

**A COMPARATIVE INVESTIGATION INTO THE APPLICABILITY OF GAINSHARING PROGRAMMES
FOR THE IMPROVEMENT OF PRODUCTIVITY IN THE AUTOMOTIVE SECTOR OF SOUTH AFRICA**

By

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DECLARATION

The Registrar (Academic)
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Hereby declare that the thesis entitled:

**A COMPARITIVE INVESTIGATION INTO THE APPLICABILITY OF GAINSHARING PROGRAMME
FOR THE IMPROVEMENT OF PRODUCTIVITY IN THE AUTOMOTIVE SECTOR OF SOUTH AFRICA**

Is the result of my own investigation and research and that it has not been submitted in part or in full for any other degree or to any other University. Other sources are acknowledged giving explicit references.

Signed.....

Date.....

ACKNOWLEDGEMENTS

Working on this doctoral thesis has been a challenging and rewarding experience for me. I could not have successfully concluded this project without the assistance of a number of people who deserve special attention. I would like to thank all those persons who have supported and encouraged me throughout the journey.

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DEDICATION

This study is dedicated to my late parents, u-Baba u-Amos Zondo (uMthiyane) for his mentorship, guidance and dedication. To uMama u-Lucia Zondo (uJama KaSjadu), for her value system she instilled in me. I wouldn't have achieved my entire studies without their support. They have nurtured me from my teen years at Mhlasimbe (in the deep rural area of Port Shepstone), Mehlomnyama and to where I am, today. Despite financial and social challenges; you made me aware of the importance of education and ensured that I go to school. It is through your wish that I attain this qualification.

ABSTRACT

Productivity has generated tremendous interest among economists. South Africa lacks both short and long-term growth in productivity. This includes commitment and participation in productivity initiatives at shop floor level and companies are faced with the challenge of promoting competition and innovation in productivity improvement amongst employees. South Africa's labour productivity, in the manufacturing sector, is low when compared to Korea, the United States of America (USA), Taiwan, Japan, France and the United Kingdom (UK). It has increasingly been recognised, that by introducing a carefully crafted incentive scheme, it may be possible to induce South African workers to work both harder and smarter using existing technologies in new and better ways to enhance their productivity. Gainsharing could be an appropriate method as has been the experience of industry in the USA and parts of Europe. The literature review defines gainsharing is a formula-based company-wide programme that provides for employees to share in the financial gains of a company as a result of its improved performance. It is a monetary reward that helps boosts a company's productivity and radically reduces the cost of waste, spoilage, rejects, and rework. It can be used to replace bonus piecework schemes where quality is lost to quantity. The study focuses on gainsharing, given the low productivity level in the South African automotive parts-manufacturing industries. It is a comparative study and investigates the applicability of gainsharing programme for the improvement of productivity in this sector. Study objectives were achieved by examining the production and related experience of Company A and COMPANY B. These two automotive parts-manufacturing companies have adopted gainsharing strategy. The second objective of the study assessed whether gainsharing or other control variables are responsible for company productivity improvements. The research established that gainsharing improves productivity and reduces spoilage and absenteeism rates. Employees and management have gained confidence on gainsharing programme. Participants feel that de-layering, trade union participation, company age, ongoing training and equipment upgrade also play an important role in productivity improvement.

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LIST OF ABBREVIATIONS

AMA	-	American Management Association
ANOVA	-	Analysis of Variance
Df	-	Degrees of Freedom
EPS	-	Earnings per share
EU	-	European Union
EVA	-	Economic value added
ESRI	-	Economic and Social Research Institute
GDP	-	Gross Domestic Product
HPCSA	-	Health Professions Council of South Africa
HSD	-	Honestly Significant Difference
IBEC	-	Irish Business and Employers Confederation
IBMS	-	Integrated Business Management System

ILO	-	International Labour Organisation
IMF	-	International Monetary Fund
JIT	-	Just-in-Time
JSE	-	Johannesburg Stock Exchange
LMR	-	Lansdowne Market Research
MIBCO	-	Motor Industry Bargaining Council
MVA	-	Market Value Added
NCPP	-	National Centre for Partnership and Performance
NPI	-	National Productivity Institute
NUMSA	-	National Union of Metal Workers of South Africa
OLS	-	Ordinary Least Squares
Pdd	-	Product double deflation
P/E	-	Price per earnings ratio
PIM	-	Perpetual Inventory Methods

PMS	-	Performance Management System
RONA	-	Return on net assets
ROA	-	Return on assets
ROE	-	Return on equity
ROI	-	Return on investment
RSE ²	-	Relative Standard Error
SA	-	South Africa
SHEQ	-	Safety, Health, Environment and Quality
SPSS	-	Statistical Package for Social Sciences
Stats SA	-	Statistics South Africa
TQM	-	Total Quality Management
UK	-	United Kingdom
UNIDO	-	United Nations Industrial Development Organisation
USA	-	United States of America

VPS - Variable pay system

CHAPTER ONE: NATURE, SCOPE AND ORGANISATION OF THE STUDY

1.1 Introduction

This chapter is an introduction to the study. It outlines the need for South African companies to improve productivity; the importance of organisations to revise their reward strategies to achieve business and productivity goals; the clarification and definition of concepts as well as a macro-economic overview of productivity indices in South Africa. In addition, it briefly describes the author's awareness of the problem; the contribution of the study to literature in the field; the purpose and objectives of the study; and an overview of research methodology and the division of chapters.

Productivity performance is one theme that has generated tremendous interest amongst economic scholars for decades. A common thread running through this discourse is a strong affirmation of the central place of productivity enhancement in the precipitation and perpetuation of growth (Venter, 2004). In developing countries, the need to improve productivity performance is particularly useful given the less favourable economic circumstances that confront most developing countries. This is manifested by way of massive balance of payments deficits and chronic foreign exchange shortages (Shepperd, 2004). This has the effect of undercutting output growth via the procurement of factor inputs, as expenditure on offshore inputs, which constitutes a large chunk of total inputs, which have to be cut back significantly. Venter (2004) insists that productivity enhancement is absolutely critical to trigger and sustain growth momentum.

According to the World Bank 2001 report, South Africa is a developing country with per capita income ranked number seventy four (74) from two hundred and eight (208) countries in the World, and falls in the upper echelons of middle income amongst the developing countries with an abundant supply of resources, well developed financial, legal, communication, energy

and transport sectors as well as infrastructure that supports an efficient distribution of goods to major urban centres throughout the region (de Jager, 2002). It is a society that, during the 1990s, experienced a fundamental political transformation and the adoption in 1994 of a system of democratic governance. Economic development and productivity performance have been substantially influenced by this transformation and the discriminatory practices of the apartheid system that preceded it. Economic activity can thus be thought of as the sum of the efforts by all economic agents, operating within an organisational and institutional set of arrangements that defines the economic system, to convert the resources available to the economy – labour, capital and natural resources – into the output (goods and services) required by society (Shepperd, 2004). The relationship between input and output represents the productivity ratio, that is, output per unit of input. Venter (2004) adds that economic growth and the welfare of society are associated with a long-term improvement in productivity, particularly, in a world of scarce resources. Improvements in productivity raise standards of living by, *inter alia*, allowing economies to compete effectively in the international division of labour and the exploitation of comparative cost advantage through trade.

The dominating force in economic activity for South Africa is the formal sector, which has a formidable manufacturing capacity by African standards (Venter, 2004). From 1960 until the early 1990s, this sector developed on the basis of activities that added value to the mineral resources of the country and through import substitution which became an intensive effort to establish industries that were strategic to the survival of a beleaguered economy. An outstanding feature of South Africa's production activity is its growing capital intensive nature over time (de Jager, 2002). This is revealed in the increasing average capital/labour and capital/output ratios. The concomitant productivity performance has been poor. Until the mid-1990s, productivity of capital declined sharply. The growth in labour productivity, in spite of the growth in real capital per worker, was meagre hence total factor productivity also performed weakly (Shepperd, 2004). Productivity performance turned around in the mid-1990s. Capital/output ratio started to decline but labour, capital and total factor productivity showed some improvement. This was at the cost of employment with capital/labour ratios still

increasing in a labour abundant economy.

In assessing the conventional determinants of productivity performance, Venter (2004) suggests four underlying forces that have made for poor productivity. They are as listed as follows.

Firstly, the political system of apartheid that prevailed had pervasive effects on productivity. It sustained economic and income inequality and embedded discriminatory practices into the labour market and labour use which discriminated in education and skills development for the majority of the population. Labour relations became polarised through the absence of the vote for Black workers, forcing them to use their labour power in efforts to gain political equality.

Secondly, the central thrust of economic growth came from rapid growth in capital stock through fixed investment. This, until the early 1980s, was characterised by the growing share of public corporations, often associated with lower productivity performance, and a declining share by private business, which is generally regarded as a more efficient user of resources. Until about 1980, the share of fixed investment devoted to economic infrastructure remained high but, from then until the mid-1990s, declined sharply. Nevertheless, Venter (2004) points out that the employment growth did not keep pace with capital formation. He insists that the investment took place mainly in industries that were of a capital-intensive nature, in both physical and human capital. This process was determined by an industrial policy aimed at addressing international isolation and by an incentive structure and changes in relative factor prices that favoured capital-intensive industries. This policy encouraged the substitution of capital for labour through mechanisation in all industries, including agriculture and mining. The structure of production changed accordingly, with capital-intensive sub-sectors such as chemicals, basic metals and metal products growing in importance while labour intensive industries such as food processing, textiles and clothing declined in relative terms.

Thirdly, the democratisation of South Africa not only transformed the political system but also

removed international isolation of the economy. It also saw the adoption of policies of trade liberalisation. The integration of South Africa into the world economy has had important outcomes, such as an increasing openness to foreign trade (increasing trade ratios of exports plus imports to GDP), increases in import penetration in domestic markets, and, because of the latter development, the increasing price competitiveness of domestic producers (Venter, 2004). Growth in output has improved, but the improvements in factor productivity must, unfortunately, be linked to a lack of employment growth.

Fourthly, the growth in import penetration ratios in manufactured goods has increased competition in a sector characterised by high and growing concentration ratios. The degree of concentration is high and, in most cases, is in the hands of monopolies, particularly in the production of non-tradable inputs such as electricity, and transport and telecommunication services.

There is a lack of commitment and participation in productivity initiatives at shop floor level in South Africa. Companies are faced with competitive challenges such as promoting innovativeness relating to productivity improvement amongst employees (Venter, 2004). South Africa's labour productivity in the manufacturing sector is low when compared to Korea, the United States of America (USA), Japan, France and the United Kingdom (UK) (de Jager, 2002). Productivity of the South African workforce remains an issue of central concern for business. It plays an important role in the life of every person and in the performance of every business.

The need for productivity improvement in South Africa should be uppermost on both the government and private sector's agenda (Venter, 2004). The majority of South Africans expect greater prosperity which can only be accomplished through greater employment, high productivity and wage increases. New employment opportunities create new goods and services which give rise to sales from which wages are paid. Increased productivity can finance higher wages without burdening the customer with higher selling prices. There should be strong co-operation between management and labour to improve productivity thereby

ensuring the survival of South African companies. Productivity governs the creation of wealth and cost-competitiveness. To be successful in today's competitive business arena organisations find themselves turning to their employees for creative suggestions and ideas on ways of doing things better. The concept of continuous improvement, urging everyone in the organisation to think of and implement small, incremental and logical improvements, has become a way of life and a business necessity.

It is increasingly recognised in industry that by introducing carefully crafted group incentive compensation systems like gainsharing programmes, it may be possible to induce South African workers to work both harder and smarter and to use existing technologies in new and better ways that enhance their productivity (Venter, 2004). Generally, group incentive schemes provide for the payment of bonuses either equally or proportionately, to individuals within a group or team. The bonus is related to the output achieved by the group in relation to defined targets or to the time saved on jobs (that is, the difference between allowed time and actual time).

As a result, this research is a comparative investigation into the applicability of gainsharing programmes for the improvement of productivity in the automotive sector of South Africa. The following section defines and clarifies the study concepts.

1.2 Definition and clarification of concepts

- **Gainsharing:** A formula-based company-wide programme that provides for employees to share in the financial gains made by a company as a result of its improved performance (Armstrong and Murlis, 2001). Gainsharing incentive schemes are the most effective if based on a system of measured work where targets and standards are agreed by a team, which is provided with the control information it needs to monitor its own performance. As a result, productivity measurement is a proper method for the payment of such schemes and is defined in this section.

- **Productivity:** Management's ability to combine resources (that is, men, materials, machines and money) optimally and utilise them fully in order to maximise production per unit of resource input (Carlisle, 1998). It is the amount of output produced by each unit of input, where outputs are measured in physical units. The ratio specifically compares direct hours worked to units produced; the cost per unit of output; or an added value ratio (for instance, employment or direct labour costs as a proportion of total sales value less the cost of bought-in parts and materials). Gainsharing is a means of rewarding employees for exceptional performance above pre-determined targets and is based on sharing financial gains. A single measurement may be chosen or alternative separate targets in such areas as quality, productivity, cost, and customer service may be identified (Saari, 2006). As a result, the study investigates the applicability of gainsharing programmes specifically in the automotive parts-manufacturing companies.

The three categories of productivity measures include labour productivity, fixed capital productivity and multifactor productivity and are briefly described below.

- **Labour Productivity:** Conventionally measured as a ratio of real output to labour input (de Jager, 2002). Although this measure relates output to the number of employees in a particular sector or industry, it does not measure the specific contribution of labour as a single factor of production. Rather, it reflects the joint effect of many influences, including new technology, capital investment, capacity utilisation, energy use, managerial skills as well as the efforts of the workforce. De Jager (2002) points out that the measure of output used by the National Productivity Institute (NPI) in its estimates of labour productivity in South Africa is gross product at constant prices. This is defined as gross output less intermediate inputs (for instance, materials, energy and business services) revalued to the average price of a base year.

- **Fixed Capital Productivity:** This refers to the ratio between real output and fixed capital stock used in the production process (Shepperd, 2004). This ratio (being a partial measure) can be misleading on its own. Major changes could also be the effect of the substitution of one resource for another, such as capital for labour.

- **Multifactor Productivity:** De Jager (2002) is of the view that the obvious limitation of labour productivity measures is that they attribute changes to one factor of production, (for example, labour). Changes in efficiency that are attributable to factors other than labour are critical. This has given rise to many attempts to obtain a measure of growth in efficiency, which takes into account all other factor inputs. It is emphasized that residual multifactor productivity is largely a measure of the effect of improvements in the quality of those inputs and how they are used. It includes technical progress, improvements in the workforce, improvements in management practices and economies of scale. Multifactor productivity may also be affected in the short to medium term by variables such as the stabilizing of prices, business climate, or global competition (Shepperd, 2004).

- **Productivity improvement:** This refers to a shift of production function and concomitant change to the output/input relation (Saari, 2006). Essentially, productivity improvement is about creating more goods with fewer resources and improving the quality of goods or maintaining quality with fewer resources (Shepperd, 2002).

1.3 Macro economic overview of productivity trend indices in South Africa

The National Productivity Institute (NPI) compiles and presents productivity performances for South Africa. It constructs productivity trend indices for labour, fixed capital and multifactor productivity for South Africa and compares these with other developing and developed countries. Productivity performance amongst the South African sub-sectors in the manufacturing and private economy is gathered from Statistics South Africa (Stats SA) and the South African Reserve Bank (de Jager, 2002).

As a result of the involvement of different stakeholders on the gathering of productivity performance input data (including Stats SA, the South African Reserve Bank (SARB), the International Labour Organisation (ILO), the World Bank, the United States Bureau of labour Statistics and the International Monetary Fund (IMF) as highlighted in this section), it was necessary to validate the reliability of the NPI productivity data to the United Nations Industrial Development Organisation's (UNIDO) using statistical techniques available in the statistical package for social scientists (SPSS - latest version). Productivity data validation enabled the researcher to present gainsharing findings and recommendations on the true state of the South African productivity performance at a macro level. To achieve this, the strength and consistency of productivity indices reported from different sources have to be carried out using the Pearson correlation coefficient R^2 values. The following graphical presentations on labour, multifactor and fixed capital productivity yearly data trends (from 1970 to 2002) for manufacturing industries compares NPI and UNIDO's reported productivity indices. Note that the correlation coefficient R^2 values of 0.5 to 1.0 are generally described as strong (Porkess, 2005).

Graph 1: Labour productivity trends for NPI and UNIDO data: Manufacturing Industries

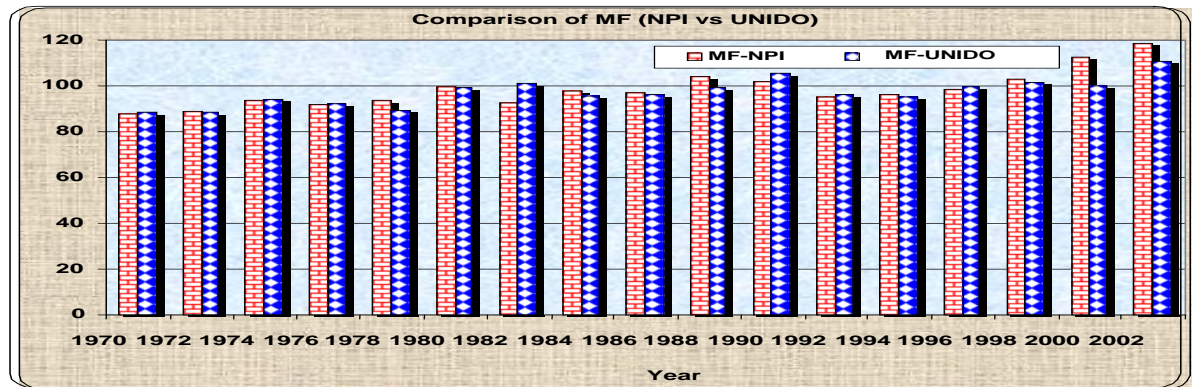


Source: NPI and UNIDO (2007) - *Yearly Values are measured against Productivity indices*

The Pearson correlation coefficient R^2 -value of 0.739 for labour productivity indices on both Graph 1 above and Table 1 in Appendix B indicates a strong correlation between values from NPI and the UNIDO. The reliability analysis revealed a Cronbach Alpha of 0.7740. The Cronbach

Alpha value is closer to 1 and indicates that the data has an internal consistency and reliability.

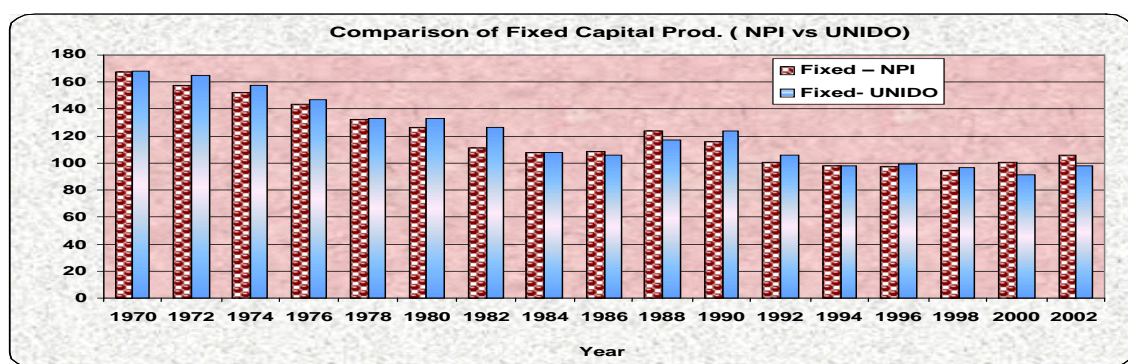
Graph 2: Multifactor productivity for NPI and UNIDO data: Manufacturing Industries



Source: NPI and UNIDO (2007) *Yearly Values are measured against Productivity indices*

The Pearson correlation coefficient R^2 -value of 0.823 for multifactor productivity indices on both Graph 2 above and Table 2 in Appendix B indicates a strong correlation between values from NPI and the UNIDO. The reliability analysis revealed a Cronbach Alpha of 0.8805. The Cronbach Alpha value is closer to 1 and indicates that the data has an internal consistency and reliability.

Graph 3: Fixed capital productivity for NPI and UNIDO data: Manufacturing Industries



Source: NPI and UNIDO (2007) *Yearly Values are measured against Productivity indices*

The Pearson correlation coefficient R^2 -value of 0.970 for fixed capital productivity indices on both Graph 3 above and Table 3 in Appendix B indicates a strong correlation between values

from NPI and the UNIDO. The reliability analysis revealed a Cronbach Alpha of 0.9830. The Cronbach Alpha value is closer to 1 and indicates that the data has an internal consistency and reliability.

The international comparisons are derived from data drawn from a number of sources such as the International Labour Organisation (ILO), the World Bank, the IMF and the United States of American Bureau of Labour Statistics. Shepperd (2004) points out that although considerable effort has gone into standardising data, statistical methods and coverage, practices and definitions differ widely from country to country. In addition, the statistical systems in many developing economies are still weak, which affects the availability and reliability of data. De Jager (2002) confirms that cross-country and cross-time comparisons in many developing economies always involve complex technical problems which cannot be fully and unequivocally resolved. He explains how the NPI carry out productivity measures using employment (or labour input) and fixed capital input as well as real output.

1.3.1 Employment (or labour input)

Measures of labour input used to derive labour productivity and multifactor productivity ratios for the main sectors of the South African economy are the standardised employment series. These statistics reflect an attempt by de Lange and van Eeghen (1984) to provide estimates of employment that encompass the whole of the formal economy of South Africa.

Hours worked is conceptually a better measure of labour input than employment but it may be argued that employment is a more reliable measure. De Jager (2002) mentions that hours worked are more erratic because observations can be affected by holidays, strikes and so on, during the reference week.

1.3.2 Fixed capital input

Fixed capital stock data for the main sectors of the South African economy are produced by the SARB which uses a perpetual inventory method (PIM). This method involves the accumulation of net fixed investment data at constant prices. That is, the gross fixed investment less depreciation (either expressed in constant prices or previous period averages).

1.3.3 Real output

The NPI uses the real output series provided by Stats SA to derive an acceptable measure of real output. Constant price estimates of gross product by industry or sector are derived from three different methods: the gross output method, double deflation, and extrapolation using employment or input cost data. De Jager (2002) explains that the method selected to obtain constant price estimates for a particular sector or industry depends on the available data in respect of that sector or industry.

a) The gross output method.

Shepperd (2004) points out that Stats SA uses the gross output method. The method involves extrapolating base year gross product estimates from movement in constant price estimates of gross output. It assumes that constant price estimates of gross output and intermediate input have the same growth rate. That is, there is change in the efficiency with which intermediate inputs are used in the production process. As a result, it excludes the possibility of intermediate input productivity growth contributing to multifactor productivity growth.

b) Double deflation

This method involves subtracting constant price estimates of intermediate input from constant price estimates of gross output. This is partly used for agriculture. Although double deflation is theoretically the most appropriate method, de Jager (2002) points out that the method is often

not used for the following two reasons.

- Double deflation requires detailed and comprehensive data relating to gross output and intermediate input. Stats SA does not collect such data because of limited resources. A way around this obstacle is to derive constant price estimates from Stats SA input/output tables, and then provide estimates of gross product double-deflation for all sectors or industries. While such estimates would have the advantage of having been derived from a consistent framework, some of the advantages of double deflation with respect to service sector would be misleading. This is because the method has been used to derive the input/output table values for many years, with the result that there are discontinuities in the sector or industry time series during each year in which benchmark data are introduced.
- Gross output method is thought to be superior to double deflation in certain circumstances (Shepperd, 2004). The drawback of double deflation lies on the compounding of statistical errors inherent in the technique. For example, suppose both gross output and intermediate input are subject to an independent, identical distributed error so that both have a relative standard error (RSE) of e percent. In the case of manufacturing, a possible candidate for double deflation is that the value of intermediate input is equal to about seventy percent (70%) of the value of gross output. If gross output is set to be equal to one hundred percent (100%), then the intermediate input equals seventy percent (70%) and the estimate of gross product, using product double deflation (pdd), is equal to thirty percent (30%) (Shepperd, 2004).

He also adds that the variance of pdd is calculated as indicated below:

$$\begin{aligned}\text{Var (pdd)} &= \text{Var (gross output)} + \text{Var (intermediate input)} \\ &= e^2 + 0,49 e^2 \\ &= 1,49 e^2\end{aligned}$$

The relative standard error of pdd is therefore:

$$\begin{aligned} \text{RSE}^2 (\text{pdd}) &= [(4.1)^{0.5} 30] e \\ &\text{or } = 4.1e \text{ percent.} \end{aligned}$$

The relative standard error of the estimate of growth of pdd from any year 1 to any year 2 is:

$$\begin{aligned} \text{RSE} &= (\text{PDD2} - \text{pdd1}) \\ &= (\text{RSE}^2 (\text{pdd} (2)) + \text{RSE}^2 (\text{pdd} (1)))^{\frac{1}{2}} \\ &= 0.058e \text{ or } 5.8e \text{ percent} \end{aligned}$$

The example illustrates that the double deflation method requires that the constant price estimates of gross output and intermediate input be derived with a high degree of precision (implying substantial cost). Otherwise the gross product estimates would be subject to an unacceptably high standard error.

c) Extrapolation using employment or input cost data

This is the least satisfactory method that uses input data (for instance, employment) to extrapolate base year gross product (de Jager, 2002). This method is used as a main or sole indicator to derive constant price gross product estimates for the government. It is noted that productivity ratios are not given for this sector. The method assumes that labour productivity is constant over time, since changes in output are essentially proportional to changes in employment. It is also used for the *real estate* part of the financial sector. However, the NPI also excludes productivity measures for this sector (de Jager, 2002).

On the other hand, Stats SA uses gross output method to derive estimates of manufacturing gross product (Shepperd, 2004). To minimise errors arising from changing relativities between output and input, the manufacturing gross output method is used to derive estimates for the years in which a manufacturing census is conducted.

1.4 Awareness about South Africa's productivity problem

South Africa lacks both short and long-term growth in productivity (Venter, 2004). This includes an advanced knowledge of how to produce more efficiently and not take advantage of gains resulting from economies of scale that are made possible by an expansion of the size of markets leading to increased specialisation of personnel. The misallocation of resources (that is, capital and labour) and lack of training of the workforce are some of the causes (Slack, Chambers and Johnston, 2001).

As a result of the above and other factors, the production per worker in the manufacturing sector decreased by three point one percent (3.1%) from 2003 to 2004. This resulted from a decrease in manufacturing production (for instance, output) alongside employment numbers that remained fairly constant (South African Reserve Bank, 2004). This, in part, can be related to the fact that South Africa has very low employee morale which is a result of workers not being clear about what is expected of them (Venter, 2004). Fundamentally, productivity loss is costing the country about R154.4 billion annually which represents fourteen point four percent (14.4%) of gross domestic product (GDP) (Venter, 2004). If the productivity problem could be solved over the next five years, the country could achieve almost three percent (3%) GDP growth over a 5 year period (Cooper, 2006).

1.5 Contribution of the study

Some of the problems highlighted in the previous section indicate the need to improve productivity. The productivity performance of a company affects its costs, prices and profitability, output, employment and investment policies. South Africa's labour productivity level is low when compared to overseas countries (de Jager, 2002). Gainsharing, as a reward management instrument, arouses interest and demands attention and deliberations in the context of a changing South African industry. Productivity gainsharing schemes reward

improvements in productivity.

Organisations are encouraged to revise their reward philosophies and develop reward strategies, policies and practices that help to achieve new business goals and support organisational and culture change. Such developments should be based on an understanding of the economic factors affecting pay, the significance of psychological contract and the practical implications of motivation theory as it affects the provision of both financial and non-financial rewards. Interest in performance-related pay like gainsharing, in various sectors of the economic activity is increasing. Gainsharing could be a desirable alternative because it can contribute to raising the competence levels and productivity improvement of the organisation. It is against this background that the study focuses on gainsharing programme given the low labour productivity level in the South African manufacturing industries.

1.6 Purpose and objectives of this study

This study aims to investigate whether gainsharing can increase productivity in the automotive parts-manufacturing industries of South Africa. The following are the study objectives:

- a) to explore the suitability of gainsharing as an appropriate tool for labour productivity improvement at Company A and COMPANY B;
- b) to ascertain whether incentive schemes (in general) have a productivity enhancing effect;
- c) and to establish whether other variables which include de-layering, trade unions, company age, qualification incentives paid to workers for upgrading their skills, play an even more important role in productivity improvements.

1.7 Scope of the study

The study highlights the low productivity level in South Africa and the need to improve it. The

research focuses on gainsharing programmes as an incentive device given the low labour productivity in the South African automotive parts-manufacturing industries. Different kinds of gainsharing, practical applications of gainsharing and its pros and cons are discussed in the literature study. The investigation is underpinned by gainsharing theoretical models which are consistent and documented in previous research. This was noted by researching the practical implications of gainsharing as experienced by overseas companies. The qualitative research data used during the investigation was captured from two focus groups as well as interviews conducted with middle managers for Company A and Company B. In addition the companies provided the researcher with pre and post quantitative data on the impact of gainsharing for absenteeism, spoilage and labour productivity. The pre-gainsharing results are quarterly data which reflect company performance over the three years prior to gainsharing implementation. The post gainsharing data reflects company performance two years after gainsharing was implemented. For comparison purposes, pre - and post data with similar variables (as gainsharing programmes) were collected from Company C on their 360° Performance Management System (PMS). Similarly, 360° PMS were quarterly data reflecting company performance three years prior to its implementation. Post 360° PMS data reflects company performances after it was implemented. Details of data collection are explained in the Research Methodology Chapter 4.

1.8 Division of chapters

The remainder of this study is structured as follows:

Chapter two: Literature review

The importance of a literature review is its part in the contextualization of the study and to define the gap which the present study seeks to fill. It is defined as a key factor when the explanation of the data is required. The relevance of the findings in the study in relation to the existing body of literature is incorporated in the literature review. This chapter outlines, amongst other things, the context of improved worker performance to improved compensation. The importance of gainsharing as a method of working in groups to identify ways of improving performance is explained. Gainsharing as an organisational learning system

that helps to generate first and second order learning at individual and group level are discussed. Political dimensions and changes in power relationship during gainsharing implementation are highlighted.

Chapter three: Overview of Empirical Evidence

This chapter establishes the impact of gainsharing programmes from companies in other countries that have implemented gainsharing. The experiences of countries that have implemented performance-related pay or variable pay systems (VPS) like gainsharing and related trends are discussed. It is a natural progression from the literature review.

Chapter four: Research Methodology

This chapter provides an exposition of the procedures used to study the research problem and includes the rationale for the methodology employed in the research. The design of the research, including the method of data collection, comparing gainsharing results to a different incentive schemes (that is, 360° PMS), the role focus groups play in this study, administration of the focus group and the values and principles of the researcher during the data gathering process are explained. The rationale for using triangulation, which is the use of both quantitative and qualitative research tools, to study the phenomena under investigation is explained.

Chapter five: Data Presentation and Analysis

This chapter will present results using inferential statistics (for quantitative analysis) and Thematic Content Analysis (a qualitative tool). The quantitative analysis will involve Ordinary Least Squares (OLS) and factorial Analysis of Variance (ANOVA). The qualitative data will be analysed using Thematic Content Analysis. The data gathered from separate focus groups and middle management interviews' transcripts from the two companies will be organised into relevant themes.

The OLS will be used to quantify the magnitude of the impact (if any) that the implementation of gainsharing has on labour productivity. The results will help identify significant relationships

and differences between variables in the study. This being a comparative investigation, it will further compare 360° PMS (which is a different incentive system) with gainsharing to similar study variables. Factorial ANOVA will also be used to establish the effects and interaction between study variables.

On the other hand, Thematic Content Analysis will enable the researcher to examine production and relate the experiences of individuals working for the two companies that have adopted gainsharing programmes. It will further establish whether other variables play an important role in productivity improvement.

Chapter six: Research conclusions

This chapter highlights, amongst other things, a summary of the theoretical orientation, research conclusions, research conclusions and limitation of the study.

Chapter seven: Research conclusions

This chapter presents the implications of research and recommendations. It highlights the methodological strengths and weaknesses of the study, as well as, the recommendations for future research. The work is supplemented with a list of references and data appendices.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

As an organisation matures or moves into a regeneration phase it is required to develop or revise its reward philosophy, strategies, policies and practices. This will help it help to achieve new business goals and support organisational and cultural changes. Such developments are based on an understanding of economic factors affecting pay, the significance of the psychological contract and practical implications of motivation theory. The development of reward management policies, structures and practices are underpinned by assumptions about how people can best be motivated to deliver high levels of performance.

