover intentions. A negative relationship between job insecurity and job attitude is well established. Correlations between job insecurity and job satisfaction, job insecurity and organisational commitment, as well as between job insecurity and intentions to turnover, were also established (Konig *et al.*, 2011:150).

In studies on how precarious employment affects health and safety at work, precarious employment was associated with adverse occupational health and safety outcomes across a range of studies. Temporary agency workers are particularly vulnerable; they experience higher incidences of workplace injury and more severe injuries. The PDR model was used in this research (Underhill & Quinlan, 2011a:412).

In a study of the association between quantitative and qualitative job insecurity and well-being, the study supported the view that job insecurity is a stressor that leads to strain as exemplified in poor well-being. Job insecurity was positively related to job dissatisfaction, burnout, psychological distress and psychosomatic complaints (De Witte *et al.*, 2010:53).

In a study of the social patterning of work-related insecurity and its health consequences, the study examined the association between work-related insecurity and health, with the focus on how this relationship is moderated by social location as in gender, age and race. Findings suggested that insecurity has a bigger impact on women, older individuals and on visible minorities (Scott-Marshall, 2010a:330).

In a study that was conducted on the buffering potential of job control on the job self-efficacy, the study examined the direct and moderating effects of the types of control that employees have over their work situations. The study found that employees in threatened job situations may develop health problems more readily than employese in secure job situations. It was also found that the health consequences are more immediate in the former. In this study it was also found that job control mitigated the negative effects of job insecurity, a specific workplace stressor (Schreurs *et al.*, 2010a:66).

In studying the paper on job insecurity, coping resources, and personality dispositions in occupational strain research, the relationships between work-related stressors of perceived job insecurity and various indicators of occupational strain were tested. The results confirm the significant role of job insecurity as a workplace stressor (Mak & Mueller, 2000:323).

1.2 Problem statement

During the time of the implementation of the new Sasol business model, unpublished internal records suggest that the recordable case rate of the Sasol chemical operations increased dramatically. Therefore attention needs to be focused on understanding the factors that lead to this unexplained sharp rise in the recordable case rate. In this research project the aim is to test the influence, if any, that the restructuring of the business had on the safety performance of Sasol's chemical operations. For the management team of the Nitro unit, it is important to understand this influence in order to provide the management of Sasol's chemical operations with relevant information regarding the possible influence that the restructuring process had on the business unit. This will assist in understanding the impact of the restructuring and may lead to possible management strategies being instituted to prevent any negative impact of similar projects in future. Management needs to understand the possible impact that the restructuring

had on the employees' job security, and whether it affected the safety performance of the employees.

1.3 Objectives of the study

1.3.1 Primary objective.

The general objective of this research is to determine the influence of restructuring, in a specific organisation, on its safety performance.

1.3.2 Secondary objectives.

The specific objectives of this research are:

- To determine whether there is a relationship between restructuring and job insecurity;
- To determine whether there is a relationship between job insecurity and risk taking behaviour; and
- To determine whether the incidence of workplace injuries is related to risk taking behaviours.

1.3.3 Hypothesis

In order to investigate the above objectives, a number of hypotheses will be tested:

Hypothesis 1: Restructuring is positively related to job insecurity.

The first hypothesis suggests a direct link between restructuring and job insecurity, whether causal or not.

Hypothesis 2: Job insecurity is positively related to risk taking behaviour.

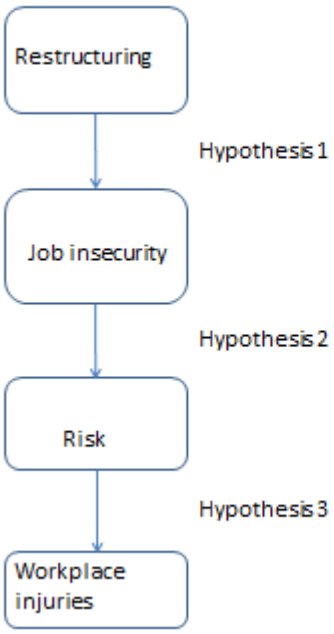
According to the study by Størseth (2006:545), there is a positive relationship between risk taking behaviour and job insecurity. This hypothesis suggests that this relationship exists, whether causal or not.

Hypothesis 3: Risk taking behaviour is positively related to workplace injuries.

The final hypothesis proposes that risk taking behaviour is directly related to workplace injuries.

These hypotheses are graphically illustrated in the figure below.

Figure 1-2: Hypothesis



1.4 Scope of the study

The study was done in the Nitro division of the new Sasol chemical operations plant. All the disciplines in the Nitro division were included in the survey so that it would constitute a representative sample of the Nitro business. The Nitro division is located in the Secunda complex of the Sasol RSA operations. This should improve the validity, since one of the possible mediating variables, location, is eliminated, as all the respondents live in the same geographical area. All the permanent employees were included in the survey.

1.5 Research methodology

1.5.1 Literature review:

Saunders *et al.* (2009:230) state that in order to make sure that the literature being consulted is relevant one should consider the following, amongst other factors:

- How current is the item?
- Is the item likely to be out-dated?
- Is the context adequately different to make it marginal to one's research questions and objectives?
- If references to this item or its author in other sources have been noted, one can assume that the source is reliable;
- Establish whether the item (source) supports or contradicts one's arguments, if it does, studying it could add value to the external validity of the study; and
- Establish if the source seems bias and even if so, it might still be applicable to one's critical review.

The above requirements were used as a guideline in the literature study. In phase 1 a complete literature review of the constructs that were studied was conducted. The sources that were consulted include:

- Utilising the data base of the Ferdinand Postma library of the NWU for the literature search.

  Key words that were used for the study include: Job insecurity, risk-taking behaviour, workplace injuries and insecurity, safety compliance, job satisfaction, safety motivation, recordable case rate, chemical manufacturing in South Africa, work stress, safety climate, safety concerns, organisational communication, restructuring, and safety outcome.

1.5.2 Empirical research:

Research design

The original intention was to conduct a quantitative study as a cross-sectional field survey. It was carried out in the Nitro division of the Sasol group of companies. This allows for the information to be used by the company in the process of reducing the possible impact of job insecurity in future, and it should also improve the occupational safety in the organisation. Some narrative questions were included in the questionnaire to improve the validity of the study. These are also reported on. Strictly speaking, the study can thus be regarded as a mixed method study, although it rests firmly on quantitive analysis.

Research participants

The target population was all the employees of the organisation with a sample size of 110.. The sample size was calculated according to the research methods for business (Sekaran & Bougie, 2013:268). The sampling method utilised was non-probability; based on convenience sampling. Every employee was allowed the opportunity to be included in the survey. Because of all participants being from the same organisation, this sampling method resulted in a representative sample of the organisation.

Measuring instrument(s)

In the event of a reliable and valid measuring instrument being commercially available, one should definitely consider using it. Reliability coefficients reported in the test manual of published tests, should have been established for a group, comparable to the one the researcher intends on using (Welman *et al.*, 2005:149). Welman also affirms the importance of confirmation that the available instrument is valid for the purpose that the researcher intends to use it for (referring to the measurement of certain variables). However, no existing questionnaire that would test all the constructs could be found for this study.

The measuring instrument was a self-developed survey questionnaire based on a 4-point Likert scale. The 4-point scale ranges from 1 (“strongly disagree”), through 2 (“disagree”), 3 (“agree”) to 4 (“strongly agree”).

Research procedure

Permission was obtained to conduct the research in the organisation. The research questionnaires were handed out to the personnel of the organisation during a scheduled communication session. The questionnaire was explained, giving clear instructions. The purpose of the survey was also communicated and respondents were thanked for participating. Written consent was required from each respondent prior to issuing the questionnaires. Each individual was given the opportunity to complete the questionnaire and instructed to return it by putting it into a designated collection bin.

Statistical analysis

The initial statistical analysis was carried out by using the Statistical Package for Social Sciences (SPSS), 23rd edition, and the Structural Equation Modelling was carried out by using AMOS software.

Ethical considerations

An explanation of consent was included in the introduction of the questionnaire. Respondents were guaranteed their privacy and they were informed that they could withdraw at any time. Welman *et al.* (2005:181) state that ethical considerations come into effect at three different stages of a research project, namely:

- At the stage when participants are recruited;
- During the measurement procedure, or in this case, the information session to which they are subjected; and
- In the period when the results obtained are released.

All ethics principles were observed, including permission from the company where the research was carried out, to use the name of the company in the study.

Welman *et al.* (2005:182) also state that other important ethical issues are to be considered:

- Competence – If a researcher has not been sufficiently trained in utilising the skills required to conduct the research, he or she should not get involved in conducting the research;
- Literature review – A thorough review of the literature should be conducted prior to the study to ensure the proposed research has not been done before;
- Plagiarism – In the event of using another's data or ideas, one should acquire permission and give acknowledgement where due; and
- Falsification of results – Falsifying results (for whatever reason) and deceptive reporting, constitutes unethical behaviour.

  All these prerequisites were met by the study. The author was trained in research and the literature study is included, with acknowledgements. All the questionnaires are available at the researcher for verification of the data.

1.6 Limitations of the study

There are some limitations to this study. The first is that the research was carried out in only one division of one organisation, and that the results can therefore not necessarily be generalised to the whole organisation or beyond.

Secondly, it only includes permanent employees who are still employed at the organisation. Those who left the company during the restructuring could not be located for inclusion in the study. Contract workers were also incorporated.

Thirdly, a few months passed between the restructuring process and the study. This could have a mediating effect on the responses in the survey.

CHAPTER 2 LITERATURE REVIEW

A literature review conducted on each of the constructs of interest to this study follows. Although most sources are recent, some older studies were also consulted in which the same constructs were tested. These were included because the constructs tested were as topical at the time of publication as it is today, and although the environment changed over time, the issues tested did not change as drastically.

2.1 Restructuring as a strategy

Corporate restructuring emerged in the 1980's and still remains popular today. The restructuring in the 1980's is well known in the US and European economy, with 1200 divestitures worth $59.9 billion in 1986 alone, 2540 buyouts worth $297 billion between 1981 and 1989 and 55000 mergers and acquisitions worth just under $2 trillion, between 1981 and 1989 (Johnson, 1996:436). This large merger wave is described as an adjustment to the changing environmental conditions and as a correction for over-diversification of the organisation (Markides, 1995:115). This happened because corporate managers recognised that the additional corporate infrastructure needed to manage a larger portfolio of businesses was exceeding the financial benefits (Collis & Montgomery, 1997:130). The shareholders also felt the negative financial impact of the diversification tactics and began to pressurise the top management to develop and implement better corporate strategies to maximise shareholder wealth (Markides, 1995:115). In response to the shareholder reaction, top management engaged in corporate restructuring. Corporate restructuring refers to strategies that are aimed at the changing of the scope of the corporation's activities to ensure that related businesses within the organisation's portfolio operate together.

The corporate restructuring literature of the 1990's mainly concentrated on the changes in governmental anti-trust regulations, stock market reactions to the corporate strategy, innovations in the takeover financing, agency problems and the performance deterioration due to excessive diversification (Markides, 1995:116). In the early 2000's this was extended to emerging economies, and researchers attempted to identify the impact of changing economic environments in areas related to business groups' restructuring efforts (Kim *et al.*, 2004:45). For instance, many Korean organisations started their restructuring programs in the late 1990's after the Asian financial crisis. In this process, companies such as LG significantly reduced their number of business units to include a smaller set of unrelated businesses in its portfolio (Kim *et al.*, 2004:45). Other companies, such as Hyundai, actually increased their core business by acquiring related business units (Kim *et al.*, 2004:46).

Studies conducted on the relationship between corporate restructuring and the firm's performance can be classified into two main groups. The first group measures the short-term effect of divestitures and announcements of corporate restructuring on the firm's market value. The second group examines the long-term performance impacts of the increasing corporate restructuring (Zhao *et al.*, 2011:28). The majority of studies have focused on the long-term performance consequences of corporate restructuring. These observational research methods became popular in strategic management research, where most definitions and theories of strategic management were tested on the same group at different time intervals (Bergh & Holbein, 1997:567). Restructuring strategies enhance corporate focus and improve their performance as well as boost their share price. A study of 200 Fortune 500 firms across 1981-87 found that firms which moved toward greater focus in their portfolio improved their performance (Markides, 1995:115). The case study of General Mills also showed that market returns increased, following their focusing plans of selling unrelated business units such as their retailing and fashion (Donaldson, 1990:138).

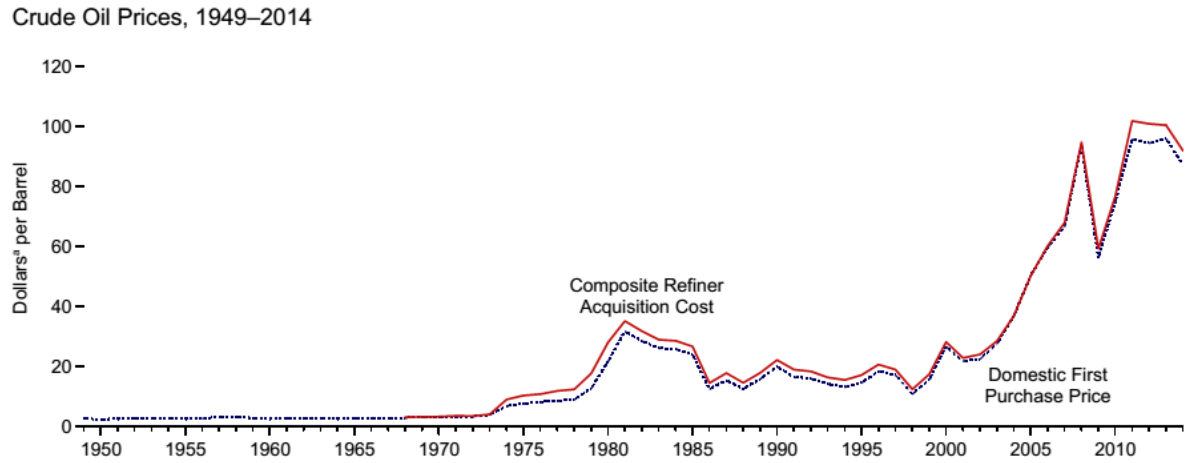
Corporate portfolios are categorised in terms of business scope and business relatedness. Business scope refers to the range of products and services offered by the organisation. Scope is a reflection of the number of businesses in the organisation's portfolio (Collis & Montgomery, 1997:480). Restructuring strategies that change the organisational focus can involve portfolio-restructuring activities, such as mergers, acquisitions, sell-offs and spin-offs (Jianwen, 2004:21). Decisions regarding desirable business portfolios determine the strategy that the organisation will choose to implement in order to change its level of focus. The strategies for changing of the organisation's focus are action plans that are aimed at the changing of poor corporate portfolios into more balanced portfolios that allow better opportunities (Jianwen, 2004:31). Zhao et al. (2011:28) developed the definition of restructuring strategies as the following: "*Restructuring strategies that change corporate focus is a set of strategies, implemented through merger, acquisition, and/or divestiture activities, which load to significantly different level of business scope and/or relatedness in the corporate portfolio over time"*

The restructuring strategies that change corporate focus are diversification, down-scoping, core expansion and complete refocusing. Diversification strategies broaden the scope of portfolios and lower the overall interdependencies of the businesses in the organisation's portfolio. Down-scoping is a restructuring strategy that narrows the scope of the organisation's portfolio, and is used to increase corporate focus. Down-scoping is motivated by the intention to focus on the essential businesses by selling, spinning-off under-performing business units. Core expansion changes the organisation by increasing the related businesses in the portfolio, through horizontal acquisitions. Complete refocusing narrows the scope of the portfolio and increases the relatedness of the remaining businesses (Zhao *et al.*, 2011:29).

2.2 Reasons leading to Sasol's restructuring process

The market prices influencing the Sasol operations, especially those prices that influence the Nitro markets, as shown below, were evaluated. First the price of crude oil was analysed. To have a good understanding of the severity of the fluctuation, readings were collected from 1949-2014, as shown in the Figure 2-1: Crude Oil Price, 1949-2014.

Figure 2-1: Crude Oil Price, 1949-2014



Adapted from (Anon, 2016a)

After a steep rise in 2001, the oil price declined sharply in 2014, resulting in a negative impact on the income of Sasol's operations. Drastic changes were needed to stream-line the organisation for the following years. This was one of the contributing factors to the restructuring of the Sasol operational model. A closer look at the oil price during the time of the restructuring, the monthly oil price gives a clear picture of what happened on a month-to-month basis over a shorter term, as seen in the Figure 2-2: Composite Refiner Acquisition, Monthly.

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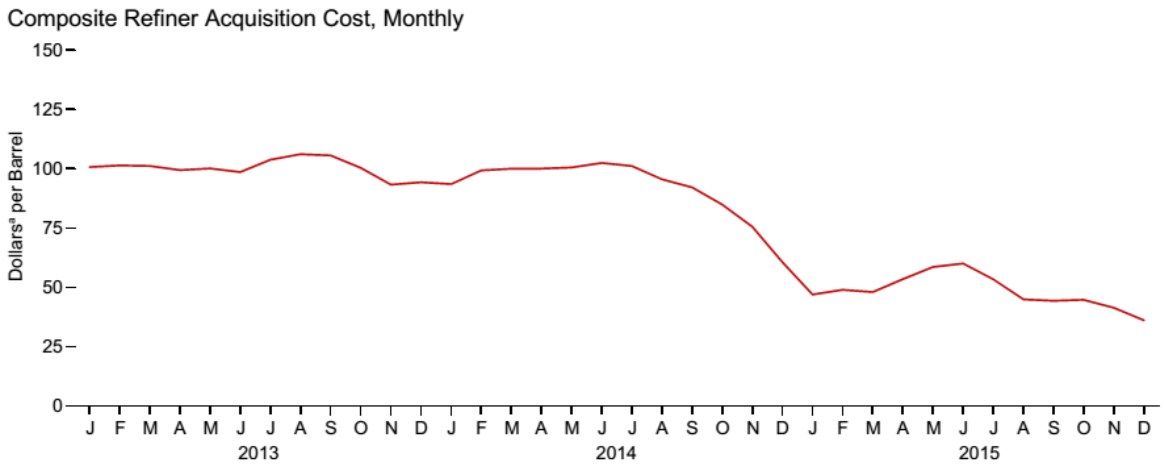
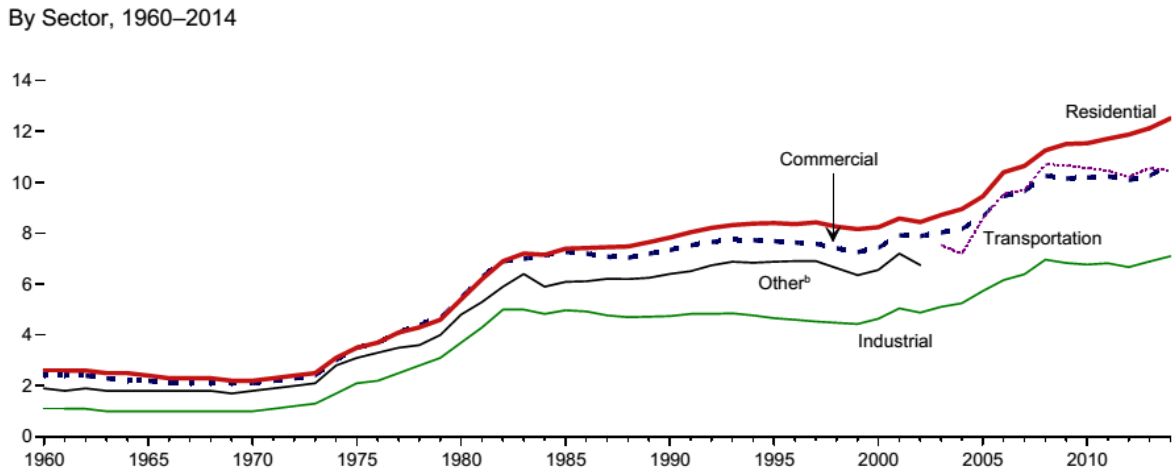
Figure 2-2: Composite Refiner Acquisition, Monthly



Adapted from (Anon, 2016a)

One of the biggest input costs for manufacturing operations is the price of electricity. The price of electricity in the period 1960–2014, as seen in Figure 2-3: Electricity by Sector, 1960-2014, gives a good indication of the continuing rise in the input cost for manufacturing industries in South Africa.