This chapter commences with a comprehensive overview of the development of pay strategies that helps the organisation achieve its business and productivity goals. That is, aligning rewards to organisational goals. Running as a thread throughout the discussion is the importance of gainsharing for company performance. Employee compensation, highlighting the four traditional forms of gainsharing, is outlined. The process for developing a gainsharing programme and perceptions for inequity are highlighted. Gainsharing as a method of working in groups to identify ways of improving performance and major theoretical perspectives of gainsharing are explored. Gainsharing as an organisational learning tool and its implications for organisational development is also outlined.

The marriage of lean six sigma and gainsharing, union status in gainsharing programmes and discussion of gainsharing as a tool that contributes to attractive working conditions aimed at improving productivity are broadly covered. While this study is a comparative investigation of gainsharing programme, this chapter will also discuss a different type of an incentive system. As a result, the 360° PMS (sometimes referred to as the 360° feedback system) will be discussed. Major factors that determine the survival of gainsharing programmes conclude the

chapter.

2.2 Aligning rewards to organisational goals

According to Smith (2007) reward policies have often been made on an ad hoc basis as a result of difficulties in the labour market and sometimes to pave the way for settling awkward negotiations with employees. This led to reward practices being out of line with each other and with overall business needs. In the 1970s, shop-floor incentive schemes were based solely on productivity. High production was often achieved but the quality tended to be poor, increase in waste and poor delivery performance was also noted (Paulsen, 2005). Today, performance related pay schemes have a built-in conflict because they are usually developed to reward the achievements of individuals despite the fact that contemporary Human Resources policy puts great emphasis on building team skills and practice. However, Shonfield (2003) maintains that (in the last ten years), reward policies have become more flexible. He suggests that business should develop a flexible compensation strategy as discussed below.

2.3 Compensation strategy

Companies go through stages of growth, maintenance and decline, each of which calls for a different compensation strategy. As a result, successful plans are not introduced as isolated initiatives but in response to what other companies are doing. They are developed from clear objectives and should form part of a comprehensive management strategy that engage employees in a collective effort to achieve key business goals. Bowey (2003) contends that companies without clearly stated objectives generally have unsuccessful compensation plans. Successful companies, on the other hand, operate their plans as part of an holistic approach, involving senior management support and a wide range of team-building, performance management and communication initiatives.

Companies must have a compensation strategy in place and this should be derived from and contribute to corporate strategy and be based on corporate values and beliefs. Reward strategies such as gainsharing are concerned with the direction the organisation should follow

in developing the right mix and levels of financial and non-financial rewards in order to support their business strategies. Kohn (1993) contends that gainsharing reward strategies should deal with:

- the demands of the business strategy, including cost constraints;
- how business performance can be driven by influencing important individual and organisational behaviours;
- helping to achieve culture change;
- meeting objectives for ensuring the retention of high-quality employees;
- aligning organisational core competences and individual competence;
- underpinning organisational changes, for example introducing gainsharing following a de-layering exercise;
- ensuring that reward policies are used to convey messages about the expectations and values of the organisation;
- achieving the right balance between rewards for individual, team and organisational performance;
- evolving total reward processes which incorporates the best mix of financial and non-financial rewards and employee benefits;
- achieving the flexibility required when administering reward processes within fast-changing organisations in highly competitive or turbulent environments;
- and fitting reward processes to the individual needs and expectations of employees.

The gainsharing reward strategy should be backed-up by a realistic action plan and incorporate an assessment of risks and contingency plans, in case things go wrong. However, the development of a reward strategy is related to the development of competencies (Anfuso, 1995). Organisations must identify specific competencies that are needed in order to differentiate them from their competitors. Generic competences include effective communication, teamwork and a focus on quality. Remmen (2003) emphasises the need for organisations to align these generic competencies to the behaviour and performance of

employees. Fundamentally, the development of a compensation strategy remains important when the organisation is trying to achieve a competitive advantage.

2.4 Flexibility

There is a need for gainsharing programmes to have considerable flexibility. The effects of global markets create a need for flexible reward packages. This requires that a company be able to adapt and change to new trends in global financial markets. For instance, each generation of new products must be brought to the market quickly. New contracts must be brought on stream in an ever faster time-scale. Reaction to competitors' new products must be swift in the global marketplace. As a result, rewards must not be fixed and immutable but contingent upon context and performance. A single compensation package, with minor adaptations, that suits a transfer to any country in the world, has become outdated. Pay systems, in the contemporary business world, are far more flexible and contingent to international long- and short-term compensation practices (Smith, 2007).

Based on the above discussion, it is clear that competitive organisations should recognise that aligning rewards with employee performance creates a stronger and more productive workforce. As business and technology has evolved, so has the manner in which organisations deal with the complexities of organisational compensation management. As one of the largest single line item-expenditures for companies, compensation and benefits usually represent a large amount of a company's cash flow. A well managed cash flow translates into motivating high performers with incentives and communicating expectations to increase productivity for under performers. Gainsharing programmes as a pay-for- performance philosophy can increase organisational effectiveness by aligning employee effort to the organisational mission. This helps to attract and retain top performers and encourages managers to give continuous feedback to their employees.

The introduction underpins the literature review. The importance of aligning rewards to

organisational goals is noted. Compensation strategy that supports the overall strategy and the need for reward in retaining flexibility was discussed. The complexities of an enterprise compensation management and the importance of gainsharing in increasing organisational effectiveness are noted. The next section highlights the forms, features and aims of gainsharing programmes. It defines gainsharing and discusses the reasons for its growing popularity.

2.5 Gainsharing: an employee compensation tool

Gainsharing is a process where employees are involved in performance improvements and share in the financial benefits of these improvements. It is the process of working in groups to identify ways of improving performance. These working groups consist of a cross-section of employees and managers who meet regularly to plan and implement changes that produce improvements in company performance (Bowey, 2003). Cash rewards are shared equally among the various teams in an organisation. Unlike profit sharing, gainsharing systems distribute incentives as a function of non-financial organisational outcomes, such as improvements in quality, productivity and customer satisfaction (Beer & Katz, 1998; Pfeffer, 1998; Schuster, 2006).

Gainsharing is about improving productivity and attracting and retaining high achievers (Duncan & Gross, 1998). Creating a working environment that encourages worker participation and also provides the opportunity for linking improved performance to improved compensation is one way to create the kind of workplace that attracts motivated risk-takers and work teams. Gainsharing is not a single type of incentive programme but rather an umbrella for a family of aggregate pay-for-performance approaches that links financial rewards to improvements (Welbourne & Gomez-Mejia, 1995a). These programmes are custom designed in each company and tend to be variants of four traditional forms of gainsharing programmes. They are the Scanlon programme, the Rucker programme, Improshare and Value Added programmes. There are, however, many variations on these programmes based on added value and other performance measure indicators (Nicholson, 2003).

The Scanlon programme: This programme utilises a fairly simple formula. This is one of its advantages because it is easily calculated, administered and understood by employees (Johnson, 2004). The concept behind the Scanlon formula is that an increase in labour productivity should be shared with employees. The formula seeks to secure a stable and historical ratio representing productivity, which is usually measured as the ratio of labour costs to revenues, net sales, or sales value of production. This simple calculation is often referred to as the single ratio. The formula may also be modified by including other costs such as materials and overheads. Gains in productivity that result from an increase in production or cost savings are shared with workers when the observed ratio is less than the historic ratio (Kohn, 1993).

The Rucker programme: This programme utilises a different ratio to calculate value added gains. According to Welbourne and Gomez-Mejia (1995b), the Rucker programme pays a bonus when a value-added gain is realised. Value added is defined as sales minus raw materials and services procured outside the company. The Rucker programme is similar to a single ratio of the Scanlon programme in that the numerator (that is, the labour cost) is the same. However, the Rucker programme attempts to account for an increased value of sales (due to market factors and inflation not attributed to efforts made by employees) and the cost of materials and supplies due to factors in the external environment, as well as unrelated factors such as workers' efforts (Vandenberg, 1999).

Improshare: This is a proprietary programme based on an established standard that defines the expected hours required to produce an acceptable level of output (Kaufman, 1998). The standard is derived from work measurement. Any saving resulting from increased output is shared between the organisation and employees by means of a pre-established formula.

Value added: This is calculated by deducting expenditure on materials and other purchased services from income derived from sales of a product (Kirkman, 2000). It is wealth created by people in the organisation. A manufacturing business for instance, buys materials,

components, fuel and various services. The combined contribution of management and employees converts these into products which can be sold for more than the cost of the materials (Armstrong & Murlis, 2001). By doing this, the business adds value through the process of production. Increase in value that is added is shared between employees and the company.

These programmes differ on a number of dimensions, including the focus of the plan (for example, improvements relative to historical company standards, in productivity, quality, and the ratio of labour hours to product output) and the degree of team participation in developing improvement schemes (Beer & Katz, 1998; Pfeffer, 1998). Most gainsharing programmes, particularly the Scanlon and Rucker, recommend the installation of two tiers of suggestion committees, each empowered to approve suggestions submitted by workers (Iberman, 1996). The first tier committee is at departmental level with members (of the department) required to elect committee members. Committee members are responsible for encouraging employees to make suggestions, review them, investigate (if necessary) and make final decisions on whether to implement suggestions after careful cost/benefit analysis has been carried out. Ross, Ross and Hatcher (2005) point out that if the cost of implementing the suggestion committee exceeds that of the departmental budget, the suggestion is submitted to the second tier committee. This normally consists of a member from each of the first tier committees and a representative from top management. Suggestions relating to productivity and improvement usually have a favourable impact on the gainsharing formula and this may result in bonuses being paid to workers covered under the programme.

The basic concept of a job is undergoing fundamental change from a prescribed set of tasks and duties assigned to individual workers to a broad definition of expectations. These include an individual's ability to perform multiple tasks and be flexible in contributing to one or more work teams. This emphasis on flexibility and cooperative effort is conducive to an aggregate incentive plan such as gainsharing, which rewards employees for group outcomes (Gomez-Mejia & Balbin, 1992). While team-based incentives may be used, their application is limited because many work teams are transient. However, gainsharing is particularly well suited to a

team environment because rewards are linked to the performance of the entire unit, which reflects the cumulative contribution of all teams (Tsui, 2003).

The dissatisfaction of companies in the USA with other types of pay-for-performance systems resulted in an increased use of gainsharing. Programmes that reward individual performance (such as merit pay and bonuses) have led to disappointing results (Welbourne & Gomez-Mejia, 1995b). Many reasons, as highlighted by Owens (1991), have been advanced for this dissatisfaction and are as follows:

- the difficulty in untangling an individual's contribution from that of other employees;
- the performance measurement problems or supervisory rating errors;
- the lack of credibility because many nonperformance factors (such as position in the salary range) enter into these decisions;
- and social disruption engendered by increased competition and disgruntled employees who feel that they deserve better.

As companies scramble to find alternative mechanisms to reward performance, gainsharing is often regarded as a viable option with fewer negative side effects (Gomez-Mejia & Balkin, 1992). The reason for greater reliance on gainsharing is that these programmes are easier to sell to top management. The out-of-pocket expenses for companies are generally low since any payouts accrued by workers are linked to future unit performance and any realised gains are distributed between employees and the company. By definition, any compensation received by employees under this type of programme is variable, rather than fixed in nature. This means that the company is not committed to a permanent resource allocation (Hanlon and Taylor, 2005). Employees are thus made to partially carry the burden or risks of future performance uncertainty (Graham-Moore & Ross, 1990).

Gainsharing has a long history and companies can easily imitate these programmes by copying or modifying gainsharing programmes used by competitors (Abosch, 1998). They offer substantial flexibility in the chosen formulae to determine payouts and procedures for

distributing gains. The payout criteria may involve a widely diverse set of factors such as profitability, labour costs, material savings, meeting deadlines, percentage rejects, safety record and customer satisfaction (Kiernam, 1993). Many companies are currently experimenting with differential distribution of bonuses using such factors as team performance, seniority, job classification, cooperation, and special achievements (Manz & Sims, 1993). Peck (1991a) adds that the actual procedure for distributing awards varies and may include supervisor's ratings, employee-management committees, cross-functional management teams and peer appraisals. The flexibility for determining and distributing payouts allow organisations to circumvent some of the traditional criticism of the low motivational impact of aggregate incentives, namely free riding and a weak line of vision between behaviour and outcomes that reduces their reinforcement value.

Some forms of gainsharing programmes provide an operational mechanism to implement participative management. Despite much lip service to this concept over the years, participative management has been more of an academic than a practical reality (Gomez-Mejia, Balkin & Cardy, 2000). Gainsharing represents a major exception. Many gainsharing programmes comprise of a committee structure, which elicits and evaluates employee suggestions which provides an efficient channel to promote employee involvement. These suggestions may be converted into action plans which employees find easier to buy into as they were instrumental in developing them.

Although the financial element is obviously a key feature of gainsharing, its strength as a process for improving performance lies equally in its other important features such as ownership, involvement and communication (Kohn, 1993). He describes the following gainsharing features as follows:

- **Ownership:** The success of a gainsharing programme depends on creating a feeling of ownership that first applies to the programme and then extends to the operation. Armstrong and Murlis (2001) add that when implementing gainsharing a company must

enlist the involvement of all employees so that it can increase their identity with, and their commitment to, the programme thus building a large core of enthusiastic supporters. In fact, a company should encourage an ownership culture which promotes employee involvement in gainsharing programmes. Ownership culture has multiple dimensions including access to information, a degree of input into decision making and a sense of organisational fairness.

- **Involvement:** The involvement aspect of gainsharing means that the information generated using company results is a basis for giving employees the opportunity to make suggestions on ways to improve performance, and by empowering them to make decisions concerning the implementation of these ideas (Kohn, 1993). It is the crux of mutually reinforcing linkages between effective team work and successful team-based gainsharing plans. Kohn (1993) suggests that employee involvement should operate through a number of channels including:
 - development of an understanding and buy-in to the goals of the plan and team relationships as well as performance goals it embodies;
 - generating gainsharing programmes - when people work under a self-selected rule for distributing team rewards, they realise significant productivity gains;
 - improving the quality of plan design, and directly generate suggestions and improvements in line with performance goals;
 - and addressing a full range of employee motivations beyond simple monetary needs.

Employee involvement in gainsharing should be carried out at all the stages of gainsharing implementation including the design, implementation and periodic evaluation of the programme. Organisations that solicit employee input regarding gainsharing programme designs tend to have a programme that outperforms systems designed without such contributions.

According to Masternak (2003) gainsharing programmes have an ongoing system of structured employee involvement. The involvement structure typically varies by organisation, but tends to grow and evolve over time. Initially, involvement may be as minor as conducting regular communication meetings or as major as forming self-directed work teams (Armstrong & Murlis, 2001). Some organisations drive total involvement by having every employee participating in a team. In this case, work teams meet on a regular basis to discuss results, identify problems and work on plans for improvement.

Shonfield (2003) contends that a team-based suggestion system is a common gainsharing involvement structure. Basically, employee involvement teams are formed to solicit and review performance improvement suggestions from other members of the workforce. The groups are permanent and meet on a regular basis to approve and implement ideas within their spending authority. Suggestions that are approved by a team, but are beyond its spending authority, are advanced to a higher-level review/steering team. The steering team generally consists of the leaders of each team and key members of management. It announces the bonus results, reviews business trends, identifies operating problems and approves higher spending ideas (Masternak, 2003). It also provides guidance to involvement teams and provides direction on problem areas where idea generation can focus. The steering team may also form project teams as needed. Basically, gainsharing attempts to involve all employees in many different ways.

Employees see the benefits of their productivity improvement ideas turn into gainsharing money which additionally benefits the company with increased profits. Sable (2002) presents different ways that companies use gainsharing to successfully stimulate employee involvement. He states that some companies promote on-the-floor communication between supervisors and employees. This is effective at building a respectful and cooperative relationship on an individual level. Others find productivity committees and/or meetings to be the best method for airing ideas and suggestions. These are very effective ways of discussing group problems, suggestions and accomplishments.

Irrespective of the employee involvement system the organisation chooses, it is critical that problems are addressed, questions are answered and ideas are given thought. This is one of the key concepts that separate gainsharing winners from gainsharing losers. Winners attack problems immediately whilst losers procrastinate. Companies who experience positive gainsharing results listen to suggestions and try as many new ideas as possible.

Communication: Gainsharing programmes are always based on key performance measures such as added value. The company should ensure that everyone involved knows exactly what is happening in these performance areas, why it is happening and what can be done about it. The communication process used is twofold: management communicates performance information to employees, who, in turn, communicate their proposals for improvement back to management (Vanderberg, 1999). The financial basis of gainsharing provides extra focus for the processes of communication and involvement. Clear communication has to take place in a successful gainsharing environment. Employees need to understand goals and how to reach them.

After deliberation about the main features of gainsharing, it is fitting to enlist the main aims of gainsharing. Johnson (2004) contends that the main aim of gainsharing is to improve organisational performance by creating a motivated and committed work force that wants to be part of a successful company. More specifically, he enumerates the following aims:

- to establish and communicate clear performance and productivity targets;
- to encourage more objective and effective means of measuring organisational or factory performance;
- to increase focus on performance improvement in the areas of productivity, quality, customer service, delivery and costs;
- to encourage employees to participate with management in the improvement of operating methods;

- and to share a significant proportion of performance gains with the employees who have collectively contributed to improvement.

From the above discussion, it's evident that gainsharing is likely to foster group cohesion. The group should have similar goals and objectives, work closely with one another, and depend on one another for the group's overall performance. Gainsharing can motivate group members to behave and think as a unit rather than as competing individuals.

When deciding to implement gainsharing programme, it must be kept in mind that as the basis for a reward becomes further removed from the team's immediate control (for instance, organisational profit), gainsharing will be less effective at improving team performance. This has been termed the line-of-sight problem in which teams feel they cannot affect organisational performance (or other outcomes) significantly or directly, so they do not try to improve their performance (O'Neill, 1995). If line-of-sight is a concern, a group or part of gainsharing programme that targets departmental objectives may be more appropriate, as departmental outcomes may be easier for a team to recognize and take control over (Nickel & O'Neal, 2005). Additionally, when a gainsharing system is instituted, it is argued that payouts should be frequent, so that the relationship between team performance and reward is clear (Thornburg, 2006). Gainsharing programmes with equal payouts across teams work well in highly interdependent organisations, where inter-team cooperation is important.

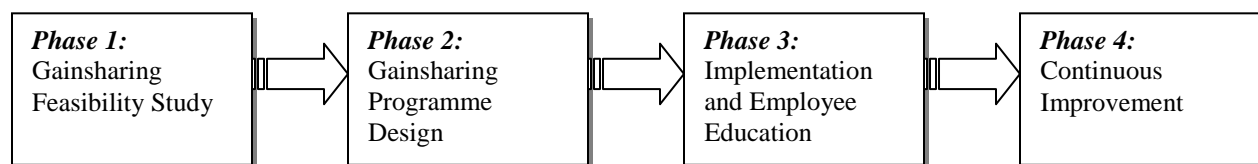
The aforementioned literature outlines forms of gainsharing programme; reasons for the growing popularity of gainsharing, as well as, the important features and aims of gainsharing. The next section discusses the gainsharing process model highlighting the four phases for implementing gainsharing programmes.

2.6 The gainsharing process model

The typical process for developing a gainsharing programme involves four phases. Schuster (2006) contends that the first two phases take three to four months to complete and the third phase usually takes a month. The fourth phase is the final phase and includes continuous assessment of the programme. Top management's commitment to gainsharing is an essential ingredient in the success of gainsharing programme implementation. This commitment should be intensified in the first three phases of the process model.

Once top management is committed to moving ahead with the implementation of a gainsharing programme, a coordinator should be selected. Ideally, the person should be a member of top management. The person normally takes responsibility for management of the gainsharing programme during its first two or three years of implementation as part of their existing job responsibilities. The coordinator may be supported by a gainsharing administrator depending on the size of the organisation and the objectives of the gainsharing programme. The gainsharing administrator is usually a full-time or close to full time position. The main task of the administrator includes handling the day-to-day coordination and communication of the gainsharing effort. Where there is an existing employee involvement infrastructure the duties of the administrator can be assigned to employee involvement structures such as process improvement team members. The following diagram illustrates the gainsharing process model:

Figure 1: Gainsharing process model



Source: Schuster (2006)

Phase 1: Gainsharing Feasibility Study - a feasibility study determines whether a gainsharing programme will create significant behavioural change in employees and identify obstacles for success. At the centre of feasibility studies is a work-practice survey that must be completed by employees. Face-to-face interviews or focus groups are usually conducted by persons conducting feasibility studies as well. These interviews and/or focus groups underpin the results of the survey process. Shonfield (2003) emphasises that a company should compare itself to a normative database of companies. Differences from the norm will help determine focus group/interview content. A thoughtful review of findings, conclusions, recommendations and plan design alternatives will enable leadership to make an informed decision on whether or not to proceed with the proposed gainsharing programme design.

Phase 2: Gainsharing Programme Design - a representative group of employees (12 to 24) should be randomly selected from volunteers to design the new programme, often with the help of a human resources specialist or consultant (Schuster, 2006). The designated team should design a gainsharing formula, create a plan for communicating business results to employees and recommend tools for getting employees more involved in process improvement. The team should then present its recommendations to leadership. Upon approval, the design team will be responsible for presenting the programme to all employees. Luthan and Stajkovic (2003) present the following key elements that must be considered during the design of such a programme.

- **Strength of reinforcement.** The role of gainsharing in encouraging behaviours that are rewarded.
- **Productivity standards.** The programme uses historical or scientifically developed work standards.
- **Sharing the gains.** This refers to a split between management and workers. Part of the plan must address the relative cuts between management and workers of any profit or savings generated. This includes discussion of whether an emergency reserve (gains withheld from distribution in case of future emergencies) will be established in advance of any sharing of profit.

- **Scope of the formula.** Formulae can vary in the scope of inclusions for both the labour inputs in the numerator and productivity outcomes in the denominator. Innovations in gainsharing programmes largely address the types of productivity standards considered appropriate (Thornburg, 2006). However, organisations are complex and require more complex measures. Performance measures normally expand beyond traditional financial measures.
- **Perceived fairness of the formula.** When gainsharing programmes with different goals covering different employee groups are implemented, coordination to ensure equity becomes increasingly important (Abosch, 1998).
- **Ease of administration.** Abosch (1998) adds that the sophisticated plans with involved calculations of profits or costs can become too complex for existing company information system. Increased complexities require more effective communication and higher levels of trust among participants.
- **Production variability.** One of the major sources of problems in group incentive plans is failure to set targets properly. At times the problem can be traced to volatility in sales (Sable, 2002). Large swings in sales and profits (not resulting from any actions by workers) can cause both elation (in good times) and anger (in bad times). A good plan ensures that environmental influences on performance, not controllable by plan participants, should be factored out when identifying incentive levels. Fisher (1996) suggests that the company should set standards that are relative to industry performance. On instances where data are available, the company could trigger gainsharing where performance exceeds some industry norm.

Phase 3: Implementation and Employee Education - In this phase, the design team introduces the programme to all employees and explains its linkages with business communications and process improvement tools. Gerhart and Trevor (2004) advise that the company should select and train process improvement team members, assign accountability for administrative support tasks and detail processes for ongoing communications and new employee orientation to gainsharing. Fundamentally, the role of the gainsharing implementation team is to provide a

structure for the transition from plan design to plan implementation. This team has dual responsibilities which are:

- launching the gainsharing programme;
- and selecting and training the gainsharing administrative committee.

These separate responsibilities highlight the distinct nature of the work required in introducing and administering the programme. Chances for the implementation process to successfully reflect and integrate key objectives for the programme are improved if a comprehensive approach has been followed as part of the earlier phases of the project. The aim is to evaluate what has transpired and consciously validate or modify the proposed course of action.

Phase 4: Continuous Improvement - The Company should institute an audit in an attempt to establish the strengths and weaknesses of the programme one year after it has been introduced. Gains attributed to the programme should then be quantified and the programmes return on investment (ROI) assessed.

The purpose of this section was to discuss various phases of the gainsharing process model. While organisations implementing gainsharing require a comprehensive approach, top management's commitment for effective gainsharing implementation is essential. The next section discusses the theory of compensation (that is, the equity and expectancy theories) which relates to employee motivation that relates to an increase in company performance.

2.7 Compensation and company performance

Monetary incentives are associated with the largest average increase in physical productivity (Van Erde & Thierry, 1996). Changes in pay practices have the potential to change attitudes, behaviours and organisational functioning significantly. The challenge is to realise the potential of money as a motivator. This must be completed while, at the same time, surmounting many barriers that may arise in terms of measuring performance, setting standards that are perceived

as fair and choosing the mix of individuals, groups and organisational objectives to reward. As organisations continue to face mounting competitive pressures, they seek to do more with less and do it with better quality. Gerhart, Minkoff and Olsen (1994) are of the view that goals for sales volume, profit, innovation and quality are raised if employment growth is tightly controlled.

Compensation plays a major role in the effort to manage human resources better. It plays a key role because it is at the heart of the employment relationship, being of critical importance to both employees and employers. When it comes to improving productivity and quality at the work floor level, gainsharing has earned a well-deserved positive reputation. The logic behind gainsharing is to solicit workers' suggestions and participation in improving cost-output ratios and to share with them the gains achieved. The advantage is that the performance measures in gainsharing programmes (for instance, labour costs and quality) are often more controllable, fostering employee motivation to change behaviour. The trade-off is that gainsharing programmes sometimes pay out even when a company is losing money (Hanlon & Taylor, 2005). Another difficult situation arises when management would like to bring more work into a plant, but cannot afford to because the planned payouts would be too costly. Based on these scenarios, one might say that gainsharing programmes (consistent with the general history of incentive plans) sometimes fail because they are too successful. Thornburg (2006) suggests that payouts of any incentive plan must walk a fine line between being too low to motivate employees and being too high for management to afford them. Even when standards work well initially changes in production levels and technology often result in the plan being unacceptable to one party or the other. In some cases, management may choose to buy-out employees by paying a lump sum settlement in exchange for being able to redesign the plan with different standards, especially in unionized settings (Kim, 1999). An implication is that any sort of variable pay like gainsharing programmes should have a so-called sunset provision that requires evaluation of the plan after a specified number of years. This is suggested so as to avoid having the pay programme becoming irrelevant because the organisation changed, but the gainsharing programme did not.

The growth in gainsharing programmes results from an increased use of total quality management (TQM). This entails a movement towards a team-based organisation and empowerment of employees (beyond their traditional roles) in making decisions in a broader range of areas that are likely to impact on organisational performance. Abosch (1998) adds that team and small group incentives have attracted considerable attention in recent years as an important component of the total quality management initiative. Individual-oriented system may not be adequate for encouraging employees to pursue broad organisational goals and to engage in the co-operative team and group-based decision-making that is necessary. Team-pay systems amplify messages on the importance of teamwork, the value of group problem solving and the need for teams to take responsibility for managing the processes under their control. Team pay reinforces skills development in these areas.

Bolster, Chance and Rich (1996) insist that almost all companies using team pay have encountered administrative complexities. These include difficulty in isolating contributions of the individual teams within the context of a larger work unit and resistance from employees who want to hold onto individual merit systems they have known throughout their working lives. Kraizberg, Tziner and Weisberg (2002) emphasise that expectancy theory (in Vroom, 1964) and equity theory (in Adams, 1963) play a big role in explaining employees' increased work motivation. According to Kraizberg *et al.*, (2002), Expectancy Theory maintains that the link between behaviours (referred to as instrumentality perceptions) and the expected (rather than experience) rewards accounts for the tendency (that is, motivational force) of an individual to pursue a given course of action. Two additional factors for Expectancy Theory determine motivational force-driven behaviour. These are *expectancy* which refers to the perceived link between effort and performance, and *valence* which refers to the expected values of rewards received once the goal has been achieved. Thus, the greater the value of a set of awards and the higher the probability that receiving rewards depends upon effort, the greater the effort that will be put in a given situation. But effort alone is not enough. It has to be effective effort if it has to produce the desired performance. The link between the employee's level of performance and the amount of incentive a person receives in return

appears clearly established and straightforward. In terms of Expectancy Theory, this should produce a considerably higher level of work motivation and improved performance, since rewards are directly dependent on individual efforts.

The aim of this section was to gain an insight into the importance of compensation in motivating employees to improve company's performance. Running as a thread throughout the section is the impact of how motivational theories underpin individual and team performance. The next section explains how the perception of inequity may result in reduced or limited work motivation.

2.8 Perceptions of inequity and the importance of Equity Theory

In gainsharing, the employee has no direct control over the amount of incentive he or she is likely to earn. Monetary rewards are given to all employees, whether equally or differentially and are contingent upon the performance of the entire company. As individual employees have only a partial influence over the performance of the company as a whole, they may not see the link between their efforts and the bonuses they earn. Bolster *et al.*, (1996) confirm that gainsharing programmes could result in reduced or limited work motivation that adversely affects employee performance. In other words, the instrumentality might be low. As a result, Expectancy Theory predicts a lower level of work motivation and subsequent performance for gainsharing than for merit pay. On the other hand, Gerhart *et al.*, (1994) describes Equity Theory as employees' perceptions of what it contributes to the organisation and what they get in return, as compared to other persons inside or outside the organisation. This determines how fair they perceive the employment relationship. They maintain that the perceptions of inequity often result in employees taking action in order to remedy the situation. This is a hypothesis upheld by empirical studies. They further contend that the application of this theory to merit and gainsharing yield the following predictions:

- merit pay will be perceived as more equitable than gainsharing because it is directly linked to the level of individual performance;

- and the fact that incentive on gainsharing is allocated to all employees. High performers may earn the same as low performers and employees who have contributed substantially to the company's financial success may receive the same rewards as those whose contribution is less significant. This leads to the perception of inequity.

Regarding equity, employees normally compare their pay to others in making judgments about fairness of pay. Equity theory, as developed by Adams (1965), argues that satisfaction with pay is related to perceptions about the ratio between what one receives from the job (outcomes in the form of pay) to what one puts into it (inputs in the form of effort and skill) compared with the ratios obtained by others. It is related to Discrepancy Theory which, as stated by Lawler (2007), indicates that satisfaction with pay depends on the difference between the pay people receive and what they feel they ought to receive. It is clear that managing pay equity is managing employee perception. On the other hand, managing internal equity is more important than external equity. An employee, for instance, is much more likely to know the salary of the person in the office next to him or her, than the salary of a person at another company. Also, the employee will have a better basis for salary comparison because he or she has a better idea of what that employee's job and job performance is. All this might create a much higher potential for morale problems and labour turnover. Companies may manage internal equity by paying people within a specified salary range or use gainsharing thus paying people for their performance. However, changes in performance standards, due to changes in technology and related work methods may cause the perception of inequity and reduce the perceived link between pay and performance.

From the above discussions, it is evident that income distribution (through narrowing inequities), increases wages of the lowest paid employees, protects real wages (that is, the purchasing power), and complies with equal pay for work of equal value. Even pay differentials based on differences in skills or contribution are related to equity. On the same note, efficiency is also closely related to equity because the two concepts are antithetic. Efficiency objectives are reflected in attempts to link part of the wages to productivity or profit, group or individual

performance, acquisition and application of skills. Arrangements to achieve efficiency may be seen as being equitable (if they fairly reward performance) or inequity (if the reward is viewed as unfair). From the above analysis, employees view the conditions of gainsharing as fair if they believe in the programme. It is important to keep gainsharing programmes simple and they should be understood by all employees. Complicated earnings formulas should be avoided. Employee trust requires that employees understand how the gainsharing programme works and how the programme affects their pay.

On the other hand, Hanlon and Taylor (2005) emphasise the importance of Reinforcement Theory. According to this theory, a response (behaviour) followed by a reward is more likely to result in the behaviour recurring in future. The implication for compensation management is that high employee performance followed by a monetary reward will, more likely make future performance high. By the same token, high performance not followed by a reward, will make behaviours less likely to recur in the future. The theory emphasizes the importance of a person experiencing a reward. Kiernan (1993) insists that a gainsharing programme offers employees a better line of sight (instrumentality) between their performance and rewards. He further suggests that the motivational impact of such programmes may be stronger than other organisation-wide programmes, like profit sharing. Gainsharing payouts are typically based on measures like value added, sales value of production, or hours saved, which are more able to be controlled by employees than profits performance. Owens (1991) believes that an organisation's commitment to gainsharing is represented by its investment on time, effort and resources during its implementation. Kim (1999) maintains that high commitment results in organisational members resisting attempts to change the selected behaviour. Indeed, a gainsharing programme that starts with high commitment might conceivably persist even if the programme is initially unsuccessful, because of decision-makers' reluctances to reverse their choices.

This mechanism (known as the escalation of commitment) is expected to be greater when the organisation devotes more resources in the initial stage of gainsharing. Paulsen (2005) adds

that the four variables used as indicators of an organisation's initial commitment to gainsharing include employee vote, union involvement in programme design, the development of a custom plan and the hiring of consultants. Bowey (2003) points out that in some organisations, employees are allowed to vote on whether to introduce gainsharing. Their vote serves as a good indicator of their overall interest in gainsharing. When the company has a payout measure that is controlled, gainsharing has the advantage of covering a smaller number of employees, which is also beneficial for motivation; because there is less likelihood of employees' free riding (that is, working less hard because others will work hard). Gerhart *et al.*, (1994) as cited in Kaufman (1998) maintains that the doubling of employees covered by a gainsharing programme from two hundred to four hundred will reduce the expected productivity gain by twenty five percent (25%) The implication is that the number of employees covered by gainsharing has a substantial impact on a programmes success. Vandenberg (1999) contends that small bonus groups are hypothesised to have better chances of survival than large ones. He highlights the following three reasons for this:

- workers in a small group perceive a stronger link between efforts and rewards than those in a large group. This may produce a stronger commitment to gainsharing;
- small groups may provide a more informal environment and may induce more interactions among group members, strengthening group identity. Kim (1999) insists that the small bonus groups would be more likely to persist in the long-run since the identification helps maintain desired behaviour patterns;
- and shirking workers are more noticeable in a small bonus group. Co-worker sanctions can be imposed more easily in a small group than in a large one.

Imberman (1996) highlights a 1989 finding from a study conducted by the American Management Association (AMA). The study reported that only one-third of companies in the USA had success with gainsharing, boosting their productivity and radically reducing the cost of waste, spoilage, rejects and rework. Two-thirds of the companies investigated by the study had their gainsharing programmes result in failure. The major causes of breakdown were listed as:

- faulty payout formula by which the gains were to be measured and bonuses paid;
- the programme was initially presented to employees in an overly optimistic manner;
- and the lack of support by middle managers.

Gerhart *et al.*, (1994) contend that the majority of organisations in the USA are moving to gainsharing because they are frustrated with the failure of more traditional merit pay plans. Common problems include a lack of adequate differentiation between good and poor performers, employee and supervisor resistance and the fact that employees sometimes view merit plans as an entitlement. When team interdependence is not a factor in organisational success, gainsharing systems with equal reward amongst teams may be less appropriate. In such cases, more competitive structures (that is, the size of a reward is dependent upon team performance) may actually improve team productivity. However, when introducing competitive team gainsharing structures, it is crucial that teams perceive such structures to be equitable. Essentially, the perception should exist that each team could attain the same rewards if they put in the same amount of effort, otherwise, feelings of unfairness will result.

By the same token, the organisation must decide on how they distribute incentives among team members whose teams qualify for cash. If team members perform similar functions, or if their tasks are highly interdependent, equality of reward distribution is most likely to ensure optimal team performance (Ferrin & Dirks, 2003). As the need for co-operation among team members increases (for example, encouraging one another, and pooling information and ideas) the need for equality of rewards also increases (Wageman & Baker, 2003). If, for some reason, team member interdependence is not essential for success, or if some members of the team clearly make more important contributions than others, the team incentive distribution should reflect this by being equitable (that is, a reward distribution based upon relative contribution may be most effective). When instituting a different reward distribution system, the organisation must ensure that it is possible to effectively measure the relative contributions of team members to team outcomes.

This section presented a framework which underpins gainsharing theory and practice, as well as, exploring the suitability of gainsharing practice. From the above discussion, it should be noted that one of the important consideration in determining gainsharing target is equity. The gainsharing goal has to be fair for both the company and employees. With regards to the company, there must be an improvement in productivity which is due to employee efforts and not on outside factors. The target must also be achievable for the employees. Nothing will undermine the credibility of the plan faster than setting an unattainable goal. The employees must sense that an improved and sustainable effort will allow them to achieve consistent bonuses. Therefore, it is essential that the gainsharing programme be designed with both needs in mind.

The next section examines theoretical perspectives that are used as an explanatory framework to assess the antecedents and consequences of gainsharing outcomes. It discusses socio-psychological, organisational and economic perspectives which explain why and how gainsharing affects employee behaviours and conditions that are conducive to its successful implementation.

2.9 Major theoretical perspectives of gainsharing: Socio-psychological; organisational and economic perspectives

2.9.1 Socio-psychological perspective of gainsharing

This category examines employee reactions to gainsharing in light of how they perceive gainsharing programme and how it affects them personally. Perspectives covered under socio-psychological perspective include human relations, participative management, expectancy theory, operant conditioning, needs theory, equity theory, social dilemmas and procedural justice. Each of these is discussed in turn.

- **Participative Management:** This stream of theory on gainsharing focuses on the basic notion that if employees are induced to cooperate by giving them voice and a chance

to participate in important decisions regarding their jobs, they likely will augment commitment to the organisation, improve work motivation, and enhance overall productivity. Employees understand their jobs far better than management and tapping this knowledge, through gainsharing, offers an important means of increasing organisational performance. This view can be traced back to the classic writings of Mayo (1945) and his followers who argued that the administrator normally deals with well-knit human groups and not with a horde of individuals. He claimed that every social group must face two perpetual and recurrent problems of administration. It must secure for both individual and group members:

- the satisfaction of material as well as economic needs;
- and the maintenance of spontaneous cooperation throughout the organisation.

The human desire for co-operative activity persists in individuals and can be used to good effect by intelligent and straightforward management. Gainsharing provides a medium to accomplish this by aligning the cooperation imperative of workers (through suggestion committee structures) with the objectives of the organisation (through the criteria used to trigger payoffs) while at the same time satisfying the material and economic needs of workers (through bonus system). Among the important variables that influence the degree of employee participation in organisational decision processes are employee beliefs about what they are entitled to receive (de Jager, 2002). Such employee belief constitutes a psychological contract with the employer. The breach of a psychological contract between the employee and an employer can be detrimental to employee behaviour in which the participative approaches are designed to elicit (Kaufman, 1998). The process has a snowball effect in that the employee participation raises aspirations and expectations of even greater participation.

- **Expectancy Theory**: Goodman and Moore (2004) suggest that employee perceptions of gainsharing are the result of two expectancies. These include, system expectancy (the perception that suggestion making is linked to receiving a bonus), and self- expectancy (the perception that an individual can submit a suggestion if effort is exerted).

- **Operant Conditioning**: According to Mawhinney and Gowen (1991), the most effective gainsharing programmes meet the following three criteria.
 - A bonus should follow accomplishment of performance targets with minimal delays.
 - The work group should provide social reinforcement for high performance.
 - The negative effects of delayed rewards should be mitigated through system components that provide feedback. In other words, feedback can compensate for delayed reinforcements under gainsharing.

- **Social Dilemmas**: One of the concerns with aggregate incentive systems like gainsharing is the so-called *free-riding* effect whereby individuals accrue the benefits of the group effort which may serve as a disincentive to individual efforts (Gomez-Mejia & Balkin, 1992). This creates a social dilemma because employees can benefit from an improvement in-group performance regardless of their personal contribution to that performance. In a manner akin to the participative management models, Cooper, Dyck & Frohlich (1992) argue that this social dilemma may be solved through group decision making in deciding how rewards are to be allocated within the group. Specifically, when people participate in developing a rule of distribution of income, they will choose to take into account both the needs of the least productive and the entitlements of the higher achievers (Cooper, 2006). Only when these are met will the organisation realise significant productivity gains. Any distribution rules imposed from outside the group will not produce the same effect. In fact, they are likely to augment a social dilemma whereby individual and group incentives diverge.

- **Equity and Justice Theories:** According to Cooper (2006), the response of employees to gainsharing depends on their perceptions of the programmes fairness. Hammer (2000) mentions that a bonus provides an impetus for participation, which is the key to change employee effort. In this case, bonuses act to influence participation when it is promised and received. In other words, the promise of equity in the contractual relationship between employer and employee creates the conditions for participation to occur. In turn, participation can only be sustained if appropriate reward contingencies exist that are perceived as equitable. Welbourne and Gomez-Mejia (1995a) expand on this theme by explaining that the perceived fairness of outcomes and procedures exerts a strong influence on how employees react to gainsharing. From this perspective, the effectiveness of gainsharing in terms of eliciting desired employee behaviour depends on the joint presence of distributive and procedural justice. The processes through which decisions are made form the basis of perceived procedural justice. This is in contrast to the concept of distributive justice, which is concerned with the perceived fairness of the consequences of those decisions (that is, gainsharing bonus). Kaufman (1998) concludes that workers are more likely to contribute if they believe that high rewards are commensurate with those efforts (that is, distributive justice). Likewise, lack of perceived procedural fairness creates a cognitive discrepancy for the employees involved, thus lowering their relative contribution to the programme. Graham-Moore and Ross (1990) explain that, in a gainsharing programme, the perceived fairness of procedures may be more important to workers than the perceived fairness of outcomes received.

Discussions relating to the above theory show that equity and justice-based models link gainsharing to the mainstream organisational behaviour and that the compensation accords perceived fairness a pivotal role. It seems these models raise red flag concerning the dangers involved with the implementation of gainsharing programmes, which do not take into account employees' perceptions of the rewards. Authors appear to provide a complementary theoretical structure to strengthen the conceptual power of the participative gainsharing

model. This is because employee involvement in the design of the gainsharing programme and the allocation of rewards are highly correlated with procedural justice, which in turn affects the extent and value of future participation.

2.9.2 Organisational perspectives of gainsharing

The organisational perspective of gainsharing focuses at the firm level of analysis or at the interface between the firm and its environment. The effectiveness of gainsharing is analysed primarily in terms of contextual factors. This is discussed in terms of three categories, structural, contingency, and social fields.

- **Structural Models:** Structural models argue that organisational factors or conditions that exist prior to the implementation of gainsharing ultimately determine its relative success (Bullock & Lawler, 2005). Therefore, gainsharing has little chance of succeeding unless these conditions are explicitly addressed in the design and implementation phases. Graham-Moore and Ross (1990) propose an analogous model to predict gainsharing success. They list organisational (climate, size, technology, policy, reward systems, and identity), socio-cultural-institutional (union and industrial relations' climate, workforce characteristics, external environment, and geographical factors), individual (managerial philosophy, trust, locus of control, skills level, motivation, and satisfaction), and financial (accuracy, budgets, control, knowledge of competition, government constraints) variables as factors that determine gainsharing success or failure.

Bullock and Lawler (2005) developed a comprehensive model of gainsharing and categorised the determinants of gainsharing success as:

- structural factors (for instance, suggestion committees, financial formula, payout percentage);
- implementation factors (for instance, employee involvement, objectives, use of interventionist);

- and situational factors (for instance, size, union status, management style, technology, environment).

Bullock and Tubbs (1998) use a case meta-analytic technique to indicate that the four structural features predicting gainsharing success include employee involvement in plan design, the use of outside practitioners, formal involvement structures and employee favourability towards the plan. They emphasise that, with the exception of participative management styles, situational conditions do not correlate with gainsharing success. Success was robust across organisational size, union status, technology and environment. Based on the above factors, it becomes clear that gainsharing cannot be introduced as a stand alone entity without simultaneously examining other organisational factors that may singularly or interactively affect its success.

- **Contingency Theory:** Contingency theory as applied to gainsharing dovetails the structural models discussed above. The central principle of contingency theory is the lack of fit between two or more elements of a system which reduces its overall effectiveness (Welbourne & Gomez-Mejia (1995a)). In other words, the performance of the system in total is a direct function of the match between its various components. In special cases of gainsharing, effectiveness is predicated on its fit with other organisational factors, rather than as independent phenomena that can be examined out of context. MacDuffie (1995) claims that empirical tests of contingency notions as applied to gainsharing are hard to find.

Authors of contingency theory provide a framework that could be applied to investigate the fit between various types of gainsharing programmes and contextual factors and how their congruency affects observed results. It could also be seen that contingency theory provides more rigour to the structural factors approach reviewed earlier.

- **Social Fields Theory**: The objective of this theory is to explain whether or not gainsharing is more likely to be implemented and be effective under favourable conditions, or whether it can be introduced successfully under adverse conditions that management desires to change. Collins, Hatcher and Ross (2006) developed two competing gainsharing models. The first model, labelled compatibility, argues that gainsharing is most likely to be introduced and be successful in facilities with the fewest restraining forces (that is, most favourable conditions). In this case, gainsharing boosts the facility from good to a relatively better level of operations. At the opposite extreme, a transformation model predicts that gainsharing is most likely to be adopted and have the greatest positive effects on the organisation in facilities with the greatest restraining forces (that is, unfavourable conditions such as a negative work climate that management wishes to change). Under the transformation model, the objective of gainsharing is to raise the facility from a relatively poor level of operations to a relatively better level of operations. This theory seems to be consistent with other models of organisational change which state that innovations are more likely to be adopted and/or succeed when there is a strong perception of a need for change. It may further be concluded that while gainsharing is often promoted as a means for achieving greater levels of involvement, it is more likely to actually be implemented in settings where there are already higher levels of cooperation and in non-union facilities where there are already higher levels of participation. Nevertheless, more empirical studies are required to validate this claim. The other factor that talks to companies that have implemented gainsharing is to ascertain if the gainsharing programme as an intervention may result to positive effects on reversing dysfunctional conditions (for instance, a negative work climate and low employee participation). These adverse conditions may act as restraining forces reducing the probability that gainsharing is introduced in the first place.

2.9.3 Economic perspectives of gainsharing

Although there is minimal contribution from the body of literature on an economic perspective of gainsharing, the economic framework offers some powerful analytical models that may provide an important insight. Two of the economic conceptual frameworks includes agency and behavioural theory and are discussed below.

- **Agency Theory:** An agency relationship involves any situation where decision-making responsibility is delegated to a second party for a fee (Huzzard, 2006). Examples of agency relationships include professionals and clients, insured and insurer, shareholders and management (March, 1999). Jensen and Meckling (2003) extend the definition by implying that any cooperative situation, even those that are not obviously a principal-agent relationship (for instance, a volunteer organisation or co-authoring a paper), can be considered as such. An agency relationship exists within an organisation not only between owners and top management but also between the managers and employees. Gomez-Mejia (1994) contends that gainsharing programmes can also be analysed in terms of the agency relationships that are present. The problem of agency often results from the assumed utility maximising behaviour of both principals and agents. Moral hazard is one type of agency problem that may be attributed to the purported self-serving and opportunistic behaviour of the agents (Kotowitz, 1999). The work environment is described as a situation where agents can make decisions to maximise their self-interest, often at the expense of the owners or principals (Barney & Ouchi, 1997). The term moral hazard originated in the insurance industry, where an insurance policy creates an incentive for the insured to cause an accident (Arrow, 2001). Moral hazard and adverse selection (the second agency problem) result from information asymmetries that provide one party (agents) with information that is not available to the second party (principals) (Gomez-Mejia & Balkin, 1992). Adverse selection refers to the principals' inability to make correct decisions because they do not have complete information on a work-related subject. This concept is often applied to the issue of hiring. Principals do not have complete information on the agent (who may withhold

critical information on the agent's mistakes) and can only infer qualifications from data provided by agent (Huzzard, 2006). This could result in decisions being taken that are less than optimal, from the principal's perspective. Agency theory thus focuses on how to reduce the agency problem, which translates into a minimisation of agency costs.

According to Fein (1991), agency costs include:

- monitoring costs incurred by the principal in an effort to keep abreast of the actions of the agent (for instance, hiring supervisors, implementing incentive systems, enacting budget controls);
- bonding costs incurred primarily by the agent (but often the principal must incur some administrative costs such as audits) to guarantee the principal that the agent is not performing outside the boundaries intended by the agent;
- residual loss, which is defined as the inevitable loss incurred by the principal because it is impossible for principals to use monitoring or bonding arrangements to guarantee one hundred percent (100%) full compliance by the agent;
- from the perspective of the principal, the equation to be minimised is as follows:
 - $\text{agency Costs} = f(M + B + R)$,
 - where: M = Monitoring, B = Bonding, and R = Residual loss.

When the principal makes no attempt to minimise agency costs through the use of monitoring and bonding agreements, the total cost is equivalent to residual loss. The goal of the principal is to minimise agency costs. Transferring resources to monitoring and bonding is rational to the extent that this action would reduce residual loss at a greater rate than incurred by implementing these types of controls. If the principal invest funds in developing, executing, and monitoring contracts with agents to minimise agency costs, and these efforts do not reduce the residual costs, then the total agency costs could actually increase (Stiglitz, 1974). For

instance, excessive executive monitoring may increase residual loss rather than reduce total agency costs by making the executive too risk adverse (Tosi & Gomez-Mejia, 1994).

Various control mechanisms may be used by firms to control employee behaviours thereby reducing agency costs. Other things being equal, the optimal contract is characterised as one where complete monitoring of the agent by the principal can be done, thus minimising residual loss as much as possible (Eisenhardt, 1998; Holmstrom, 1999). This suggests a negative linear relationship between residual loss or total agency costs and monitoring and bonding behaviours where agency costs and residual loss would be minimised at the point where complete monitoring could be conducted. Given the fact that many employment contracts must be specified under conditions where the agents' work behaviours cannot be easily programmed or monitored by the principal (such as executive, management, and sales positions). The principal may rely on incentive contracts as an alternative to supervision. In this manner, the interests of both parties overlap so that incentives may act as a form of agent self-monitoring (Gomez-Mejia, 1994).

For production workers, the most widely used option for minimising agency costs has been agent monitoring rather than incentive alignment. This is normally accomplished through the employment of supervisors, use of extensive policies and procedures (such as probationary period and progressive discipline), development of detailed job descriptions, and the administration of performance appraisal (Gomez-Mejia, Balbin & Cardy, 2000). Welbourne and Gomez-Mejia (1995b) argue that this form of control may lead to a reduction in residual loss that is less than the increase in monitoring and bonding costs. This occurs whenever employees conform to behaviours dictated by managers who have incomplete information about the task. This conformity causes employees to be complacent and they have no incentive to search for more effective ways of performing the job. The phenomenon is referred to as the behavioural cost of monitoring. As jobs become more complex and interdependent and as the supervisor lacks the technical know-how to effectively monitor worker's performance or write effective job procedures, excessive controls over employee behaviour can thus result in either decrease in residual loss that is lower than expected or even increases in residual loss if the

hidden behavioural costs of monitoring are sufficiently high. In other words, employees exposed to excessive control or monitoring might not take the initiative to find creative solutions to problems or make suggestions for more efficient means of conducting their jobs. Due to these behavioural responses, it is possible that additional monitoring may simply transfer agency costs from residual loss to monitoring costs or potentially augment total agency cost.

According to Welbourne and Gomez-Mejia (1995b), gainsharing may be conceptualised as a different form of monitoring which helps prevent the dysfunctional effects noted above. Gainsharing attempts to minimise agency costs through reduction of both monitoring and residual loss rather than merely transferring costs from residual loss to monitoring costs. Through the use of a contract that has both behavioural and outcome-oriented components, the firm encourages employees to behave in a manner consistent with the needs of the principal. Gainsharing reduces monitoring expenses incurred by the principal because it encourages employees to monitor one and others' performance. It also reduces residual costs, including the behavioural cost of monitoring, because workers are encouraged to find and implement innovative procedures within their work environment. From this perspective, gainsharing can be viewed as an attempt to transfer a business unit from the traditional hierarchical organisational design to one that is more similar to what Fama and Jensen (2004) describe as existing within a formal partnership. Partnerships (such as those found in legal or accounting firms) create an environment where all members share the business risk and also share the wealth (gains or losses incurred by the partnership). Gainsharing programmes create an agency relationship between top management and members of the gainsharing unit and, as such, risk is spread among all members of the unit, and gains and losses are also shared among the members of the unit. Given the contract terms of this new agency agreement, the behavioural consequences of gainsharing should be consistent with the behaviours found within teams and between work teams that are part of professional partnerships.

Specifically, internal monitoring both within a work team and between work teams should increase as a result of gainsharing implementation. When Fama and Jensen (2004) discuss

internal or mutual monitoring, they allude to the fact that when agents interact to produce outputs they acquire low-cost information about colleagues, information not directly available to higher-level agents. They further say that the mutual (internal) monitoring systems tap this information for use in the control process. In a partnership, this mutual monitoring should elicit worker behaviours that eventually lead to the achievement of organisational goals and objectives. This is because members are interdependent.

Therefore, gainsharing programmes should be associated with lower levels of formal monitoring (such as direct supervision or work procedures and policies) of participating employees. Gainsharing programmes transfer part of the role of monitoring from supervisors or managers to employees through implementation of suggestion committees. These committees are staffed by a group of peers whose goal is to review employee suggestions and approve those that appear to meet cost/benefit criteria established by suggestion teams. Thus, gainsharing programmes formally encourage employees to derive new work methods and to share their innovative ideas with the suggestion committees (that is, a committee of peers). The incentive alignment system (that is, bonuses) serves to reinforce these behaviours and induce greater mutual monitoring.

Following the above logic, gainsharing programmes substitute a different (and less costly) form of control for direct supervision. It is expected that, within and between employee teams, gainsharing programmes encourage stronger levels of peer group pressure to enforce work norms consistent with the business unit goals (Fama and Jensen, 2004). Agents have an opportunity to acquire low-cost information about their peers due to the fact that they work with these individuals on a regular basis. Therefore, gainsharing takes advantage of this type of group process. Rather than expanding resources to create surveillance systems that attempt to track employee performance and behaviours, the firm encourage employees to monitor each other and to use this information to assure that each worker attain the goals of the work group. Internal monitoring can be formal, through suggestion committees, or informal, through peers. In brief, when gainsharing programmes are implemented, transferring some of the monitoring

activities from the principal to the agent reduces agency costs borne by the principal. In addition, peers have greater opportunities to observe each other's performance. Therefore, it may be more difficult for agents to avoid working when peer pressure rather than supervision or extensive policy and procedure enforcement represents the sanctioned form of control. Because mutual monitoring is a more efficient form of control, gainsharing should enhance firm performance, which benefits both owners (through greater profits) and employees (through the bonus system).

- **Behavioural Decision Theory**: An underlying assumption of agency theory is that agents are risk averse and make decisions to reduce their risk exposure (Fama & Jensen, 2004). A parallel premise under the heading of behavioural decision theory argues that agents are not uniformly risk averters but may be risk seeking under certain conditions (Huzzard, 2006). From this perspective, the key factor that determines risk seeking or aversion is the performance context facing the decision maker. Specifically, decision makers are expected to be risk averse in the domain of gains and risk seeking in the domain of losses (Pfeffer & Sutton, 2003). Welbourne and Gomez-Mejia (1995b) contend that many studies have confirmed this relationship both for individual managers as subjects (Crum, Laughhunn & Payne, 1998; Fishburn & Kochenberg, 1995; Puto, 2003) and for the organisation as the unit of analysis (Fiegenbaum & Thomas, 1998; Snee & Hoerl, 2003). For instance, in what became known as Bowman's paradox, Bowman (1980, 1982) found that firms facing lower returns took more risks than firms experiencing higher returns. It was labeled a paradox because most organisations were expected to deliver a higher return. Thus, his findings confirm behavioural theory's prediction of greater risk seeking behaviour of firms with poor returns (in the domain of losses) as compared to firms with high returns (in the domain of gains).

In a conceptual paper, Welbourne and Gomez-Mejia (1995b) argue that a similar relationship should be found in gainsharing programmes. Most gainsharing programmes require participating employees to generate, evaluate, and implement suggestions. Corresponding decisions vary in their level of risk (for instance, some suggestions are more costly than others, some suggestions are associated with more uncertain outcomes than others and implementation may require minimal or extensive changes in work design). If performance context is an important determinant of decision risk for individuals and organisations, it seems equally valid that differences in the performance criteria used to trigger gainsharing bonuses may produce very different risk taking behaviours amongst workers. In other words, under the identical gainsharing programme, agents (that is, workers) may be risk seeking or risk averse depending on the nature of the performance facing them at the time.

Interestingly, gainsharing seem to have engendered numerous hypotheses concerning variables that influence the effectiveness of these programmes and conditions that mediate their relative success. Although these frameworks are complementary rather than competing, little is known in a comparative sense as to which ones account for more variance in predicting gainsharing outcomes (Arrow, 2001). It seems obvious at this point to begin integrating constructs and relationships from various paradigms to develop a more powerful and comprehensive gainsharing models that incorporates individual, organisational and environmental dimensions.

It is worth noting that socio-psychological perspectives attempt to predict individual behaviours in a gainsharing environment. Having examined theoretical perspective used as explanatory framework to assess antecedents and consequences of gainsharing outcomes, the next section explains why the introduction of gainsharing could be classified as a second order organisational learning event. It will explain how gainsharing, as an organisational learning that is linked to bonus incentives, improves the problem-solving mindset of workers.

2.10 Gainsharing as organisational learning

Gainsharing programmes are increasing in popularity with estimates that over a third of large companies in the USA now rely on some form of gainsharing programme (Lawler & Cohen, 1992). Despite the increasing popularity of these programmes, evidence of their effectiveness has remained mixed. These mixed results have led to calls by researchers to develop a better understanding of how gainsharing programmes work (Shonfield, 2003). An absence of a strong theory based on an understanding of how these programmes work is particularly problematic because gainsharing represents a complex organisational intervention that requires companies to make a large number of choices about their implementation and measurements. Decisions must be made regarding the degree and form of employee involvement, the composition of the incentive formula, as well as, the percentage of employee compensation to put at *risk* (Arthur & Aiman-Smith, 2000). Decisions must also be made about how and when to adjust the gainsharing formula and payouts based on the continuous monitoring of external changes and the performance of the gainsharing programme (Ross *et al.*, 2005). Hanlon and Taylor (2005) contend that it is a mistake to view gainsharing as a group incentive and suggest that a programme can measure its success in terms of short-term financial performance or the number of suggestions submitted. Such views and measures overlook the potential of gainsharing as an organisational learning system with the ability to generate first and second-order learning over time. A number of theoretical perspectives have been proposed to explain gainsharing effectiveness (Welbourne & Gomez-Mejia, 1995a). Most of these theoretical treatments focus on one of the two primary characteristics of gainsharing and these are:

- employee participation;
- and contingent or performance-based pay.

An underlying assumption in this participation theory on gainsharing is that employees possess an untapped reservoir of effort and knowledge for improving organisational processes and effectiveness, and that the Scanlon Programme's participation, communication mechanisms and equitable reward structure release this reservoir in the interest of the company (Arthur &

Aiman-Smith, 2000). It is crucial to evaluate the influence of gainsharing on organisational learning. Organisational learning is a fundamental concept in organisational theory that has experienced a resurgence of interest among researchers and practitioners in recent years and found a prominent place in manufacturing and strategy literatures (Cooper, 2006).

Wageman (2006) describes organisational learning as an organisational change process that begins with organisational members experiencing a perceived gap between what is expected (or aspiration level) and what exists. This perceived performance gap stimulates a search by organisational members and often takes one of two forms. The first form, labeled as *first-order* (Hedberg, Nystrom & Starbuck, 2002) or single-loop learning (Argyris & Schön, 1996) consists of a routine incremental, conservative process that serves to maintain stable relations and sustain existing rules. The outcome of this first-order learning process is expected to be incremental change or adaptation to further exploit existing technologies, routines and processes in ways that do not alter underlying assumptions or values (Paulsen, 2005). This inquiry can result in a second type of learning called double-loop or *second-order* learning (Argyris & Schön, 1996). In contrast to first-order learning, second-order learning has been described behaviourally as the search for and exploration of alternative routines, rules, technologies, goals and purposes (Lant & Mezias, 1993).

From a more cognitive perspective, Owens (1991) defines this type of learning as an organisational inquiry that resolves incompatible organisational norms by setting new priorities and weighing of norms, or by restructuring the norms together with associated strategies and assumptions. In essence, second-order learning allows organisations to break out of existing patterns of thoughts or behaviours by exploring qualitatively different ways of thinking and doing things. A perceived performance gap is a necessity, but not sufficient condition for first and second-order organisational learning to occur. Organisational members must have the motivation, ability and opportunity to inquire into resolving this perceived gap on behalf of the organisation, as opposed to other alternatives such as withdrawal of effort or exit from the organisation. In addition, first- and second-order learning by individual organisational members must be translated or externalised from the tacit knowledge of individuals into a form that can

be utilised by the organisation (Shonfield, 2003).

Arthur and Aiman-Smith (2000) point out that both behavioural and cognitive organisational learning can be used to understand how gainsharing works. From a behavioural perspective, a gainsharing programme can be seen as a manifestation of organisational learning. Gainsharing is often established in traditionally organised production companies as a result of a search process that has been motivated by some performance crisis (that is, a gap between aspired and actual performance). In these cases, the introduction of a gainsharing programme could be classified as a second-order organisational learning event, in that it represents a significant change in the routine or system used to reward individual contributions (Arthur & Aiman-Smith, 2000). It shifts the basic rewards from the individual to a group-level performance and it makes the distribution of these rewards contingent on improved organisational performance. By embracing a more participative management philosophy and structure, one could also identify this as an incidence of second-order learning based on a shift in values and theories of action associated with this change. Argyris and Schön (1996) identify certain organisational structures, behaviours and cognitive maps as learning systems because they provide a framework for further problem-solving inquiry and learning. Steers and Porter (2006) provide examples of these learning systems and they are as follows:

- channels of communication (forums for discussion and debate, as well as, formal and informal patterns of interaction);
- procedure and routines that guide individual and interactive inquiry;
- and systems of incentives that influence the will to inquire.

One might conclude that, achieving the highest levels of performance requires a well-executed approach to organisational learning. Organisational learning could simply be termed as a continuous improvement of existing approaches and processes and adaptation to change, leading to new goals and / or approaches. Learning needs should be embedded in the way an organisation operates. This section explains how gainsharing as organisational learning can contribute in developing a problem-solving mindset amongst employees. It further notes that

organisations must not measure gainsharing in terms of short-term financial success or a number of suggestions submitted which overlook the potential of gainsharing as an organisational learning system with the ability to generate first-and second-order learning over time.

The next section explains how gainsharing as organisational learning improves participation and quality of suggestions amongst teams. These and many more sections to be discussed in this literature review are linked to study objectives, and are the following:

- to explore the suitability of gainsharing as an appropriate tool for productivity improvement;
- to ascertain whether incentive schemes have a productivity enhancing effect;
- and to establish whether other variables which include de-layering, trade unions, company age, qualification incentive paid to workers for upgrading their skills, play an even more important role in productivity improvements.

2.11 Organisational learning and the quality of suggestions under gainsharing

Viewing gainsharing as a learning system led to the re-interpretation of the functions of various structural characteristics of gainsharing programmes (Kirkman, 2000). For instance, a gainsharing incentive formula can be seen as initiating an employee into a search process by making monetary rewards contingent on improving the existing level of organisational performance as measured by the gainsharing incentive formula. In addition, an employee suggestion system can be viewed as a critical mechanism for transforming the content of individual-level search and knowledge to organisational knowledge. Duncan and Weiss (2006) define organisational knowledge as knowledge available to organisational decision makers and which is relevant to organisational activities. They insist that organisational knowledge must be communicable (that is, able to be articulated by individuals) and consensual (that is, accepted by other organisational members). In the Scanlon gainsharing programme, employees

communicate their ideas in the form of written suggestions which they make by submitting them to a joint employee-management department team and screening committee in order that they be evaluated and implemented. Argyris and Schön (1996) add that the extent of individual inquiry into problem solving in organisational learning is affected by various behavioural norms and organisational constraints. In the last stages of the organisational learning model, individual learning becomes institutionalised and embedded in new actions (that is, policies, programmes and structures) and behaviours (that is, assumptions, routines and modes of interaction) that impact on the organisational performance (Bussin & Thomson, 1995). These performance indicators provide important feedback to individual members whose search process may be altered by changes in the perceived performance gap. Gainsharing bonuses will thus provide employees with explicit feedback on the organisational effects of changes in routines and employee behaviours. Based on the effectiveness of the Scanlon programme as a means to increase employee participation, it would be expected that the volume of gainsharing employee suggestions would increase in the period following its introduction. It would then rise at a decreasing rate and eventually decline. Arthur and Aiman-Smith (2000) describe the two reasons for this curvilinear pattern in the volume of total suggestions over time as follows:

- attention paid to employees during the early part of the gainsharing programme may lead to a Hawthorne effect in which employees submit an inordinately high number of suggestions. As this attention is redirected over time, suggestion volume would be expected to decline;
- and the existence of a finite number of cost-saving improvements that can be made within a given production system.