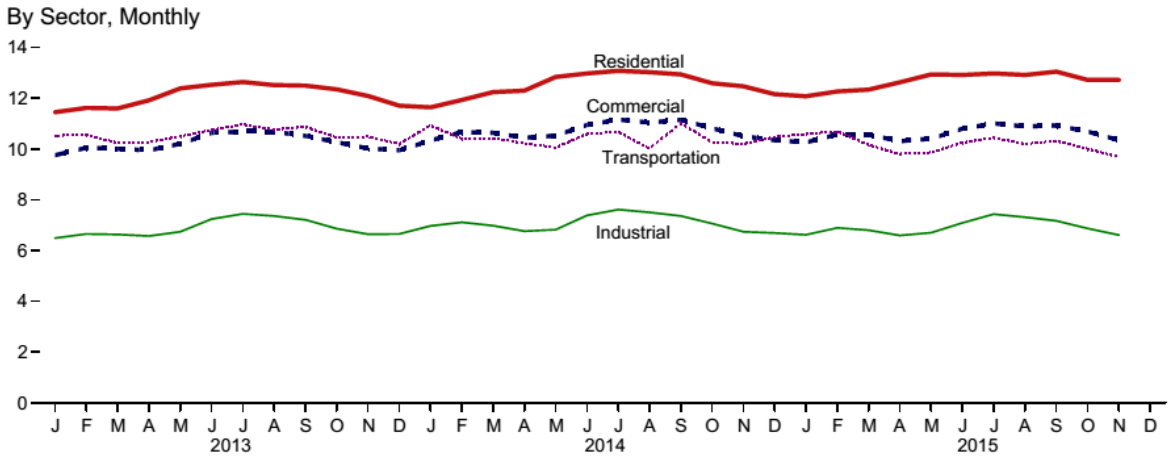
Figure 2-3: Electricity by Sector, 1960-2014



Adapted from (Anon, 2016a).

Although the price of electricity on a month-to-month basis appears less volatile, as seen in Figure 2-4: (Electricity by Sector, Monthly), the long-term impact drives up operational costs exponentially over time.

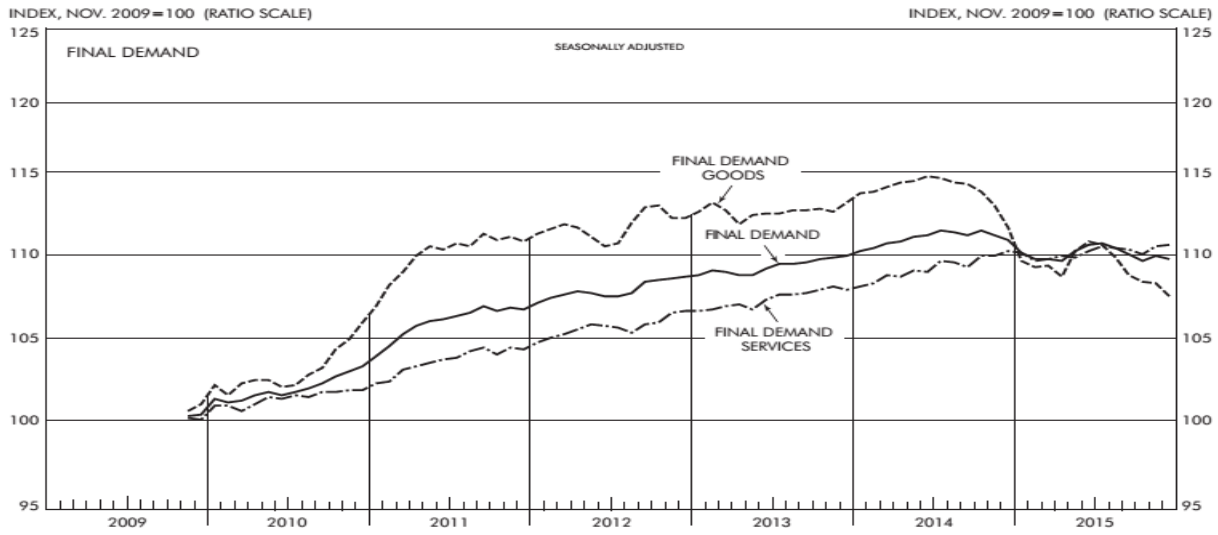
Figure 2-4: Electricity by Sector, Monthly



Adapted from (Anon, 2016a).

The demand for products for the period 2009-2015, as shown in Figure 2-5: Demand Index. 2009-2015, clearly reflects the sharp decline in the aggregate demand in the second quarter of 2014. This had a direct impact on the demand for Sasol products and resulted in a further decline in income for the Sasol operations. The decline in income contributed to the need for restructuring of the operations. The wide range of products that the Sasol operations supplied to the markets in different sectors, contributed to the impact that the total down-turn of the market had on Sasol's operations.

Figure 2-5: Demand Index, 2009-2015

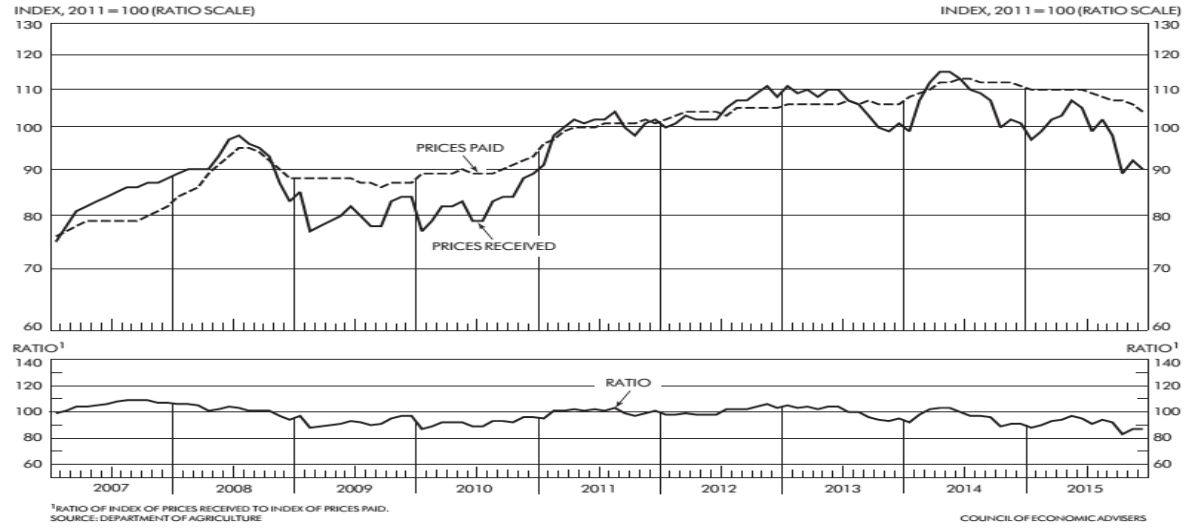


Adapted from (Anon, 2016c).

Since the Nitro division of Sasol is a major supplier to the agricultural industry, prices for agricultural products have a direct impact on the Nitro division. In the period between 2007 and 2015, the sharp decline in the prices paid and the prices received for agricultural products, is evident, as seen in Figure 2-6: Agricultural prices, 2007- 2015.

This is an indication that the decline impacted on all the sectors of the market, there-fore the restructuring in Sasol's operations had to be undertaken in all the South African operations and could not be isolated to only certain sectors. Although some sectors have a bigger impact on Sasol's operations, it cannot be isolated and emphasises the need to consider the overall impact on Sasol's South African operations. Because the Nitro operations department was used for the study, we particularly focus on the market segment that specifically impacts the Nitro business.

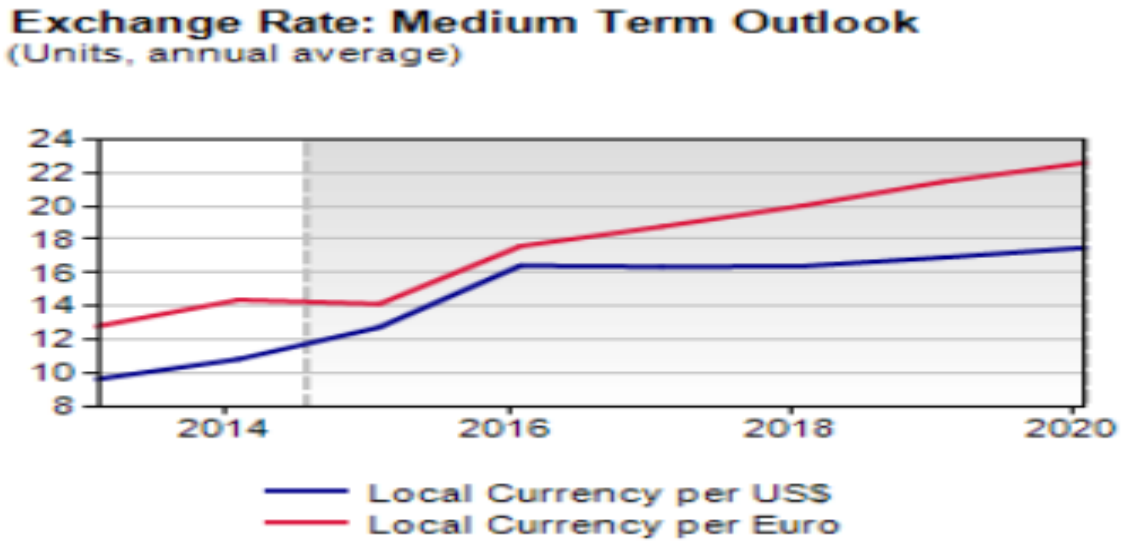
Figure 2-6: Agricultural prices, 2007-2015



Adapted from (Anon, 2016c).

To really understand the background of the restructuring process at Sasol, it is important to investigate the forecasts for that period. The forecast for the exchange rate can be seen in Figure 2-7: Exchange Rate, 2014-2020, as presented in the Country Reports - South Africa, at the time.

Figure 2-7: Exchange rate, 2014-2020



Adapted from (Anon, 2016b).

This clearly forecasts a weaker rand for the years ahead and had to be taken in consideration for the future operations of Sasol.

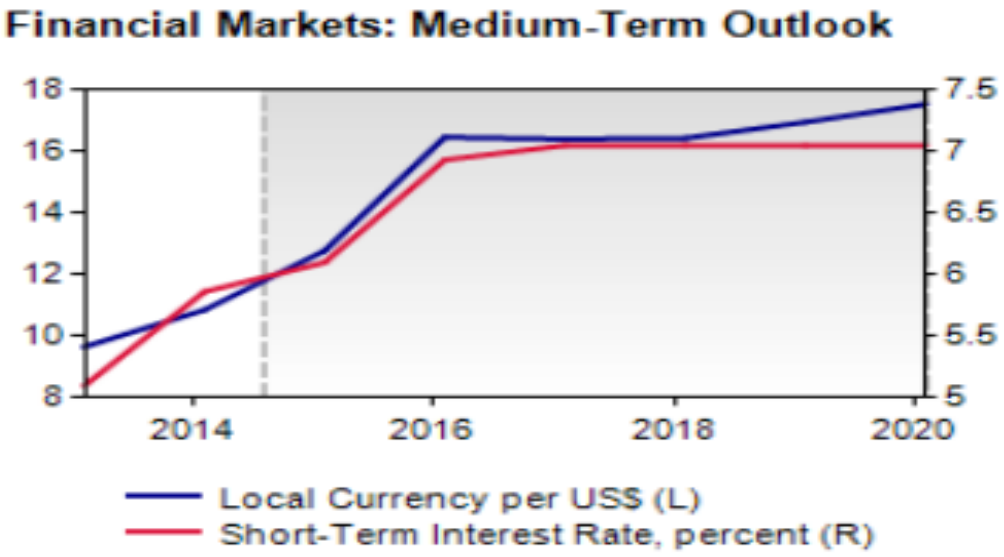
The forecast for interest rates was also taken into account, because of its impact on the South African markets. The forecast at the time that the restructuring process was launched, also predicted a higher interest rate for the following years. This can be seen in Figure 2-8: Medium-Term Outlook, 2014 - 2020.

Figure 2-8: Medium-Term Outlook, 2014-2020

Adapted from (Anon, 2016a).

The financial market's medium term outlook was not favourable either, as shown in Figure 2-9: Financial Markets, 2014–2020. This was also taken into account as Sasol needed to align its strategy for the following years.

Figure 2-9: Financial Markets, 2014-2020



Adapted from (Anon, 2016a).

More predictions influenced the decision to restructure Sasol's South African operations. According to the South Africa country report, the possible scenarios at the time, predicted a global slowdown that would weaken the global demand for South African exports as well as possible lower commodity prices, which would restrain exports and therefore weaken the external position that could weaken the Rand. This would result in a rise of monetary tightening and restrain growth (Anon, 2016a:4).

The excessive monetary tightening would derail economic recovery, as consumption and investment would be constrained due to rising costs. Since Sasol is a major net exporter, the appreciation of the Rand would restrict the export sector's competitiveness and threaten the competing import companies. The production in export sectors would be lower due to the lower growth that was forecasted for the short-term. The investor aversion for risk would intensify, leading to capital flight and weakening of the Rand. This could increase interest rates and reduce the growth rate. The electricity disruptions could intensify in the medium-term, resulting in a decreased government revenue and put the growth rate under further pressure (Anon, 2016b:141).

2.3 Restructuring methods

Restructuring can be done in one of the following ways:

- Internal restructuring; adjusting internal processes or structures and their interaction. This can be the course of business expansion or of outsourcing via sub-contracting. Possible departments that can be outsourced are IT, accounting, transportation and legal services. This can be done both locally and internationally by consultancy. It can also be caused by relocation or by a merger or acquisition (Augusto Felício *et al.*, 2015:798).
- Change strategies that include diversification, expansion and cost-cutting.
- Production upgrades (Tamošiūnas, 2015:6).
- Upgrade of international processes and structures.
- Communication networks upgrades.
- Business transfers and successions (Tamošiūnas, 2015:6).
- Closure and/or bankruptcies (Anon, 2011:3).

- Relocation of the business with the possible constraints of property cost/rent, wages, markets or the available workforce. Relocation is higher in the service sector than in the production sector (Galbraith *et al.*, 2008:184).
- Off-shoring and delocalisation (Egger *et al.*, 2015:114).
- Outsourcing is done by larger organisations that subcontract other organisations for specific tasks (Giunta *et al.*, 2012:1069).
- Mergers or acquisitions (Tamošiūnas, 2015:6).

2.4 Examples of restructuring in South Africa

In 2000 the Nissan Diesel Motor Company of Japan announced their "Offensive business restructuring programme". The focus was on the heavy duty trucks, core business and markets that included South Africa, China, Indonesia and Malaysia. Part of this plan was to take control of the truck division of Nissan SA in July 2002. This resulted in an investment of more than R300 million in South Africa. The South African market was used to develop exports into African countries. Nissan's strategic vision with this change was to maintain profitability in all of their areas of business, while continuing to be flexible and adaptable to their customers' requirements.

MWEB was restructured in 2015 to focus on the residential and small business markets. Today MWEB is South Africa's second largest Internet service provider. MWEB offers a range of Internet access offerings to approximately 320 000 customers. It was founded in 1997 and was the first to launch uncapped ADSL in 2010.

In 2015 Telkom announced their major restructuring plans for four of their business units. This was part of their continuing cost-reduction programme. The business areas that were identified were Telkom's direct stores, call centres, IT legacy systems, internal printing and supply chains, and property businesses.

2.5 The Sasol restructuring project

Sasol restructured by changing their operational model. This change came into effect on 1 July 2014. The new operating model aligns the components of Sasol's operating business units, regional hubs, strategic business units and group functions, according to a single value chain.

The value chain focuses on the production of liquid fuels, high-value chemicals and low-carbon electricity:

- The operating business units consist of the mining and upstream oil and gas activities and focuses on securing feedstock supplies.

- The regional operating hubs include the operations in South Africa, United States and Eurasia. The focus is on sustaining asset management and performance while delivering, to planning and optimising the total cost of production.
- The strategic business units focus on the commercial and enhanced customer interfaces within the energy and chemical arenas. The emphasis is on optimising the business' performance through marketing and sales excellence.
- The group function's focus is on the delivery of fit-for-purpose business support services and solutions.

Sasol also maintains the improvement of their coal-to-liquids process in order to ensure safe, reliable and efficient operations that contribute to lower environmental impact.

This operating model brings greater focus and simplicity to the organisation. It was changed from a product-based operational model to one that is structured along the integrated value chain.

The streamlining of the structure resulted in a significant reduction in the number of organisational units in Sasol. The new model leverages the economies of scale and scope by orienting the organisational units along upstream operations, or marketing and sales lines. This model groups the capabilities together that allows for the more efficient execution of business activities, with the focus on a narrower set of activities, but with a wider span of control. The fit-for-purpose enterprise functions serve the business in a partnership model. It operates in a co-dependent way and as a component of the overall value chain. This allows Sasol to focus on one bottom-line rather than on individual business goals (Anon, 2015).

The Sasol group's operating business units focus on securing the sustainable supply of low-cost feedstock, from coal through mining, gas through exploration and production, internationally. This helps to deliver the selective growth and advancement of the group, securing the coal reserves that are required for the feedstock to extend the useful life of their plants in Secunda to 2050. Part of this operation is mining, that secures the coal feedstock for the Southern African value chain. Coal is mainly used for gasification (chemical production), electricity and steam generation. Sasol mines approximately 40 million tons of coal a year at their Secunda and Sasolburg complexes, exporting approximately 3.6 million tons of coal per year. Exploration and production internationally secures and develops gas feedstock for the Southern African value chain. The exploration activities are centred In Southern Africa, while the production activities are in Mozambique, Canada and Gabon.