The key assumption of the participation view of gainsharing is that employees have pent-up ideas that are released in the form of suggestions once gainsharing is introduced. If this assumption is correct, it follows that management will begin to see a decline in the number of suggestions over time after these ideas have been submitted. In addition, management

expects the level of bonus payments to be positively related to the variation in the number of suggestions submitted. Gainsharing payouts are expected to impact on a number of suggestions by providing reinforcement or rewards for previous suggestions that have been made by employees. Expectancy theory (in Vroom, 1964) predicts that employee effort in making suggestions is dependent on both the degree to which that effort translates into an actual suggestion and the degree to which making the suggestion pays off with some desired outcome (Paulsen, 2005). For the fact that money motivates, employee suggestion-making behaviour encourages them to continue to engage in this behaviour as long as the behaviour is re-enforced by a bonus.

Kirkman (2000) maintains that the gainsharing suggestions originating from employee searches lead to first and second-order organisational learning. If this is correct, then the context of employee suggestions over time should follow a pattern consistent with the search pattern described in the organisational learning perspective. Based on this logic, Arthur and Aiman-Smith (2000) contend that the context of gainsharing suggestions in the period following the introduction of gainsharing would be characterised primarily by first-order learning suggestions. By definition, the first-order learning suggestions do not challenge the *status quo* in terms of underlying values of the organisation and the nature of the employee-management relationship. The learning model would suggest that these types of suggestions would dominate the early problem-solving searches by employees. Employees will be more likely to seek familiar solutions to problems that do not disrupt basic values in the relationship (Argyris and Schön, 1996). The extent that these types of suggestions work in terms of improving plant effectiveness, results in employees continuing to engage in the search processes and enacting the same structure and behavioural norms.

Nicholson (2003) explains that there is a finite amount of labour cost saving that can be generated by improving the existing production process and wage-effort bargain. As the company approaches the limits for first-order learning, to generate additional cost savings, a change in the context of suggestions is expected to follow. The first-order learning suggestions

are expected to decline, as additional labour cost savings will need to come from improvements that alter or challenge the existing practices and the implicit wage-effort bargain. An absolute number of suggestions are expected to decline over time, as second-order learning suggestions decline as well (Arthur & Aiman-Smith, 2000). However, the proportion of this type of suggestion will increase over time relative to first-order learning suggestions. The proportion of suggestions is expected to be relatively low in the period following the introduction of the gainsharing programmes as trust is built up within the system and employees learn to think about work in new ways. The proportion of growth relative to second-order learning suggestions can be seen as a result of increased individual knowledge based on continuous communication and trust in the system, as well as, the desire to maintain gainsharing pay-outs once the gains from first-order learning suggestions have declined.

This and the previous sections explain how gainsharing can contribute to first- and second-order organisational learning aimed at achieving incremental improvements to organisational performance. The next section will outline the influence of gainsharing to improve organisational change. The major themes of gainsharing that helps facilitate organisational development will be discussed.

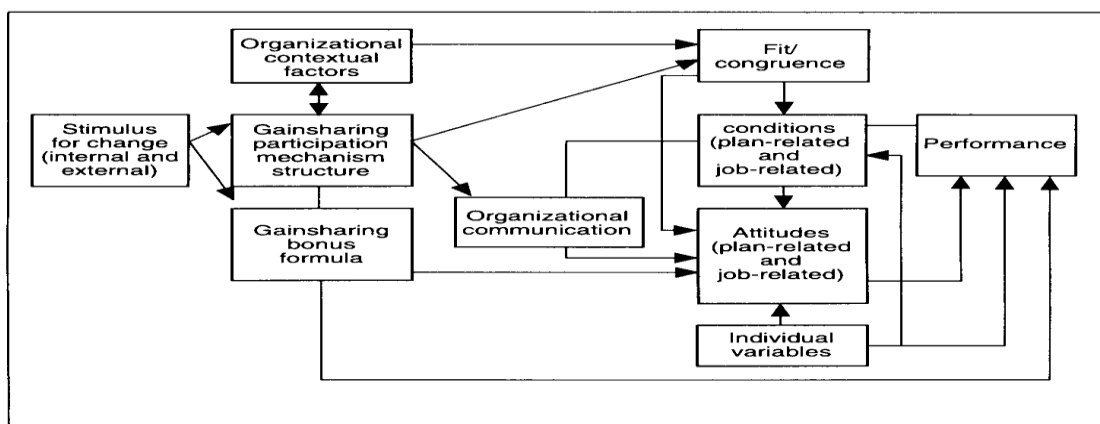
2.12 The influence of gainsharing in improving organisational change

Attention to compensation is an essential component of managing organisational change, while organisational change itself is an essential feature of business competitiveness (Hatcher and Collins, 1991). This argument operates in two levels. The higher-level argument, stemming from organisation theory, is that compensation is central to performance management. This is a vital instrument of congruence, communication and motivation within organisations wishing to secure a sustainable competitive edge through strategic change. The significance of performance management is particularly evident in the context of strategic control, which is a system for translating organisational intention and ambition into action and results which deliver strategic benefits. Mawhinney and Gowen (1991) add that the strategic control system

helps an organisation clarify what good performance is. It helps parts of the organisation, and individual employees to align themselves with the direction and purpose of the whole organisation and also help to secure commitment to strategic objectives. As a central feature of strategic control, performance management has a pivotal role in integrating and aligning organisational culture, structure, human resource management and information management and bringing discipline and focus to organisational behaviour.

Hatcher and Collins (1991) insist that the second level of this argument is that gainsharing seems particularly suited to the task of organisational change. Hanlon and Taylor (2005) suggest that gainsharing utilises two streams of incentives and rewards (that is, intrinsic and extrinsic), to motivate improvement in job performance. Since the incentive relates to collective performance it prompts improvement in the content, quality and organisational communication, both laterally and vertically. They point out that, this raises the level of job-related knowledge (cognitions), competence and performance in the organisation, thereby triggering the rewards and reinforcing learning behaviour. Over time, the two reward streams enhance workplace relations, as well as, employee identification with the organisation, commitment to its objectives and assumed responsibility for its success. Below is a theoretical model of gainsharing which shows that gainsharing programme is well suited to the task of organisational change (as discussed above).

Figure 2: Theoretical model of gainsharing



Source: Hanlon and Taylor (2005)

One framework for managing organisation change is organisational development. Kiernan (1993) defines organisational development as an educational process by which human resources are continuously identified, allocated and expanded in ways that make these resources more available to the organisation and, therefore, improve the organisation's problem-solving capabilities. The purpose is to develop self-renewing, self-correcting systems of people who learn to organise themselves in a variety of ways according to the nature of their tasks and who continue to expand the choices available to the organisation as it copes with the changing demands of a changing environment. Hanlon and Taylor (2005) explain that organisational development is thematically similar to many of the major contemporary strands in business strategy to as far as organisational learning, innovation, quality, constructive contention, empowerment, knowledge-based competence and sustainable competitive advantage are concerned. Therefore, the introduction of gainsharing is an appropriate and highly desirable strategic option for an organisation which wishes to avail itself of the benefits of organisational development as a change heuristic (De Bettingnies, 1992).

The theoretical model of gainsharing (see Figure 2) confirms the importance of alignment between the compensation scheme and organisational information flows and contextual factors such as culture and structure. It follows then that, provided congruence and fit are maintained, gainsharing can help to drive an indefinite loop of performance improvement and allied change within the organisation. Steers and Porter (2006) emphasise that the key insights behind the connection between gainsharing and organisational development are that employees hold the essential knowledge required for maximum productivity, that the human resource is the most essential and durable source of competitive advantage and that such advantage accrues to organisations which can best unleash the intelligence, creativity, energy and commitment of their workforce. Vandenberg (1999) illustrates employee's participation, work methods, quality, organisational development, productivity and sustainability as major themes of gainsharing as follows:

Employee participation: Mohamedy (2007) puts a considerable emphasis on employee participation, aided by both a formal system of involvement and a philosophy of co-operation. Gainsharing is regarded as an employee participation programme.

Work methods: A related point is the impact of gainsharing on work methods, particularly its relationship with the contemporary emphasis on teamwork and group-based incentives. Groups are better placed to handle modern features of the workplace, notably in manufacturing operations, such as unpredictable workflow, rapid product introduction, shortened lead-times and complex technology (Owens, 1991).

Quality: A recurring theme is the contribution that gainsharing makes to improved quality. De Bettingnies (1992), for example, characterises gainsharing as really improving quality efforts by empowering workers to focus their attention on continuous improvement. High quality products and services are absolute musts in today's competitive business environment. Every individual in the company needs continual education and feedback on their performance level. Gainsharing offers the opportunity to achieve this. Quality information will be shared and listened to because everyone's pay depends on it. If poor workmanship or communication causes customer returns, gainsharing bonuses are lowered immediately. This gets everyone to think of themselves as an inspector. Hatcher and Ross (1991) report a tenfold improvement in defect rates and a halving of repair costs in one medium-sized company within four years of implementing a gainsharing programme.

Organisational Development: Kiernan (1993) insists that gainsharing programmes enhanced employee awareness of organisational goals, improved communication, aided integration and provided personal growth and development. He concludes that gainsharing and organisational development are complementary.

Productivity: Productivity improvement is more effective and sustainable when everyone in the organisation, from top management to workers on the shopfloor is involved. Participatory mechanisms come in various forms from simple suggestion schemes to interlocking problem-solving groups at all levels in the hierarchy. These participatory productivity improvement schemes like gainsharing are more effective when problem-solving activities are coordinated with and linked to the overall company productivity improvement priorities and strategies. Therefore, productivity gains generated by gainsharing programmes are the universal theme. Owens (1991) states that companies typically report profit and productivity improvements of between five to fifteen percent (5% to 15%) in the first year after implementing gainsharing programme.

Sustainability: Cooper (2006) stresses the need for incremental improvements and caution that the cultural change needed to sustain gainsharing requires a long-term commitment. He highlights several major reasons for gainsharing programmes failing, notable lack of manager and employee commitment, financial difficulties and poor information flows.

This section has discussed employee participation, work methods, quality, organisational development, productivity and sustainability as major themes of gainsharing for organisational change. The next section outlines the relationship between gainsharing and organisational development in terms of performance factors like work design, structure and employment relationships. During the course of this section, the importance of 'on-the-job training' will be emphasized. Merits of performance measurements conclude this section.

2.13 Gainsharing implications for organisational change

Hanlon and Taylor (2005) discuss the relationship between gainsharing and organisational development in terms of performance factors which include work design, structure and employment relationships.

Work design: This relates to the fact that gainsharing has an immediate focus on the way in which work is done. It creates incentives to work smarter rather than harder. Working smarter involves overcoming obstacles to performance, which typically include the way in which work is organised and managed and the way in which performance is monitored and reported. Traditional work designs have emphasized functional specialisation as a means of obtaining efficient performance. Reductionist approach to performance management, including setting discrete objectives, recording discrete costs and reporting discrete results can lead to efficient parts but to an inefficient whole. Without an integrated approach to performance criteria, traditional organisations risk prolonged erosion of competitive strength, to which their management information systems will fail to alert them. The key to smart performance is to capture key interdependencies within performance units, by structuring them around products, customers, projects or mini-enterprises (Kirkman, 2000). In this way, functional relationships such as product development, marketing and sales can be incorporated in common measures of performance and exposed to shared incentives. So-called smart work arrangements that readily promote organisational integration include cross-functional teams and self-designing work groups. It is no coincidence that the same arrangements are ideal for gainsharing. It is easier to establish the connection between individual effort, participation, performance requirements and rewards when the unit of performance is a group.

Structure: Work design does not occur on its own accord, but rather reflects decisions about organisational structure. Structure is a critical ingredient in the recipe for competitive success (Wageman, 2006). De-layering of structures is a common phenomenon in contemporary organisations which recognise that the multiple control gates and sluggish information flows associated with tall structures are ill-suited to the turbulent competitive environment they face. The environment requires flexible structures to sponsor innovation, quality and speed to market. Flat structures, often with wide spans of control and multiple reporting relationships (as with matrix structures), require a different philosophy of control, in which performance management plays a pivotal role, ensuring unit congruence with organisational goals by

establishing clear performance requirements and creating incentive for cross-functional integration as well as for innovation and up-skilling. Flat, loose, enabling structures provide the ideal context for gainsharing (Kirkman, 2000). He concurred that gainsharing is an incentive for high involvement in an organisation's performance by employees and for the strong identification with its strategic direction. It is difficult to see how that incentive could endure within a structure designed for unilateral information flows, functional specialisation and separation and hierarchical control. A key feature of gainsharing is the encouragement it provides to employees to internalise organisational goals by participating in the development of performance targets aligned with those goals. Gainsharing contributes to organisational fit and alignment by communicating and reinforcing strategic priorities (Iberman, 1996).

Gainsharing can also offset the downside of flatter structures, namely, fewer promotion opportunities. It raises the level of both intrinsic and extrinsic rewards, particularly for that portion of the workforce which is predisposed to making an extra effort. Gainsharing signals permission for motivated employees to take a closer interest in the business without the formal invitation that promotion represents (Tsui, 2003). Therefore, gainsharing enables the organisation to recognise its employees' creativity and intelligence in ways other than by increasing their formal status.

A related benefit of gainsharing is its training effect. Gainsharing provides focused, on-the-job training in areas such as communications skills, job analysis, production efficiency, performance management and team management (Kiernan, 1993). A valuable spin-off for the organisation is that it helps to identify employees with management and leadership potential. Cooper (2006) emphasises that training in gainsharing programme might help reduce obstacles relating to the application of the programme, such as employee and union resistance as well as ascertaining the need for outside help. He suggests that it is not possible to predict how unions will respond to gainsharing, other than that it is no panacea for industrial conflict. If the scheme is promoted as a means of forging a partnership between managers and workers, to which a union contribution is welcome, then unions might see benefits in terms of greater recognition and influence, access to information, improved job security and better returns to their

members (Manz & Sims, 1993). They add that if the scheme is promoted to employees as a means of securing (e.g. a commonality of interest) that unions will become redundant, then the unions are likely to identify darker motives such as substitution of bonuses for base pay, encouragement of peer pressure and job attrition.

Employment relationships: The relationship of the organisation with its employees (formal or informal), determines the kind of incentive plan that is feasible. A hostile relationship works against any incentive pay programme, because it will create an atmosphere of controversy. A formal, arms length relationship suggests limiting incentive coverage to situations where sufficient objectivity can be achieved to preclude disagreement. If, however, the relationship is characterised by mutual respect and trust, incentive pay programmes dictated by technical conditions may be employed.

It is important to recognise that gainsharing disrupts established patterns of relationships within organisations (Hanlon & Taylor, 2005). The reason is primarily that it alters the distribution and use of power within the organisation. As a result, gainsharing redefines the context of management and rewards some sources of power over others, notably expertise and subordinate dependence. In so doing, it undermines other, more traditional sources of power, notably those arising from formal status and from the ability to reward and punish. It would seem that gainsharing prompts internalization of power within the workplace at the expense of power designed to modify behaviour extrinsically. Internalisation of power is an equivalent notion to empowerment, which Schuster and Zingheim (1992) define it as a systematic attempt by managers to share with frontline employees on areas of:

- performance information;
- performance-related rewards;
- performance-enhancing knowledge;
- and discretion to influence performance.

From the above definition, performance management is the key arena of power within organisations, which helps explain the impact of gainsharing on the distribution of power within an organisation. When viewed in terms of power balance, it becomes obvious why gainsharing attracts opposition, particularly if power is seen as a zero-sum game, meaning that the empowerment of employees can only occur through disempowerment of managers (Peck, 1991a). It is clear that a major problem for organisations implementing gainsharing is how to secure the commitment of managers, especially first-line supervisors. From their perspective, gainsharing merely encourages those who might compete for their jobs to demonstrate their ability. For the insecure or authoritarian manager, there is an incentive to undermine the benefits of gainsharing (Kiernam, 1993).

Vandenberg (1999) insists that organisations must ensure that management, particularly front-line managers, buy into the gainsharing schemes. The reason for this is that managers serve as conduits of information, training and ideas and, if poorly disposed towards the scheme, they may discourage participation. Beyond the financial incentive, gainsharing should be promoted to managers as a means of extending their ability and role, rather than displacing it. He emphasizes that a well-run scheme requires managers to become effective communicators and to become skilled in performance management. An important means of reinforcing the scheme is to ensure that managers' own performance requirements and incentives are consistent with it. Subsequent to this, the programme will ensure that gainsharing deliver to client requirements.

Tsui (2003) insists that the rewards from gainsharing should be based on a number of unit's productivity improvement ideas adapted and the amount of savings made, rather than standard budget control measures which create incentives to reduce labour costs (and therefore bonus payments). To accomplish this, Wageman (2006) adds that the company should establish performance measurements and these should ensure that customer requirements are met; set sensible objectives; provide standards for establishing comparisons; provide

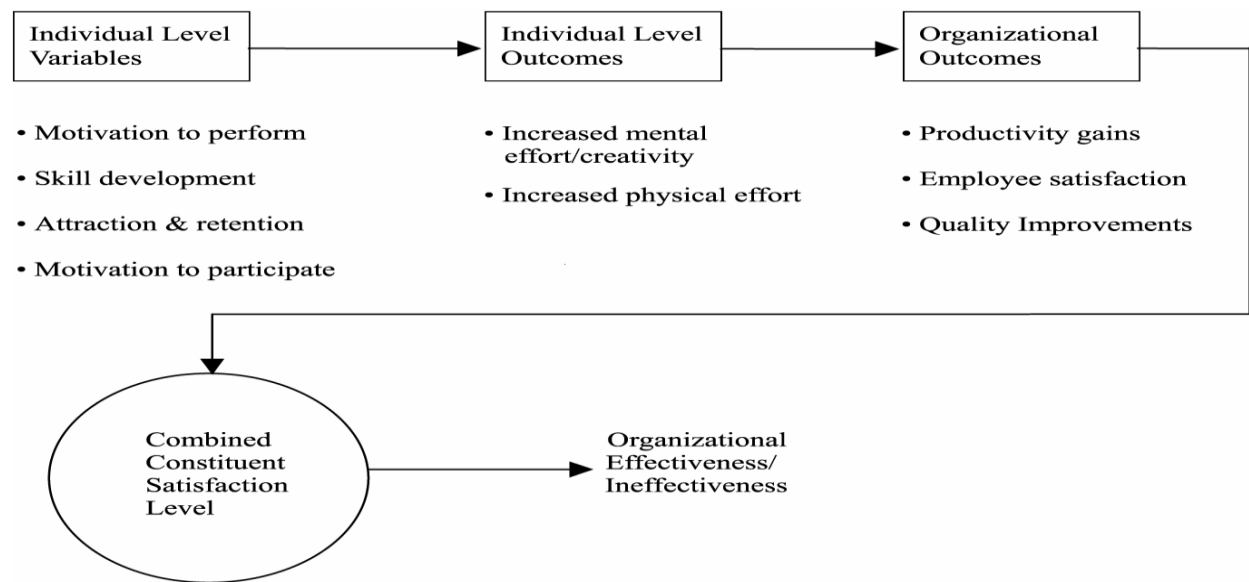
scoreboards for people to monitor their performance; and provide feedback for driving important efforts.

This section has discussed the importance of performance factors. Training in gainsharing programme was encouraged, especially on areas where it might help reduce obstacles relating to the application of gainsharing. During the course of this section, performance management was expressed as a key arena of power within organisations, and this helps to explain the impact of gainsharing on the distribution of power within an organisation. While this section outlines the impact of power, the next section discusses the influence of gainsharing on organisational effectiveness. It highlights the four kinds of impact that gainsharing can have on organisational effectiveness.

2.14 The influence of gainsharing on organisational effectiveness

Gainsharing should be viewed as a complex organisational development intervention and not simply as an incentive system (Nicholson, 2003). As such, gainsharing programmes are not quick fixes to inherent problems. They are devices by which managers can take advantage of a focused organisational strategy by utilizing the combination of employee participation and an incentive system. The outcomes of enhanced trust, awareness of organisational goals and commitment, though not explicit goals of gainsharing, are the stated objectives of most organisational development initiatives (Pfeffer & Sutton, 2003). They further state that the above outcomes are often second-order latent variables that take time to bear fruit. Vandenberg (1999) identifies four kinds of impacts that gainsharing can have on organisational effectiveness, and these are shown in Figure 3 below. Individual level variables include attraction and retention of employees, motivation of performance, motivation of skill development, and culture effects or motivation to participate.

Figure 3: Gainsharing factors that influence organisational effectiveness



Source: Vandenberg (1999)

Attraction and retention of employees: Rewards in an organisation influences those who are attracted to work for them and those who will maintain their employment (Steers and Porter, 2006). High reward levels lead to recruiting top personnel. Additionally, high rewards tend to reduce turnover, which can be costly. The objective is to design a reward system that is effective at retaining and motivating the most valuable employees. The success of gainsharing programmes can be attributed to the fact that they allow for financial bonuses for those who desire them (Kirkman, 2000) and provide opportunities for other employees to participate.

Motivation of performance: Reward systems can affect performance when employees perceive that the important rewards are tied to performance in a timely fashion (Steers and Porter, 2006). Expectancy theory best explains how rewards motivate performance. If an employee perceives that a specific behaviour will lead to a certain outcome (system expectancy) and values of that outcome, the employee will attempt the performance if s/he believes that s/he can perform the desired task (self expectancy). This equation highlights the fact that performance is a combination of level of effort and employee ability. Motivation is the

force that compels an individual to expend effort (Steers and Porter, 2006).

Self development: Reward systems can have a direct impact on skills development in certain instances (for example, skill based pay). The skills that are most often developed by employees in gainsharing programmes are those of communication and decision making. Participating on a selection or screening committees involves being able to communicate verbally to management and peers. Additionally, participation by suggestion making involves being able to communicate in writing.

Culture / motivation to participate: Reward systems can shape culture precisely because of the impact on recruitment and motivation. The behaviour they evoke becomes the dominant patterns of behaviour in the organisation and lead to perceptions of what the organisations values (Iberman, 1996). The motivation to participate is an important moderating factor in programmes success or failure.

When critically looking at the above four impacts, it is clear that they do not act directly upon organisational effectiveness. They do however; serve to increase the individual's level of effort (work harder) and / or creativity (better ideas). These in turn, act as levers which affect productivity, product quality, and employee satisfaction. Nevertheless, it is the aggregated satisfaction level of these outcomes which (when combined), provides a measure of organisational effectiveness. The next section discusses knowledge sharing and employee risk-taking under gainsharing.

2.15 Knowledge sharing and employee risk-taking in gainsharing

Employees under gainsharing reward structures are expected to engage in more co-operative behaviours, including sharing their ideas for saving costs and improving production than employees under a more competitive, individual-based compensation system (Ferrin & Dirks, 2003; Tjosvold, 2004). They add that information-sharing behaviour among partners in group decision-making situation is significantly higher under the condition of a co-operative (group) reward system than with a competitive (individual) reward system. The problem with these

individual-level conceptualizations of employee knowledge sharing under co-operative reward structures is that they overlook political dynamics and risks involved for employees in deciding whether to accept and participate in a performance-based group-reward system set up by management. Welbourne and Gomez-Mejia (1995b) point out that gainsharing programmes are inherently more risky for employees than a more traditional fixed pay system because gainsharing bonuses are contingent on achieving plant-wide cost reductions. Employee acceptance of gainsharing requires a degree of trust that management will fulfill their promise to pay them fairly based on their increased participation and performance.

Under gainsharing plans, employee participation comes in the form of knowledge sharing that is formalised through an employee suggestion system. Employees are encouraged to write down their cost-saving ideas on a standardised format and submit them to a committee (generally made up of employee and management representatives) who determine the viability of the suggestion and, if accepted, authorise its implementation. The monetary savings from these implemented suggestions are calculated using a formula based on historical cost data. These savings become part of a pool of money that is distributed to all participating employees in the form of a gainsharing bonus or reward (Graham-Moore & Ross, 1990).

Gomez-Mejia *et al.*, (2000) argue that the level of employee risk associated with sharing information under gainsharing, changes over time as a result of practical limits faced by employees in identifying additional cost-saving improvement. The ability of employees working within a given production system to identify cost-saving ideas is constrained because there is a finite amount of cost saving that can be achieved from a fixed production process. Thus, over time and in the absence of external changes to the production process (for instance, new technology or products), there will be diminishing performance returns to companies from implementing employee cost-saving ideas as a high impact, easily implemented changes (Aurthur & Aiman-Smith; 2000; Gomez-Mejia *et al.*, 2000). Other things being equal, diminishing performance returns mean progressively smaller gainsharing rewards for employees associated with the same level and type of employee effort and information sharing.

Due to these diminishing returns to effort, it is likely at some point in the programme that employees will view their increased efforts and risk under gainsharing as a loss (compared to previous fixed pay as well as previous gainsharing bonus payments).

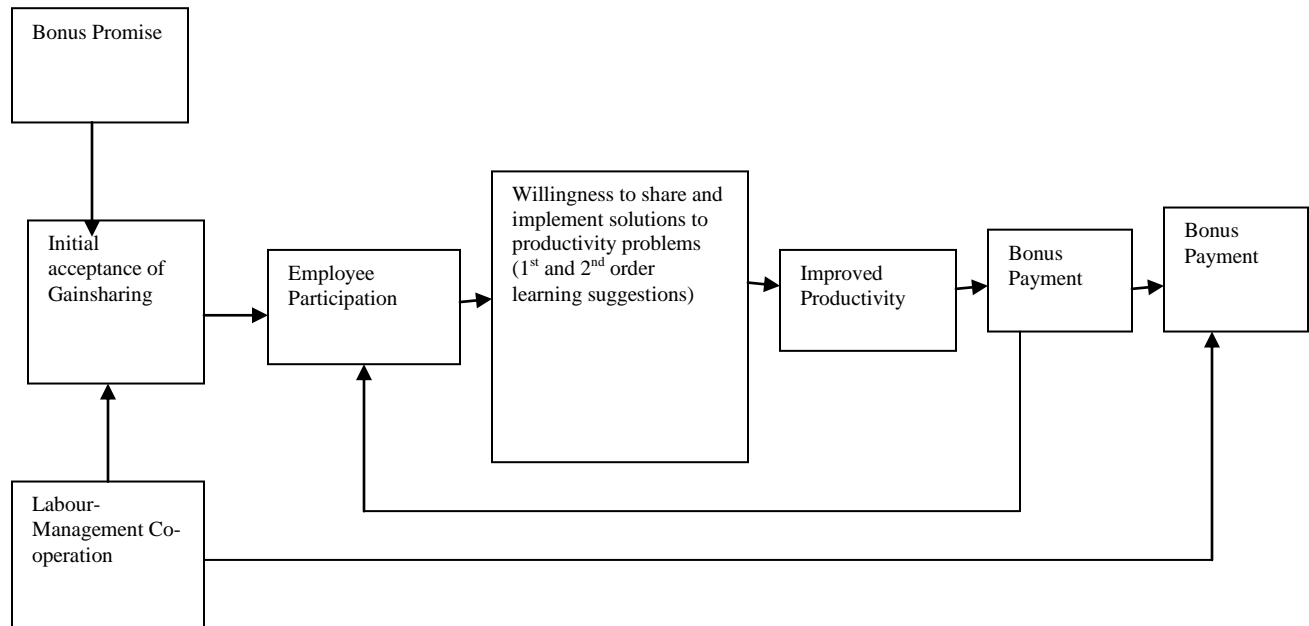
Under these conditions, Gomez-Mejia *et al.*, (2000) propose two alternate paths for gainsharing plans. Firstly, employees may decide to withdraw from the gainsharing programme either by attempting to end the programme formally or simply withdrawing thus ending the programme formally, or simply withdrawing their discretionary effort from participation in the plan (that is, few or less useful suggestions). This pattern is consistent with case descriptions of a number of gainsharing plans in which there is an initial surge of employee suggestions and production gains followed by progressive decline in performance, rewards and suggestions (Steers & Porter, 2006). The second option is for employees to become increasingly risk seeking in their search for and selection of potential productivity gains (Gomez-Mejia *et al.*, 2000). In other words, instead of withdrawing effort, employees choose to close the gap between aspirations and actual gainsharing outcomes by finding new ways to improve performance that go beyond simply reducing costs for existing products and processes.

This section explained the degree of trust expected by employees who have accepted gainsharing programmes. The bulk of the section explained how the level of risk associated with sharing information changes overtime. The next section reinforces the above. It explains relationship of labour-management co-operation, risk taking and information sharing overtime.

2.16 Labour-management co-operation, risk-taking and information sharing

The level of labour-management co-operation and trust affects the degree to which employees are willing to take increasing employment risks and thus affects the patterns of employee information sharing over time under gainsharing. The model in Figure 4 (below) describes the relationship between labour-management co-operation, employee suggestions (knowledge sharing), and gainsharing performance.

Figure 4: A conceptual model relating labour-management co-operation, trust-in management, employee suggestion-making, and plant performance under gainsharing



Source: Eaton (1994)

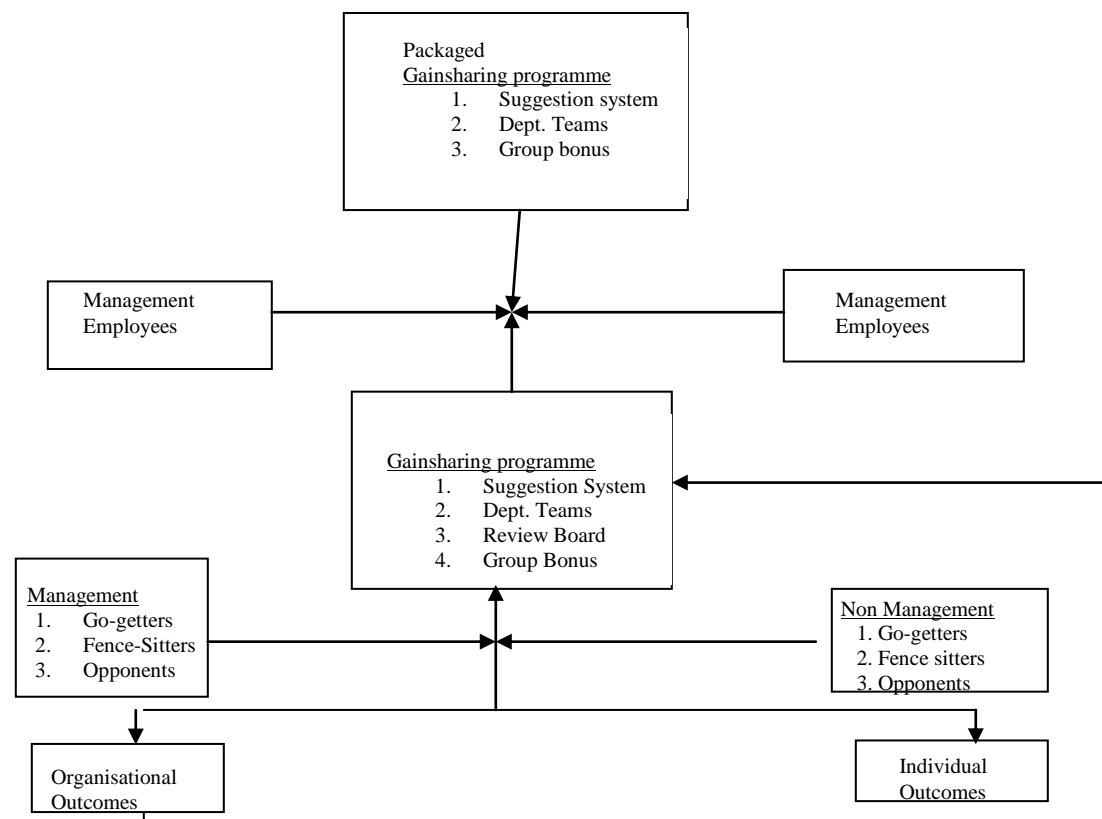
Employee involvement programmes in general, and gainsharing programmes in particular, are more effective when they have the active involvement and support of the labour union (Cooke, 1994; Eaton, 1994; Kim & Voos, 1997). Gainsharing programmes that include union involvement in programme administration had better perceived performance than the average programmes in non-union companies. However, gainsharing programmes in unionized establishments in which the union was not involved performed worse than programmes in the non-union sector (Kim, 1999). A number of possible explanations for this observed link between Labour-Management co-operation and gainsharing effectiveness include improved information sharing between employees and management, heightened ability to deal with employee concerns and improved continuity in the face of management turnover (Cooke, 1994; Eaton & Voos, 1989; Kim & Voos, 1997; Kelley & Harrison, 1992). There may also be negative consequences associated with the absence of union support such as active attempts by threatened union leaders to undermine the programme effectiveness and a decrease interest in participation by union members (Collins, 2005; Cooke, 1994; Verma & McKersie, 1987).