The regional operating hubs comprise of two broad groupings; Southern African operations and international operations. They are responsible for converting feedstock that is received from the

operating business units. This is used for the production of a wide range of products for the group. They are accountable for delivering against agreed safety, cost, volume and specification targets, as set by the group. The Southern African operations consist of Secunda Synfuels that operates a coal and gas based synthetic fuels manufacturing facility where chemical feedstock and utilities are also produced; Secunda Chemicals produces chemicals and provides site services to the Secunda complex; The Sasolburg operations produce chemicals and cobalt catalysts, they also supply utilities (steam, water and gases such as nitrogen) and services to the Sasolburg operations. Satellite operations include a wax blending plant in Durban, gas, fuels and chemical pipelines between Mozambique, Secunda, Sasolburg and KwaZulu-Natal, as well as an explosives accessory plant in Ekandustria. The Natref operations control a crude oil refinery. The international operations consist of US operations that are a set of chemical processing facilities in a number of US locations, with the most significant in Lake Charles, Louisiana. US mega projects include the Lake Charles chemical project and the proposed US gas-to-liquids project. The Eurasian operations consist of chemical processing facilities in China, Germany and Italy.

The strategic business units focus on the marketing and sales of products received from the regional operating hubs. Their focal points are the energy and chemical markets, with the objective of achieving optimal sustainable margins. The Energy unit markets liquid fuels, natural gas and electricity in Southern Africa, and supplies about a quarter of the inland liquid fuels required for South Africa. They also develop, implement and manage Sasol gas-to-liquids business ventures internationally. The Base Chemicals unit markets the Groups Fischer-Tropsch, ethylene, propylene and ammonia value chains. The foundation is feedstock advantage, scale, product quality, and cost leadership. The Performance Chemicals unit markets commodity and differentiated performance chemicals. They work to develop the strengths in product differentiation through technological leadership and strong customer focus (Anon, 2015:5).

2.6 Discussion of constructs

2.6.1 Job insecurity

Job insecurity is a work stressor that has a recognised negative impact on the health and well-being of a person (Höge *et al.*, 2015:223). Research has provided evidence that job insecurity is a job stressor and that it positively relates to a variety of negative outcomes, ranging from a decline in job performance to impaired health and well-being (Ferrie, 2001:74; Cheng & Chan, 2008:274).

When people are confronted with job insecurity they anticipate what it would be like if they actually lost their jobs. This stresses the role of negative future prospects and accompanied worries about resource losses (De Witte *et al.*, 2015:115), which could result in poverty. Poverty disengages people from activities and restricts the possibilities of their life goals. Financial deprivation explains more variance of distress than psychosocial needs. Material and psychosocial poverty play crucial roles in the understanding of the health effects of unemployment. Job insecurity implies the possibility of a job loss, where the individual may experience worries about financial and psychosocial resource losses in the future. Experiencing job insecurity may also cause strain if it is seen as a threat in the anticipation of possible lay-offs (Höge *et al.*, 2015:223).

Experiencing job insecurity may result in unpredictability, lack of control and powerlessness in the situation (Glavin, 2013:139). The deprivation of psychosocial benefits such as status, recognition, collective purpose, activity, time structure and social contact, can cause health problems (Creed & Macintyre, 2001:329). Job insecurity can also refer to the level of uncertainty a person feels in relation to his/her job continuity (Chun & Lee, 2000:218). Employees have become more aware of the issue of job security after the recent global recession (Hollon, 2010:42).

When employers fail to provide secure jobs, employees experience work stress, which may have negative emotional reactions that can affect their work efforts (Jordan *et al.*, 2002:369). Job insecurity is considered to be a common workplace phenomenon that can take place independent of any particular crisis situation (Ashford *et al.*, 1989:825; Sverke & Hellgren, 2002:23).

Job insecurity has been found to be negatively associated with employees' job satisfaction, organisational commitment, job involvement, trust in the organisation, and their health (Sverke & Hellgren, 2002:32). Uncertainty is generally the cause of anxieties. In order to deal with the uncertainty, people tend to be more concerned with fairness information, using it to guide their emotions, attitudes and behaviours. People react well to fair treatment and badly to unfair treatment under uncertain conditions (Thau *et al.*, 2007:251). Although job insecurity and uncertainty are usually considered as one construct, there could possibly be a distinction between the two elements (Thau *et al.*, 2007).

Job insecurity could be divided into qualitative and quantitative insecurity. Qualitative job insecurity is defined as the perceived threat of losing valued job features, while quantitative job insecurity reflects the perceived threat of losing the job itself (Vander Elst *et al.*, 2014). Job insecurity and its effects can be explained by stress models (Urbanavičiūtė *et al.*, 2015:41).

Job insecurity results from stressors that decrease the sense of control. If the employee does not have an effective coping strategy, it could cause various negative effects (Sverke *et al.*, 2006:18; Staufenbiel & König, 2010:115; Elst *et al.*, 2011:216). Job insecurity does not only affect work-related behaviours and attitudes, it also spreads to other areas of life (De Witte *et al.*, 2010:52).

Changes such as restructuring, downsizing and organisational financial difficulties may influence an employee's perception that the current job is at risk (De Witte *et al.*, 2015:125).

Job insecurity is a subjective experience, regarding the involuntary phenomenon that concerns uncertainty about the future (Peiró *et al.*, 2012). Job loss in itself is considered an important work stressor (Otto & Dalbert, 2013:35). Job insecurity has been linked to mental and physical health complaints, such as irritation, anxiety, depressive feelings, emotional exhaustion, sleeping disorders, increased blood pressure and headaches (Sverke & Hellgren, 2002:26; Cheng & Chan, 2008:293; De Witte *et al.*, 2015:125).

Having a job fulfils several important benefits, and the threat of losing it implies losing the benefits. A threat to the employee's benefits will result in reduced mental and physical health over time (Vander Elst *et al.*, 2016:66).

Chronic stress is the result of ongoing concerns about potential stressful events in the future. Chronic stressors force individuals to engage in coping mechanisms and could have detrimental effects on the individual and the organisation (Stiglbauer & Batinic, 2015:264).

2.6.2 Safety performance

Unsafe acts in the work place were positively linked to the accident rate of the organisation (Curcuruto *et al.*, 2015:317). Compliance with the organisation's safety procedures was negatively linked to near-misses (incidents where accidents almost happened) in the workplace (Goldenhar *et al.*, 2003:219). Employees' active engagement in safety-related initiatives resulted in the improvement of the safety performance of organisations (Neal & Griffin, 2006:946).

Safety participation is an effective reducer of workplace accidents and injuries over longer periods, through the creation of better support for work safety (Clarke, 2006:316). Safety participation is about helping others, voicing concerns about safety and looking out for the welfare of other employees (Neal *et al.*, 2000:109).

An organisation's safety performance can be measured by the frequency of events such as injuries, accidents or near-misses (Curcuruto *et al.*, 2015:321). Specific safety behaviours have different effects on the safety performance outcomes. Pro-social safety performance is important in the prediction of the frequency of micro-accidents and accidents that involve no injury. Proactive safety behaviour is also important in the prediction of the frequency of near-misses and lost-time injuries (Curcuruto *et al.*, 2015:322). Micro-accidents are injuries that require no medical treatment. They happen more frequently and are a reliable outcome to test safety behaviour. Their cause is linked to unsafe actions (Zohar, 2000:593).

An organisation's safety performance can also be measured against the rate of property damage (Curcuruto *et al.*, 2015:322). Employee engagement is linked to higher levels of job performance and can be incorporated into positive organisational behaviour (Bakker & Schaufeli, 2008:151). Job engagement is important to employees' safety behaviour since it shapes safety behaviour and outcomes (Nahrgang *et al.*, 2011:77).

Safety performance is a domain of job performance and is linked to workplace safety. It is a determinant of the safety outcomes (Zohar, 2000:593). Safety performance consists of safety compliance and safety participation (Neal *et al.*, 2000:106). Safety compliance refers to the activities that need to happen in order to maintain workplace safety. Safety participation is the voluntary behaviour that help to maintain workplace safety (Neal *et al.*, 2000:106).

Management's commitment to safety is a concern for workplace safety and for employee well-being, because the allocation of resources is crucial for successful performance (Yuan *et al.*, 2015).

Safety compliance also refers to the core activities that ensure workplace safety, such as adherence to safety procedures. Other determinants are safety knowledge, safety skills and safety motivations (Neal *et al.*, 2000:107; Sinclair *et al.*, 2010:1484). Job characteristics can influence safety performance through job engagement (Neal *et al.*, 2000:107).

Psychological theories, such as the social exchange theory, role theory, climate theory and leadership theories can be applied to understand, predict or control workplace injuries (Stadnyk *et al.*, 2011:107). Control is the ability to influence the environment to such an extent that it becomes more rewarding and less threatening. The increase of control over the safety related elements in the workplace will lead to a reduction in injuries in the workplace (Stadnyk *et al.*, 2011:107). Control is a significant predictor of employee involvement in the promotion of safety. Control is important for creating a work environment with the minimum safety hazards, in order to reduce injuries and accidents (Stadnyk *et al.*, 2011:108).

Task safety performance is enforced in all tasks and consists of the use of protective equipment, engaging in practices that reduce risks and the communication of health and safety information (Burke & Dunlap, 2002:650).

A positive safety culture is created when employees are aware of the risks in their workplace and avoid taking any unsafe actions (Fedorycheva & Hammer, 2015:770). Safety culture can be defined as the attitude, beliefs, values and perceptions that employees share in relation to safety (Saujani, 2016:38)

For occupational safety and health (OSH) management systems to become world-class safety systems, the organisation needs to apply the following points:

- OSH must be on par with the business' performance;
- There must be a system-based approach to OSH;
- The focus should be on continuous improvement;
- The OHS must be aligned with the organisation's strategies and values; and
- It must promote safety and health on and off the job (Saujani, 2016:38).

Visible senior management leadership and commitment to safety are critical for safety management (Flin & Yule, 2004:7). The following initiatives can be used to involve the entire organisation in safety: roles and responsibilities can be defined for various levels in the organisation, and associates can be engaged by means of safety committee meetings, risk assessments and safety audits, safety conversations, hazard identification programs and safety board programs (Saujani, 2016:39).

Safety systems can be analysed by gathering data in order to ensure that the safety decisions are sound. The data points include trends on incident rates, gap analysis loss trends, safety awareness scores and hazard surveys (Saujani, 2016:39).

Leading indicators include behaviour-based safety observations, safety training, safety audits, and hazard assessments, coaching and counselling sessions (Saujani, 2016:39).

Health and safety management systems are a set of institutionalised, interrelated and interacting elements that are designed to achieve occupational health and safety goals and

objectives (Haas & Yorio, 2016:52). It is designed to improve the effectiveness of employee involvement, leadership and the allocation of resources in the organisation (Haas & Yorio, 2016:52).

Performance measurement is used to evaluate the effectiveness of a health and safety management system. The information from the performance indicators can be used to facilitate the implementation of risk management actions in the organisation (Haas & Yorio, 2016:53).

Performance indicators can be classified into proactive and reactive indicators. Proactive indicators can be sub-categorised into predictive and monitoring indicators. Predictive proactive indicators evaluate the managerial actions that were taken to reduce risks in the workplace. Monitoring proactive indicators include evaluating near-misses, behavioural observations, auditing results and safety inspections (Laitinen *et al.*, 2013:75).

Safety measures are used to mitigate, prevent and control hazards in the workplace, in order to reduce losses and prevent accidents (Gunasekera & De Alwis, 2008:426). Safety programs are used to reduce risks by removing hazards where possible and encouraging workers to use best safety practices (Badri *et al.*, 2012:230).

The implementation of a safety management system is an effective way to allocate resources for safety. It improves work conditions, positively influences safety attitudes and leads to the improvement of the safety climate (Fernández-Muñiz *et al.*, 2007:637).

The function of a risk metric is to communicate and discuss the results of the risk analysis done, and to provide quantitative measures to do the risk evaluations (Johansen & Rausand, 2014:392). Risk can be divided into three aspects of the risk, namely: what can go wrong, the likelihood of it going wrong, and the consequences. Risk can be classified into different types of events and subjects of harm (Johansen & Rausand, 2014:392).

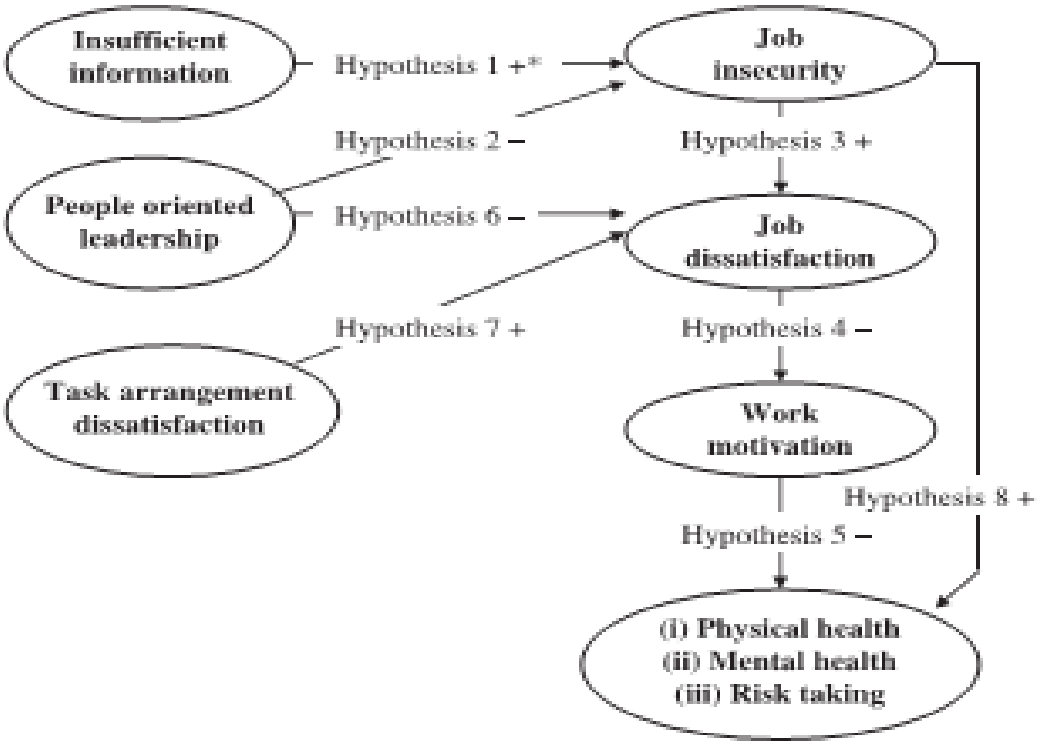
2.6.3 The effects of Job Insecurity on the Safety Performance

In a study done on job insecurity and the impact of world market competition on health risks, a positive association between job insecurity and the indicators of self-reported poor health was found. It was also established that high levels of job insecurity were associated with increased mental distress and the use of medication (Pelfrene *et al.*, 2003:419).

In a study done on the moderating effect of an organisational safety climate, it was suggested that the organisation's safety climate has a moderating effect on the negative consequences of job insecurity. A strong safety climate reduces the effects of job insecurity on safety knowledge, accidents, near-misses, workplace injuries and safety compliance (Probst, 2004a:8).

Fred Størseth studied the changes at the workplace and employee reactions to these changes, and found that there is a positive relationship between insufficient information and job insecurity, a negative association between people oriented leadership and job insecurity, a positive association between job insecurity and job dissatisfaction, and a negative association between job dissatisfaction and work motivation. Work motivation was negatively related to health and safety, leadership style was also negatively related to job dissatisfaction, task arrangement dissatisfaction was positively related to job dissatisfaction, and job insecurity was found to be positively related to adverse health outcomes and risk taking behaviours (Størseth, 2006:547). In Figure 2-10, Størsteth's Model, 2006, shows all the hypotheses. Note that some of the hypotheses were rejected in the model.

Figure 2-10: Størseth's Model, 2006



Adapted from (Størseth, 2006)

In a study done between quantitative and qualitative job insecurity and well-being, it was found that job insecurity is a stressor and that job insecurity was positively related to job dissatisfaction, burnout, psychological distress and psychosomatic complaints. A significantly negative relationship between job insecurity and well-being was found in the study (De Witte *et al.*, 2010:53).

A study of the social patterns of work-related insecurity and its health consequences found that women experienced longer periods of earning insecurity and work-family balance insecurity

than men. It was also found that older workers experienced longer exposures to earning insecurity and job insecurity, compared to younger individuals (Scott-Marshall, 2010b:330).

In the research done on the buffering potential of job control and the effect of job self-efficacy on the employee's health, it was found that job insecurity was positively associated with recovery need and impaired general health. Job control was also positively related to employee health, and mitigated the negative association of job insecurity with the recovery need and impaired general health (Schreurs *et al.*, 2010b:66).

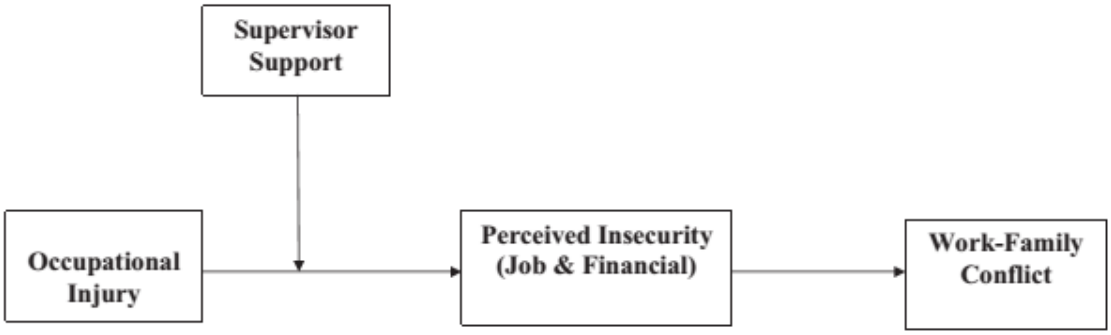
International studies indicate that temporary workers are more likely to be injured at work. Subsequently three occupational health and safety risks were identified specifically regarding temporary workers. Firstly mismatched placement increases workers' risk of injury. Second are the risks associated with the exposure to an unfamiliar workplace. Thirdly, is the fractured communication, created by the additional risks (Underhill & Quinlan, 2011b:412).

It was found that the relationship between job insecurity, job satisfaction and affective commitment are moderated by the country-level variables where it was tested. The two moderated effects that were tested for, were uncertainty avoidance and social safety nets; both of these were found to buffer the negative relationship between job insecurity, job satisfaction and affective commitment (Debus *et al.*, 2012:694).