This section briefly discussed the involvement of unions in programme administration. It emphasizes the improvement of information sharing between employees and management. While this section outlines the importance of knowledge sharing, the next section discusses the changes in power relationship that take place during gainsharing implementation.

2.17 Changes in power relationships during gainsharing implementation

Discussions relating to the political dimensions of gainsharing, and the changes in power relationships during gainsharing implementation remain crucial. De Bettignies (1992) points out that if people conceptualise organisations as political systems and interpret management-labour relations in terms of conflicts of interests and power differentials, it is easier to understand why individuals, groups, and institutions fail to reach agreed-upon goals such as improving company performance through gainsharing. Companies that implement suggestion systems and departmental teams in which non-management employees elect representatives who analyse and implement suggestions, as well as the review boards within which management and non-management employees discuss production changes, tend to become more democratic (Collins, 2005). Understanding the situation, which often happens when political systems attempt to become more democratic, will help achieve a better understanding of what happens in companies that are involved in gainsharing. Attempts to decentralise organisations result in changes in power relationships. Gainsharing is a threat to management power and to the traditional management-to-non-management relationships (Steers and Porter, 2006). Blindness towards political dimensions of gainsharing results in management abandoning gainsharing rather than fixing the problems. The following structure as adapted from Collins (2005) represents a pattern of political behaviours that take place when organisations adopt gainsharing.

Figure 5: Pattern of political behaviours that take place when organisations adopt gainsharing



Source: Collins (2005)

Collins (2005) points out that most corporate organisations have management and non-management employees who support (the go-getters), oppose (the opponents), or are neutral (the fence-sitters) towards organisational changes. These forces are explained below.

Go-getters: They regard gainsharing as a benefit to the organisation. They support gainsharing activities and participate in decision-making that pertains to company operations. They give each other the benefit of doubt on sensitive or contentious issues (Iberman, 1996). Go-getters supportive gainsharing behaviours typically include being cooperative and helpful, promoting the programme, making suggestions, and displaying a positive attitude about work. Due to the existing power differentials, both management and non-management go-getters will try to manipulate the gainsharing process to guarantee that their interests are met.

Opponents: They are skeptical about gainsharing and may sabotage the system. Management opponents feel threatened by employee involvement and fear that gainsharing will empower non-management employees whom they consider untrustworthy or unqualified to take responsibility. Non-management opponents are skeptical of managers' intentions because of past negative experiences with managers. Opponents typically oppose gainsharing programmes when around other people, discourage others from contributing to suggestions relating to gainsharing, hinder the analysis and implementation of suggestions, hinder the performance of gainsharing teams, and exhibit negative attitudes toward the programme, management and the company (Collins, 2005). Both management and non-management opponents perceive gainsharing as a threat to previously agreed boundaries between management and labour.

Fence sitters: They do not intentionally undermine the change, nor do they try to make the change work. If the system benefits them and the organisation, they support it, but if it doesn't, they let it fail of its own accord (Overman, 1995). Fence sitters occasionally offer suggestions that make their jobs easier to perform. Go-getters and opponents compete for the fence sitters' allegiance. Go-getters push the positive aspects of gainsharing and encourage the fence sitters to become more involved, while opponents push the negative aspects and discourage the fence sitters from becoming involved. Assuming that it is highly desirable to involve all employees in decision-making processes and share the financial gains of their improved performance, it is highly desirable that fence-sitters join forces with go-getters rather than with the opponents. The long-term stability of gainsharing depends on whether go-getters, fence-sitters, and opponents believe that the system fulfills their conflicting interests (Recardo & Pricone. 1996).

Issues relating to this section makes one realise that incentive based pay programmes can elicit strong feelings. One has learnt that opponents variously claim that performance is a function of the organisation and management practices rather than employee effort. They claim that

incentives do not work and cause more problems than they solve. Many proponents of incentive pay programmes believe that a fair day's work is not normally attainable without some proportion of pay being at risk because time based workers produce only about fifty to sixty percent (50% to 60%) of the output of incentive pay workers (Steers and Porter, 2006). Nevertheless, an organisation wishing to attain increased performance has a choice of using pay-for-performance (like gainsharing) systems. Gainsharing could therefore be seen as a change in the relationship between management on the one hand and employees on the other. The primary disadvantage of a group scheme like gainsharing is that it weakens the relationship between the individual's effort and performance. When critically looking at the above group dynamics (that is, opponents, fence sitters and go-getters), it is obvious that there is likely to be a wide variation in the efforts of group members. A group incentive may lead to more intra-group conflict (opponents) than cooperation (go-getters). These are issues management should be able to monitor and manage.

Individuals within organisations display different power relationships during gainsharing implementation, as shown in this section. The next section discusses lean six sigma and gainsharing roots. It emphasizes the importance of linking six sigma to gainsharing programmes in order to sustain a long-term competitive edge.

2.18 The importance of linking the elements of lean six sigma to gainsharing

As companies continue to search for a competitive advantage in the global economy, they investigate a host of systems to improve efficiency such as product quality, operating costs and customer service (Ring, 2004). Two approaches have yielded particularly successful results. One is six sigma (recently referred to as Lean Six Sigma), and the other is gainsharing. Nicholson (2003) points out that a company could mistakenly view these two approaches as competing initiatives. He further states that while both efforts are excellent in improving productivity, quality and a variety of other measures, both concepts are much more powerful together. Gainsharing and Lean Six Sigma are complementary systems that are mutually reinforcing. Both systems are based on the principle of continuous improvement, measurement, ingenuity,

employee involvement and teamwork. Both approaches focus on change. However, Lean Six Sigma's focus is more related to the technical side of change and gainsharing's focus gravitates more to the social side (Greene, 2000). Unlike the Lean Six Sigma concept, gainsharing, by definition, shares the monetary gains from improved performance with the total workforce. Lean Six Sigma is one of the most powerful contemporary tools that help companies improve their operations. For organisations to sustain a long-term competitive edge and experience a never-ending improvement in operations, Nicholson (2003) believes in the link of both the technical (that is, Lean Six Sigma) and social (that is, gainsharing) dimensions of change. Bowey (2003) discusses the difference between Lean Six Sigma roots and Gainsharing roots as described in the following paragraphs.

The Lean Six Sigma Roots - compared to gainsharing, the two parts of Lean Six Sigma (lean manufacturing and Six Sigma) are relatively new. Lean Six Sigma has its roots in the mid to late 1980s. Motorola is one of the companies that drives its performance initiatives with Six Sigma and also has a major focus on customer service and product quality (Johnson, 2004). Today's Six Sigma companies use its structured tools to reduce cycle time, eliminate product defects and increase customer service. The focus is on working smarter and doing things right the first time around. Also in the mid 1980s, a similar approach, referred to as lean manufacturing, brought an intense focus to productivity improvement and cost reduction (Bowey, 2003). The focus was on producing more with less.

Gainsharing Roots - as much as gainsharing concepts and roots will briefly be discussed in relation to Lean Six Sigma, gainsharing programmes have been defined and discussed from chapter 1 and other parts of this research. The concept of gainsharing has roots that are much older, dating back to the 1930s when a labour leader, Joe Scanlon, stated that the worker had more to offer than a pair of hands (Bowey, 2003). The premise was that the person closest to the problem often has the best and simplest solution. Moreover, if the worker is involved in the solution, he or she is more likely to make the solution work. Scanlon used a team approach to solicit, review, approve and implement employee ideas and suggestions to drive the

improvement process.

Bullock and Lawler (2005) contend that gainsharing focuses on social aspects of the organisation and looks to make many of the smaller day-to-day changes that drive continuous improvements. They assert that steady and small improvements lead to significant progress over time. Compared to Lean Six Sigma, Bullock and Lawler (2005) add that the focus of gainsharing is less on technical tools and more on the social and philosophical side of the workplace.

Driving gainsharing and lean six sigma through employee involvement - Teams and employee involvement are key elements to both Lean Six Sigma and gainsharing. However, the level of employee involvement in the Lean Six Sigma process is more narrow and limited than in gainsharing. Lean Six Sigma is more of a top-down process. It involves a limited number of employees through performance improvement project teams. On the other hand, gainsharing attempts to engage the total workforce through many different means. Lean Six Sigma assigns the selected employees to lead project teams and perform in roles such as master black belts, green belts and champions (Hammer, 2000). Master Black belts are the technical leaders who enable the company to integrate Lean Six Sigma within its operations. Black belts lead the project and, based on their management and technical skills, are devoted full time to the assignment, while green belts work part time (approximately 25 percent) on smaller projects. A green belt may lead his or her own project or may be supervised by a master black belt, black belt or champion. Finally, each project has a champion. Champions are key managers at the facility responsible for selecting the project, drafting the project charter, getting the initial approval for the project, selecting the black and green belts, identifying resources needed to complete the project, removing barriers and conducting ongoing reviews with the leaders of the project to monitor the team's progress. In comparison, employee involvement is at the heart of the gainsharing concept. In fact, gainsharing is often considered to be an employee involvement programme that yields positive results. It is about getting everyone in the organisation rowing in the same direction.

The link between lean six sigma and gainsharing - The major problem with Lean Six Sigma is that it cannot endure without the longer-term commitment, support and participation of all employees (Bowey, 2003). If only a few isolated individuals develop an innovative big step, the improvement will be short term until competition catches up and surpasses the improvement. As previously noted, most companies have selected employees involved in Six Sigma efforts. The problem is that Six Sigma teams need the participation of employees who are on the sidelines to help ensure the successful completion of the project. Clearly, the momentum cannot be maintained unless the organisation truthfully and sincerely engages the total workforce, not just a few. This is where gainsharing comes into play. Gainsharing has endured for more than seventy years (Shavell, 1999). It engages everyone at the site. All employees are players in the game.

The marriage of lean six sigma and gainsharing - Ring (2004) contends that companies that already had gainsharing in place as a fixture to their culture find that employees embrace Lean Six Sigma concept with open arms. The workforce is typically open to any management performance improvement initiative that generates gains. The attempts to attain bigger improvements through Lean Six Sigma are much easier to support if employees have an opportunity to share financially in any benefits that accrue.

This short sub section indicates the importance of linking Lean Six Sigma and gainsharing. These complementary programmes can work together to improve operations. One of the most efficient ways to drive innovation, and link the technical and social dimensions of change, is to combine the elements of Lean Six Sigma to gainsharing. The next section explains how gainsharing contributes to facilitating more attractive working conditions.

Gainsharing as a tool that contributes to enhancing working conditions – it should be emphasized that there are several things that gainsharing is not. It is neither about lowering labour costs nor profit sharing. It is about improving productivity and attracting and retaining the kind of people you want working in an organisation (Marchetti, 1996). In today's market,

workers choose where they want to work and while pay is very important, many employees do not consider pay the overriding factor when choosing an employer. Employment conditions represent such a factor. Creating a working environment that encourages worker participation and provides the opportunity for linking improved performance to improved compensation is one way to create the kind of workplace that attracts motivated risk-takers and team-workers (Imberman, 1996). Gainsharing is also not something that can be used in isolation from company strategy. It implies management accepting that all employees will have some inputs on how the company is run. The impetus for this kind of strategy realignment has to come from the top. The manner in which the company organises work, shares information and knowledge, makes decisions, and pays rewards are all part of the process. The success of a gainsharing programme hinges, to a great extent, on the quality and openness of organisational communication. It is a result-oriented programme that looks to create incremental improvements (Kaufman, 1998). Management should set its long-term objectives before deciding on a gainsharing programme. Once management reaches consensus on those goals, it can concentrate on developing an appropriate compensation plan. When culture change is required, pay will not drive that change, but effective leadership can drive it (Manz & Sims, 1993). Snee and Hoerl (2003) suggest the following six factors that must be addressed in creating an effective gainsharing programme:

- utilisation of an easy-to-understand formula that tracks those variables that directly affects an organisation's strategic performance;
- regular programme evaluation (at least annually). This includes developing metrics to assess programme performance, creating procedures for revising the bonus formula and using a process for communicating the programme's changes;
- employee involvement during design, implementation and periodic evaluation. Organisations that solicit employee input regarding programme design tend to have programmes that outperform designed systems;

- a base reward system that pays at a current market level. Gainsharing is not a substitute for salaries below the market level. It is designed for and works best when augmenting a base salary system that reflects market conditions;
- subject matter experts to guide design process;
- and stable product / service line. Organisations that have relatively stable product / service lines, or an ability to develop a stable formula, tend to have the highest success rate.

Having explored gainsharing as a tool that contributes to attractive working conditions, the next section discusses union involvement in gainsharing programmes. It will explain models linking unions and performance management as well as how an enterprise must maintain union support during gainsharing implementation.

Gainsharing effectiveness in union or non-union establishments - This section determines whether or not gainsharing is more effective in union or non-union establishments.

Models that link unions and the performance of gainsharing programmes - Successful gainsharing programme requires an equitable bonus scheme, an employee involvement system, and the philosophy of cooperation (Graham-Moore and Ross, 1990). In a successful gainsharing programme, a higher level of cooperation leads to information sharing and free communication, which in turn leads to effective employee involvement. As a result, the employee involvement system improves organisational performance. This increase in performance results in a financial bonus which rewards or reinforces the philosophy of cooperation. It can be argued that unionization and union involvement in gainsharing influences each of these mechanisms either positively or negatively. For example, unionism might either increase the power of money as a motivator by guaranteeing a fair distribution of gains, or it might decrease it by reducing the size of bonus due to increased free-rider problems in unionized establishments. Unionism might either help improve the employee involvement programme through its collective voice function, or might hinder involvement by blocking the relaxation of work rules. Likewise, unionism might strengthen the cooperative atmosphere by

supporting gainsharing, or might be associated with increased adversalism. There are different arguments on the influence of unionism relating to gainsharing performance. These can be classified and integrated into the following competing models:

- an agency / transaction cost model based on neoclassical economic theory;
- a monopoly model based on the analogy between unions and product market monopolies;
- an institutional or collective voice model;
- and a two faces model in which unions simultaneously are monopolies and provide collective voice.

The first two models regard unions as an obstacle to gainsharing programmes, whereas the other two stress the potential beneficial effects of unionism for gainsharing programmes, particularly if the union supports the programme and is involved in its administration.

- **Agency / Transaction Cost Models**

The agency theory was discussed under 2.9.3. However, it is noted here as a transaction cost model and discussed as such. The logical extension of the agency / transaction theory in this section is that a gainsharing programmes can inherently be seen as inefficient because of the possibility of free-rider problems and additional agency / transaction costs. In addition, when a union is involved in the administration of a gainsharing programme, the complexity of decision making will be increased. The agency / transaction cost hypothesis implies that even the most cooperative union can be an obstacle to improving organisational performance in gainsharing programmes.

Some agency theorists have viewed gainsharing as having a positive potential (Lawler, 2007). They point out that group incentives such as gainsharing may reduce the monitoring costs borne by the company, by transferring them to workers. That is, where monitoring is difficult because of the complexity of work and workers' hidden knowledge / information, gainsharing may be a more efficient arrangement (compared to fixed wage contracts), since gainsharing

reduces monitoring costs and provides direct work incentives (Putterman, 1999; Stiglitz, 1974). Moreover, circumstances can be identified where union environments can improve the performance of gainsharing programmes by reducing transaction costs, especially those borne by the company. Existing union channels of communication can be used to communicate with organised employees. Union communication channels can be instrumental in promoting top-down communication (that is, informing workers about the details of gainsharing programmes), as well as bottom-up communication (for instance, conveying their collective opinions to managers in designing and operating a gainsharing programme), at a low cost to the company. Thus, it is notable that reasonable extensions of agency / transaction cost theory might not be unambiguously negative regarding gainsharing programmes. Despite these theoretical comments, the agency / transaction model has primarily been interpreted as predicting that gainsharing programmes are inherently ineffective because of free-riding and increased agency / transaction costs, and that having more parties involved with unionism would cause even greater problems.

- **The Monopoly Model**

In viewing unions as a monopoly, some claim that they hamper organisational performance by forcing companies to use more labour than they otherwise would (Zingheim & Schuster, 1995). Proponents claim that unions negotiate restrictive work rules which limit management's ability to introduce new technology (Addison, 1984) and force management to adopt inefficient personnel practices (Kaufman & Kaufman, 2003). If unions place restrictions on employers' efforts to improve efficiency by using various monopoly-like behaviours, it is not a surprising notion that unions might be a major obstacle to the effective functioning of a gainsharing programme. An extension of the monopoly view suggests that unions might hinder the performance of gainsharing programmes by impeding the optimal design and efficient operation of gainsharing. For example, when unions are involved in designing gainsharing programmes, the structure and elements of each programme might be less than optimal. This would occur if the union's input causes the programme to reflect the interest of union members as opposed to company performance. An example of this, for instance, is by insisting

on an employee bonus share that is too high to elicit company commitment. In addition, the union may resist the relaxation of work rules that may accompany gainsharing efforts. If the union places restrictions on gainsharing efforts to improve efficiency, it can become an institutional obstacle to effective programme functioning (Cooke, 1994; McMahan & Lawler, 2006). Another possible negative union impact is a weaker co-worker monitoring effect in union establishments. Union leaders may discourage members from reporting shirking members to supervisors, and/or prohibit team members from disciplining other members. Thus, according to this view, the issue of free riding can be more serious in unionized establishments (Cooke, 1994).

The monopoly view suggests that both the existence and involvement of a union would reduce the effectiveness of gainsharing programmes. It is noteworthy that, unlike the agency / transaction cost model, the monopoly model implicitly assumes that gainsharing programmes can be effective in improving company performance but that union environments compromise gainsharing effectiveness.

- **The Institutional Voice Model**

According to the institutional voice model, workers in a unionized company can voice dissatisfaction to the employer through their union, rather than simply exiting the company in search for better jobs. Because the union communicates legitimate interests of members to management and negotiates more satisfactory working conditions for employees, they are less likely to seek other employment. Their accumulated skills make them more productive than workers in the nonunion sector (Freeman & Medoff, 1984). Like monopoly theorists, institutional voice theorists typically assume that gainsharing can improve organisational performance. Based on this line of reasoning, some argue that gainsharing programmes have a greater potential when implemented in a unionized workplace, conditional on union support and participation, than in a nonunion workplace (Addison, 1984). Firstly, union-negotiated gainsharing plans will be more likely to provide equitable financial rewards. Secondly, unions provide a mechanism by which workers can utilise their collective voice in the design and operation of a programme on a long-term basis. According to the institutionalists, this

improves programme design because workers have knowledge overlooked by management. It also means that programmes are more balanced. That is, gainsharing programmes in union companies are more likely to be concerned with enhancing the quality of work life and other direct worker goals, along with increasing productivity. All this aids programme survival. Thirdly, unionized workers are more secure in criticizing existing practices, requesting information from supervisors or managers, and in challenging management's proposed solutions. Fourthly, a union can be instrumental in educating employees and communicating with workers about gainsharing programmes, which improves their functioning. Finally, unions are in a position to insure that employers do not abandon such plans unilaterally. Unionized firms provide a more stable environment in operating gainsharing, especially when management turnover is high (Eaton & Voos, 1989; Kelley & Harrison, 1992).

In settings where unions are not involved in designing and administering gainsharing programmes, some of the positive effects from the collective voice mechanism may not be realized. For example, some unions may allow a gainsharing programme launched by management to go on while distancing them from it. This might occur for ideological reasons or because union leaders believe the particular programme implemented would, on balance, disadvantage their members (for instance, by increasing the intensity of work without having sufficient off-setting benefits). Other unions may oppose gainsharing programmes or even attempt to destroy them, especially if the union believes management's true intent is to undermine the institutional integrity of the union (Verma & McKersie, 1987). When unions do not participate in gainsharing programmes, institutional voice theorists expect that gainsharing programmes would be less effective in accomplishing their objectives.

In summary, the institutional voice model predicts that gainsharing programmes have more potential in union than in nonunion environments, and that union involvement in gainsharing administration will result in better outcomes.

- **The Two Faces Model**

According to this approach, unions have two faces: a monopoly face, which relies on the use of bargaining power to raise wages and achieve other worker goals and a voice face, which involves the simultaneous provision of a collective voice to the employees of the company (Freeman & Medoff, 1984). Applied to gainsharing, this approach could be viewed as an amalgam of the monopoly and institutional voice approaches, with the ultimate impact of unions on gainsharing effectiveness depending on whether the monopoly aspect or the collective voice aspect predominates. Like both the monopoly and institutional voice models, the underlying assumption is that gainsharing can increase company performance. Whether or not gainsharing does so in the unionized company depends on the union's goals, its bargaining power, the approach it chooses to take to the gainsharing programme, and its ability to provide a vibrant channel of communication between employees and the employer. Gainsharing might be globally more (or less) successful in union establishments using this model depending on whether the collective voice (or monopoly) aspect of unionism predominates. Since the collective voice contributes to gainsharing success, union involvement in programme administration becomes particularly critical for gainsharing success in the two faces model.

This study is a comparative investigation of gainsharing programmes in the parts-automotive sector of South Africa. Therefore, it is imperative to discuss a different type of an incentive system. As a result, the 360° PMS will be discussed in this chapter. Its results will be analysed and compared to gainsharing in Chapter 5. The next section discusses the role of 360° (Performance Management Systems) PMS in employee development and performance. This includes individuals involved in the 360° PMS process; the organisational and individual perspectives of 360° PMS; the 360° PMS feedback instrument; and the benefits of 360° feedback.

2.19 The role of 360° Performance Management Systems (PMS) in employee development and performance

Garavan, Morley and Flynn (1997) define 360° PMS as a contrived method of providing a flow of feedback to employees from all directions. Nowack (1993) presents a useful summary of some of the reasons for the increased use of 360° PMS in organisations as:

- a need for a cost-effective alternative to assessment centres;
- the increasing availability of assessment into customised feedback reports;
- the need for continuous measurement of improvement efforts;
- the need for job-related feedback for employees affected by career plateau;
- and the need to maximise employee potential in the face of technological change, competitive challenges and increased workforce diversity.

The individuals involved in the 360° PMS process - Tornow (1993) highlights the important participants in the 360° PMS as the supervisor, peers, subordinates and self. What differentiates 360° PMS from traditional top down incentive system is its multiple sources (London and Beatty, 1993). The 360° PMS recognises the complexity of management and the value of input from different sources. Subordinates are well positioned to view and evaluate leadership behaviours. They may have more complete and accurate information about many leadership behaviours than supervisors. Van Velsor, Taylor and Leslie (1993) argue that 360° PMS gives managers the opportunity to rate themselves in a variety of performance domains and, through feedback, they see how their self-assessment compares to the assessment of others. For its effectiveness, Kaplan (1993) recommends that families, spouses, or friends should also be included as raters of 360° feedback. The employee receiving the feedback must volunteer or agree to rate others. He / she may also choose his / her own raters. According to Nowack (1993), there is little research to support the ideal number of feedback raters (or providers); however external consultants usually call for four to ten providers. Nevertheless, managers should request feedback from peers who have different relationships with them and

they should consider peers who are likely to provide constructive, not necessarily positive, feedback. If the manager lacks faith in the feedback provider, he / she may discount or ignore it. London, Wojhlers and Gallagher (1990) recommend that managers should be given guidelines when it comes to choosing from their peers, so that they make a wide choice. However, Nowack (1993) points out that the managers usually choose from their immediate subordinates.

The organisational and individual perspectives of 360° PMS - The use of 360° PMS can be examined from two perspectives – the organisational and the individual perspective. From the organisational perspective, it can be used in the following ways:

- To facilitate cultural change such as accelerating a shift to team work and employee empowerment (O'Reilly, 1994). When subordinates are rating their bosses they are given a voice, an opportunity to express their perceptions of their managers' or supervisors' skills and behaviours.
- It can be used solely for developmental purposes. Romano (1994), Atwater, Roush and Fishthal (1993) found that the most common use of 360° PMS is in the area of training and development. The overall net effect of training and development should enhance organisational performance.
- The organisation can use it as part of its succession planning system (Nowack, 1993; Tornow, 1993). Because the 360° PMS instrument evaluates what skills and abilities certain individuals are perceived to have, these individuals can be matched to corresponding positions which demand such skills and abilities.
- It can be used for executive development. Wiley (1993) found that executives are less likely to participate in group training programmes and they rarely get in-depth performance feedback or developmental coaching from their bosses. The 360° PMS can be used to provide such developmental feedback to executives.
- To reinforce the organisation's desire core values and business strategies and to provide feedback on how well managers are perceived to adhere to such core values (Tornow,

1993). As the skills and behaviours that are measured must be in line with the core values and business strategies of the organisation, the individual will know what skills and behaviours are important to the organisation and can develop those areas.

- It can be used by organisation as an input to the performance appraisal system.

From the individual's perspective, the 360° PMS can be used in the following ways:

- It can aid employees in improving weak or even unsatisfactory performance as the feedback should help highlight areas in which employees are weak. It may also have a reverse effect of highlighting employees' strength and abilities of which they may not be aware (Atwater *et al.*, 1993).
- When weaknesses are pointed out, the process can be used to decrease the employee's defensiveness about such weaknesses in the follow-through process.
- It can be used as a device to provide negative feedback. O'Reilly (1994) found that negative feedback is often withheld by other employees as they may feel uncomfortable giving negative feedback verbally. Even when negative feedback is given, it is often distorted in a positive way to the individual.
- It can be used to give employees a good understanding of their abilities. According to O'Reilly (1994), it has significant learning potential as most individuals are surprised by what they hear and only a fraction of managers have a good grasp of their own abilities.

The 360° feedback instrument - The 360° PMS feedback mechanisms consist primarily of questionnaires which can either be designed in-house or purchased off-the shelf. Off-the shelf or packaged instruments are usually paper-based. With technological advancement, questionnaires can be completed by raters on their computers. Hirschfield (1991) argues that this increases privacy and confidentiality, and saves paper flow which in turn makes the process more proficient and can also help keep costs to a minimum. Bracken (1994) points out that, regardless of whether the instrument is packaged or paper-based, it should contain the following elements:

- It should focus on behaviour, not just general traits. The questionnaire should ask raters whether the manager does or does not do something rather than whether the manager possesses some personal characteristics.
- The behaviour should flow directly from the organisation's visions and values.
- The system should reflect both the present and the future in describing the expected behaviours.

Organisations may not find a suitable packaged instrument, and may prefer to design their own questionnaire. Romano (1994) argues that it is difficult to find off-the-shelf instruments which are totally suitable. Where an organisation designs its own questionnaire, it does not need to have the same content for all jobs within the organisation; specific positions may need specific skills or behaviours; the questions may need to be phrased differently for subordinates; peer and self-ratings to reflect unique features of each position and relationship. London and Beatty (1993) point out that it is important to allow employee participation in the design of the questionnaire. The employees can help identify and generate appropriate behaviour statements. This can increase commitment to the process at a later stage. They also suggest that a committee be formed to write the items and pilot the process.

The benefits of 360° feedback - Hazucha, Hezlett and Schneider (1993) state that the popularity of 360° PMS is understood because of the benefits which it confers. Benefits most cited include the following:

- It enhances two-way communication and increases the opportunity for improved performance and employee involvement.
- It can demonstrate respect for employees by showing them that their opinions count.
- It can help to create better working relationships within the organisation. O'Reilly (1994), for example, found that the feedback improves the ability of people to work in teams.

The next section concludes this chapter. It uncovers factors that determine the survival of gainsharing. These include training, small bonus groups, complementary goals, situational contingences, sound corporate financial health, and major capital investment.

2.20 Major factors that determine the survival of gainsharing programmes

Gainsharing is a powerful tool which can connect employees to the organisation. While the concept of gainsharing may be appealing, it often requires a culture shift that must have the support of leadership and the willingness of employees to tolerate change. The following are major factors that determine the survival of gainsharing.

Training: The persistence of a programme requires efforts to introduce and maintain necessary behaviours among participants. If organisational members incorporate new behaviours into their value system, the behaviours should persist without conscious re-evaluation (Goodman & Moore, 2004). In reinforcing the new behaviour, Dong-One and Voos (2004) contend that training is important in the following three situations:

- initial training gives organisational members knowledge about the required behaviours under gainsharing;
- retraining of existing organisational members ensures that the behaviour persists;
- without new employee training, the gainsharing programme cannot be maintained from generation to generation;
- and the above three types of training are meant to strengthen the viability of a gainsharing programme.

Small bonus groups: Gainsharing programmes vary greatly in bonus group size, the degree of employee involvement, goals, and the degree of union support for and participation in programme administration. Woods (2001) suggests that small bonus groups are hypothesised

to have better chances of survival than large ones. Co-worker sanctions can be imposed more easily in a small group than in a large one. When specific behaviours are considered appropriate and sanctioned by the group, the behaviours are more likely to become institutionalised (Dong-One, 2004).

Formal employee involvement structures: These structures provide a clear mechanism by which participation can occur (Goodman & James, 2006). Gainsharing programmes with more extensive employee involvement schemes are more likely to survive than those with less extensive employee involvement schemes. By using workers' knowledge, creativity, and skills; employee involvement is enhanced and workers are provided with more opportunities to commit themselves to the programme (Yuch & Alessi, 1988). As programmes become more institutionalised, the greater the number of commitment opportunities they offer their participants (Goodman & James, 2006). Employee involvement provides employees with greater intrinsic rewards, such as feelings of responsibility and accomplishment (Senior, 2002), and the intrinsic rewards often reinforce participants' support of gainsharing.

Complementary goals: While improvement of organisational performance (for instance, in the form of higher labour productivity, cost reduction, and improved quality) may be the primary goal of management, the improvement of employees' quality of life (such as through higher compensation) may be the most important goal of labour. A programme that pursues one party's interests only is likely to weaken, because the neglected party has little or no incentive to work to maintain it. On the other hand, a programme that aims at complementary goals (that is, both the improvement of organisational performance and employees' quality of life) can give both parties an incentive to maintain the programme.

Situational contingences: Whilst there are situations that influence the persistence of gainsharing from the beginning, changes in situations affect programme viability. An establishment with heavy capital-intensive and mechanized production system will offer fewer opportunities for employees to improve programme performance from their efforts (Juravich,

Harris & Brooks, 2004). Labour-intensive production systems provide employees with more opportunities to make suggestions and innovations, which can help make them be more effective in maintaining a gainsharing programme. Thus, the survival is more likely for gainsharing programmes in a labour-intensive organisation than in capital-intensive organisations.

Sound corporate financial health: Gainsharing programmes in financially sound organisations are expected to have a better chance of survival than those in struggling organisations. In financially healthy organisations, employees may expect their efforts to be rewarded as specified in the gainsharing formula. This strong link between performance and rewards can motivate them to maintain gainsharing. Gainsharing requires substantial financial and human resources, including meeting and administrative time, booking and clerical costs, and the employment of full-time or part-time personnel to manage the programme. These direct and indirect costs can be borne by most financially healthy organisations, but in financially compromised organisations they may be a burden so much so that it may be necessary to discontinue gainsharing (Kim, 1999).