In a study done on the relationship between job insecurity and accidents that are under-reported, it was found that job insecurity increases the likelihood of an accident at work and that it increased the likelihood of accidents not being reported by employees (Probst *et al.*, 2013:399).

A model that was developed, explaining how workplace injuries are related to work-family conflict, is presented in Figure 2-11: Lawrence Model, 2013. The model shows that workplace injuries were directly related to work-family conflict and that work-family conflict was indirectly related to job insecurity and financial insecurity. All relationships in the model show medium to strong correlations. It was also found that supervisors' support of the injured employees mitigates the level of insecurity (Lawrence *et al.*, 2013:378).

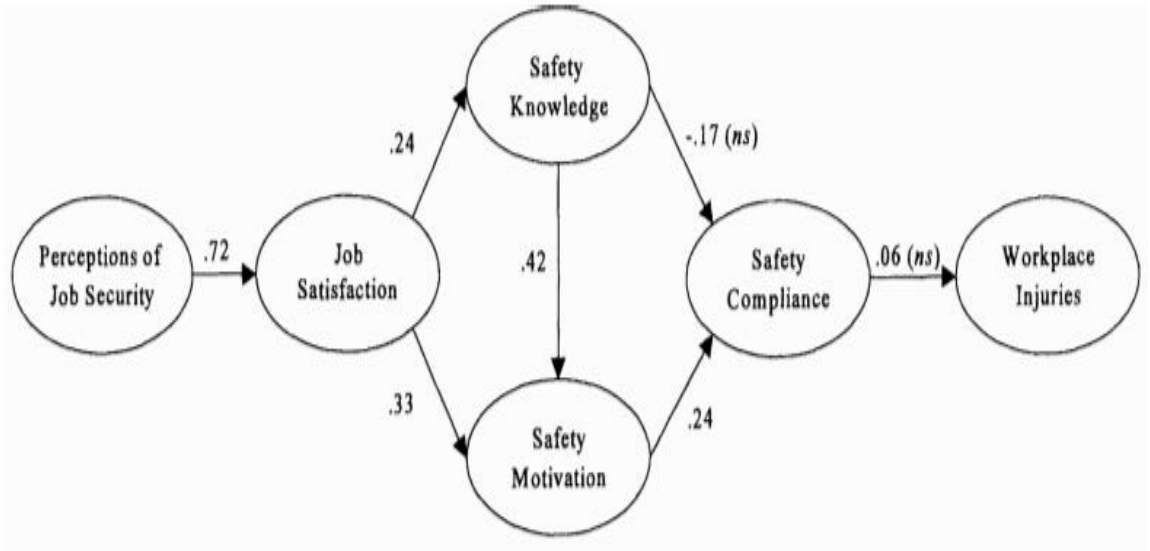
Figure 2-11: Lawrence Model, 2013



Adapted from (Lawrence *et al.*, 2013)

In a study done on the effects of job insecurity on employees' safety outcomes, it was found that there is a negative relation between job insecurity and job satisfaction. Job satisfaction mediates the relationship between job insecurity, safety motivation and knowledge. The level of safety knowledge is influenced by the employee's level of satisfaction. Safety knowledge and motivation act as mediators between job dissatisfaction and safety compliance. It was found that employees with less motivation to comply with the safety rules and regulations are more likely to violate organisational safety rules. Employees with less safety knowledge have more safety violations against them than employees with more knowledge. Non-compliance with the organisation's safety policies are related to higher accident rates, injuries and near-misses (Probst & Brubaker, 2001:155). These correlations can be seen in the Figure 2-12: Probst & Brubaker Model, 2001.

Figure 2-12: Probst & Brubaker Model, 2001



Adapted from (Probst & Brubaker, 2001)

In a study that was done in the mining sector of South Africa, the focus was on the relationship between work stresses, job insecurity, job satisfaction, organisational commitment and workplace safety compliance. The research found a strong relationship between stress and insecurity. It was found that stress and insecurity shared inverse relationships with safety compliance. The research also found a strong relationship between satisfaction and commitment, but did not find a significant correlation with safety compliance (Masia & Pienaar, 2011:8). These relations can be seen in the Figure 2-13: Masia & Pienaar Model, 2011.

Figure 2-13: Masia & Pienaar Model, 2011

Adapted from (Masia & Pienaar, 2011)

In a study done on the leader-member exchange it was found that job insecurity was negatively related to supervisor satisfaction and health complaints. Leader-member exchange was found to be significantly associated with supervisor satisfaction, safety knowledge and health complaints. Leader-member exchange and leader-member social exchange was found to buffer the negative consequences of job insecurity on accidents and health conditions (Probst *et al.*, 2016:52).

When the affective job insecurity climate on the safety outcomes was done, it was found that affective job insecurity was negatively related to behavioural safety compliance and reporting attitudes. It was also found to be positively related to workplace injuries. Affective job insecurity was found to be positively related to the number of experienced safety events and the number of unreported safety events (Jiang & Probst, 2015:371).

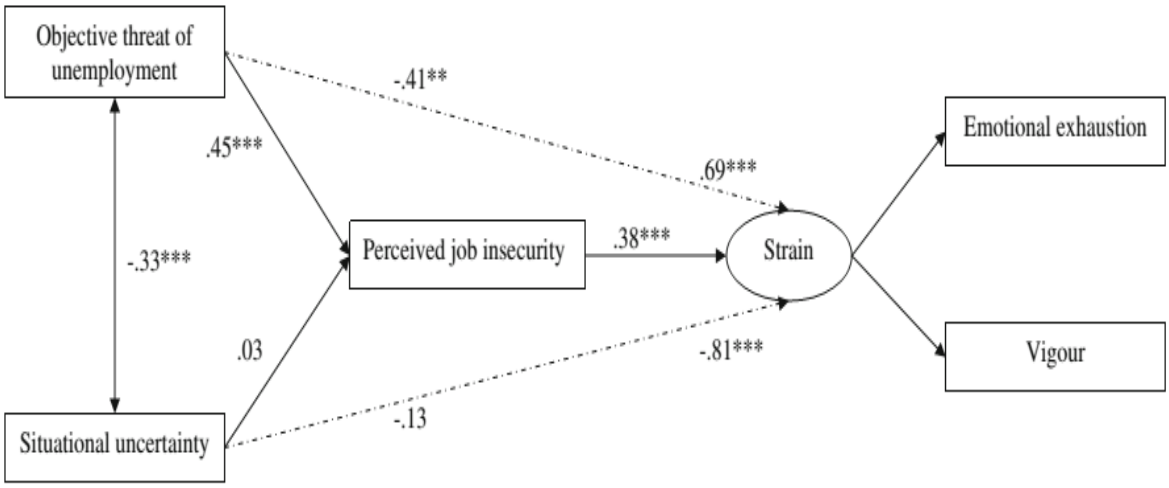
In the study that was done by Paul Landsbergis, on the organisation's job insecurity and occupational health disparities, consistent evidence was found that workers in lower socio-

economic groups are exposed to greater job insecurity and hazards. Racial and ethnic minority groups and immigrants are also exposed to greater job insecurity. It was found that employment and workplace policies and programs reduce hazards of job insecurity (Landsbergis *et al.*, 2014:502).

In a study done on the consequences of nursing job insecurity, the nursing staff indicated that restructuring lead high levels of job insecurity, and that the higher job insecurity lead to lower job satisfaction, lower work engagement and burn-out. The nursing staff also indicated that the higher job insecurity lead to psychosomatic symptoms and increased use of medication (Burke *et al.*, 2015:652).

Nele de Cuyper studied the association between perceived job insecurity and strain. The study found that perceived job insecurity mediate the relationship between the objective threat of unemployment and strain. It also found that job insecurity mediates the relationship between situational uncertainty and strain (De Cuyper *et al.*, 2010:82). These relations can be seen in Figure 2-14: De Cuyper Model, 2010.

Figure 2-14: De Cuyper Model, 2010

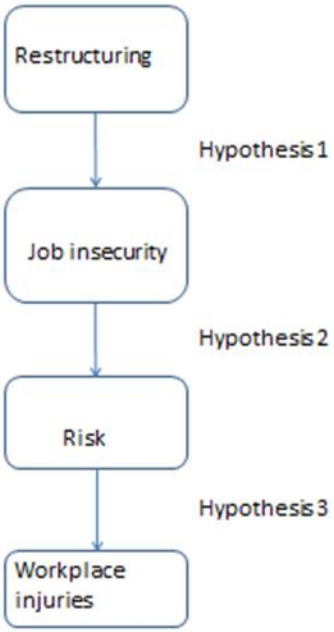


Adapted from (De Cuyper *et al.*, 2010)

2.7 Chapter Conclusion

In the literature study conducted, it was found that there are relations between the different components of restructuring, job insecurity and safety performance. In studies conducted over time in different situations, the strengths of the relationships differ, but the studies do triangulate

each other in terms of the main findings. The only relationship that could not be statistically confirmed through the literature, was the effect of insecurity on risky behaviour. The following model was therefore postulated from the literature:



The empirical study confirming the hypotheses follows in Chapter 3.

CHAPTER 3 EMPIRICAL STUDY

3.1 Introduction

In September 2016, 174 employees from Nitro, a division of Sasol Chemical Operations were sampled, with 110 responding (response rate of 63.21%). The respondents were from different departments in the organisation. They consisted of shift workers (mainly production personnel) and day shift workers (mainly maintenance, administrative and management personnel). In the survey, a cover letter accompanying the questionnaire indicated that the survey was conducted for academic research; to study safety performance relative to the restructuring period. The participants were assured of the confidentiality of their responses.

The questionnaire included a number of demographic questions that yielded the following information: Eighty-nine percent of the respondents were male, which corresponded to the gender composition of the organisation. On average, employees had worked for the company for 14.15 years. A total of 41.5% of the employees had below grade 12 qualifications, with 5.3% reporting a graduate/higher diploma. Overall, 78% of the respondents worked in the production department and followed a shift schedule. Employees were given time off during working hours to complete the survey.

3.1.1 Questionnaire

The questionnaire was designed to determine the relationship between *restructuring and job insecurity*, the relationship between *job insecurity and risk-taking behaviour* as well as whether workplace *injuries were related to risk-taking behaviour*. The complete questionnaire (supplied below) contains items testing respondents' perceptions of the following constructs:

Restructuring: A total of 5 items were used to measure employees' experience of the restructuring project. Employees were asked to indicate their response on a four-point Likert scale with 1 as "strongly disagree", 2 as "disagree", 3 as "agree" and 4 as "strongly agree". Questions such as the following were included: "*During the restructuring project the people in my department understood what restructuring really means.*" and "*During the restructuring project I felt that the company would be more able to compete in the market after the project."*

Insecurity: A sum of 9 items was used to measure employees' experiences of insecurity. Questions such as the following were included: "*I feared that I was going to lose my job during*

the restructuring project." *"I experienced that the mood in my department was negative during the restructuring project.*" and "*I was concerned that the restructuring project was going to affect the nature (the kind) of the work that I would do.*" After a factor analysis, which is reported on later in the study, the original construct ***insecurity*** was later split into two constructs, namely ***uncertainty*** and ***insecurity***. These were used separately in the Structural Equation Model.

Risk taking: In total, 8 items were used to measure employees' opinions on risk-taking behaviour. Questions such as the following were included: "*During the restructuring project people did take more safety risks than before the project.*" "*During the restructuring project people sometimes neglected to follow procedures.*" and "*During the restructuring project some people failed to use PPE.*"

Injuries: Lastly, 4 items were used to measure employees' opinions on the injury rate due to the restructuring project. Questions such as the following were included: "*During the project people neglected to report injuries.*" and "*During the project people were afraid to report injuries or near-misses.*"

Note that the first two constructs (after subdivision of insecurity **into** three constructs) test more psychological-related issues, and therefore the questions were phrased as such that it tested respondents' **experiences**, whereas the last two constructs tested observations. Also, the questions were phrased in language that personnel would be familiar with. For instance, a term from the subject area of organisational behaviour, such as "climate" was replaced with "mood in the workplace", to ensure comprehension.

Other measures: A number of additional questions were asked to assess employees' opinions on the possible linkage between constructs.

Demographical questions were limited to those that could possibly have an impact on the conclusions of the study. Narrative comments were encouraged on the questionnaire.

Workplace Survey

Dear Participating Employee,

Thank you for your input. Your opinion is greatly valued! We have a unique opportunity to receive input and learn about our Safety performance relative to our restructuring period of 2014. The survey was developed by a graduate student of the North West University to form part of his thesis. It addresses restructuring, job insecurity, risk taking, workplace injuries and how those were relative to our safety results for the 2014 calendar year.

The questionnaire is completely **anonymous**. You are **free to remove yourself** from this study at any time without penalty. **You do not need to answer any question** that you do not want to. By completing this questionnaire you give **consent** that your opinion may be used in the study.

These questions refer to your experience of the **restructuring project** that took place in **2014**. Please answer the questions to the best of your knowledge by marking the number that you choose. The majority of the questions ask you to rate how much you **agree or disagree**. **Select only one** answer per question. Once the results are received, we will share the conclusions with the organisation. It should only take ten minutes of your time.

I really appreciate your help with this study.

Sincerely

Johan Dreyer

Section A: Demographics

A1	**Age:**										
A2	**Years' service completed:**										
A3	**Sex:**	Male	1	Female	2						
A4	**Status:**	Permanent employee	1	Service provider	2						
A5	**Ethnicity:**	Black	1	Coloured	2	Indian	3	White	4	Other	5
A6	**Department:**	Production	1	Maintenance	2	Admin	3	Management	4		
A7	**Qualification:**	< Grade 12	1	Grade 12	2			Artisan	3		
		Diploma	4	Graduate/Higher diploma	5			Post-Graduate	6		

Section B: Your choices

No		Question	Strongly Disagree	Disagree	Agree	Strongly Agree
B1	*restructuring*	We were well informed what the reasons for the restructuring project were.	1	2	3	4
B2	*restructuring*	During the restructuring project the people in my department understood what restructuring really means.	1	2	3	4
B3	*restructuring*	There is confusion between the terms "restructuring" and "retrenchment".	1	2	3	4
B4	*restructuring*	I agreed with the message that the restructuring project was triggered by economic pressure.	1	2	3	4
B5	*restructuring*	During the restructuring project I felt that the company would be more able to compete in the market after the project.	1	2	3	4
B6	*insecurity*	I feared that I was going to lose my job during the restructuring project.	1	2	3	4
B7	*insecurity*	I experienced that the mood in my department was negative during the restructuring project.	1	2	3	4
B8	*insecurity*	My job security has improved since the restructuring project.	1	2	3	4
B9	*insecurity*	I feel that the restructuring project is just the first of many similar projects in this company.	1	2	3	4
B10	*insecurity*	During the restructuring project I felt sure that I was going to keep my job.	1	2	3	4

B11	*insecurity*	I was concerned that the restructuring project was going to affect the quantity (how much) of work that I need to perform.	1	2	3	4
B12	*insecurity*	I was concerned that the restructuring project was going to affect the nature (the kind) of the work that I would do.	1	2	3	4
B13	*insecurity*	During the restructuring project I was concerned about my career development within the organisation.	1	2	3	4
B14	*insecurity*	I was concerned that my job was going to be obsolete after the restructuring project (i.e. the post would not exist anymore).	1	2	3	4
B15	*risk-taking*	During the restructuring project people did take more safety risks than before the project.	1	2	3	4
B16	*risk taking*	During the project people would take more risks at the expense of others than before the project.	1	2	3	4
B17	*risk taking*	The project caused that people cared more about their own department/shift than about other departments/shifts.	1	2	3	4
B18	*risk taking*	During the restructuring project people sometimes neglected to follow procedures.	1	2	3	4
B19	*risk taking*	During the restructuring project some people failed to use PPE.	1	2	3	4
B20	*risk taking*	During the restructuring project people sometimes took shortcuts in their work.	1	2	3	4
B21	*risk taking*	During the restructuring project people were more inclined to take risks during night shift than during day shift.	1	2	3	4
B22	*risk taking*	During the restructuring project my experience was that people were more thorough in their jobs than before the project.	1	2	3	4
B23	*injuries*	During the restructuring project we had more injuries than before the project.	1	2	3	4
B24	*injuries*	During the project people neglected to report injuries.	1	2	3	4
B25	*injuries*	During the project people neglected to report near-misses.	1	2	3	4
B26	*injuries*	During the project people were afraid to report injuries or near-misses.	1	2	3	4
B27	*actions*	During the project I found myself thinking of things unrelated to work more often than before the project.	1	2	3	4
B28	*actions*	When I struggle to concentrate on my work I am inclined to act unsafely.	1	2	3	4
B29	*actions*	People were keen to move from one department to another during the projects.	1	2	3	4
B30	*actions*	The restructuring project caused people to focus less on safety.	1	2	3	4
B31	*actions*	The restructuring project negatively affected people's job security.	1	2	3	4
B32	*actions*	People who feel insecure in their jobs are more inclined to take safety risks.	1	2	3	4
B33	*actions*	People who feel insecure in their jobs are more exposed to injuries.	1	2	3	4

Section C: Your opinion (If you need more space, you could continue on the back of the page. Just number the question correctly).

C1 Explain how the restructuring project affected your experience of job insecurity.

……

……

……

C2 Explain to what extent the restructuring project caused you to take more risks at work.

……

……

……

C3 Do you have any other comments on how you have experienced the restructuring project?

……

……

……

3.1.1.1 Validity and reliability

Validity was established through a factor analysis

The factor analyses were done by using SPSS. The first exploratory analysis was done without grouping the data. Secondly, the data was grouped within the five constructs according to the questionnaire and analysed to determine the conformity results.

Exploratory factor analysis

When all the questions were subjected to an exploratory factor analysis, twelve factors with Eigenvalues greater than one were extracted, explaining the cumulatively 71% of variance (SPSS).

Table 3-1: Factor loading: Exploratory factor analysis

Total Variance Explained							
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.099	17.747	17.747	7.099	17.747	17.747	5.351
2	3.992	9.981	27.728	3.992	9.981	27.728	3.298
3	2.885	7.212	34.940	2.885	7.212	34.940	3.199
4	2.447	6.117	41.056	2.447	6.117	41.056	3.154
5	1.950	4.876	45.932	1.950	4.876	45.932	2.317
6	1.807	4.517	50.449	1.807	4.517	50.449	2.728
7	1.702	4.256	54.704	1.702	4.256	54.704	2.150
8	1.607	4.017	58.721	1.607	4.017	58.721	2.814
9	1.473	3.682	62.404	1.473	3.682	62.404	2.280
10	1.208	3.020	65.424	1.208	3.020	65.424	2.198
11	1.166	2.916	68.340	1.166	2.916	68.340	1.930
12	1.130	2.825	71.165	1.130	2.825	71.165	1.938

There were four factors with factor loadings greater than 2. These factors were tested for reliability by calculating Cronbach's alpha coefficient; the following were found:

Table 3-2: Reliability: Exploratory factor

Factor	Alpha value
Factor 1	0.892
Factor 2	0.752
Factor 3	0.747
Factor 4	0.716

The other factors had alpha values less than 0.5

The items grouping into these four factors corresponded roughly with the four factors used for compiling the questionnaire.

The component matrix for these four factors is given in Table 3: Principle component matrix: Exploratory factors -

Table 3-3: Principle component matrix: Exploratory factors

Component Matrix[a]

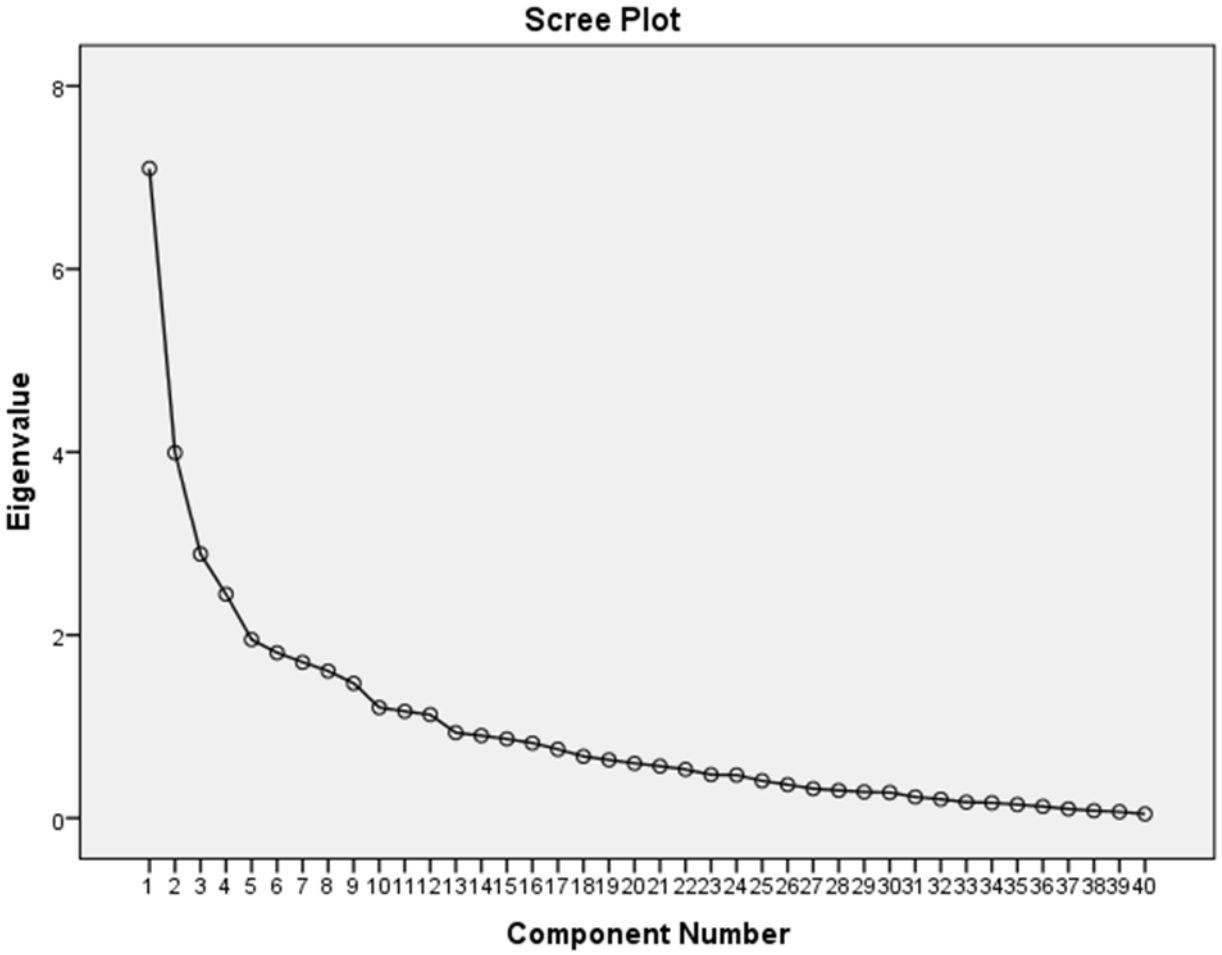
	Component				
	1	2	3	4	
B16	,548			,408	During the project people would take more risks at the expense of others than before the project.
B17	,495				The project caused that people cared more about their own department/shift than about other departments/shifts.
B18	,723				During the restructuring project people sometimes neglected to follow procedures.
B19	,666				During the restructuring project some people failed to use PPE.
B20	,716				During the restructuring project people sometimes took shortcuts in their work.
B21	,586				During the restructuring project people were more inclined to take risks during night shift than during day shift.
B22	,439				During the restructuring project my experience was that people were more thorough in their jobs than before the project.

B23	,652				During the restructuring project we had more injuries than before the project.
B24	,718				During the project people neglected to report injuries.
B25	,752				During the project people neglected to report near-misses.
B26	,724				During the project people were afraid to report injuries or near-misses.
B27	,389				During the project I found myself thinking of things unrelated to work more often than before the project.
B28	,423				When I struggle to concentrate on my work I am inclined to act unsafely.
B30	,669				The restructuring project caused people to focus less on safety.
B31	,344		-,336		The restructuring project negatively affected people's job security.
B32	,489				People who feel insecure in their jobs are more inclined to take safety risks.
B33	,528				People who feel insecure in their jobs are more exposed to injuries.
B01		,517	,554		We were well informed what the reasons for the restructuring project were.
B02	-,311	,328	,557	-,322	During the restructuring project the people in my department understood what restructuring really means.
B04		,465	,503		I agreed with the message that the restructuring project was triggered by economic pressure
B05		,480	,612		During the restructuring project I felt that the company would be more able to compete in the market after the project.
B06		,518			I feared that I was going to lose my job during the restructuring project.
B07	,388	,404			I experienced that the mood in my department was negative during the restructuring project.
B11		,649			I was concerned that the restructuring project was going to affect the quantity (how much) of work that I need to perform.
B12		,794			I was concerned that the restructuring project was going to affect the nature (the kind) of the work that I would do.
B13		,629		-,342	During the restructuring project I was concerned about my career development within the organisation.
B14		,632	-,321		I was concerned that my job was going to be obsolete after the restructuring project (i.e. the post would not exist anymore).
B29		,321			People were keen to move from one department to another during the projects.
B10			,322		During the restructuring project I felt sure that I was going to keep my job.
B15				,595	During the restructuring project people did take more safety risks than before the project.

B08			,388	,521	My job security has improved since the restructuring project.
B03		,347		,396	There is confusion between the terms “restructuring” and “retrenchment”.
B09		,305		,329	I feel that the restructuring project is just the first of many similar projects in this company.

Extraction Method: Principal Component Analysis.

a. A total of 4 components were extracted.



The scree plot shows that there are four factors before the first kink in the graph, but the kink is not too well defined.

Confirmatory factor analysis

Since the questionnaire was designed with four constructs in mind, the pre-defined constructs were independently tested for validity and reliability.

In the confirmatory study the data was divided into groups. The four constructs were represented by four groupings of questions, namely, B1 to B5, B6 to B14, B15 to B22, B23 to B26 and B27 to B33. A correlation matrix of each data set was drawn to determine the correlation between the questions of each group.

To test whether the sample was sufficiently large, a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was calculated for each construct tested. In all cases the values were well above 0.6. We can therefore deduce that the sample was sufficiently large for drawing meaningful conclusions.

Construct 1: *Restructuring*

One factor with an Eigenvalue greater than two was extracted, explaining 50.3% of the variance. Table 3.4: Total variance explained: *Restructuring,* shows the factor loading for this factor and Table 3.5: Total Items: *Restructuring,* shows the items making up this factor.

Cronbach's alpha coefficient was calculated for this factor, and a value of 0.715 was calculated. This factor is therefore reliable and can be used for further analysis.

Table 3-4: Total variance explained: *Restructuring*

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings [a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2,517	50,343	50,343	2,517	50,343	50,343	2,315
2	1,159	23,181	73,525	1,159	23,181	73,525	1,601
3	,646	12,910	86,435				
4	,375	7,509	93,945				
5	,303	6,055	100,000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Table 3-5: Total Items: *Restructuring*

Restructuring items	Factors
1	B5
2	B1
3	B2
4	B4
5	B3

Table 3.6: Principle component matrix*: Restructuring,* Component, Column 2, shows the value should the specific item be excluded from the factor. Since items loaded both positively and negatively, this factor was not retained.

Table 3-6: Principle component matrix: *Restructuring*

Component Matrix[a]		
	Component	
	1	2
B5	,845	
B1	,831	-,303
B2	,709	-,535
B4	,704	
B3	,334	,818
Extraction Method: Principal Component Analysis.		

Construct 2: *Insecurity* (*Uncertainty*)

Two factors with an Eigenvalue greater than one were extracted, explaining 35.1% of the variance. Table 3.7: Total variance explained: Insecurity, shows that factors 1 to 4 are the loadings for Insecurity and factors 5 to 9 are the loadings for Uncertainty. Table 3.8: Insecurity items, shows the items making up these factors. The construct *Insecurity* was therefore subdivided into two factors, namely *Uncertainty* and *Insecurity*.

Cronbach's alpha coefficient was calculated for these factors, and a value of 0.520 was calculated for *Insecurity* and 0.813 for *Uncertainty*. These factors are therefore reliable and can be used for further analysis.

Table 3-7: Total variance explained: *Insecurity*

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3,162	35,129	35,129	3,162	35,129	35,129	2,936
2	1,312	14,581	49,710	1,312	14,581	49,710	1,891
3	1,216	13,514	63,224	1,216	13,514	63,224	1,246
4	,967	10,748	73,972				
5	,784	8,709	82,680				
6	,533	5,918	88,598				
7	,494	5,484	94,082				
8	,297	3,304	97,386				
9	,235	2,614	100,000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Table 3-8: Total Items: *Insecurity* and *Uncertainty*

Insecurity Items	B12
	B14
	B13
	B6
Uncertainty Items	B11
	B7
	B9
	B14

Table 3.9: Principle component: *Insecurity,* component Column 2, shows the value should the specific item be excluded from the factor.

Table 3-9: Principle component matrix: *Insecurity*

Component Matrix[a]		
	Component	
	1	2
B12	,808	
B14	,791	
B13	,751	
B6	,671	-,440
B11	,671	,467
B7	,541	-,334
B9		
B10		,758
B8		
Extraction Method: Principal Component Analysis.		
a. 2 components extracted.		

Construct 3: *Risk taking*

One factor with an Eigenvalue greater than three was extracted, explaining 44.1% of the variance. Table 3.10: Total variance explained: *Risk taking,* shows the factor loading for this factor and Table 3.11: *Risk taking* items, shows the items making up this factor.

Cronbach's alpha coefficient was calculated for this factor, and a value of 0.823 was calculated. This factor is therefore reliable and can be used for further analysis.

Table 3-10: Total variance explained: *Risk taking*

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3,532	44,154	44,154	3,532	44,154	44,154	3,297
2	1,275	15,942	60,095	1,275	15,942	60,095	2,274
3	,943	11,783	71,879				
4	,673	8,419	80,297				
5	,570	7,127	87,425				
6	,434	5,429	92,854				
7	,339	4,238	97,092				
8	,233	2,908	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Table 3-11: Total Items: *Risk taking*

Risk taking Items	B20
	B18
	B19
	B21
	B16
	B17
	B22
	B15

Table 3.12: Principle component: Risk taking, component Column 2, shows the value should the specific item be excluded from the factor.

Table 3-12: Principle component matrix: *Risk taking*

Component Matrix[a]		
	Component	
	1	2
B20	,809	-,324
B18	,808	
B19	,735	-,341
B21	,719	
B16	,628	,534
B17	,580	
B22	,495	,445
B15	,438	,681
Extraction Method: Principal Component Analysis.		

Construct 4: *Injuries*:

One factor with an Eigenvalue greater than two was extracted, explaining 73.69% of the variance. In Table 3.13: Total variance explained: Risk taking, shows the factor loading for this factor and Table 3.14: Risk taking items, shows the items making up this factor.

Cronbach's alpha coefficient was calculated for this factor, and a value of 0.876 was calculated. This factor is therefore reliable and can be used for further analysis.

Table 3-13: Total variance explained: *Injuries*

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,948	73,690	73,690	2,948	73,690	73,690
2	,547	13,669	87,359			
3	,344	8,597	95,956			
4	,162	4,044	100,000			
Extraction Method: Principal Component Analysis.						

Table 3-14: Total Items: *Injuries*

Injuries Items	B25
	B24
	B26
	B23

Table 3-15: Principle component: *Injuries*

Component Matrix[a]	
	Component
	1
B25	,931
B24	,895
B26	,844
B23	,753
Extraction Method: Principal Component Analysis.	

Descriptive statistics

The descriptive statistics column gave the descriptive statistics for the variables of *restructuring, insecurity, risk taking and injuries*. For each item minimum, maximum, mean and std. deviation is provided.

Table 3-16: Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Restructuring	110	1,40	4,00	2,7686	,53187
Insecurity1	110	1,25	4,00	2,8379	,64261
Insecurity2	110	1,00	4,00	2,4311	,57246
Risk taking	110	1,00	3,88	2,2774	,55241
Injuries	110	1,00	4,00	2,3909	,72514
Actions	110	1,43	3,86	2,6630	,49896
B9	110	1	4	2,83	,822
Valid N (list wise)	110				

Correlations

Once the various factors were tested for reliability (through calculating Cronbach's alpha coefficient), correlations were found between the factors. The questions that resulted in a higher alpha value when removed were taken out first. Also, the original factor *Insecurity* was proven by the factor analysis to really represent two factors. These were identified as *Concern* (questions B11, B12, B13 and B14) and *Insecurity* (B6, B7, B8 and B10). The original factor *Insecurity* was renamed to *Insecurity Old*.

The following Pearson correlations were found:

Table 3-17: Correlations

		Restructuring	*Insecurity*	*Concern*	*Risk*	*Injuries*	*Insecurity old*
Restructuring	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	102					
Insecurity	Pearson Correlation	.224*	1				
	Sig. (2-tailed)	.027					
	N	97	105				
Concern	Pearson Correlation	.200*	.245*	1			
	Sig. (2-tailed)	.045	.013				
	N	101	102	107			
Risk	Pearson Correlation	-.147	.156	.024	1		
	Sig. (2-tailed)	.161	.135	.820			
	N	92	93	95	97		
Injuries	Pearson Correlation	-.108	-.058	-.014	.642**	1	
	Sig. (2-tailed)	.301	.575	.889	.000		

	N	94	97	98	91	101	
Insecurity old	Pearson Correlation	.235*	.715**	.852**	.094	-.064	1
	Sig. (2-tailed)	.021	.000	.000	.376	.541	
	N	96	102	102	91	94	102

Levels of significance at the .05 level are shaded in green, medium correlations in orange and high correlations are shaded in blue.

Discussion of results

All the significant correlations were positive. As can be expected, there is a high positive correlation between *Insecurity Old* and the two factors into which it was divided: *Insecurity* and *Concern*.

There is a medium positive correlation between *Risk* and *Injuries*. This is to be expected, because risky behaviour is expected to lead to higher injuries.

There are medium positive correlations between *Restructuring* and *Insecurity*, as well as between *Restructuring* and *Concern.*

There is also a medium positive correlation between *Concern* and *Insecurity.*

However, these results do not provide information about any causal relationships between the factors, but merely state that there is a positive relationship between them. The factors were therefore subjected to **Structural Equation Modelling** (SEM) to identify whether the relationships are causal in nature.

Comparing demographical data

The responses of demographical groups were compared using independent sample t-tests (using the grouped factors, rather than the individual questions).

Gender, Department and Status were subjected to t-tests. **In no case were the differences between the groups statistically significant.**

ANOVAs were run on the variables *Age* and *Qualification.*

There was no significant difference between the responses of different age groups.

There was a significant difference on the factor *restructuring* between people with a degree or diploma and other groups. In a post-hoc test it was found that this was due to a significant difference between how graduates experienced restructuring relative to those with a qualification lower than Grade 12.

Table 3-18: Multiple Comparisons

Multiple Comparisons							
Tukey HSD							
Dependent Variable			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Restructuring	1	2	-,76429	,67961	,793	-2,6600	1,1314
		3	-1,00840	,71675	,625	-3,0077	,9909
		4	-2.51429*	,86936	,038	-4,9393	-,0893
		5	,48571	1,15914	,993	-2,7476	3,7190
	2	1	,76429	,67961	,793	-1,1314	2,6600
		3	-,24412	,79981	,998	-2,4751	1,9869
		4	-1,75000	,93901	,345	-4,3693	,8693
		5	1,25000	1,21226	,840	-2,1315	4,6315
	3	1	1,00840	,71675	,625	-,9909	3,0077
		2	,24412	,79981	,998	-1,9869	2,4751
		4	-1,50588	,96624	,528	-4,2011	1,1893
		5	1,49412	1,23347	,745	-1,9465	4,9348
	4	1	2.51429*	,86936	,038	,0893	4,9393

		2	1,75000	,93901	,345	-,8693	4,3693
		3	1,50588	,96624	,528	-1,1893	4,2011
		5	3,00000	1,32797	,169	-,7042	6,7042
	5	1	-,48571	1,15914	,993	-3,7190	2,7476
		2	-1,25000	1,21226	,840	-4,6315	2,1315
		3	-1,49412	1,23347	,745	-4,9348	1,9465
		4	-3,00000	1,32797	,169	-6,7042	,7042
Insecurity	1	2	-,12078	,49905	,999	-1,5117	1,2702
		3	,50756	,54224	,882	-1,0038	2,0189
		4	,56104	,63402	,902	-1,2061	2,3282
		5	1,74286	,87693	,281	-,7013	4,1870
	2	1	,12078	,49905	,999	-1,2702	1,5117
		3	,62834	,59231	,826	-1,0225	2,2792
		4	,68182	,67733	,852	-1,2060	2,5697
		5	1,86364	,90874	,251	-,6692	4,3965
	3	1	-,50756	,54224	,882	-2,0189	1,0038
		2	-,62834	,59231	,826	-2,2792	1,0225
		4	,05348	,70976	1,000	-1,9248	2,0317
		5	1,23529	,93316	,677	-1,3656	3,8362
	4	1	-,56104	,63402	,902	-2,3282	1,2061
		2	-,68182	,67733	,852	-2,5697	1,2060
		3	-,05348	,70976	1,000	-2,0317	1,9248
		5	1,18182	,98931	,754	-1,5756	3,9392