Major capital investment: The introduction of new equipment, facilities, or both will enhance the efficiency of the production process and improve the competitiveness of the company. An increase in the demand for the establishment's product (or service) will justify the continuing operation of gainsharing (Huzzard, 2006). On the other hand, a major change in capital investment will present a difficulty for programme administration, because a bonus formula should be revised to reflect the new capital investment. Organisations should anticipate the impact of major capital investment on labour intensity. That is, an increase in capital investment may increase the capital-to-labour ratio, hence decreasing the likelihood of gainsharing programme survival.

2.21 Summary

Gainsharing originates from developed countries such as the USA. South Africa's labour productivity in the manufacturing sector is low when compared to Korea, the USA, Taiwan, Japan, France and the UK (de Jager, 2002). Increase in productivity can finance higher wages without burdening the customer with higher selling prices. As a result, strong co-operation between management and labour to improve productivity is required. It is evident that gainsharing involves much more than innovative compensation. Indeed, financial reward is only one of its attributes, although initially, a significant motivator. Because of its broad impact, gainsharing will not have an enduring effect without a strong commitment on the part of top management. By fitting gainsharing into an overall framework of organisational development gainsharing can drive an indefinite and self-sustaining loop of performance improvement. The reason is that organisational development prompts systematic attention to the realignments in structure, work design, performance management and information flows which enable the incentives and rewards, both extrinsic and intrinsic, to have the desired effect. Strategic intent is vital for gainsharing to succeed. Without strategic intent, gainsharing is easily derailed by disruptive influences, whether external or internal, with detrimental consequences for employee motivation and commitment and for workplace relationships. It is clear that organisations with successful gainsharing programmes have a strategic intent. Accordingly, successful organisational change initiatives featuring gainsharing typically require a clear articulation of vision and a reorientation of corporate culture consistent with a commitment to participative management and a learning organisation. Workers react favourable to productivity enhancing measures when they have the assurance of their share in the resulting productivity gains. Participation without empowerment does not give workers a sense of belonging and ownership, which are essential ingredients of high morale and higher productivity.

The aim of this chapter has been to gain an insight into the existing knowledge of gainsharing programme. Much of the data was found in secondary sources including journals and articles on gainsharing programme.

CHAPTER THREE: OVERVIEW OF EMPIRICAL EVIDENCE

3.1 Introduction

The main objective of this study is to investigate whether gainsharing leads to productivity improvement. This chapter will establish the impacts of gainsharing programmes from companies in other countries that have implemented gainsharing. It also highlights the experiences of countries that have implemented variable pay system (VPS), including gainsharing and related trends. Gainsharing is valuable component of VPS (Armstrong & Murlis, 2001). The chapter is thus a natural progression from the literature review. Substantive evidence in the literature reveals that gainsharing improves morale and motivation which leads to improved organisational performance. Major theoretical foundations in chapter two links gainsharing to employee performance (Arthur & Aiman-Smith, 2000); productivity improvement and a decrease in absenteeism (Kaufman, 1998) and the achievement of organisational goals (Shonfield, 2003) as well as an increase in company performance (Hanlon & Taylor, 2005).

The first part of this chapter presents findings from studies that were conducted by van het Kaar and Grünell (2001) on performance related pay systems like gainsharing in fifteen European Union (EU) member states plus Norway. It provides the number of companies and employees that were affected by the change to performance related pay. It also highlights the type of incentive schemes that dominates a particular sector in each member state.

The second part of this chapter compares wage flexibility underpinned by the use of 10 VPS (including gainsharing) in Ireland. Following the Irish survey results, a study of the impact of gainsharing in Brazil will be reviewed.

The final part of the chapter discusses the influence of gainsharing at company level. It highlights study findings from companies that have implemented gainsharing. This includes the

Texas Chemical Plant and Kurdzlel Iron in Michigan (both in the USA). The Texas Chemical Plant study compares pre - and post gainsharing impacts on identity, participation and involvement, as well as, management support. Study variables used in the Texas Chemical's pre - and post gainsharing study can be compared to participants' comments recorded from focus group interviews in this study.

3.2 Performance related pay in Europe

The performance related pay (or the VPS) has long been seen as a management tool and fiercely opposed by trade unions in Europe (van het Kaar & Grünell, 2001). However, some trade unions have prioritised this type of pay system in their bargaining agendas and, as a result the system has become less controversial. Different opinions still exist over the real or perceived advantages or disadvantages of variable pay and its effects on productivity and competitiveness, social cohesion, industrial relations, and the structure of collective bargaining. Introducing or changing VPS can still give rise to industrial action, or even public controversies. Table 4 provides the number of companies and employees affected by performance-related pay in the rest of the EU member states and Norway. Data for Belgium and Luxembourg were not available. Also note that the data for companies affected by performance related pay for Austria, Finland, France, Italy, Netherlands, Sweden, and UK was not available. This includes the number of employees affected by performance related pay for Greece, Ireland, Norway, and Portugal.

Table 4: Performance-related pay in the EU states and Norway

Country	Companies affected	Employees affected
Austria (2000) (1)	-	25% of white-collar staff, 10%-15% of blue-collar staff.
Denmark (2000) (2)	15,000 - 20,000 companies in the private sector bargaining area were affected.	One-third of employees (that is, 600,000) were affected.
Finland (1998) (3)	-	36% in industry, 9% in state sector and 2.4% in the municipal sector.
France (1992)	-	20.8% had their pay linked to company performance, 5.4% to team performance, 15.4% to individual performance, and 28.8% to other factors.
Germany (1999/2000)	53.8% of private firms.	35.4% of white-collar staff, 30.3% of blue-collar staff and 30.2% of executive staff was affected. Only 46.2% were not covered.
Greece (1995)	40% had production bonuses, and 10% had productivity bonuses.	-
Ireland (1998)	57% had performance/merit-related pay (individual), 37% performance/merit-related pay (company), 30% output/production-related bonuses, 25% commission payments, 6% teamwork pay, the other 6% skill-based pay, 3% competency pay and 2% broad-banding.	-
Italy (1995-6)	-	Variable pay affects 64.2% of those workers covered by company-level bargaining in manufacturing and 52.8% of workers covered by company-level bargaining in services, 22.7% of all employees are affected, 12.5% by production bonuses, 5.1% by attendance bonuses and 3.9% by piecework
Netherlands (1999)	-	49% covered by performance-related pay and 23% by pay related to qualifications.
Norway (1997) (4)	40%-50% of larger manufacturing firms.	-
Portugal	94% have annual bonuses, 26% have commission payments.	-
Spain (1999)	40% of company agreements contain individual incentives, and 30% contain objectives by groups or areas.	25% were covered by incentives linked to productivity.
Sweden (2000)	-	100,000 construction workers and 27,000 electricians.
UK (1998)	-	35% of middle and senior managers-62% of skilled manual workers.

Source: van het Kaar and Grünell (2001)

Key to Table 4: (1) *distribution option*; (2) *all forms of variable pay*; (3) *variable pay based on company performance* (4) *includes schemes based on company economic performance*.

Table 4 shows that Italy (as in 1995-6) had a large number of employees affected by VPS at sixty four point two percent (64.2%) of the total workers. These workers are covered by company-level bargaining in the manufacturing sector. Note that fifty two point eight percent (52.8%) of the workers are covered by company-level bargaining in the service sector. Italy is followed by Finland at thirty six percent (36%) while Germany and UK hover around thirty five percent (35%). One-third of Denmark employees (as in 2000) were affected by performance related pay system, while twenty five percent (25%) of Austria and thirty five point four percent (35.4%) of German white collar staff were affected by this pay system. It should be noted that Portugal has a large number of companies covered by performance related pay. Ninety four percent (94%) of companies provide annual bonuses and twenty six percent (26%) commission. Following Portugal is Ireland. Fifty seven percent (57%) of companies in Ireland (as in 1998) had performance / merit related pay. Germany (as in 1999/2000) had fifty three point eight percent (53.8%) of private firms affected by performance related pay, while Denmark (as in 2000) had 15 000 to 20 000 companies in the private sector bargaining area affected.

3.2.1 Sectoral and other pay scheme variations in the EU states and Norway

The incidence of variable pay schemes varies according to a number of characteristics of the employing organisations concerned. The size of the company is an important characteristic. The bigger the organisation, the more frequent the incidences of variable pay (van het Kaar & Grünell, 2001). This is evident in France, Germany, Netherlands, Norway, Austria, Italy, Portugal and the UK. There is also a considerable variation between the extent and nature of variable pay in different sectors of the economy, as indicated in Table 5. The table indicates that the incidence and importance of VPS is relatively higher than average in new economy and amongst professionals. This is also true of the banking and insurance sectors. There is a high incidence of payment-by-results in the building and construction industry in several countries. In the UK, the incidence of financial participation differs to some extent between UK-owned companies (below average) and foreign-owned companies (above average).

Van het Kaar & Grünell (2001) explain that the criteria used in defining the level of variable pay depends to a large extent on the type of scheme in question. Quantity of output is the dominant criterion for variable pay. This criterion is an important measurement tool for purposes of payment by results, but not the only criterion. Quality of output is gaining ground as a measurement tool. In Finland, for instance, factors such as the number of defective items produced, customer feedback, and the rate of injuries at work are taken into account. A shift from a more traditional form of variable pay such as piecework towards other systems implies a shift in the criteria used, from quantity of output towards quality of output or meeting deadlines, particularly, in Spain (van het Kaar & Grünell, 2001). Quality of output is also an important criterion in Italy, Netherlands and Germany while some German organisations take savings on materials or waste and equipment used into account. The table (page 105) presents sectors with high incidence of variable pay in the EU states and Norway.

The only two countries that use different measurement criteria are Italy and the UK (Hanlon and Taylor, 2005). In Italy, the criterion based on economic performance is used in twenty percent (20%) of companies. A combination of economic performance and quantitative indicators is used in another twenty percent (20%). Productivity, in all its different forms, is used in twenty five percent (25%) of cases while quality indicators are used in twenty percent (20%) of cases. According to van het Kaar & Grünell (2001), the incidence of measurement criteria for performance-related pay in UK is as follows, seven percent (7%) for piece rates; forty five percent (45%) for other measures of output; fifty seven percent (57%) assessments by supervisors' and seventeen percent (17%) in the acquisition of skills or core competencies.

Table 5: Sectors with high incidence of variable pay in the EU states and Norway

Country	Sectors
Austria	General – ‘new economy’; distribution is the manufacturing sector.
Denmark	Piecework system dominates the construction sector. Bonuses and gainsharing schemes are used in commerce, private business services and the new economy. Sales commission in finance but mainly the service sector.
Finland	Variable pay is used in the export sector, and more widespread in the private and less in the government sector.
France	Voluntary and/or mandatory profit-sharing is used in the automotive industry (by 60% of the workforce), energy and financial sectors (by 70% of the workforce and under 30% in agriculture and related services).
Germany	Profit-related payments are used in the banking and insurance as well as commerce sectors (low in construction, consumer goods industry and other services).
Ireland	Employee share ownership is mainly used in the semi-state companies; profit-sharing is used in the information technology and software; output/production-related bonuses (including gainsharing) in other manufacturing sub-sectors; commission payments in the banking/insurance/finance whilst individual performance/merit-related payments in the banking/insurance/finance, chemicals/pharmaceuticals/healthcare and electronics.
Norway	Variable pay scheme is used in the manufacturing sector.
Portugal	The above average variable pay scheme is used in financial services whilst the below average in textiles, machinery and equipment as well as construction sectors.
Spain	Variable pay scheme is used in the communications, energy, consumer goods, distribution and services whilst the employee share ownership scheme is used in the construction, real estate, consumer goods, and distribution as well as services sectors.
Sweden	Variable pay scheme is used in the building industry whilst share and share option scheme is used in the information technology, banking, insurance and finance sectors.
UK	Variable pay is more common in private sector (particularly, the manufacturing) than the public organisations; financial participation in finance, public utilities (very low in education and health) whilst performance-related pay in the distribution, banking and finance, manufacturing and other services sectors.

Source: van het Kaar and Grünell, (2001).

3.2.2 The importance of variable pay in relation to total remuneration

According to van het Kaar and Grünell (2001), the direction of the variation on variable pay scheme can be positive or negative. For instance, a bonus of five percent (5%) is achieved when production rises by ten percent (10%) or more. But there will be no bonus if this does not occur. There will also be no end-of-year bonus if an employee has been sick for more than four times. In most cases, negative variation means the loss of a bonus or no entitlement to pay rise. The following table presents the proportion of total remuneration attributed to variable pay in EU states and Norway.

Table 6: Proportion of total remuneration attributed to variable pay in EU states and Norway(

Country	Percentage range
Austria	5% - 15% in industry; and 30% in new economy.
Belgium	The governments' bill provides that financial participation may not exceed 10% of total payroll costs or 20% of profits.
Finland	Averaging to 5%, but up to 20%.
France	Averaging to 8.2%.
Germany	5% - 27%.
Italy	3 % - 5% (excluding management).
Netherlands	10% - 15%.
Norway	Under 10%.
Spain	10% - 20%.
Sweden	Averaging to 25%.
UK	2.9% - 5% for merit pay; and 5% - 9% for profit-related pay.

Source: van het Kaar and Grünell, (2001)

There are large differences between countries using variable pay in relation to total remuneration as presented in Table 6. Not only are big differences in the range of variation, but percentages in this range also differ (van het Kaar & Grünell, 2001). It should also be noted

that the average percentage figure for Sweden is quite high in absolute terms, but is considered to be relatively low in real terms. The amount of variation differs within countries according to the sector and the level of hierarchy in organisations. Generally, the highest variation occurs within managers and executives, whilst the lower the level in the hierarchy, the lower the proportion of remuneration that is variable (van het Kaar & Grünell, 2001).

3.2.3 Trends on the use of variable pay

The incidence of variable pay is increasing throughout the EU states as shown below.

- Ireland: Between twenty five percent (25%) and seventy five percent (75%) of schemes offered by manufacturing sub-sectors are teamwork pay, gainsharing, skill-based pay and broad-banding. These were introduced between 1995 and 1998.
- Norway: The coverage of VPS doubled from eleven percent (11%) of employees to twenty two percent (22%) in the period 1989 to 1998 (excluding piecework schemes).
- Finland: The country recorded a significant increase in variable pay in the period 1990 to 1999.
- Italy and Spain: The decentralisation of the collective bargaining structure (with an increase in company-level bargaining) has lent a strong impetus to the introduction and spread of variable pay schemes (including gainsharing).

The more traditional forms of piecework are decreasing in countries such as Austria, Spain and Sweden. Van het Kaar and Grünell (2001) point out that the incidence of performance-related pay has been fairly stable over a longer period in countries like Portugal, the UK, the western part of Germany, Netherlands and Spain (between 1995 and 1998).

3.3 Wage flexibility and collective bargaining in Ireland

The most common measurement criterion to determine performance incentives in the Irish manufacturing sector is output/production-related bonuses (Dobbins, 2009). Unions often like to see an increase in gainsharing but employers are concerned about its implications, tending to prefer individual merit and profit share schemes. The most comprehensive data on VPS in Ireland is covered in the Irish Business and Employers Confederation (IBEC) survey results of 1998 (Dobbins, 2009). The survey highlights a number of VPS used in Ireland. These are output/production-related bonuses, commission, profit sharing, performance/merit-related pay (both individual and company), teamwork pay, skill-based pay, competency pay, gainsharing, and broad banding. Tables 7, 8 and 9 compare the use of VPS (including gainsharing programmes) in Ireland.

It is evident that most EU countries covered by the IBEC survey of 1998 (see Tables 4 to 6) have seen an increase on the use of variable pay systems. However, the picture does not seem to be uniform. As a result, the UK has actually saw a decrease in the use of share and share option schemes in the 1990s, while in several other countries the traditional systems of variable pay are on the decline (or seem to be more or less stabilized). However, the overall picture is still one of a gradual increase in the use of variable pay systems. According to Van het Kaar and Grünell (2001) the variable pay systems had implications to various industrial relation regulations within the EU.

Van het Kaar and Grünell (2001) are of the view that in several countries there is evidence of a strong link between the decentralisation of collective bargaining and the increasing use of variable pay. This raises the question of who decides on the introduction, continuation or abolishment of a variable pay. It is evident that as the collective bargaining process becomes decentralized, the importance of the various parties at company level increases. Where the presence of trade unions at company level is weak, the relative power of management increases unless another power is present to counterbalance it. This counterbalancing power seems to be present in Austria and Germany, and possibly the Netherlands, in the form of the works council. Where variable pay is agreed at individual level, the question of power is even

more acute (Van het Kaar & Grünell, 2001). This is evident where management makes the decision on pay unilaterally, but probably less so in situations where variable pay deals are negotiated between management and individual employee. In this case, the transparency of power relationship becomes blurred by a tight situation in the labour market. The next table presents the incidence of VPS in Irish companies.

Table 7: Incidence of VPS in Irish companies

Type of Pay System	% of Companies
Output-/production-related bonus	30%
Commission	25%
Profit-sharing	19%
Performance-/merit-related (Individual)	57%
Performance-/merit-related (Company)	37%
Teamwork pay	6%
Skill-based pay	6%
Competency pay	3%
Gainsharing	3%
Broad banding	2%

Source: Dobbins (2009)

The Irish Business and Employers Confederation (IBEC) survey indicates that (as of 1998) the incidence of performance / merit related (individual) pay system in Irish is used by fifty seven percent (57%) of companies, followed by performance / merit related (company) by thirty seven percent (37%), the output / production related bonus at thirty percent (30%), commission at twenty five percent (25%) while profit sharing at nineteen percent (19%). Broad banding is the least VPS at two percent (2%) followed by competency pay and gainsharing which are used by three percent (3%) of the Irish companies. The next table presents the types (or categories) of workers that use VPS in the Irish companies.

Table 8: Types of workers that use VPS in Irish companies

Type of Pay System	Manual	Skilled / Technical	Clerical	Sale staff	Managerial / Supervisory
Output-/production-related bonus	29%	12%	5%	5%	8%
Commission	-	1%	-	41%	3%
Profit-sharing	13%	14%	14%	17%	18%
Performance-/merit-related (Individual)	10%	35%	33%	30%	53%
Performance-/merit-related (Company)	10%	16%	16%	19%	34%
Teamwork pay	4%	3%	1%	2%	1%
Skill-based pay	2%	4%	3%	1%	1%
Competency pay	1%	2%	2%	2%	2%
Gainsharing	3%	2%	2%	2%	2%
Broad banding	1%	1%	1%	1%	2%
Total number of companies with systems	62%	64%	58%	77%	79%
Total number of companies*	269	269	299	176	301

Source: Dobbins (2009) **The percentages shown in the columns are calculated out of the total number of companies who employed people in these categories*

From the above IBEC survey results on Table 8, the performance-related pay (individual) in the Irish companies is used by Managerial / Supervisory workers at fifty three percent (53%) of the total work categories, followed by sales staff at forty one percent (41%) on commission. Note that the performance-related pay (individual) is also common to skilled technical, clerical, and sales staff at thirty five percent (35%), thirty three percent (33%), and thirty percent (30%), respectively. The least preferred types of work categories at one percent (1%) that uses VPS include Skilled / Technical for commission, Clerical and Managerial / Supervisory staff for Teamwork pay, Sales and Managerial / Supervisory staff for Skills based pay, as well as, competency pay for Manual work category. Table 9 provides survey results on the types of reward system used by Irish employment sectors (including banking and manufacturing).

Table 9: Types of reward system by sector

Type of Pay System	Food/ Drink/ Tobacco	Chemical/ Pharm./ Healthcare	Electronics	Banking/ Insurance/ Finance	Other Manufacturing	Other Services	Total
Output-/production-related bonus	26%	20%	12%	19%	49%	16%	89
Commission	28%	21%	18%	40%	23%	32%	74
Profit-sharing	22%	16%	21%	32%	18%	11%	57
Performance-/merit-related (Individual)	65%	69%	67%	92%	36%	47%	173
Performance-/merit-related (Company)	39%	34%	45%	40%	32%	42%	110
Teamwork pay	4%	3%	9%	4%	9%	-	17
Skill-based pay	2%	11%	6%	4%	5%	5%	18
Competency pay	4%	1%	3%	8%	3%	11%	10
Gainsharing	2%	3%	3%	-	3%	5%	8
Broad banding	9%	3%	-	-	-	-	7
Total number of companies (100%)	46	75	33	26	102	19	301

Source: Dobbins (2009)

The IBEC survey indicates that (as of 1998) the individual performance-related pay at ninety two percent (92%) is the most common form of VPS in the Irish banking sector, followed by company-related performance pay at forty percent (40%), commission also at forty percent (40%), and profit-sharing at thirty two percent (32%) (Dobbins, 2009). In contrast, the most common forms of VPS used in the Irish manufacturing sector are output/production-related bonuses at forty nine percent (49%).

In addition from the IBEC (1998) study, a research survey carried out during 2001 by Lansdowne Market Research (LMR) when investigating the compensation practices to 1, 361 private sector companies resulted to the following findings:

- Forty five percent (45%) of all companies made shift or overtime payments;
- and forty percent (40%) paid commission.

Furthermore, the LMR survey results reveal that the bonus payments relating to individual employee performance were made by fifty five percent (55%) of employers, with twenty nine percent (29%) using bonuses relating to company profits, twenty two percent (22%) using bonuses relating to group performance, and twelve percent (12%) of employers using employee share ownership. According to a comprehensive Economic and Social Research Institute (ESRI) and National Centre for Partnership and Performance (NCPPI) survey of employment practices conducted to 1, 491 private sector employers in 2005, fourteen percent (14%) of private sector employers implemented financial participation initiatives based on profit sharing/share options or gainsharing (van het Kaar & Grünell, 2001). It was discovered that both profit and gainsharing schemes range from as low as six percent (6%) in construction to thirty percent (30%) in the banking and finance sectors.

3.4 The impact of gainsharing programmes in Brazil

This study was conducted by Basso and Krauter in 2003 to verify the influence of gainsharing plans on value drivers' performance in the State of Sao Paulo (Kimura, 2004). All ninety one companies from the industrial sectors of Sao Paulo city participated in the study.

Findings (as shown on Tables 10 to 12) were categorised into financial drivers, company goals and performances as follows:

Table 10: Performance from financial drivers

	Drivers	Performance index achieved	Increase / Decrease
1.	Sales growth	44%	Increase
2.	Investment in Working Capital	24.2%	Increase
3.	Operating Profit Margin	50.5%	Increase

Source: Basso and Krauter (2003)

The Basso and Krauter survey (of 2003) in Table 10 reveal that the influence of gainsharing increase sales by forty four percent (44%), investment in working capital by twenty four point two percent (24.2%), and the operating profit margin by fifty point five percent (50.5%). The survey also investigated the influence of gainsharing to company goals. Performance indexes achieved per measure (from survey results) are presented in Table 11 below.

Table 11: Measures to evaluate company goals

	Measures	Performance index achieved	Increase / Decrease
1.	Productivity	8.2%	Increase
2.	Waste, refuse, loss	6.8%	Decrease
3.	Absenteeism	5.5%	Decrease
4.	Units produced	5.1%	Increase
5.	Quality programmes implemented	4.6%	Increase
6.	Occupational accidents	4.4%	Decrease
7.	Efficiency in the use of raw material	4.4%	Increase
8.	Rework	4.2%	Decrease
9.	Gross or net revenue	3.6%	Increase

Source: Basso and Krauter (2003)

Survey results show that gainsharing increase productivity by eight point two percent (8.2%), the units produced by five point one percent (5.1%), quality programmes by four point six percent (4.6%), efficiency on the use of raw material by four point four percent (4.4%), and gross or net revenue by three point six percent (3.6%). It also reveals that gainsharing decrease

waste, refuse and loss by six point eight percent (6.8%), absenteeism by five point five percent (5.5%), occupational accidents by four point four percent (4.4%), and rework by four point two percent (4.2%).

The Basso and Krauter survey (of 2003) also evaluated the influence of gainsharing to company performance. Results per measure (in percentages) are presented in Table 12 below.

Table 12: Measures to evaluate company performance

	Measures		Number of participants to the study	% increase
1.	Return on investment	ROI	51	56.0%
2.	Return on equity	ROE	31	34.1%
3.	Return on assets	ROA	26	28.6%
4.	Price/earnings ratio	P/E	24	26.4%
5.	Earnings per share	EPS	23	25.3%
6.	Economic value added	EVA	21	23.1%
7.	Return on net assets	RONA	14	15.4%
8.	Market value added	MVA	12	13.2%
9.	Cash flow	-	7	7.7%

Source: Basso and Krauter (2003)

Participants to the study believe that the influence of gainsharing results to an increase in return on investment by fifty six percent (56%), return on equity by thirty four point one percent (34.1%), return on assets by twenty eight point six percent (28.6%), price/earnings ratio by twenty six point four percent (26.4%), earnings per share by twenty five point three percent (25.3%), economic value added by twenty three point one percent (23.1%), return on net assets by fifteen point four percent (15.4%), market value added by thirteen point two percent (13.2%), and cash flow by seven point seven percent (7.7%).

The following sections 3.5 and 3.6 discuss the influence of gainsharing at company level. They highlight study findings for Texas Chemical Plant and Kurdzlel Iron.

3.5 Gainsharing programme as a driving force in a Texas Chemical Plant

Management of the Texas Chemical Plant believe that equity, identity, involvement and commitment are four principles that should be incorporated into the company strategy in order to establish and maintain their gainsharing programme (Masternak, 2003). A consulting agency (WorldatWork) conducted both pre- and post-gainsharing implementation surveys. The post gainsharing survey results were released one year after the company had implemented a gainsharing programme. As a result, study findings (shown on Tables 13 to 15) were categorised into the main variables of identity, participation and involvement, and management support.

Table 13: Pre- and post gainsharing comparison (identity)

Identity		Pre-Gainsharing	Post Gainsharing	% change
1.	My work contributes to the success of the company.	4.5	4.7	4%
2.	Most employees here feel that their goals and the goals of the plant are pretty much the same.	3.5	3.8	8%
3.	Employees here have a pretty good idea about how the economy will affect our business.	3.7	4.0	9%
4.	The plant's overall goals and objectives are understood by employees.	3.5	3.9	10%

Source: Masternak (2003)

The highest positive change (in percentage) to employee identity resulting from gainsharing influence (when pre- and post gainsharing results are compared) is ten percent (10%). This is where employees believe that they understand the overall goals and objectives of the plant. This is followed by nine percent (9%) change in identity where employees believe that they have a good idea about how the economy will affect their business, and eight percent (8%)

where employees feel that their goals and the goals of the plant are the same. The least change in identity is four percent (4%) in which employees believe that their work contributes to the success of the company. The following table presents employees' perception about their participation / involvement to decision making.

Table 14: Pre- and post gainsharing comparison (participation / involvement)

Participation / involvement		Pre-Gainsharing	Post Gainsharing	% change
1.	Management at this facility is interested in hearing employee's opinions on job related matters.	3.6	4.0	11%
2.	Employees are generally consulted when decisions are made that affect them or their work.	2.7	3.1	15%

Source: Masternak (2003)

The WorldatWork survey results (for 2003) show a positive change (in percentage) to employee participation / involvement resulting from gainsharing influence (when pre- and post gainsharing results are compared) by fifteen percent (15%). In this case, employees believe that they are generally consulted when decisions are made that affect them or their work. This is followed by eleven percent (11%) where employees believe that management is interested in hearing their opinions on job related matters.

The importance of management commitment and support for gainsharing was demonstrated in surveys that were conducted in two separate gainsharing facilities in Deer Park and Laporte, both from Texas (Masternak, 2003). Both plants belong to the same corporation and are located within six miles to each other. They implemented gainsharing at the same point in time. However, one year after implementation, there was a dramatic difference on how management demonstrates the level of commitment to gainsharing. Table 15 demonstrates the level of commitment from management team as a key difference.

Table 15: Pre- and post gainsharing comparison (management support)

Management support		Pre-Gainsharing	Post Gainsharing	% change
1.	Management supports our gainsharing plan	3.7	4.2	14%
2.	Managers are doing all they can to help gainsharing succeed.	3.4	3.8	12%
3.	Managers behave in a more participative manner since gainsharing was implemented.	3.3	3.7	12%
4.	Management at this facility is interested in hearing employee opinions on job-related matters	3.3	4.0	21%
5.	My manager frequently asks for my ideas and suggestions.	3.9	3.9	18%
6.	Plant management encourages open communications from employees	3.3	4.1	24%
7.	Top management encourages open communications from employees	3.0	3.7	23%
Employee Satisfaction				
8.	Employees are more satisfied now than before gainsharing	3.1	3.9	26%
9.	Since the plan began, employees have more control over their work life.	2.8	3.4	21%
10.	This is a more enjoyable place to work now than it was before gainsharing.	2.9	3.7	28%

Source: Masternak (2003)

The 2003 survey results (from WorldatWork) of Table 15 show a positive change (in percentage) of management support to gainsharing (when pre- and post gainsharing results are compared) by fourteen percent (14%). The highest change of management support is twenty

eight percent (28%) where management believes that their organisation is a more enjoyable place to work than it was before gainsharing. This is followed by twenty six percent (26%), twenty four percent (24%), and twenty three percent (23%) where employees were more satisfied than the period before gainsharing, top management encourages open communications from employees, as well as, plant management also encourages open communications from employees; respectively. The twenty one percent (21%) change was when management seems interested in hearing employee opinions on job related matters, and the other twenty one percent (21%) was when employees feel that they have gained control over their work. The survey also shows eighteen percent (18%) change where a manager frequently asks ideas and suggestions from his or her employees.

The lowest change of management support to gainsharing plan (when pre- and post gainsharing results are compared) was twelve percent (12%). This results from employee's belief that managers are doing all they can to help gainsharing succeed. The other twelve percent (12%) results from an increase in management's participative behaviour after gainsharing was implemented.

3.6 Gainsharing impacts at Kurdzlel Iron (Kurdzlel Industries Inc.) in Michigan

During the first quarter of implementation (October – December 2001), the gainsharing plan did not earn a payout (Browse and Steven, 2003). Nevertheless, the following table show results from the second quarter after implementation.

Table 16: Gainsharing impacts at Kurdzlel Iron

Quarter	Effective Months	Payouts earned	Maximum cheque per employee (based on attendance and seniority)	Absenteeism Rate	Other comments
Second	January – March 2002	\$132, 594	\$1070	Declined from 6.1% to 3.4%	Absenteeism rate also declined compared to the same period of the previous year. Cost / ton poured decrease by \$5 and the cost / ton finished decreased by \$11.
Third	April – June 2002	\$51, 565	\$417	Declined from 6.0% to 3.8%	
Fourth	July – September 2002	\$87, 283	\$710	Held at 3.8% from the third quarter	

Source: Masternak (2003)

Study findings from Kurdzlel Iron reveals that absenteeism declined from 6.1% to 3.4% in the second quarter of 2002 after gainsharing was implemented. It also declined from 6.0% to 3.8% in the third quarter of 2002. This trend showed a positive impact of gainsharing to Kurdzlel Iron.

3.7 Summary

Overviews of empirical evidence from global studies on gainsharing were highlighted in this chapter. Gainsharing was compared with a wide range of performance related pay or VPS within the EU member states and Norway. It's evident that there is high incident of payment by results in the building and construction industry in several EU member states. Besides variable pay comparison, the proportion of total remuneration attributed to variable pay and trends

were highlighted.

It was revealed that variable pay is increasing in the EU member states with Ireland, Norway and Finland showing a significant lead. However, specific pay systems dominate particular sectors. Evidence to this statement is the wage flexibility in Ireland. Furthermore, results obtained from qualitative results gleaned from the pre- and post survey conducted at the Texas Chemical Plant is echoed in focus group comments from this investigation. It should also be noted that studies from Sao Paulo and Michigan have variables that are almost similar to quantitative variables of this study. Nevertheless, data comparison cannot be drawn to study analysis' chapter of this research due to different sector focus.

The next chapter describes the method used to study research problem and includes the rationale for the methodology employed in this research.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

Having perused the relevant literature that serves as the main source of information to complete a conceptual framework for the areas of research in both the second and third chapters, it is now befitting to focus on the approach that guides research methodology, design and the research techniques that will be used in this study. The focus of chapter four is the approach that guides the research methodology, design and research techniques that are used in this study. Different approaches were critically considered, bearing in mind the purpose and objectives for the study as well as the broad issues to be explored, before an informed decision about their suitability for the study.

This chapter specifically explains the research methodology, which is defined by Welman and Kruger (2003) as a focus to research process and the kind of tools and procedures used in the research. It provides an exposition of the procedure used to study the research problem and includes the rationale for the methodology employed in this research.

It precisely presents the differences between qualitative and quantitative research. The rationale for using both methods is given. This is consistent with triangulation which gives a clearer picture or more holistic overview of the phenomena under investigation. Furthermore, the values and principles of the researcher during data gathering process will also be discussed.

4.2 Objectives (assumptions) of the study

This study aimed to investigate whether gainsharing can increase productivity in the automotive parts-manufacturing sector of South Africa.

The following are study objectives:

- To explore the suitability of gainsharing as an appropriate tool for productivity improvement at Company A and COMPANY B;
- To ascertain whether incentive schemes (in general) have a productivity enhancing effect;
- and to establish whether other variables like de-layering; trade union participation; company age; qualification incentives paid to workers for upgrading their skills, play an important role in productivity improvements.

4.3 Qualitative and quantitative research: Differences and orientation

This study uses both qualitative and quantitative research methods. It is prudent to differentiate between these two methods thus signifying their importance to this study. The differences will be based on the use of positivism, the acceptance of post-modern sensitivities, the capturing of an individual's point of view and the examination of constraints of everyday life. This section will be followed by a brief explanation on the rationale for choosing both qualitative and quantitative methods for this study (see section 4.3).

The difference between the qualitative and quantitative paradigms is observed in search for quantity of understanding (quantitative) and for in-depth inquiry (qualitative) (Henning van Rensburg & Smit, 2004). The word qualitative emphasises processes and meanings that are not comprehensively examined or quantified in terms of quantity, amount, intensity or frequency. Qualitative research involves the socially constructed nature of reality, the intimate relationship between the researcher and what is being studied and the situational constraints that profile the inquiry. Qualitative research entails questioning social experiences as well as how this experience is given meaning. In contrast, quantitative research entails the measurement and analysis of causal relationships between variables, not processes (Denzil & Lincoln, 1994).

When quantitative research is conducted, the focal point of research is on control of all the parts in the behaviour and illustrations of those participating. The parts of the phenomenon (variables) are controlled and the research is directed with a finely tuned focus on the manner in which the variables are associated. This control is designed by the qualitative research in the manner that the research and its instruments are designed. Participants are usually not permitted to communicate information that cannot be captured by the present instruments (Henning *et al.*, 2004). Crabtree and Miller (1992) explain that qualitative methods are typically utilized for identification, description and explanation, while quantitative methods are frequently used for explanation-testing and control. The option of choosing quantitative or qualitative methods is dependent on whether the norms on interest are numerical or textual (Crabtree and Miller, 1992).

4.3.1 Use of positivism

Positivists (associated with the quantification) believe that there is reality that can be studied, captured and understood, while post positivists state that reality cannot be totally captured, it can only be approximated (Denzil & Lincoln, 1994). Positivism places reliance on a range of methods as a manner of obtaining results that can, in some way, be quantified. Simultaneously, emphasis is directed towards the discovery and authentication of theories. Traditional methods of evaluation such as internal and external validity are stressed as is the utilisation of quantitative procedures that align themselves with such structured analysis.

4.3.2 Acceptance of post-modern sensibilities

Qualitative researchers who are aligned to post-structural post-modern ideologies have discarded the utilisation of quantitative, positivist methods and assumptions. They maintain that positivist methods are only one way of giving a picture of society or the social world. They argue that positivist methods are neither superior nor inferior to any other research method, but just generate a specific kind of result (Denzil & Lincoln, 1994). This view, is however, not

accepted by all researchers. Critical theorists, constructivists, post structural and post modern schools of thought often fail to acknowledge positivist principles when evaluating their research. They regard these principles as unrelated to their studies, and subsequently search other methods to evaluate them.

4.3.3 Capturing the bigger picture - triangulation

The qualitative researcher believes much more value can be obtained by conducting intensive interviews and observations. Qualitative researchers consider quantitative researchers as relying on inferential empirical materials which cannot obtain the participants' point of view or gain evidence of how they feel or experience a situation. In contrast to this, quantitative researchers regard the empirical material created by interpretive methods as being untrustworthy, vague and biased (Denzil & Lincoln, 1994). However, current research combines both qualitative and quantitative elements to give a more holistic overview of results gained from researching specific topics, this is called triangulation.

4.3.4 Examining constraints of everyday life

Qualitative researchers align their studies to the social features of the environment whilst quantitative researchers abstract themselves from the environment, as much as possible, giving what they propose as a more objective overview to study findings. They base their studies on probabilities drawn from the study of large numbers of randomly selected cases. Qualitative researchers focus on case-based situations which direct their interest to the particulars of cases, and have more subjective elements (Denzil & Lincoln, 1994).

4.3.5 Securing rich descriptions

Researchers using quantitative methods give broad descriptions of data that can be quantified numerically. Qualitative researchers argue that rich descriptions of the social world are just as important. They would rather focus on presenting rich experiential data gleaned from fewer sources which give a rich or fuller meaning to the investigation (Denzil & Lincoln, 1994).

4.4 Reasons for choosing both qualitative and quantitative methods for this study

In order for the research objectives of this study to be effectively met, both qualitative and quantitative methods are used. The primary reason for using both methods is that the qualitative research makes use of language data (written or verbal) whilst the quantitative method is more inclined towards numerical data and both are important in giving a complete picture of the study objectives. According to Green and Thorogood (2004), several qualitative studies also use numerical data, and the language data is also used in quantitative research. Qualitative results for this study will therefore be presented using tables and bar charts to facilitate the analysis. However, a description of the research methods and procedures for this study are explicated in section 4.6.

4.5 Research sites

The first part of the study was conducted at Company A and COMPANY B. These two automotive parts-manufacturing companies operate in the geographical inland area from Durban in KwaZulu-Natal and situated in ward 16 of the e-Thekwini municipal district. Both companies implemented gainsharing at the beginning of 2007. The study examines production and related experiences of these companies as a result of the implementation of gainsharing.

The final part of the study involved collecting the different incentive system data from Company C. The objective is to compare gainsharing results to the results of a different incentive system. Company C uses 360° PMS and implemented it in January 2006. The following are brief profiles for the three companies.

4.5.1 Company A

Company A was established in 1958 and has six manufacturing and assembly plants with a total of 985 full time employees. It is situated in Pinetown, and is 16 kilometres west of Durban. MIL (a Johannesburg Stock Exchange (JSE) listed company) specializing in the manufacture of automotive components, is the major shareholding company for Company A with seventy five percent (75%), while GENZO Corporation (a global automotive components manufacturer) owns a twenty five percent (25%) shareholding. Company A is an affiliate to the Motor Industry Bargaining Council (MIBCO). Eighty seven percent (87%) of the employees belong to the National Union of Metal Workers of South Africa (NUMSA).

With its direct export to America and Europe (including the UK), and indirect export of vehicle components from SA; approximately half of Company A's components leave SA shores.

The company operates a three shift system. Quality and Business standards are incorporated into an Integrated Business Management System (IBMS) and this is an intrinsic element of daily operations of Company A which comprised a comprehensive Safety, Health, Environment and Quality (SHEQ) programme. Products are manufactured in accordance with licensor standard and customer specific requirements using licensor / customer-approved facilities, methods and product verification equipment. Continuous improvement teams (known as mission directed teams), run by line operators have been established throughout the company. The company implemented gainsharing programmes in all its plants at the beginning of 2007. It manufactures products that range from delicately balanced rotors to complex and thin-walled mouldings as well as aesthetic parts such as auto-door panels. This includes radiators and heat exchangers, multi-flow and serpentine condensers, integrated heat systems, blower motors, engine cooling modules, cooling fan assemblies, refrigerant pipes and hoses.

4.5.2 Company B

COMPANY B was established in 1973. The company is a member of the National Association Component and Allied Manufacturers, and a system partner for the international automotive industry. It is situated in Pinetown, and is 17.5 kilometres west of Durban.

It has one thousand two hundreds and forty six (1246) full time employees and operates a three shift system. The company is an affiliate to MIBCO. However, ninety two percent (92%) of the employees belongs to the union NUMSA.

COMPANY B has been in existence for more than 100 years in its Britain headquarters. It has an international network of 17 developed sites and 12 joint ventures in all key automotive industry markets. COMPANY B is also active in all major markets in Asia. This includes India from 1997, Japan from 1998 and China in 2003. The company manufactures air conditioners, climate heat exchangers and blowers, parking air conditioners for trucks and thermo-structure modules, as well as, engine cooling systems such as cooling modules, radiators, charge air coolers, condenser and condenser modules, exhaust gas heat exchangers, oil coolers and fans.

4.5.3 Company C

Company C is a manufacturing and assembly plant and was established in 2000. It is situated in ward 90 of the e-Thekwini municipal district at 62 Prospecton Road. The company is 23 kilometres south of Durban. It has one thousand four hundred and two (1402) full time employees. It operates a three shift system. Company C manufactures injection mouldings, tooling and fixtures, rims and low pressure mouldings for motor vehicles.

Company C has a global footprint in the developing world with plants in South Africa, India, China, Australia and the USA. It exports bumpers and other plastic fittings to VW, BMW, Daimler Chrysler and Toyota plants. The company's global business model includes logistic system, quality guarantees, assembly and sequence systems, Just-in-Time (JIT) delivery and

leverage global talent including design and engineering, tooling and fixtures as well as automotive components. It is an affiliate to the MIBCO and ninety percent (90%) of its employees belongs to NUMSA. It implemented the 360° PMS at the beginning of 2006 and this has helped the company reduce the spoilage rate.

4.6 Research design

This is defined as a plan according to which the researcher obtains research participants (that is, subjects) and collects information from them (Welman & Kruger, 2003). The identification of the objectives for the study, the setting up of variables to be studied and the decision on the data collection process was undertaken on the conceptual phase of the study. Fundamentally, this is a comparative study with a non-experimental design.

The collection of data from two automotive parts-manufacturing companies that have adopted gainsharing was carried out in two phases. The first phase was quantitative in nature and involved the collection of pre and post gainsharing data for spoilage, absenteeism and labour productivity. The first pool of data was obtained in May 2008 whilst the last pool of such data was obtained in September 2009. The second phase of data collection involved separate interviews utilising focus groups consisting of representatives from the two companies. Furthermore, the researcher collected data from a third Automotive and Engineering Company that uses 360° PMS. The aim is to compare gainsharing results with a different, widely used, incentive scheme. Data collections, in this instance, were quantitative in nature and involved the collection of pre and post 360° PMS data for spoilage, absenteeism and labour productivity.

The following section explains how pre and post gainsharing data and 360° PMS data was collected. It also explains how the focus group data was collected and administered. Data analysis of the various sections of research is also described.

4.6.1 Data Collection Method: Quantitative (Gainsharing programmes)

The pre and post gainsharing data from Company A and COMPANY B was collected. Human Resource Managers from both companies were instrumental in ensuring that such data was made available. The pre-gainsharing figures were made up of quarterly data reflecting company performance over the three years prior to gainsharing implementation. This includes data from the first quarter of 2004 to the final quarter of 2006. The post gainsharing data reflect company performance two years after gainsharing was implemented. This involves data from the first quarter of 2007 to the second quarter of 2009.

4.6.2 Data Collection Method: Quantitative (360° PMS)

The pre and post 360° PMS data from Company C was also collected. The Quality Manager was instrumental in ensuring that such data were made available for research. The pre-360° PMS was quarterly data reflecting company performance over the three years prior to 360° PMS implementation. This includes data from the first quarter of 2003 to the final quarter of 2005. The post 360° PMS data reflects company performance three years after 360° PMS was implemented. This involves data from the first quarter of 2006 to the second quarter of 2009.

4.6.3 Data Collection Method: Qualitative (Gainsharing programmes)

The second phase of data collection involved separate focus group interviews from both Company A and COMPANY B employees. Each focus group session had five participants. The focus group participants were employees (in line management) representing various departments (see Table 17 and 18). Following focus group sessions were interviews with one middle-level management representative from each of the two automotive parts-manufacturing companies.

The main reasons for the individual management interviews were:

- to explore the perceptions of managers about gainsharing (in general) and to establish whether they view it as an appropriate tool for productivity improvement;

- to compare their perceptions about gainsharing with lower-level employee perceptions;
- and to establish whether other variables played an even more important role to productivity improvement and compare those perceptions with lower-level employee perceptions.

The above reasons are in line with study objectives discussed in chapter one. The following explains how focus group and individual middle management interviews were conducted:

- Company A): Focus group interviews at Company A started at 10h00 on the 3rd of February 2009. Participants were assured of the confidentiality of their information. During the focus group interview session, each participant was identified by a number (written on a tag) instead of the actual participant's name.

The following table gives a brief demographic profile of focus group participants from Company A.

Table 17: Profiles of participants (Company A)

<i>Participant's allocated Number</i>	<i>Age</i>	<i>Gender</i>	<i>Dept / Work Centre</i>	<i>No of years in the company</i>
1	28	Male	Radiator: Assembly Plant	8
2	41	Female	Panel and Components	12
3	31	Female	Mouldings and Blower section	9
4	49	Male	Rotor and Wiring	19
5	38	Male	Quality Assurance	10

Source: Focus group profiles of participants from Company A (2009)

The Human Resource Department facilitated the recruitment of focus group participants. The interviews lasted for one hour and thirty two minutes. A quiet and private office, situated next the main entrance of the administrative building was used for the focus group interviews.

The interview with a management representative delayed for two days and was conducted on the 6th of February 2009 at 14h30. The Quality Manager from plant 3 available himself for this interview.

- Company B): Focus group interviews at Company B started at 9h40 on the 13th of February 2009. Participants were assured of the confidentiality of their information. Each focus group participant was identified by a number (instead of the actual name) for confidentiality purposes. The numbers were written on tags and were placed in front of each participant on the table. The following table gives a brief demographic profile of participants from Company B.

Table 18: Profiles of participants (COMPANY B)

<i>Participant's allocated Number</i>	<i>Age</i>	<i>Gender</i>	<i>Dept / Work Centre</i>	<i>No of years in the company</i>
<i>1</i>	<i>45</i>	<i>Male</i>	<i>KOMO (Condenser Module Plant)</i>	<i>15</i>
<i>2</i>	<i>31</i>	<i>Female</i>	<i>HVAC</i>	<i>10</i>
<i>3</i>	<i>36</i>	<i>Male</i>	<i>Engineering</i>	<i>13</i>
<i>4</i>	<i>33</i>	<i>Female</i>	<i>Radiator Assembly</i>	<i>9</i>
<i>5</i>	<i>41</i>	<i>Male</i>	<i>Auto-Fans and Blower</i>	<i>17</i>

Source: Focus group profiles of participants from COMPANY B (2009)

The Human Resource Department facilitated the recruitment of focus group participants. The focus group interview lasted for one hour and twenty seven minutes. Attempts to get a neutral venue outside the company were unsuccessful. Nevertheless, a well ventilated office for normal staff interviews and small group meetings was used.

The interview with a management representative delayed for four days and was

conducted on the 18th of February 2009 at 11h15. The Production Engineer (from Condenser Module Plant) availed himself for this interview.

4.6.4 The role of focus groups and management interviews in this study

Focus group and management interviews were done by facilitating organised discussions. Information was collected by note taking. An assistant moderator (or scribe), who signed a full confidentiality agreement, took notes while the facilitator conducts the focus group interviews. Signed copies of the confidentiality agreements (for both Company A and COMPANY B) by a research assistant moderator are attached as appendix C. However, the discussion brought insights and understanding in ways in which a simple questionnaire would not have been able to tap. Both the focus group facilitation and interviews with management representatives were carried out using a single set of questions.

Focus group interviews were able to draw respondent's attitudes, feelings, beliefs, experiences and reactions about the gainsharing programmes in their respective companies. They effectively complemented the quantitative methods and helped give the study a broader or more holistic overview of the research question. Furthermore, they were able to elicit a multiplicity of views which illustrated individual's emotional processes within the context under discussion. A large amount of information was gathered within a short period of time.

4.6.5 The administration of focus groups and management interviews

During the focus group facilitation, the purpose of the study was clearly explained and interaction between group members was facilitated. The facilitator promoted a debate by asking open questions. He also probed for details and moved the discussion forward when the conversation was drifting away from the topic. Participants showed a sense of trust which increased open and interactive dialogue. A degree of control and direction was achieved through the separation of responsibilities where the researcher facilitated the interviews and the research assistant moderator took notes.

- Structuring for understanding: Prior to commencing the focus group and management interviews, the researcher had to clarify specific interview objectives as well as the participants' role in meeting such research objectives. The interview questions were semi structured in nature. It allowed respondents the time to talk about their opinions regarding their experiences on gainsharing. The objective was to understand the participant's point of view rather than making generalisations about their behaviour. With few pre-set questions, the facilitator did not pre-judge the importance of the information from participants. However, most questions came-up naturally during the interviews.
- Explaining the scope and research context: A consent form was read to participants and the confidentiality clauses from each copy of the research questionnaire was signed by all the participants, the research assistant moderator as well as the researcher. The context for each question was discussed ensuring that participants understand each research question the same way as other participants.
- Encouraging participation: The researcher facilitated a balanced participation amongst group members and everybody had some degree of input. The researcher was able to reveal the meanings behind an action because the interviewees were able to speak for themselves with little direction from the interviewer.
- Benefits of using assistant moderator (or scribe) during the interviews: During data gathering sessions, it was necessary to use an assistant moderator (or scribe). Venues (for both Company A and COMPANY B) were not suitable for the use of a video camera. Even though a recorder is more accurate, Welman and Kruger (2003) highlight two disadvantages on the use of a recorder:
 - Recorded meetings still have to be transcribed. This takes more time and money.

- Participants are often put-off when they are recorded and this inhibits the participant's spontaneous behaviour. They find it easier to express themselves when an assistant moderator has signed a full confidentiality agreement.
- o Summarising results: When the agreement relating to the question was reached, the researcher had to bring closure to the issue by restating the resolution so that the group can examine its accomplishments and proceed. When the agreement or decision is not reached, the researcher had to recap the group member's thinking on the issue. Nevertheless, the researcher remained un-obstructive to interview proceedings and talked very little ensuring that participant's ideas dominate the discussion.

4.6.6 Values of the researcher during data gathering process

Whatever methods used to collect data, it is essential that the researcher displays a professional approach throughout the research process to enhance the quality of the research. As a result, the researcher complied with essential tenets of ethics as approved by the Health Professions Council of South Africa (HPCSA) (in the Psychology Division) and strict ethical standards were maintained at all times (see Appendix G for brief details of ethical standards followed).

Respecting the rights of all those who participated to anonymity and confidentiality of information was assured. A letter of consent was read prior to focus group facilitation and confidentiality signed by everyone. The importance of this is explained in the next sub-section. This will be followed by the principles surrounding gatekeepers as well as confidentiality.

4.6.6.1 Principles of informed consent

Informed consent is the principle that participants are not coerced, persuaded or induced into research against their free-will but their participation should be on a voluntary basis and with a full understanding of the positives and negatives of participation. Green and Thorogood (2004) note that informed consent means that participants must be made aware of everything that

will happen during the research. Participants must also be able to comprehend the information that they are given. The ability to give informed consent also implies that the participant is capable of making a logical and rational decision about whether to participate in the research or not. Henning *et al.*, (2004) concurs that participants must provide written informed consent before they participate in a research study. Participants must know that their privacy and confidentiality will be safeguarded and should be informed what will happen to the data (for instance, interview manuscripts) after it is recorded.

4.6.6.2 Gatekeepers

Gatekeepers refer to those who are in-command of the researcher's access to the fieldwork site or to other participants, either formally (such as managers whose authority is required to gain access) or informally, in order to assist in recruitment of hard to reach groups (Green & Thorogood, 2004). Although gatekeepers are a critical route for gaining entry to various settings, they are also influential in terms of reaching the study participants and are frequently chosen for their persuasiveness or support of the research. A potential drawback of gatekeepers is that they may exert undue pressure to individuals to participate in the research. They may also place restrictions on who is invited to participate. For this study, the researcher ensured that individuals participated on a voluntary basis and that gatekeepers did not restrict individual access to the study or coerces individuals to participate. This took place by informing gatekeepers of the aforementioned issues and by asking participants (individually) if their participation was voluntary and not coerced. This was underpinned by the administration process of the focus group as explained in subsection 4.5.5.

4.6.6.3 Confidentiality

Conventional practices and ethical codes advocates the view that a range of factors are in place to safeguard the privacy and identity of research subjects. Bulmer (1982) in Denzin and Lincoln (1994) explain that identities, locations of individuals and places are concealed in published findings, data collected are safeguarded in an anonymous form, and that all data is held securely confidentially.

Green and Thorogood (2004) agree that social research ethics stress confidentiality as an imperative criterion for ethical practice. Whilst confidentiality of information was stipulated as a condition of collecting data from the companies that participated in this study, the researcher assured participants that the identities of participants will not be disclosed in any other settings. The companies were made aware that any presentations, papers or journal articles would not identify the organisations concerned.

4.7 Methods for the analysis of data

4.7.1 Quantitative Analysis (Time series data)

Pooled quarterly time series data on absenteeism, labour productivity and spoilage rates, from the first quarter 2004 to the second quarter of 2009 from Company A and COMPANY B, were used. These two large automotive parts-manufacturing companies produce similar products and are located within eThekweni district. Predictions resulting from time series analysis involve the identification of patterns that have been present in the past, and then projecting these into the future (Curvin & Slater, 2000). They are essential yardsticks when the researcher looks at the trends from pre gainsharing to post gainsharing implementation period.

The two companies have implemented gainsharing as a productivity enhancing strategy at the beginning of 2007, thus the data is divided into the pre and post gainsharing periods in order to conduct quantitative analyses. The quantitative analysis involving OLS will be used to quantify the magnitude of the impact that the implementation of gainsharing has had on labour productivity. These least squares are mathematical models that use equations with some values kept fixed as parameters whilst others are allowed to vary as input (independent) variables or output (dependent) variables. The OLS are also used to find the line that predicts the value of the y-variable from knowledge of the x-variable (Wegner, 1995). They are applied in statistical context, particularly in regression analysis. When determining whether a regression line fits the data (that is, the *goodness of fit*), the coefficient of determination denoted by R^2 will be used. A valuable aspect of the coefficient of determination is that it will provide information as to how much of the variation in the y-variable (dependent variable) is

attributable to the x-variable (independence variable). The following ordinary least square model will be used for this study:

$$\text{Labour productivity} = B_0 + B_1 \text{ Spoilage} + B_2 \text{ Absenteeism} + B_3 \text{ Investment} + B_4 \text{ Pre/Post-Dummy}$$

The above model assumes that labour productivity is a function of spoilage rates, absenteeism, investment and gainsharing strategy. The coefficient, B_1 which measures the magnitude of the impact of spoilage reduction on labour productivity levels is expected to be negative. That is, a reduction in spoilage rate is expected to increase output per worker (that is, the labour productivity level). B_2 is also expected to be negative, since a reduction in absenteeism is expected to have an improvement on the labour productivity levels. B_3 is expected to be positive because an increase in investment is expected to have a positive effect on productivity rates. Note that the investment variable is the productivity lagged by 1 period. This variable aims to capture previous machinery input and skills obtained by workers through skills development programmes as well as learning through work experience. The Pre/Post Dummy variable is meant to capture the effect of introducing gainsharing as a policy strategy. It takes on a value of zero in the pre-gainsharing period and a value of 1 in the post-gainsharing period. If gainsharing has impacted positively on labour productivity levels then B_5 is expected to be positive with a significant t-statistic.

Once the individual variables from both Company A and COMPANY B have been analyzed, the researcher will then analyse variables for combined Company A and COMPANY B data. This includes a combined pre and post data (from both companies) for spoilage, absenteeism and labour productivity rates, and the number of workers employed as well as company investments.

For comparative purposes, the researcher will then compare pre- and post gainsharing results to the pre- and post 360° PMS results. Company C uses 360° PMS, as discussed in section 4.5 of this chapter. The aim is to compare and evaluate gainsharing performance to a different

incentive system.

When data has been analyzed using regression analysis, it would be prudent to re-analyse them using the factorial designs. This will allow the researcher to analyse interactions between variables in a much more detail.

4.7.2 Qualitative Analysis (Focus group and management interview data)

The data from focus groups and management representatives will be analysed using Thematic Content Analysis. As there were only two interviews conducted per company (that is, focus groups and an interview with management representatives) the data will be presented using tables presenting the frequency and importance of themes from each interview transcript. Themes from COMPANY B and Company A (from each transcript) will also be compared using bar-charts.

The following five steps will be used to achieve the Thematic Content Analysis objective:

Step 1: Familiarisation and immersion

During this stage, the researcher would have a preliminary understanding of the meaning of data. As a result, this stage involves immersing all data material by reading the texts (including field notes and interview transcripts) until they are well understood. This includes reading through the texts many times. Once finished, the researcher will understand data well enough to know more or less the things that can be found and the kinds of interpretations that are supported by data.

Step 2: Inducing themes

Induction means inferring general rules or classes from specific instances (Terre Blanche, Durrheim & Painter, 2006). It is thus a bottom-up approach. This step will be carried out by looking at the material and identify organising principles that naturally describes the material. This is opposite of a top-down approach, where the researcher use ready-made categories and

simply look for instances fitting the categories. Terre Blanche, *et al.*, (2006) believes that there are no hard-and-fast rules about what sorts of theme or category are best, nor is there one best way of organizing any given collection of raw data. According to Terre blanche, *et al.*, (2006), inducing themes can be achieved through the following pointers:

- Try to use the language of interviewees, rather than abstract theoretical language, when labeling the categories.
- Try to move beyond merely summarising the content but think in terms of processes, functions, tensions and contradictions.
- Try to find an optimal level of complexity by re-arranging themes so that there are a smaller number of main themes, with several sub-themes under each heading.
- Do not settle for one system too quickly. Play around and see what happens when trying different kinds of themes.
- Stay focused on what the study is about.

Step 3: Coding

During the activity of developing themes, the researcher should also be coding data. This entails marking different sections of the data as being instances of, or relevant to, one or more of the themes. At this stage, the researcher may code a phrase, a line, a sentence, or a paragraph, identifying these textual pieces of information containing material that pertains to themes under consideration. The content of the text refers to a discreet idea, explanation, or event. Any textual piece of information (or data) will be labeled with more than one code if it refers to more than one theme. Terre Blanche, *et al.*, (2006) adds that some people like to use coloured marker pens to highlight pieces of text, so that, all texts that are related are marked with the same-coloured marker. Others prefer making several photocopies of each page of their data and physically cutting these into smaller sections which are grouped together. The advantage of this procedure is that the researcher can easily change which sections should go under which categories, or even do away with some categories and add new ones. A similar

method is to use the cut-and-paste function in a word processor to move bits of texts around.

In coding, the researcher break down a body of data (text domain) into labeled, meaningful pieces, with a view to later clustering the bits of coded material together under the code heading and further analyzing them both as a cluster and in relation to other clusters. In practice, thematising and coding blend into each other, because the themes which the researcher is using tend to change in the process of coding as he/she develop a better understanding of them and how they relate to other themes. Frequently, the researcher will realize that a particular theme contains subthemes and begin to analyse these as well. Thus, codes will not be the final and unchanging step.

Step 4: Elaboration

According to Terre Blanche, *et al.*, (2006), the researcher (at this stage) is likely to find that there are all sorts of ways in which extracts that are grouped together under a single theme actually differ, or that there are all kinds of sub-issues and themes that come to light. Exploring themes more closely in this way is called elaboration. The purpose of this will be to capture the finer nuances of meaning which have not been captured by the original coding system. This will be an opportunity to revise the coding system – either in small ways or drastically – and go back to step three. The purpose is to keep playing around with ways of structuring the texts until a good account of what is going-on in the data is achieved.

Step 5: Interpretation and checking

This is the written account of the phenomenon studied using thematic categories from analysis as sub-headings. This is a good opportunity to reflect on the role in which data was collected and thus creating the interpretation. The researcher will go through the interpretation and fix any weak points.

4.8 Summary

This chapter explained the rationale for using both quantitative and qualitative. The design of the research, including the method of data collection, comparing gainsharing results to 360° PMS, the role focus group plays in this study, administration of focus group, values and principles of the researcher during data gathering process as well as the method of data analysis for both qualitative and quantitative methods were explained. The next chapter is dedicated to the presentation and the analysis of study results.

CHAPTER FIVE: DATA PRESENTATION AND ANALYSIS

5.1 Introduction

The results of this work in context of the research objectives; are discussed in this chapter. The first part of data gathering involved the collection of pooled data on absenteeism, labour productivity and spoilage rates, from the first quarter of 2004 to the second quarter of 2009, from two large automotive companies that use gainsharing programme for analysis. It is two years since these companies implemented gainsharing as a productivity enhancing strategy. Thus the data were divided into the pre and post gainsharing periods in order to conduct quantitative analysis. The data from the first quarter of 2004 to the last quarter of 2006 were the pre- gainsharing data whilst the first quarter of 2007 to the second quarter of 2009 were post- gainsharing data. The percentage wage-bill spent on skills training for the workforce per annum, average number of training days per annum as well as the average number of employees as per the payroll were additional yearly data collected for each company for the analysis.

It was imperative for comparative purposes to collect data from a third automotive company that uses a different type of incentive system. The primary aim was to compare gainsharing findings from results of the third company that uses a different system. Company C uses 360° PMS and has provided the impacts of its system for study purposes. The same categories of gainsharing data were collected from Company C on their 360° PMS. The pre- 360° PMS data commence from the first quarter of 2003 to the last quarter of 2005 whereas the post- 360° PMS data starts from the first quarter of 2006 to the second quarter of 2009. Having applied the research design and processed the data obtained from three companies, the results, using SPSS and Microsoft excel, were generated. Inferential statistics are used to analyse this data and include regression analysis and factorial ANOVA.

The second phase of data collection involved interviews with focus groups from both

companies that implemented gainsharing. These were followed by individual interviews with a middle manager from each of the two automotive parts-manufacturing companies. Focus group and management interviews' information were collected by note-taking. The discussions were able to bring insights and understanding in ways in which a simple questionnaire would not be able to tap. Both the focus group facilitation and interviews with managers were carried out using a single set of questions.

5.2 Quantitative data and analysis

Quantitative research methodologies produce numerical data of which surveys and data experiments are the basic means of data collection. Upon collection of the data, they are required to be analysed by means of statistical techniques. These techniques are used to describe, organise and explore relationships within data. The objective of quantitative data collection and analysis is to generate findings that lead to acceptance or rejection of the specified hypothesis (Jensen, 2002). The numerical data analysis through statistical procedures in this study is a methodological manner of determining whether significant patterns of relationships exist amongst the phenomena that have been measured in data collection.

The OLS was used to quantify the magnitude of the impact that the implementation of gainsharing programme has had on labour productivity. Porkess (2005) defines least squares as a method of minimising the sum of the squares of residuals and the method of fitting models to data. The same analysis was used on the 360° PMS data thus comparing both incentive systems from the same type of analysis.

5.2.1 Data presentation and regression analysis

The data has been analyzed in relation to the problem statement. Statistical analysis used is aimed at testing labour productivity variable to the combination of independent variables. Where dummy variable appears on the analysis, it would refer to gainsharing programme for

Company A and COMPANY B and 360° PMS for Company C.

However, this section commences with the comparative analysis for Company A, COMPANY B and Company C in which labour productivity is a dependent variable to spoilage and absenteeism rates; the number of workers involved in production; dummy variables and capital investment. Note that capital investment variable (as fully defined in subsection 4.6.1 of chapter 4 and 5.2.1.1(b) of this chapter) is the productivity lagged by 1 and / or 2 periods.

The relationship between labour productivity with absenteeism and spoilage rates; the number of workers involved in production; capital investment (lagged by 1 and 2 quarters / periods from the date of installation) and gainsharing programme for combined Company A and COMPANY B data follows in the first section of this analysis.

5.2.1.1 Comparative analysis: Company A, COMPANY B and Company C

This section presents OLS estimates for model 1 (Company A), model 2 (COMPANY B) and model 3 (Company C). Whilst the main objective of the study is the comparative investigation into the applicability of gainsharing for productivity improvement, model 3 has thus been included to compare its findings to the main gainsharing results, as explained in the introduction of this chapter. The summary of comparison and a snap-shot of results establishing whether gainsharing increases productivity are presented on the brief overview of results in the summary section of this chapter.