	5	1	-1,74286	,87693	,281	-4,1870	,7013
		2	-1,86364	,90874	,251	-4,3965	,6692
		3	-1,23529	,93316	,677	-3,8362	1,3656
		4	-1,18182	,98931	,754	-3,9392	1,5756
Concern	1	2	,19925	,67265	,998	-1,6751	2,0736
		3	,15461	,73724	1,000	-1,8997	2,2089
		4	-1,20335	,84698	,616	-3,5635	1,1568
		5	2,34211	1,17685	,280	-,9372	5,6214
	2	1	-,19925	,67265	,998	-2,0736	1,6751
		3	-,04464	,82091	1,000	-2,3321	2,2428
		4	-1,40260	,92073	,550	-3,9682	1,1630
		5	2,14286	1,23099	,415	-1,2873	5,5730
	3	1	-,15461	,73724	1,000	-2,2089	1,8997
		2	,04464	,82091	1,000	-2,2428	2,3321
		4	-1,35795	,96892	,628	-4,0579	1,3419
		5	2,18750	1,26744	,424	-1,3442	5,7192
	4	1	1,20335	,84698	,616	-1,1568	3,5635
		2	1,40260	,92073	,550	-1,1630	3,9682
		3	1,35795	,96892	,628	-1,3419	4,0579
		5	3,54545	1,33426	,069	-,1725	7,2634
	5	1	-2,34211	1,17685	,280	-5,6214	,9372
		2	-2,14286	1,23099	,415	-5,5730	1,2873
		3	-2,18750	1,26744	,424	-5,7192	1,3442

		4	-3,54545	1,33426	,069	-7,2634	,1725
Risk	1	2	-1,54091	1,30326	,761	-5,1793	2,0975
		3	,04242	1,43214	1,000	-3,9558	4,0406
		4	,36364	1,60118	,999	-4,1065	4,8338
		5	-,89091	2,20707	,994	-7,0526	5,2708
	2	1	1,54091	1,30326	,761	-2,0975	5,1793
		3	1,58333	1,57087	,851	-2,8022	5,9689
		4	1,90455	1,72638	,804	-2,9151	6,7242
		5	,65000	2,29952	,999	-5,7697	7,0697
	3	1	-,04242	1,43214	1,000	-4,0406	3,9558
		2	-1,58333	1,57087	,851	-5,9689	2,8022
		4	,32121	1,82562	1,000	-4,7755	5,4180
		5	-,93333	2,37493	,995	-7,5636	5,6970
	4	1	-,36364	1,60118	,999	-4,8338	4,1065
		2	-1,90455	1,72638	,804	-6,7242	2,9151
		3	-,32121	1,82562	1,000	-5,4180	4,7755
		5	-1,25455	2,48053	,987	-8,1797	5,6706
	5	1	,89091	2,20707	,994	-5,2708	7,0526
		2	-,65000	2,29952	,999	-7,0697	5,7697
		3	,93333	2,37493	,995	-5,6970	7,5636
		4	1,25455	2,48053	,987	-5,6706	8,1797
Injuries	1	2	-1,02841	,80260	,703	-3,2678	1,2110
		3	-,93750	,88731	,828	-3,4132	1,5382

		4	-1,57386	1,01286	,531	-4,3999	1,2522
		5	-,93750	1,39357	,962	-4,8258	2,9508
	2	1	1,02841	,80260	,703	-1,2110	3,2678
		3	,09091	,95216	1,000	-2,5658	2,7476
		4	-,54545	1,07013	,986	-3,5313	2,4404
		5	,09091	1,43573	1,000	-3,9150	4,0969
	3	1	,93750	,88731	,828	-1,5382	3,4132
		2	-,09091	,95216	1,000	-2,7476	2,5658
		4	-,63636	1,13505	,980	-3,8033	2,5306
		5	0,00000	1,48475	1,000	-4,1427	4,1427
	4	1	1,57386	1,01286	,531	-1,2522	4,3999
		2	,54545	1,07013	,986	-2,4404	3,5313
		3	,63636	1,13505	,980	-2,5306	3,8033
		5	,63636	1,56303	,994	-3,7248	4,9975
	5	1	,93750	1,39357	,962	-2,9508	4,8258
		2	-,09091	1,43573	1,000	-4,0969	3,9150
		3	0,00000	1,48475	1,000	-4,1427	4,1427
		4	-,63636	1,56303	,994	-4,9975	3,7248
Insecurity old	1	2	,11765	,94541	1,000	-2,5195	2,7548
		3	,49265	1,03270	,989	-2,3880	3,3733
		4	-,60963	1,18157	,986	-3,9055	2,6862
		5	4,11765	1,63154	,095	-,4334	8,6687
	2	1	-,11765	,94541	1,000	-2,7548	2,5195

		3	,37500	1,13037	,997	-2,7781	3,5281
		4	-,72727	1,26782	,979	-4,2637	2,8092
		5	4,00000	1,69504	,137	-,7282	8,7282
	3	1	-,49265	1,03270	,989	-3,3733	2,3880
		2	-,37500	1,13037	,997	-3,5281	2,7781
		4	-1,10227	1,33418	,922	-4,8238	2,6193
		5	3,62500	1,74523	,240	-1,2432	8,4932
	4	1	,60963	1,18157	,986	-2,6862	3,9055
		2	,72727	1,26782	,979	-2,8092	4,2637
		3	1,10227	1,33418	,922	-2,6193	4,8238
		5	4,72727	1,83725	,085	-,3976	9,8521
	5	1	-4,11765	1,63154	,095	-8,6687	,4334
		2	-4,00000	1,69504	,137	-8,7282	,7282
		3	-3,62500	1,74523	,240	-8,4932	1,2432
		4	-4,72727	1,83725	,085	-9,8521	,3976
*. The mean difference is significant at the 0.05 level.							

Structural equation model (SEM)

SEM was used to test the causal relationships in the model and to find a possible alternative for the model. The questions under the *Insecurity* section were divided into two, questions B6 to B10 and B11 to B14. The questions in B6 to B10 refer to *Insecurity* (I1), of losing the job itself, while question B11 to B 14 refers to *Uncertainty (I2),* of how the job itself will change in the future.

Figure 3-1 below shows the first model that was tested using SEM.

Figure 3-1: SEM Model 1

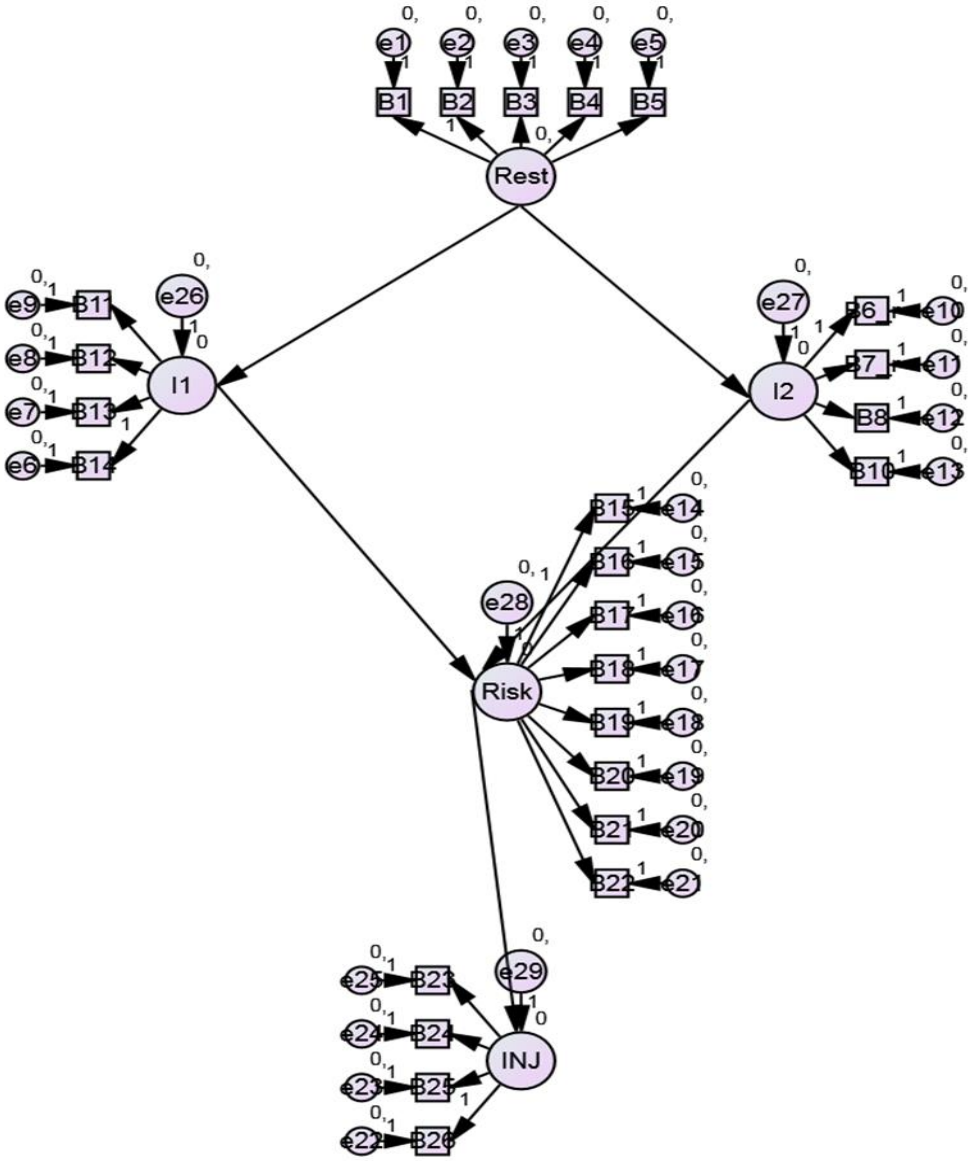


Table 3-19: Regression Weights: Model 1

			Estimate	S.E.	C.R.	P	Label
I1	<---	Rest	.307	.127	2.414	.016	
I2	<---	Rest	-.386	.165	-2.339	.019	
Risk	<---	I1	-.040	.047	-.845	.398	
Risk	<---	I2	-.001	.009	-.082	.935	
INJ	<---	Risk	1.729	.683	2.531	.011	
B1	<---	Rest	1.000				
B2	<---	Rest	.892	.132	6.775	***	
B3	<---	Rest	.277	.170	1.627	.104	
B4	<---	Rest	.746	.145	5.148	***	
B5	<---	Rest	.967	.145	6.684	***	
B14	<---	I1	1.000				
B13	<---	I1	.821	.148	5.545	***	
B12	<---	I1	1.085	.159	6.836	***	
B11	<---	I1	.834	.132	6.313	***	
B6_r	<---	I2	1.000				
B7_r	<---	I2	.018	.211	.083	.934	
B8	<---	I2	-.001	.008	-.078	.938	
B10	<---	I2	.011	.130	.083	.934	
B15	<---	Risk	1.000				
B16	<---	Risk	1.708	.694	2.462	.014	
B17	<---	Risk	1.542	.640	2.410	.016	
B18	<---	Risk	2.710	1.005	2.696	.007	
B19	<---	Risk	2.342	.878	2.668	.008	
B20	<---	Risk	2.992	1.104	2.711	.007	
B21	<---	Risk	2.219	.849	2.612	.009	
B22	<---	Risk	1.096	.497	2.207	.027	
B26	<---	INJ	1.000				
B25	<---	INJ	1.138	.108	10.531	***	
B24	<---	INJ	1.081	.109	9.909	***	
B23	<---	INJ	.769	.109	7.020	***	

Table 3-20: Standardized Regression Weights: Model 1, shows the levels of significance for the relationship between the constructs. There is a statistically significant relationship between *Restructuring* and *Concern* (p=0.016), between *Restructuring* and *Insecurity* (p=0.019) and between *Risk* and *Injury* (p=0.011). It is therefore possible that restructuring is not necessarily responsible for injuries through the route as predicted in the original model and hypotheses, but that the links between Concern and Risk and the links between Insecurity and Risk are merely moderating, and not causal, since p was larger than 0.05 for these links. To ascertain whether this is really the case, the regression weight for the different links was calculated.

Table 3-20: Standardized Regression Weights: Model 1

			Estimate
I1	←-	Rest	.283
I2	←-	Rest	-.043
Risk	←-	I1	-.098
Risk	←-	I2	-.016
INJ	←-	Risk	.624
B1	←-	Rest	.855
B2	<---	Rest	.697
B3	<---	Rest	.172
B4	<---	Rest	.530
B5	<---	Rest	.688
B14	<---	I1	.668
B13	<---	I1	.617
B12	<---	I1	.879
B11	<---	I1	.720
B6_r	<---	I2	5.046
B7_r	<---	I2	.099
B8	<---	I2	-.004
B10	<---	I2	.062
B15	<---	Risk	.276
B16	<---	Risk	.490
B17	<---	Risk	.456
B18	<---	Risk	.794
B19	<---	Risk	.734
B20	<---	Risk	.841
B21	<---	Risk	.641
B22	<---	Risk	.356
B26	<---	INJ	.779
B25	<---	INJ	.933
B24	<---	INJ	.872
B23	<---	INJ	.660

The second model that was tested: *Uncertainty,* was excluded from the model.

Figure 3-2: SEM Model 2

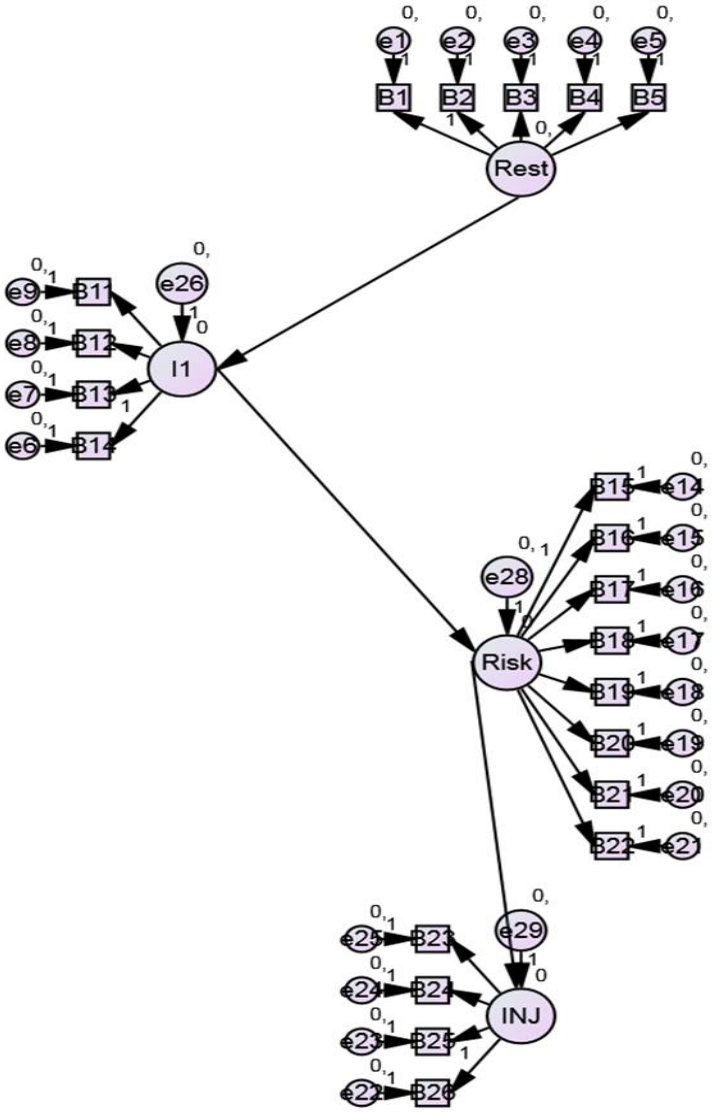


Table 3-21: Regression Weight: Model 2

			Estimate	S.E.	C.R.	P	Label
I1	<---	Rest	.286	.126	2.263	.024	
Risk	<---	I1	-.027	.046	-.581	.561	
INJ	<---	Risk	1.728	.682	2.534	.011	
B1	<---	Rest	1.000				
B2	<---	Rest	.883	.132	6.691	***	
B3	<---	Rest	.285	.169	1.684	.092	
B4	<---	Rest	.731	.145	5.054	***	
B5	<---	Rest	.969	.145	6.674	***	
B14	<---	I1	1.000				
B13	<---	I1	.821	.148	5.563	***	
B12	<---	I1	1.082	.158	6.843	***	
B11	<---	I1	.831	.131	6.318	***	
B15	<---	Risk	1.000				
B16	<---	Risk	1.700	.691	2.462	.014	
B17	<---	Risk	1.543	.640	2.413	.016	
B18	<---	Risk	2.693	.998	2.697	.007	
B19	<---	Risk	2.335	.874	2.671	.008	
B20	<---	Risk	2.973	1.096	2.712	.007	
B21	<---	Risk	2.216	.847	2.615	.009	
B22	<---	Risk	1.095	.496	2.209	.027	
B26	<---	INJ	1.000				
B25	<---	INJ	1.137	.108	10.525	***	
B24	<---	INJ	1.081	.109	9.900	***	
B23	<---	INJ	.768	.110	7.014	***	

If we remove construct I2 (*Uncertainty*) from the model to test whether the link between I1 and *Risk* is statistically significant, it is noted in the table above that it still is not significant, with a p-value of 0.561. The regression weights confirm this (see Table 3.22).

Table 3-22: Standardized Regression Weights: Model 2

			Estimate
I1	<-	Rest	.265
Risk	<-	I1	-.066
INJ	<-	Risk	.625
B1	<---	Rest	.859
B2	<---	Rest	.694
B3	<---	Rest	.178
B4	<---	Rest	.522
B5	<---	Rest	.693
B14	<---	I1	.670
B13	<---	I1	.619
B12	<---	I1	.878
B11	<---	I1	.719
B15	<---	Risk	.276
B16	<---	Risk	.489
B17	<---	Risk	.457
B18	<---	Risk	.791
B19	<---	Risk	.734
B20	<---	Risk	.839
B21	<---	Risk	.642
B22	<---	Risk	.356
B26	<---	INJ	.779
B25	<---	INJ	.933
B24	<---	INJ	.872
B23	<---	INJ	.660

The third model that was tested: Since I1 and I2 were shown not to be causal links in the model, they were removed from the model and the direct relationship between the other constructs was tested.

Figure 3-3: SEM Model 3

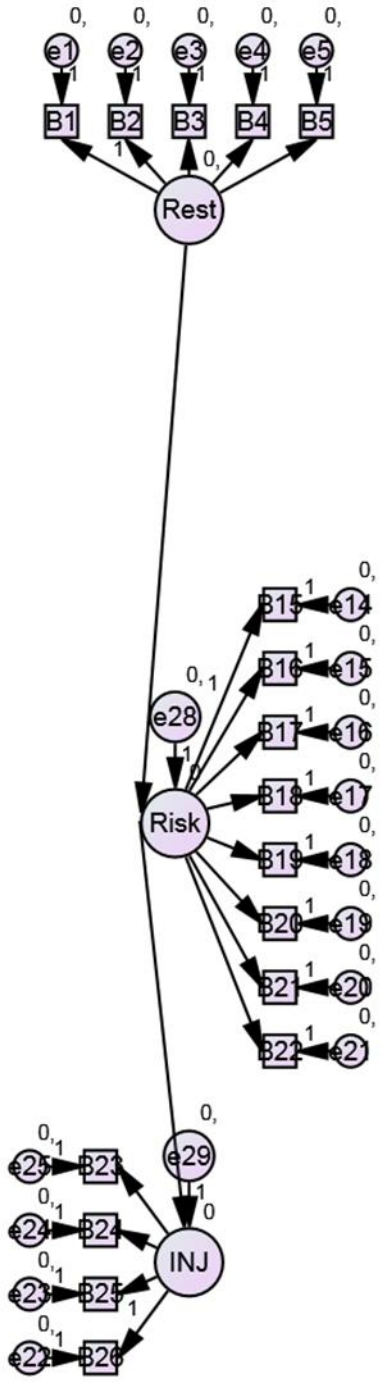

e1
e2
e3
e4
e5
B1
B2
B3
B4
B5
Rest
e28
Risk
e29
INJ

Table 3-23: Regression Weights: Model 3

			Estimate	S.E.	C.R.	P	Label
Risk	<---	Rest	-.109	.062	-1.751	.080	
INJ	<---	Risk	1.712	.666	2.571	.010	
B1	<---	Rest	1.000				
B2	<---	Rest	.889	.131	6.768	***	
B3	<---	Rest	.255	.168	1.519	.129	
B4	<---	Rest	.716	.144	4.982	***	
B5	<---	Rest	.953	.144	6.622	***	
B15	<---	Risk	1.000				
B16	<---	Risk	1.678	.673	2.495	.013	
B17	<---	Risk	1.522	.623	2.444	.015	
B18	<---	Risk	2.656	.970	2.740	.006	
B19	<---	Risk	2.292	.846	2.710	.007	
B20	<---	Risk	2.920	1.060	2.754	.006	
B21	<---	Risk	2.185	.823	2.654	.008	
B22	<---	Risk	1.080	.484	2.233	.026	
B26	<---	INJ	1.000				
B25	<---	INJ	1.138	.108	10.531	***	
B24	<---	INJ	1.080	.109	9.898	***	
B23	<---	INJ	.768	.110	7.010	***	

If constructs I1 and I2 (*Uncertainty*) are removed from the model to test whether the link between *Restructuring* and *Risk* is statistically significant - although all the levels of statistical significance are not in the 5% area - there is a relationship between Restructuring and Risk on the 10% level of significance. This is a vast improvement on the previous model.

Table 3-24: Standardized Regression Weights: Model 3

			Estimate
Risk	<---	Rest	-.248
INJ	<---	Risk	.629
B1	<---	Rest	.864
B2	<---	Rest	.702
B3	<---	Rest	.161
B4	<---	Rest	.514
B5	<---	Rest	.685
B15	<---	Risk	.280
B16	<---	Risk	.489
B17	<---	Risk	.458
B18	<---	Risk	.792
B19	<---	Risk	.732
B20	<---	Risk	.836

			Estimate
B21	<---	Risk	.643
B22	<---	Risk	.357
B26	<---	INJ	.779
B25	<---	INJ	.934
B24	<---	INJ	.872
B23	<---	INJ	.659

The fourth model that was tested: Risk taking was removed.

Figure 3-4: SEM Model 4

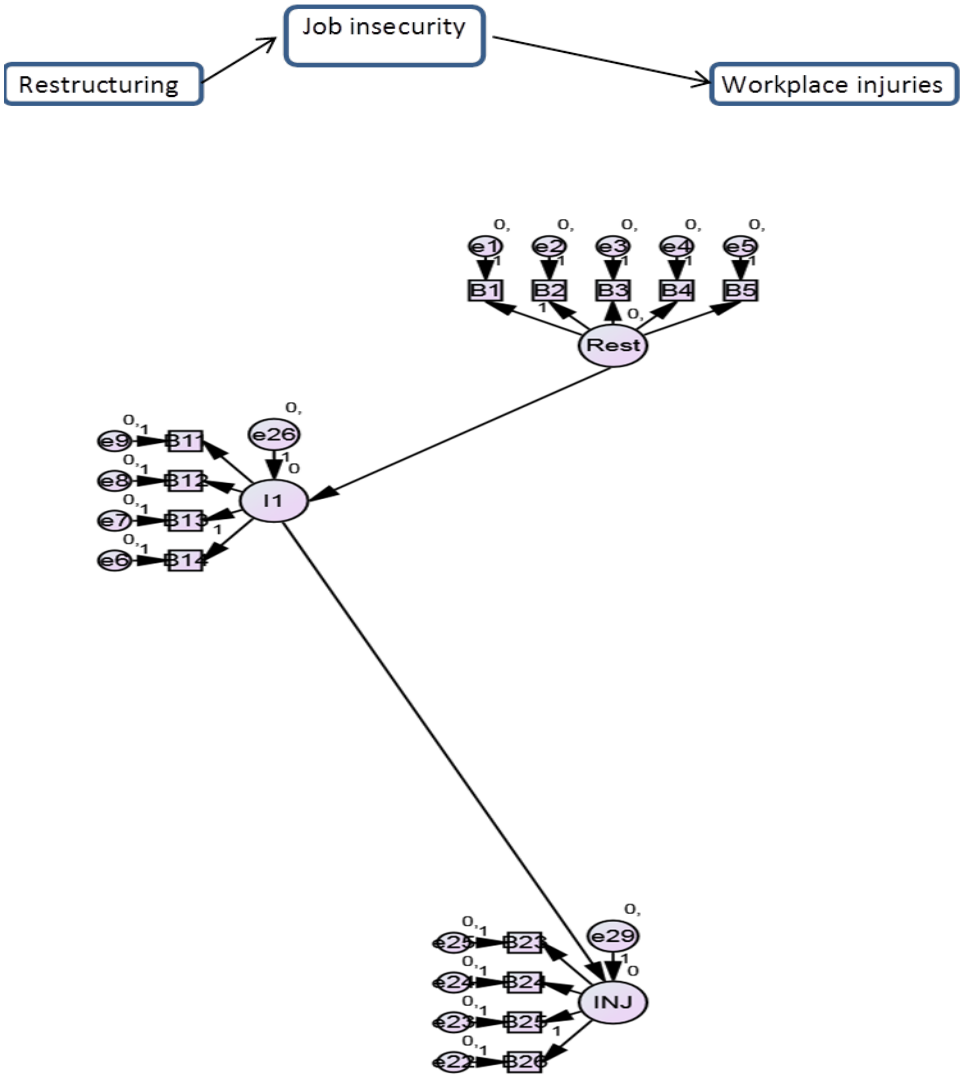


Table 3-25: Regression Weights: Model 4

			Estimate	S.E.	C.R.	P	Label
I1	<---	Rest	.288	.126	2.283	.022	
INJ	<---	I1	-.138	.120	-1.154	.248	
B1	<---	Rest	1.000				
B2	<---	Rest	.883	.132	6.693	***	
B3	<---	Rest	.284	.169	1.684	.092	
B4	<---	Rest	.731	.145	5.054	***	
B5	<---	Rest	.969	.145	6.675	***	
B14	<---	I1	1.000				
B13	<---	I1	.819	.148	5.527	***	
B12	<---	I1	1.089	.159	6.833	***	
B11	<---	I1	.835	.132	6.312	***	
B26	<---	INJ	1.000				
B25	<---	INJ	1.183	.113	10.500	***	
B24	<---	INJ	1.071	.110	9.690	***	
B23	<---	INJ	.748	.111	6.749	***	

The fourth model that was tested: risk taking was removed from the model and the direct relationship between the other constructs was tested.

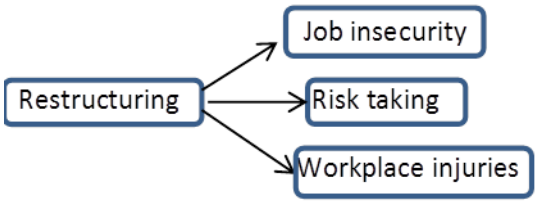
Table 3-26: Standardized Regression Weights: Model 4

			Estimate
I1	<---	Rest	.267
INJ	<---	I1	-.124
B1	<---	Rest	.859
B2	<---	Rest	.694
B3	<---	Rest	.178
B4	<---	Rest	.522
B5	<---	Rest	.693
B14	<---	I1	.667
B13	<---	I1	.615
B12	<---	I1	.881
B11	<---	I1	.720
B26	<---	INJ	.772
B25	<---	INJ	.959
B24	<---	INJ	.856
B23	<---	INJ	.636

The fifth model that was tested: When the previous models did not prove or explain the link between the constructs in a linear fashion, the question came up whether there is perhaps not

one independent variable and three dependent variables, all directly linked to the independent variable. This fifth model tested it.

Figure 3-5: SEM Model 5



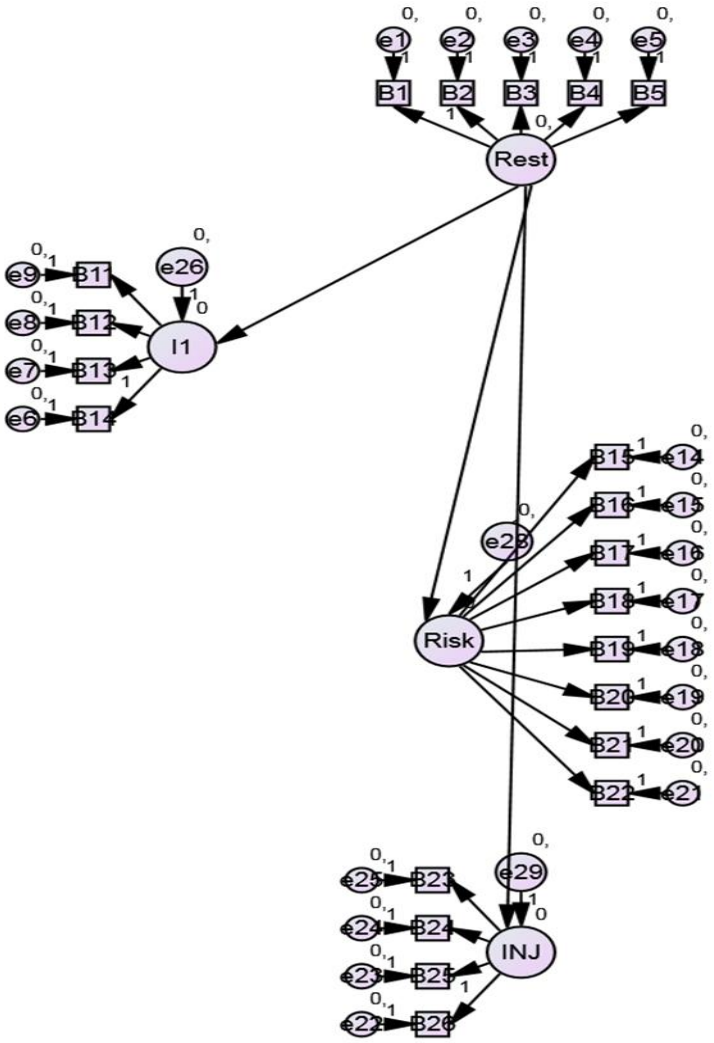


Table 3-27: Regression Weights: Model 5

			Estimate	S.E.	C.R.	P	Label
I1	<---	Rest	.283	.125	2.258	.024	
Risk	<---	Rest	-.120	.065	-1.835	.066	
INJ	<---	Rest	-.330	.129	-2.553	.011	
B1	<---	Rest	1.000				
B2	<---	Rest	.886	.128	6.902	***	
B3	<---	Rest	.242	.167	1.450	.147	
B4	<---	Rest	.714	.142	5.033	***	
B5	<---	Rest	.942	.141	6.687	***	
B14	<---	I1	1.000				
B13	<---	I1	.822	.147	5.594	***	
B12	<---	I1	1.076	.157	6.857	***	
B11	<---	I1	.828	.131	6.326	***	
B15	<---	Risk	1.000				
B16	<---	Risk	1.590	.619	2.567	.010	
B17	<---	Risk	1.402	.564	2.486	.013	
B18	<---	Risk	2.554	.896	2.851	.004	
B19	<---	Risk	2.224	.788	2.821	.005	
B20	<---	Risk	2.812	.981	2.866	.004	
B21	<---	Risk	2.134	.772	2.763	.006	
B22	<---	Risk	.968	.436	2.218	.027	
B26	<---	INJ	1.000				
B25	<---	INJ	1.194	.114	10.502	***	
B24	<---	INJ	1.069	.111	9.614	***	
B23	<---	INJ	.746	.111	6.703	***	

The fifth model that was tested: The direct link between restructuring and the other three was tested, although the second link with Risk is on the 10% significance level, it exists.

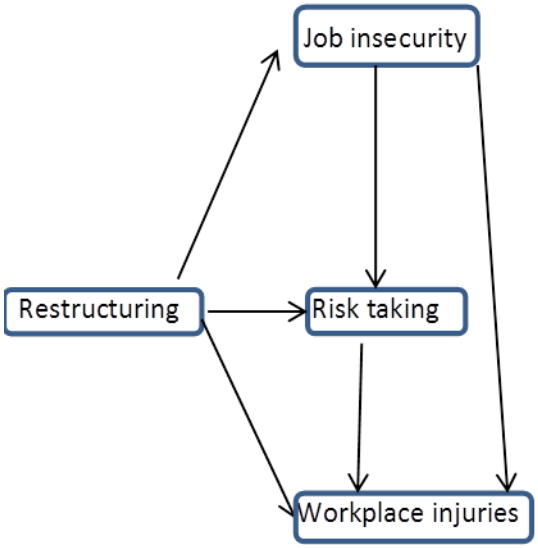
Table 3-28: Standardized Regression Weights: Model 5

			Estimate
I1	<---	Rest	.263
Risk	<---	Rest	-.261
INJ	<---	Rest	-.279
B1	<---	Rest	.865
B2	<---	Rest	.701
B3	<---	Rest	.153
B4	<---	Rest	.514
B5	<---	Rest	.679
B14	<---	I1	.672
B13	<---	I1	.622
B12	<---	I1	.876
B11	<---	I1	.719
B15	<---	Risk	.293
B16	<---	Risk	.484
B17	<---	Risk	.440
B18	<---	Risk	.795
B19	<---	Risk	.739
B20	<---	Risk	.838
B21	<---	Risk	.655
B22	<---	Risk	.333
B26	<---	INJ	.769
B25	<---	INJ	.964

			Estimate
B24	<---	INJ	.852
B23	<---	INJ	.632

The sixth model that was tested: This model tested whether Insecurity and Risk-Taking have moderating variables on injuries.

Figure 3-6: SEM Model 6



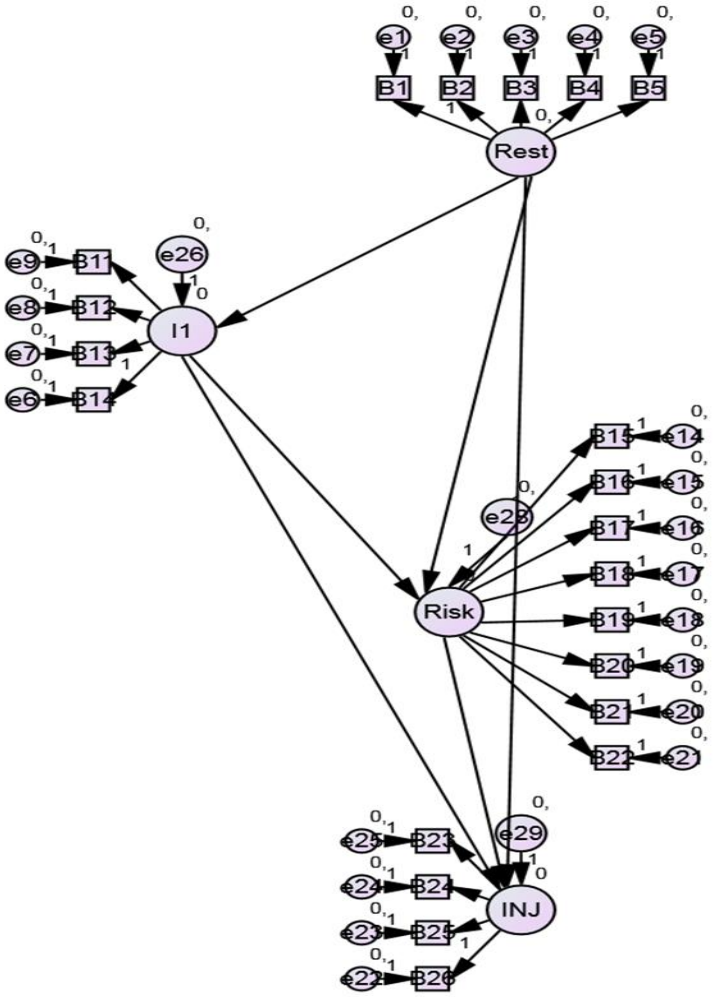


Table 3-29: Regression Weights: Model 6

			Estimate	S.E.	C.R.	P	Label
I1	<---	Rest	.280	.125	2.241	.025	
Risk	<---	Rest	-.106	.064	-1.667	.096	
Risk	<---	I1	.008	.047	.169	.865	
INJ	<---	Rest	-.100	.117	-.851	.395	
INJ	<---	Risk	1.625	.636	2.554	.011	
INJ	<---	I1	-.070	.104	-.672	.501	
B1	<---	Rest	1.000				

			Estimate	S.E.	C.R.	P	Label
B2	<---	Rest	.881	.129	6.845	***	
B3	<---	Rest	.255	.166	1.529	.126	
B4	<---	Rest	.711	.142	5.018	***	
B5	<---	Rest	.943	.141	6.678	***	
B14	<---	I1	1.000				
B13	<---	I1	.821	.147	5.590	***	
B12	<---	I1	1.077	.157	6.863	***	
B11	<---	I1	.828	.131	6.327	***	
B15	<---	Risk	1.000				
B16	<---	Risk	1.684	.671	2.511	.012	
B17	<---	Risk	1.521	.619	2.457	.014	
B18	<---	Risk	2.645	.961	2.754	.006	
B19	<---	Risk	2.277	.836	2.723	.006	
B20	<---	Risk	2.900	1.048	2.767	.006	
B21	<---	Risk	2.175	.816	2.666	.008	
B22	<---	Risk	1.080	.481	2.245	.025	
B26	<---	INJ	1.000				
B25	<---	INJ	1.143	.108	10.557	***	
B24	<---	INJ	1.079	.109	9.868	***	
B23	<---	INJ	.765	.110	6.976	***	

Table 3-30: Standardized Regression Weights: Model 6

			Estimate
I1	<---	Rest	.261
Risk	<---	Rest	-.241
Risk	<---	I1	.019
INJ	<---	Rest	-.084
INJ	<---	Risk	.601
INJ	<---	I1	-.063
B1	<---	Rest	.869
B2	<---	Rest	.700
B3	<---	Rest	.161
B4	<---	Rest	.514
B5	<---	Rest	.682
B14	<---	I1	.672
B13	<---	I1	.621
B12	<---	I1	.877
B11	<---	I1	.719
B15	<---	Risk	.282
B16	<---	Risk	.494
B17	<---	Risk	.460
B18	<---	Risk	.793
B19	<---	Risk	.730
B20	<---	Risk	.835
B21	<---	Risk	.643
B22	<---	Risk	.359
B26	<---	INJ	.778

	Estimate
B25 <--- INJ	.937
B24 <--- INJ	.870
B23 <--- INJ	.657

Comparison:

The comparison between the SEM models is illustrated in Table 3.28 below. The fourth model is the best model to illustrate the relations between the constructs, with an AIC of 200.169 and a BCC of 212.253

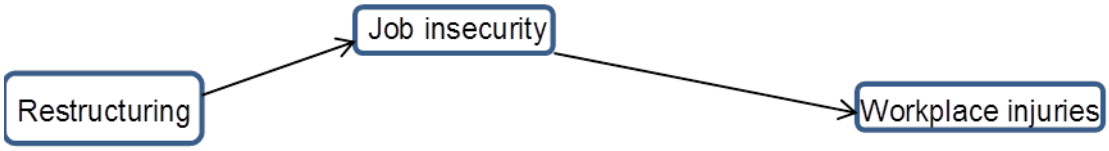


Table 3-31: SEM Models

Model	CMIN/DF	CFI	RMSEA	AIC	BCC
1	2.051	.740	.098	713.832	763.953
2	1.977	.808	0.95	499.775	533.154
3	2.021	.840	.097	342.406	363.373
4	1.875	.902	.090	200.169	212.253
5	2.130	.778	.102	1218.432	1229.053
6	1.975	.881	.095	499.516	534.413

Narrative questions

Three narrative questions were included in the questionnaire in order to assess employees' opinions of the possible linkage between the constructs.

The response rate on the first question was 58.18% and the response to this question was mostly negative, as can be seen in the direct quotes.

"I am thinking about it always when I am at work"

“I always thinking about it all the time because its painfully to loss job”

“During the restructuring project I felt sure that I was going to keep my job”

“I was concerned that my job was going to be obsolete after the restructuring project (i.e. the post would not exist anymore)”

“I was afraid because I was concern about the criteria that they will apply during restructuring.”

“That project is make me to fear that I going to lose my job”

“Afraid of moving from one place to another (transfer) cost the experience that I have doesn't exist there. But at the same time I would like to learn new things”

“I was not happy because I was thinking about project”

“Never affect because I retained my position”

“I did my job to the best I can”

“To give 100% every time in your job”

“Never rely on business decisions they will leave you stranded”

“Its affected my experienced my job because I was afraid that I will loose my job”

“The project made me to loose focus”

“Before they said they will promote people after the do rpl, now they said they want NQF level 4”

“In a manner that I saw that my job can be taken at anytime”

“It helped to be more security focused and be trustworthy as demonstrated in our works place”

“I was not affected by the restructuring project”

“Did not know if I will keep my job, and now I will look and care for my family. Was stressed did not sleep well”

“It did not, I felt safe even thaw my position was affected”

“Having to worry that I may loose my job”

“They can move me to another place or give retrenchment”

“Its affected me negatively way cause I was worried if they change me to other department cause I'm satisfied here”

“Negative”

“As soon as restructuring is mentioned, feels like nobody is safe”

“I didn't know if we will be affected bat assured that we in production is already under staffed”

“I did not in any way”

“The restructuring project didn't affect my job security”

“Everything happens as a big secret and no one new what was going on”

“It re-assured me that in a work environment nothing is certain”

“It did not affect anything”

“In Essen it did not affect my experience instead affect secured since I'm production for I knew that I'm putting money in”

“It affect to a point where most everyday was becoming hard to come to work”

“It affected it because during restructuring there were no guarantees of a job at that time”

“Made me negative and unfocused”

“intimidation”

“Restructuring was not right because people can losses job”

“not much their was opportunities to move to other departments”

“No it didn't because they explain the restructuring before so I was relax as well as my job was safe”

The response rate was 50% on the second question and out of the response, the comments were based on risk taking behaviour that correlated with the response calculated from the questionnaire. Questions were based on risk taking as can be seen in the direct quotes from some of the respondents.

“Its all about the time and the respect of my job”

“Its all about the time and respect the work and focus on it”

“During the project I found myself thinking of things unrelated to work more often then before the project.”

“I was panicking, everybody work to impress the bosses, I also join them in doing that”.

“To me there was not risk, cost as far as I know the Sasol is big, they can take you to another bu's instead”

“Am not taking risks”

“My negligent can cause that me/ the company lose either money or life's”

“No it did not “

“I didn't take risks”

“At once, I thought of how coward companies are, I nearly took my small money”

“To no extent”

“It caused people not to concentrate on their jobs, and demoralised people to work”

“I lack concentration at times”

“There's no more risks taken as we rely on the job for a bright future”

“There was no risks because they gave me a letter assuring me that my job is safe”

“Did not take more risks”

“I did not take any risk as it was clearly explained to me what options are there”

“No risk were taken because we were well informed”

“Because every day when you are at work you just thinking about restructuring”

“The risks a just come to work even if I badly sick”

“More than ones to impress my manager”

“Take no risk, people going to be heard on you in this period”

“I didn't”

“The only risk I took was the ones to help me move up the career leader”

“By actual fact I worked safer might it count against me”

“Felt as the company didn't care for the people so we didn't care for the company”

“It change my attitude towards how I execute certain tasks”

“I was never affected by restructuring project”

“I did not take risks actually I was more relax for I know I was safe”

“WE always wanted to go on extra mile and wanted to go on short-cuts”

“Never took any risks at work cause I had to make sure that I secure my job”

“No risks”

“no risk”

“This project made people not to focus”

“Did not take risks was still here to perform my job to the best I can and as safe as I can”

“I just worked normal as before restructuring project”

“Because of stress then I did not think before I work”

“I though as far as changing the career or maybe try to apply somewhere else”

On the third question the response rate was 43.6% and a strong negative correlation can be seen in the comments on the restructuring project, as illustrated in the direct quotes from some of the respondents.

“*I always thinking about the challenge I am facing to the new place I am going to”*

“Its about the challenges and get new experience at anther place”

“I feared that I was going to lose my job during the restructuring project.”

“Some people commit suicide, it was difficult situation to handle.”

“I experienced that restructuring is not a retrenchment”

“I was afraid of losing my job and thinking of my kids, how they going to survive without me with my family some of us we are the bread winners to our families”

“It is not nice to hear about the project because it put us in the condition whereby we don't know”

“The restructuring denied elderly workers chance to quit Sasol- that's disappointing. Everybody in the township was asking me" Why don't take your money?"”

“I experienced that restructuring project was not a retrenchment”

“Those who decided to go were not happy, but were compelled to those that were left are happy”

“That it should never happen as it impact on employees future negatively”

“Do absolutely your own best at the workplace”

“Those who were affected, they needed counselling because they were not in a correct state of mind to work safe”

“Time changes, so does the company”

“I can say about restructuring if company talk about this thing, people start warring always at work or at home”

“It is not good for our poor people while others live misery”

“More care should have been taken to identify the people that didn't do their job to the best of there ability”

“It affected other people negatively”

“Its not a good experience puts a lot of stress on one”

“The restructuring was actually opening more opportunities for young blood and accelerate performance on all employees”

“during restructuring I was still a learner and was afraid that if the learner ship ended was not going to get a permanent job”

“Negative view on live”

“The information must reach every body in time”

“Make sure you not don't do these project again”

“Yes I saw it as a challenge and to know your story at work and as experienced it count to your work”

“It was not good at all to me because I was moved out and in”

“I personal think it was not communicated properly as a result the majority was panicking”

“I think the method used did not work in all the departments because they had to appoint personnel again in our department we simply could not manage the work load”.

“It was a good thing that happened in terms of the companies development, growth and future sustainability.”

“The restructuring project was serious but it had to happen”

CHAPTER 4 CONCLUSIONS

4.1 Main conclusion

The purpose of this study was to explore whether there is a relationship between employees' perceptions of *restructuring* in an organisation and its safety performance. In order to test if there is a relationship, a model was designed to illustrate a possible link between the two. The model was designed with *restructuring, job insecurity, risk taking and workplace injuries* as components.

Possible links were hypothesised for the relationships between the components:

Hypothesis 1: *Restructuring* is positively related to *job insecurity*.

Hypothesis 2: *Job insecurity* is positively related to *risk taking behaviour*.

Hypothesis 3: *Risk taking behaviour* is positively related to *workplace injuries*.

This supplied the framework for the study. These hypotheses were used to help explaining the increase in the recordable case rate at the organisation during the restructuring process. In order to test the model and the hypotheses, a quantitative study was conducted as a cross-sectional field survey. The sample size was 110 employees from the organisation. A Kaiser-Meyer-Olkin Measure of Sampling Adequacy was conducted on the explorative data and a value of 0.689 was returned. The value for all the factors that were tested was also bigger than 0.6. The sample size was sufficient for the extraction of data.

The sampling method utilised was non-probability; based on convenience sampling. Because of all participants being from the same organisation, this sampling method resulted in a representative sample of the organisation. The questionnaire contained items that tested the respondents' perception of the following constructs:

Restructuring: A total of 5 items were used to measure employees' experiences of the restructuring project.

Insecurity: A sum of 9 items was used to measure employees' experiences of insecurity. After the factor analysis, the original construct ***Insecurity*** was split into two constructs, namely ***Uncertainty*** and ***Insecurity***.

Risk taking: For this construct 8 items were used to measure employees' opinions on risk taking behaviour.

Injuries: In total, 4 items were used to measure employees' opinion on the injury rate due to the restructuring project.

A survey questionnaire was designed, based on a 4-point Likert scale. The 4-point scale ranged from "strongly agree", "agree", "disagree" to "strongly disagree". For instance, the questionnaire consists of twenty statements; should the respondent encircle a four on each item, the total score calculated will be 20*4=80. This indicates a highly positive attitude. A score of 20*1=20 will show a highly negative attitude.

The data obtained from the participants was analysed with SPSS software. First validity was established through exploratory analysis. An exploratory factor analysis revealed that there are four factors with Eigenvalues greater than one; explaining cumulatively 71% of the variances. These four factors were then tested for reliability, by calculating Cronbach's alpha coefficient for each. Values higher than 0.7 were found in all four of the factors.

The data was grouped according to the questionnare and Confirmatory Factor Analysis was conducted. The first construct was restructured by extracting one factor with an Eigenvalue greater than two. This explains 50.3% of the variance. The Cronbach's alpha coefficient for this factor had a value of 0.733; therefore this was found to be a reliable factor.

In the second construct, *Insecurity,* one factor with an Eigenvalue greater than three was extracted, explaining 35.1% of the variance. The factor was split in two and renamed I*nsecurity* and *Uncertainty*. The Cronbach's alpha coefficient for these two constructs had respective values of 0.520 and 0.813; therefore these were found to be reliable factors.

In the third construct, risk taking was the one factor with an Eigenvalue greater than three and was extracted. This explains the 44.1% of the variance. The Cronbach's alpha coefficient for this factor had a value of 0.823 and therefore this was also found to be a reliable factor.

In the fouth construct, *Injuries* one factor with an Eigenvalue greater than two was extracted. This explains 73.69% of the variance. The Cronbach's alpha coefficient for this factor had a value of 0.876 and therefore this was found to be a reliable factor.

Once the various factors were tested for reliability (through calculating their Cronbach's alpha coefficients), correlations were found between the factors. The questions that resulted in a higher alpha value, when removed, were first taken out. Also, the original factor *Insecurity* was proven by the factor analysis to really represent two factors. All the significant correlations were positive. As can be expected, there is a high positive correlation between *Insecurity Old* and the two factors into which it was divided, namely *Insecurity* and *Concern*.

There is a medium positive correlation between *Risk* and *Injuries*. This is to be expected, because risky behaviour is expected to lead to higher injuries.

There are medium positive correlations between *Restructuring* and *Insecurity*, as well as between *Restructuring* and *Concern.*

There is also a medium positive correlation between *Concern* and *Insecurity.*

However, these results do not provide information about any causal relationships between the factors, but merely state that there is a positive relationship between them. The factors were therefore subjected to the **Structural Equation Modelling** (SEM) to identify whether the relationships are causal in nature.

In order to test for relations, different models were designed and tested in the Structural Equation Model. Each of the models' results was included.

The first model that was run in SEM

It was found that there is a statistically significant relationship between Restructuring and Concern (p=0.016), between Restructuring and Insecurity (p=0.019) and between Risk and Injury (p=0.011). It is therefore possible that restructuring is not necessarily responsible for injuries as predicted in the original model and hypotheses, but that the links between Concern and Risk and the links between Insecurity and Risk are merely moderating and not causal, since p was larger than 0.05 for these links.

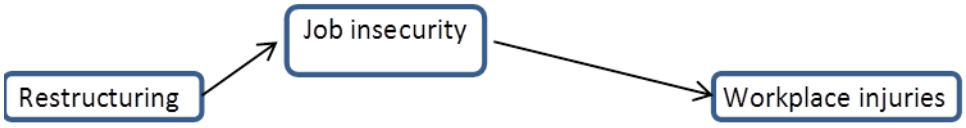
In the second model that was tested in SEM, *Uncertainty* was excluded from the model.

After the removal of *Uncertainty* from the model, it is still not significant, with a p-value of 0.561.

In the third model that was tested, *Job insecurity* and *Uncertainty* were removed from the model because they were shown not to be causal links in the model. The direct relationships between the other constructs were tested.

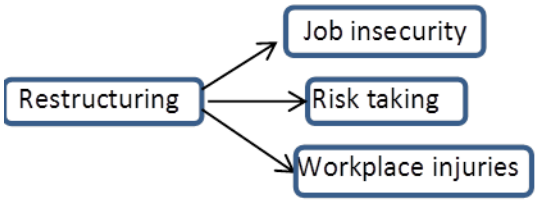
In this model, although all the levels of statistical significance are not in the 5% area, there is a relationship between restructuring and risk on the 10% level of significance, which is a vast improvement on the previous model.

In the fourth model that was tested, *Risk taking* was removed.



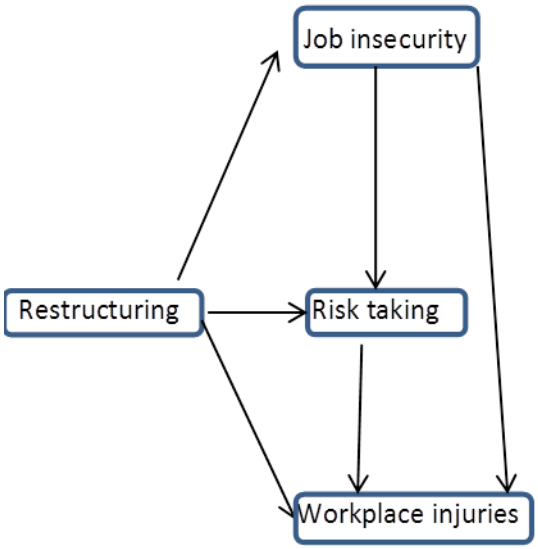
The link between these are merely moderating, and not causal, since p was larger than 0.05 for these links.

The fifth model that was tested after the previous models did not prove to explain the link between the constructs in a linear fashion. The question came up whether there are perhaps not one independent variable and three dependent variables, all directly linked to the independent variable. This model tests it.



In this model there was a link found between these constructs, on a 10% significance level.

The model tested whether *Insecurity* and *Risk taking* were moderating variables for *Injuries*.



All these different SEM models were compared and it was found that the fourth model is the best to illustrate the relations between the points. The fourth model has an AIC of 200.169 and a BCC of 212.253.

The results of this study confirm that there is a moderate relationship between *restructuring, job insecurity/uncertainty* and *workplace injuries*. Therefore Hypothesis 1 tested positive but Hypothesis 2 was not that strong. This can be explained by the fact that the employees do not tend to take more *risks* in their work, even when they are uncertain of their *job security*. Hypothesis 3 also tested positive. The results of this study confirmed previous research which suggests that *restructuring* is related to *safety performance*. Another important finding is that *job insecurity* is related to workplace *injuries*. The lack of evidence of the impact of risk taking *behaviour* was also confirmed.

The ANOVA found a significant difference in the factor *restructuring* between people with a degree or diploma and other groups. In a post-hoc test it was found that this was due to the significant difference between how graduates experienced restructuring relative to those with qualifications below grade 12. This is due to the high demand for graduates in South Africa.

4.1.1 Specific conclusions

In a climate of restructuring, it is imperative that the organisation considers the messages being conveyed to the workers who are seeking clues as to the optimal means of retaining their jobs. The results of this study suggest that organisations that embark on restructuring, must display clear signals demonstrating the importance of safety. Job insecurity may contribute to negative safety outcomes. This unwanted outcome of job insecurity may be minimized to some extent by a strong safety culture in an organisation. The present findings clearly show that individual differences in perceptions regarding an organisation's restructuring, moderate its safety outcomes. Therefore it is important for an organisation to deal with restructuring in the form of organisational change and complete an organisational-level diagnosis. The restructuring of an organisation influences the organisational group at individual levels in the organisation. Therefore a complete change in management approach must be followed.

4.1.1.1 Meeting research objectives

The primary objective (general objective) of this research is to determine the influence of restructuring in a specific organisation on its safety performance.

The secondary objectives (specific objectives) of this research are:

- To determine whether there is a relationship between restructuring and job insecurity;

• To determine whether there is a relationship between job insecurity and risk taking behaviour; and

• To determine whether the incidence of workplace injuries is related to risk taking behaviours.

It is clear that the restructuring contributed negatively to the safety performance of the employees and therefore management needs to understand the impact it had. Management need to institute strategies to prevent this negative impact of restructuring in the future.

4.1.1.1.1 Recommendations for future research

The questionnaire can be used for future research and can be defined based on the findings from this research. It is also important to note that the research was conducted two years after the restructuring process was concluded. It is therefore recommended that a study should be conducted during a restructuring process, or at least directly after such an event. This study was limited to a single unit in the larger organisation but can be extrapolated to more than one unit, in order to determine the impact on larger organisations.

4.2 Summary

Three narrative questions were included in the questionnaire in order to assess employees' opinions of the possible linkage between the constructs.

The first question: "*Explain how the restructuring project affected your experience of job insecurity.*" The question was added to test the response from the first hypothesis, namely restructuring is positively related to job insecurity. Out of the response obtained on this question, it is clear that the respondents had experienced job insecurity during the restructuring phase. This confirmed the positive relation that was found in the factor analysis.

The second question: *"Explain to what extent the restructuring project caused you to take more risks at work."* The question was added to test the response on the second hypothesis, namely job insecurity is positively related to risk taking. Out of the response obtained from this question, it was clear that the employees did not feel that there was an increase in risk taking behaviour. This confirmed the results that were collected during the factor analysis. The SEM Model was also found to remove risk taking.

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