In ensuring that study objectives are met:

- T-tests are used to identify relationships and differences in the means between labour productivity for Company A, COMPANY B and Company C towards other study variables.
- The study compares gainsharing results for Company A and COMPANY B to the 360° PMS results for Company C thus ascertaining the suitability of gainsharing.

- Labour productivity results that are ‘similar’ to all the independent variables (including the constant) conclude the analysis for each sub-section. Affected sub-sections include 5.2.1.1(a); 5.2.1.1(b); 5.2.1.2(a); 5.2.1.2(b) and 5.2.1.2(c). Such similar statistical results for each section include adjusted R² as well as serial correlation as determined by Durbin-Watson statistic.

5.2.1.1 (a) Discussion of results where labour productivity is a dependent variable.

Table 19: Labour productivity as a dependent variable to absenteeism rate, spoilage rate, number of workers in production and dummy variables

Model 1: SMITHS regression.				Model 2: COMPANY B regression.				Model 3: Venture regression.			
The following OLS estimation is based on the equation <i>Productivity = B₀ + B₁ Past Capital investment + B₂ Spoilage + B₃ Absenteeism + B₄ Number of Workers + B₅ Gainsharing Dummy.</i>				The following OLS estimation is based on the equation <i>Productivity = B₀ + B₁ Past Capital investment + B₂ Spoilage + B₃ Absenteeism + B₄ Number of Workers + B₅ Gainsharing Dummy.</i>				<i>Productivity = B₀ + B₁ Past Capital investment + B₂ Spoilage + B₃ Absenteeism + B₄ Number of Workers + B₅ Post 360° Dummy.</i>			
Regression	Coefficient	t-statistic	Probability	Regression	Coefficient	t-statistic	Probability	Regression	Coefficient	t-statistic	Probability
Constant (B ₀)	-8.682901	-3.763349	0.0015	Constant (B ₀)	13.63182	3.444978	0.0031	Constant (B ₀)	-43.89323	-1.566675	0.1321
Spoilage rate	-0.055950	-1.326403	0.2023	Spoilage rate	0.092150	0.850904	0.4066	Spoilage rate	0.561978	3.61252	0.0016
Absenteeism rate	0.001439	0.044748	0.9648	Absenteeism rate	0.107928	1.681369	0.1110	Absenteeism rate	0.206197	1.25233	0.2242
Number of Workers	1.934386	5.700135	.00000	Number of Workers	-1.369704	-2.415123	0.0273	Number of Workers	6.749395	1.733268	0.0977
Gainsharing Dummy	0.178659	4.006333	0.0009	Gainsharing Dummy	0.616282	6.579194	0.0000	360° Dummy	-0.00692	-0.029883	0.9764
R-squared	0.940099	F-statistics	66.70077	R-squared	0.8256680	F-statistics	20.13048	R-squared	0.453045	F-statistics	4.348594
Adjusted R ²	0.926005	Prob (F-Statistic)	0.000000	Adjusted R ²	0.784664	Prob (F-Statistic)	0.000003	Adjusted R ²	0.348863	Prob (F-Statistic)	0.010202
S.E. of regression	0.061079	Mean dependent var.	4.528331	S.E. of regression	0.100087	Mean dependent t var.	4.597399	S.E. of regression	0.301106	Mean dependent t var.	5.748966
S.D. dependent var.	0.224537	Durbin-Watson stat.	1.196897	S.D. dependent var.	0.215684	Durbin-Watson stat.	1.945990	S.D. dependent var.	0.37315	Durbin-Watson stat.	1.320818

Source: Calculation based on research data (2009)

Labour productivity as a dependent variable to spoilage rate

Results for both Company A and COMPANY B of Table 19 show that spoilage rate has no relationship to labour productivity. This is determined by their t-values of -1.33 for Company A and 0.85 for COMPANY B. Both results are below the conventional standard t-value of 2.08 thus rejecting the assumption of a significant relationship between the two variables.

However, results for Company C of Table 19 show that spoilage rate has a positive relationship and is statistically significant to labour productivity as shown by its t-value of 3.61 which is above the critical t-value of 2.06 at the five percent (5%) level of significance. Positive relationship entails that any increase in labour productivity would result in an increase in spoilage rate. The opposite is also true.

Labour productivity as a dependent variable to absenteeism rate

Results for Company A, COMPANY B and Company C of Table 19 show that absenteeism rate has no relationship to labour productivity. This is determined by their t-values of 0.04 for Company A, 1.68 for COMPANY B and 1.25 for Company C. Values are below the critical t-value of 2.08 at the five percent (5%) level of significance for both Company A and COMPANY B. The value for Company C is also below from its critical t-value of 2.06 thus accepting the null hypothesis of relationship between these two variables.

Labour productivity as a dependent variable to the number of workers involved in production

Results for both Company A and COMPANY B of Table 19 show that the number of workers variable involved in production has a statistically significant relationship to labour productivity. This is determined by their t-values of 5.70 and -2.42 for Company A and COMPANY B, respectively. Both results are above the critical t-value of 2.08 at the five percent (5%) level of significance thus accepting the assumption of relationship between the two variables. Results for Company A show a positive relationship. This entails that an increase in the number of workers involved in production increases labour productivity. The opposite is also true. On the

other hand, COMPANY B results show a negative relationship. An increase in the number of workers in production decreases labour productivity. However, results for Company C of Table 19 show that the number of workers involved in production has no relationship to labour productivity. This is determined by its t-value of 1.73 which is below the critical t-value of 2.06 at the five percent (5%) level of significance.

Labour productivity as a dependent variable to dummy variable

Results for both Company A and COMPANY B of Table 19 show that the gainsharing programme has a positive relationship and is statistically significant to labour productivity. This is determined by their t-values of 4.01 and 6.58 for Company A and COMPANY B, respectively. Both results are above the critical t-value of 2.08 at the five percent (5%) level of significance thus accepting the assumption of relationship between the two variables. The introduction of gainsharing at both Company A and COMPANY B resulted to an increase in labour productivity. Detailed discussions from the literature review pointed out that gainsharing programmes are about improving productivity. This was presented in sections 2.5; 2.7; 2.12 and 2.18 which pointed out that gainsharing has earned a well deserved reputation when it comes to productivity improvement. This proves to be the case for Company A and COMPANY B results. However, results for Company C of Table 19 show that 360° PMS has no relationship to labour productivity. This is determined by its t-value of -0.03 and is below the critical t-value of 2.06 at the five percent (5%) level of significance thus accepting the null hypothesis of relationship between these two variables.

Results that are similar to all the independent variables for this sub section 5.2.1.1 (a)

Results of Table 19 show that Company A and COMPANY B have an adjusted R^2 of 0.93 and 0.78, respectively. However, Company C has an adjusted R^2 of 0.35. These levels of variation (in percentages) in labour productivity (as determined by Adjusted R^2) are explained by the set of independent variables (including the constant). The serial correlation as determined by the Durbin-Watson statistic is low at 1.20 for Company A and 1.95 for COMPANY B when comparing to the standard value of 1.99 at the five percent (5%) level of significance. Furthermore, the

serial correlation is also low at 1.32 for Company C when comparing to the standard value of 1.89 at the five percent (5%) level of significance.

5.2.1.1(b) Discussion of results where labour productivity is a dependent variable:

For one quarter-old data after the three companies have invested to capital.

Table 20: Labour productivity as a dependent variable to past capital investment (lagged by 1 quarter), spoilage rate, absenteeism rate, number of workers involved in production and dummy variables

Model 1: SMITHS regression.				Model 2: COMPANY B regression.				Model 3: Venture regression.			
The following OLS estimation is based on the equation $Productivity = B_0 + B_1 Absenteeism + B_2 Spoilage + B_3 Workers + B_4 Post Gainsharing Dummy.$				The following OLS estimation is based on the equation $Productivity = B_0 + B_1 Absenteeism + B_2 Spoilage + B_3 Workers + B_4 Post Gainsharing Dummy.$				The following OLS estimation is based on the equation $Productivity = B_0 + B_1 Absenteeism + B_2 Spoilage + B_3 Workers + B_4 Post 360^\circ Dummy.$			
Regression	Coefficient	t-statistic	Probability	Regression	Coefficient	t-statistic	Probability	Regression	Coefficient	t-statistic	Probability
Constant (B_0)	-1.387463	-0.784840	0.4448	Constant (B_0)	9.308245	1.886486	0.0787	Constant (B_0)	12.98467	0.491943	0.6284
Past Capital investment (lagged by 1 quarter)	0.810535	6.547857	0.0000	Past Capital Investment	0.215905	1.185821	0.2541	Past Capital Investment	0.340728	2.328527	0.0311
Spoilage rate	0.041050	1.499065	0.1546	Spoilage rate	0.075752	0.697804	0.4960	Spoilage rate	0.490514	3.809934	0.0012
Absenteeism rate	-0.002225	-0.127798	0.9000	Absenteeism rate	0.086224	1.310002	0.2099	Absenteeism rate	0.214852	1.669034	0.1115
Number of Workers	0.323907	1.010184	0.3284	Number of Workers	-0.878498	-1.332745	0.2025	Number of Workers	-1.405156	-0.377915	0.7097
Gainsharing Dummy	0.079908	2.827210	0.0127	Gainsharing Dummy	0.474492	3.426895	0.0037	360° Dummy	0.297861	1.434140	0.1678
R-squared	0.983569	F-statistics	179.5779	R-squared	0.846551	F-statistics	16.55047	R-squared	0.522472	F-statistics	4.157645
Adjusted R ²	0.978092	Prob (F-Statistic)	0.000000	Adjusted R ²	0.795401	Prob (F-Statistic)	0.000012	Adjusted R ²	0.396806	Prob (F-Statistic)	0.010139
S.E. of regression	0.032805	Mean dependent var.	4.541183	S.E. of regression	0.099707	Mean dependent var.	4.594075	S.E. of regression	0.234600	Mean dependent var.	5.793536
S.D. dependent var.	0.221635	Durbin-Watson stat.	2.354170	S.D. dependent var.	0.220432	Durbin-Watson stat.	2.273307	S.D. dependent var.	0.302065	Durbin-Watson stat.	2.046693

Source: Calculation based on research data (2009)

Labour productivity as a dependent variable to capital investment

Results for both Company A and Company C of Table 20 show that capital investment has a positive relationship and is statistically significant to labour productivity. As explained in subsection 4.6.1 of chapter 4, capital investment variable is the productivity lagged by 1 period. This variable aims to capture previous machinery input and skills obtained by workers through both skills development programmes as well as learning through work experience.

These results are determined by their t-values of 6.55 and 2.33 for Company A and Company C, respectively. Both Company A and Company C results are above their critical t-values of 2.08 and 2.06 respectively (at the 5 percent level of significance), thus accepting the assumption of a relationship between the two variables. Positive relationship entails that past capital investments increased labour productivity for both companies.

However, results for COMPANY B of Table 20 show that past capital investment has no relationship to labour productivity. This is determined by its t-value of 1.19 and is below the critical t-value of 2.08 at the five percent (5%) level of significance thus accepting the null hypothesis of relationship between these two variables.

Labour productivity as a dependent variable to spoilage rate

Results for both Company A and COMPANY B of Table 20 show that spoilage rate (1 quarter after the two companies have invested to capital) has no relationship to labour productivity. This is determined by their t-values of 1.49 and 0.70 for Company A and COMPANY B, respectively. Both results are below the critical t-value of 2.08 at the five percent (5%) level of significance thus accepting the null hypothesis of relationship between these two variables.

On the other hand, results for Company C of Table 20 show that spoilage rate (1 quarter after the company has invested to capital) has a positive relationship and is statistically significant to

labour productivity as shown by its t-value of 3.81 which is above the critical t-value of 2.06 at the five percent (5%) level of significance. Positive relationship entails that any increase in labour productivity would result in an increase in spoilage rate.

Labour productivity as a dependent variable to absenteeism rate

Results for Company A, COMPANY B and Company C of Table 20 show that absenteeism rate (1 quarter after the three companies have invested to capital) has no relationship to labour productivity. This is determined by their t-values of -0.13, 1.31 and 1.67 for Company A, COMPANY B and Company C, respectively. Results for both Company A and COMPANY B are below the critical t-value of 2.08 (at the 5 percent level of significance) whilst Company C result is below its critical t-value of 2.06 (also at the 5 percent level of significance) thus accepting the null hypothesis of relationship between these two variables.

Labour productivity as a dependent variable to the number of workers involved in production

Results for Company A, COMPANY B and Company C of Table 20 show that the number of workers variable involved in production (1 quarter after the three companies have invested to capital) has no relationship to labour productivity. This is determined by their t-values of 1.01; -1.33 and -0.38 for Company A, COMPANY B and Company C, respectively. Results for both Company A and COMPANY B are below the critical t-value of 2.08 (at the 5 percent level of significance) whilst Company C result is below its critical t-value of 2.06 (also at the 5 percent level of significance) thus accepting the null hypothesis of relationship between these two variables.

Labour productivity as a dependent variable to dummy variables

Results for both Company A and COMPANY B of Table 20 show that gainsharing programme (1 quarter after the 2 companies have invested to capital) has a positive relationship and statistically significant to labour productivity as shown by their t-values of 2.83 for Company A and 3.43 for COMPANY B. Both results are above the critical t-value of 2.08 at the five percent

(5%) level of significance thus accepting the assumption of a significant relationship between the two variables. Positive relationship entails that the implementation of gainsharing programme (1 quarter after the two companies have invested to capital) increased labour productivity.

The above results are in line with literature studies (particularly, section 2.19) which discusses the major factors that determine the survival of gainsharing programmes. It explains that an introduction of new equipment, facilities, or both will enhance the efficiency of the production process and improve the competitiveness of the company.

However, results for Company C of Table 20 show that the 360° PMS (1 quarter after the company has invested to capital) has no relationship to labour productivity. This is determined by its t-value of 1.43 and is below the critical t-value of 2.06 at the five percent (5%) level of significance thus accepting the null hypothesis of relationship between these two variables.

Labour productivity as a dependent variable to training costs and training days

The analysis reveals that there is no labour productivity impact from the number of days employees spent attending training and the money spent by the company on training after dummy variables were implemented to the three companies. As a result, these variables were left out from the analysis.

Results that are similar to all the independent variables for this sub section 5.2.1.1 (b)

Results of Table 20 show that Company A and COMPANY B have an adjusted R^2 of 0.98 and 0.80, respectively. However, Company C shows an adjusted R^2 of 0.40. These levels of variation (in percentages) in labour productivity (as determined by adjusted R^2) are explained by the set of independent variables (including the constant).

The serial correlation as determined by the Durbin-Watson statistic is acceptable at 2.35 for

Company A and 2.27 for COMPANY B when comparing to the standard value of 1.99. Furthermore, the serial correlation is also acceptable at 2.05 for Company C when comparing to the standard value of 1.89 at the five percent (5%) level of significance.

5.2.1.2 Gainsharing analysis: Combined Company A and COMPANY B study results

This section presents the relationship between variables for combined Company A and COMPANY B post-gainsharing data. Labour productivity will be analysed against the independent variables for absenteeism and spoilage rates; the number of workers involved in production; past capital investments and gainsharing programme.

5.2.1.2 (a) Discussion of results where labour productivity is a dependent variable

Table 21: Labour productivity as a dependent variable to absenteeism rate, spoilage rate, number of workers involved in production and gainsharing

Combined model: SMITHS and COMPANY B regression.			
The following OLS estimation is based on the equation			
Labour Productivity = $B_0 + B_1$ Absenteeism + B_2 Spoilage + B_3 Workers + B_4 Post Gainsharing-Dummy			
Regression	Coefficient	t-statistic	Probability
Constant (B_0)	1.906680	0.630825	0.5319
Absenteeism	0.049287	1.121584	0.2691
Spoilage rate	-0.025696	-0.402241	0.6898
Number of Workers	0.350664	0.813572	0.4210
Gainsharing Dummy	0.341706	5.368273	0.0000

R-squared	0.774015	F-statistics	26.03058
Adjusted R ²	0.744280	Prob (F-Statistic)	0.000000
S.E. of regression	0.111436	Mean dependent var.	4.562865
S.D. dependent var.	0.220366	Durbin-Watson stat.	0.979583

Source: Calculation based on research data (2009)

Labour productivity as a dependent variable to absenteeism and spoilage rates; the number of workers involved in production as well as gainsharing programme

Results of Table 21 show that absenteeism and spoilage rates as well as the number of workers involved in production have no relationship to labour productivity. This is determined by their t-values of 1.12; -0.40 and 0.82 for absenteeism rate; spoilage rate and the number of workers involved in production, respectively. Their results are below the critical t-value of 2.02 at the five percent (5%) level of significance thus accepting the null hypothesis of relationship between these variables. This indicates that absenteeism and spoilage rates as well as the number of workers involved in production are independent to labour productivity when data for both Company A and COMPANY B are combined.

However, results of Table 21 show that gainsharing programme has a positive relationship and is statistically significant to labour productivity. This is determined by its t-value of 5.37 and is above the critical t-value of 2.02 at the five percent (5%) level of significance thus accepting the assumption of a significant relationship between the two variables. This indicates that gainsharing programme is dependent to labour productivity when data for both Company A and COMPANY B are combined. Positive relationship entails that the implementation of gainsharing programme increased labour productivity.

Results that are similar to all the independent variables for the sub section 5.2.1.2 (a).

Table 21 show that the combined Company A and COMPANY B data has an adjusted R^2 of 0.74. The level of variation (in percentage) in labour productivity (as determined by adjusted R^2) is explained by the set of independent variables (including the constant). The serial correlation as determined by the Durbin-Watson statistic is low at 0.98 when comparing to the standard value of 1.79.

**5.2.1.2(b) Discussion of results where labour productivity is a dependent variable:
For one quarter-old data after the two companies have invested to capital**

Table 22: Labour productivity as a dependent variable to past capital investment (lagged by 1 quarter), absenteeism rate, spoilage rate, number of workers involved in production and gainsharing

Combined model: SMITHS and COMPANY B regression.			
The following OLS estimation is based on the equation			
Labour Productivity = $B_0 + B_1$ Past Capital Investment (lagged by 1 quarter) + B_2 Absenteeism + B_3 Spoilage + B_4 Workers + B_5 Post Gainsharing-Dummy			
Regression	Coefficient	t-statistic	Probability
Constant (B_0)	-1.411336	-0.529345	0.5998
Past Capital investment (lagged by 1 quarter)	0.339051	3.278933	0.0023
Absenteeism	0.037038	0.994769	0.3265
Spoilage rate	-0.012894	-0.239115	0.8124
Number of Workers	0.609476	1.625787	0.1127
Gainsharing Dummy	0.212432	3.382496	0.0017
R-squared	0.848275	F-statistics	33.54530

Adjusted R ²	0.822988	Prob (F-Statistic)	0.000000
S.E. of regression	0.093561	Mean dependent var.	4.560438
S.D. dependent var.	0.222379	Durbin-Watson stat.	1.579431

Source: Calculation based on research data (2009)

Labour productivity as a dependent variable to absenteeism and spoilage rates, capital investments, the number of workers involved in production as well as gainsharing programme

Results of Table 22 show that absenteeism and spoilage rates as well as the number of workers involved in production (1 quarter after the two companies have invested to capital) have no relationship to labour productivity. This is determined by their t-values of 0.99; -0.24 and 1.63 for absenteeism rate; spoilage rate and the number of workers involved in production, respectively. Their results are below the critical t-value of 2.02 at the five percent (5%) level of significance thus accepting the null hypothesis of relationship between labour productivity and these (independent) variables. This indicates that absenteeism and spoilage rates as well as the number of workers involved in production are independent to labour productivity when data for both Company A and COMPANY B are combined.

However, results of Table 22 show that past capital investments (lagged by 1 quarter) and gainsharing programme have a positive relationship and are statistically significant to labour productivity. This is determined by their t-values of 3.28 and 3.38 for past capital investment and gainsharing programme, respectively. Their results are above the critical t-value of 2.02 at the five percent (5%) level of significance thus accepting the assumption of a significant relationship between labour productivity and these two (independent) variables. This indicates that past capital investments (lagged by 1 quarter) and gainsharing programme are dependent to labour productivity when data for both Company A and COMPANY B are combined. Positive relationship entails that the implementation of gainsharing programme as well as past capital investment (lagged by 1 quarter) increased labour productivity.

Results that are similar to all the independent variables for this sub section 5.2.1.2 (b)

Results of Table 22 show that the combined Company A and COMPANY B data has an adjusted R^2 of 0.82. The level of variation (in percentage) in labour productivity (as determined by adjusted R^2) is explained by the set of independent variables (including the constant). The serial correlation as determined by the Durbin-Watson statistic is low at 1.58 when comparing to the standard value of 1.79.

5.2.1.2(c) Discussion of results where labour productivity is a dependent variable: For two quarters old data after the two companies have invested to capital

Table 23: Labour productivity as a dependent variable to past capital investment (lagged by 1 quarter), past capital investment (lagged by 2 quarters), absenteeism rate, spoilage rate, number of workers involved in production and gainsharing

Combined model: SMITHS and COMPANY B regression.			
The following OLS estimation is based on the equation			
Labour Productivity = $B_0 + B_1$ Past Capital Investment (lagged by 1 quarter) + B_2 Past Capital Investment (lagged by 2 quarters) + B_3 Absenteeism + B_4 Spoilage + B_5 Workers + B_6 Post Gainsharing-Dummy			
Regression	Coefficient	t-statistic	Probability
Constant (B_0)	-2.254516	-0.812598	0.4221
Past Capital investment (lagged by 1 quarter)	0.404340	2.453661	0.0194
Past Capital investment (lagged by 2 quarters)	-0.109994	-0.815261	0.4206
Absenteeism	0.061675	1.435440	0.1603
Spoilage rate	-0.037661	-0.661727	0.5126
Number of Workers	0.753819	1.903928	0.0654
Gainsharing Dummy	0.202354	3.194382	0.0030
R-squared	0.857234	F-statistics	29.16462

Adjusted R ²	0.827841	Prob (F-Statistic)	0.000000
S.E. of regression	0.093382	Mean dependent var.	4.560821
S.D. dependent var.	0.225060	Durbin-Watson stat.	1.686645

Source: Calculation based on research data (2009)

Labour productivity as a dependent variable to absenteeism and spoilage rates, capital investments, the number of workers involved in production as well a gainsharing programme

Results of Table 23 show that absenteeism and spoilage rates, the number of workers involved in production as well as past capital investments (lagged by 1 and 2 quarters / periods) have no relationship to labour productivity. This is determined by their t-values of -0.82; 1.44; -0.66 and 1.90 for past capital investments (lagged by 1 and 2 quarters); absenteeism rate; spoilage rate and the number of workers involved in production, respectively. Their results are below the critical t-value of 2.02 at the five percent (5%) level of significance thus accepting the null hypothesis of relationship between labour productivity and these (independent) variables. This indicate that past capital investments (lagged by 1 and 2 quarters); absenteeism and spoilage rates as well as the number of workers involved in production are independent to labour productivity when data for both Company A and COMPANY B are combined.

Results that are similar to all the independent variables for this sub section 5.2.1.2 (c)

Results of Table 23 show that the combined Company A and COMPANY B data has an adjusted R² of 0.83. The level of variation (in percentage) in Labour Productivity (as determined by adjusted R²) is explained by the set of independent variables (including the constant). The serial correlation as determined by the Durbin-Watson statistic is low at 1.69 when comparing to the standard value of 1.79.

Having done the t-tests to investigate the differences between the means and their variations for Company A, COMPANY B and Company C, the following section on Factorial ANOVA explains

the suitability of dummy variables and ascertains whether such variables have an enhancing effect. It presents and subtly compares the effects and interactions of marginal means of Dmeans of policies (that is, gainsharing to 360° PMS) to the 3 companies. According to Tredoux and Durrheim (2002) the marginal means of Dmeans assist to study patterns of the main effects and differences between cell means.

5.2.2 Data presentation and factorial ANOVA analysis

This section analyse data using factorial designs. Porkess (2005) defines factorial ANOVA as the collection of techniques used in multivariate analysis to reduce the number of variables and to find structure in the relationships between the variables. As a result, the analysis will allow the researcher to analyse interactions between variables in a much more detail. The analysis will be based on the following general factorial ANOVA assumptions:

- Normality: The populations represented by the data should be normally distributed, making the mean an appropriate measure of central tendency. ANOVA is inappropriate in situations where there are unequal cell sizes and distributions skewed in different directions.
- Homogeneity of variance: The populations from which the data are sampled should have the same variance.

5.2.2.1 Univariate Analysis of Variance between Company A and COMPANY B

Table 24: Tests of between – subjects effects: Company A and COMPANY B

Source	Type III Sum of Squares	df	Mean Square	F	Sig	Partial Eta Squared
Corrected Model	13293.426 ^a	3	4431.142	40.273	0.000	0.761
Intercept	13199.566	1	13199.566	119.965	0.000	0.759
Policy	13246.399	1	13246.399	120.390	0.000	0.760
Company	0.553	1	0.553	0.005	0.944	0.000
Policy * policy	0.565	1	0.565	0.005	0.943	0.000
Error	4181.093	38	110.029			

Source: Calculation based on research data (2009)

a. $R^2 = 0.761$ with an Adjusted $R^2 = 0.742$ Dependable Variable: Dmean

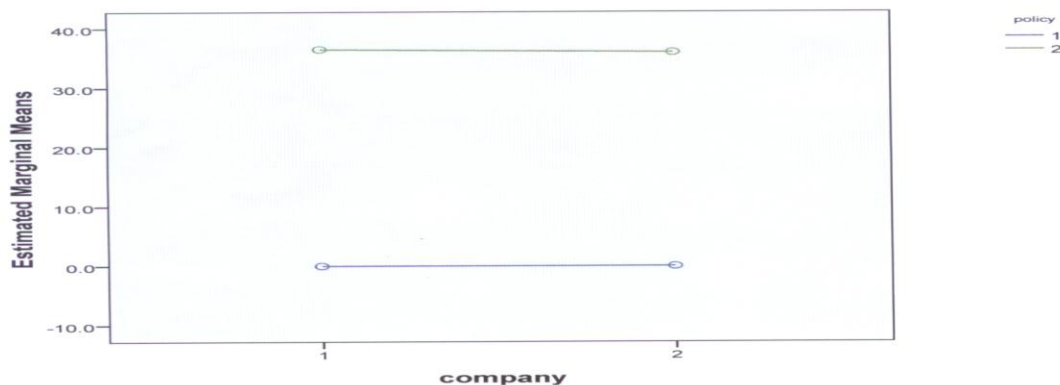
Policy refers to the dummy variable.

Results of Table 24 show that the effects of gainsharing to both Company A and COMPANY B are significant. This has been determined by statistical F-value level of $p < 0.0001$ which is below the conventional standard F-value of 0.05. This entails that gainsharing has the same effect to both companies. Gainsharing has a strong effect to both Company A and COMPANY B and this account for seventy six percent (76%) of the total variation. The percentage variation as derived from the eta squared value is 0.760. Tredoux and Durheim (2002) define eta squared value as the proportion of total variability attributed to a factor.

However, the difference in interaction of gainsharing to both Company A and COMPANY B is not significant at the level of $p < 0.943$. The result is above the conventional standard p-value of 0.05. This statistical result entails that the impact of gainsharing to both Company A and COMPANY B is similar. Gainsharing has had similar effects to both companies. Company differences do not explain any difference of impact from gainsharing programme. These analyses confirm study findings from regression analysis in 5.2.1 that the implementation of gainsharing programme has an impact to productivity improvement (see Tables 19 to 23 of this

chapter). Such findings are in line with the study objectives of this research. Having analysed the significance between the effects and interactions of gainsharing to both Company A and COMPANY B, it is befitting to examine the marginal means of dmean as shown in Graph 4.

Graph 4: Estimated marginal means of dmean (Company A and COMPANY B)



Source: Calculation based on research data (2009)

Note: Policy 1 = pre gainsharing period, Policy 2 = post gainsharing period.

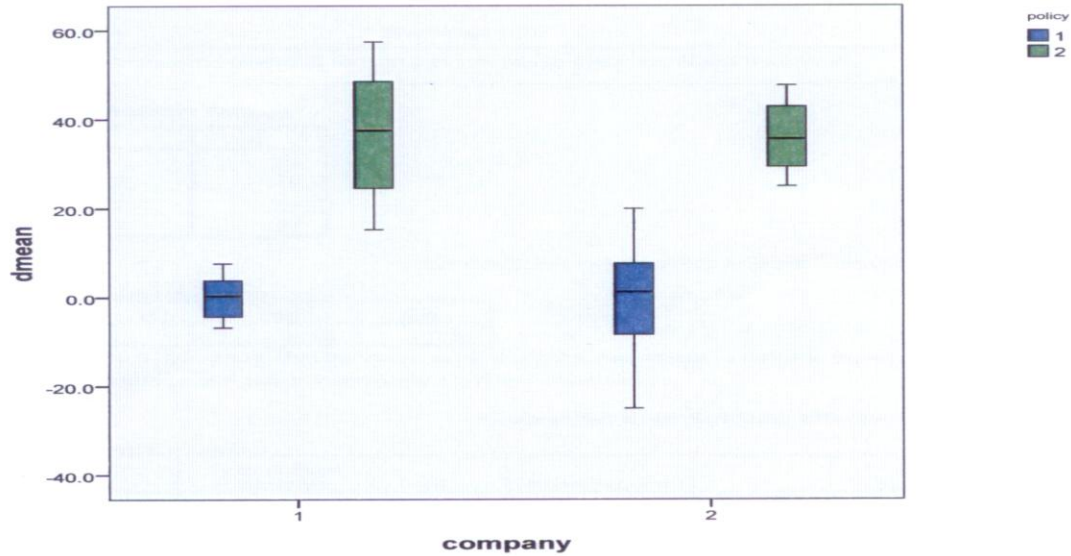
Company A is represented by 1; and COMPANY B by 2 on the x-axis

The interacting factors between the two companies' pre and post gainsharing implementation yielded patterns of differences between the dmean. Graph 4 shows that the interactions of gainsharing between Company A and COMPANY B are not significant. This entails that the effect of gainsharing implementation at Company A is almost the same as COMPANY B. However, the box plots will statistically help decide whether the assumptions of normality and homogeneity of variance have been met, and these are shown on the Graph 5 below.

Graph 5: Case processing summary

Case Processing Summary								
			Cases					
			Valid		Missing		Total	
company	policy		N	Percent	N	Percent	N	Percent
dmean	1	1	12	100.0%	0	.0%	12	100.0%
		2	9	100.0%	0	.0%	9	100.0%
	2	1	13	100.0%	0	.0%	13	100.0%
		2	8	100.0%	0	.0%	8	100.0%

dmean



Source: Calculation based on research data (2009)

It can visually be seen from Graph 5 (above) that the mode of change between Company A and COMPANY B from pre to post gainsharing period is homogeneous. Graphically, the box plots show similar spread of gainsharing results from both companies. Box plots diagrams as defined by Porkess (2005) are used to illustrate experimental data so as to bring out their important features. Statistical tests suggest that the conditions for homogeneity of variance between the pre and post gainsharing periods from the two companies have been met. Results are confirmed by Levene's test of equality shown on Table 25.

Table 25: Levene's test of equality of errors variances^a

F	df 1	df 2	Sig.
4.571	3	38	0.008

Source: Calculation based on research data (2009)

*a. Design: Intercept + policy + company + policy * company*

Porkess (2005) defines Levene's test of equality as an inferential statistic used to assess the equality of variance in different samples. In Levene's test of equality, the statistical procedures assume that variances of the populations from which different samples are drawn are equal. However, Levene's test assesses this assumption. He adds that if the resulting p-value of Levene's test is less than 0.05, the obtained similarities in sample variances are likely to have occurred based on random samples. Results of Table 25 show that the obtained similarities between the variances in the samples for Company A and COMPANY B at p-value 0.008 have occurred.

5.2.2.2 Multiple comparison between Company A, COMPANY B and Company C

Table 26: Dmean Tukey HSD

(I) Company	(J) Company	Mean Difference (I – J)	Std. Error	Significant	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	1.914	19.5256	0.995	-44.990	48.819
	3	15.375	18.7283	0.692	-29.614	60.365
2	1	-1.914	19.5256	0.995	-48.819	44.990
	3	13.461	18.7283	0.753	-31.528	58.450
3	1	-15.375	18.7283	0.692	-60.365	29.614
	2	-13.461	18.7283	0.753	-58.450	31.528

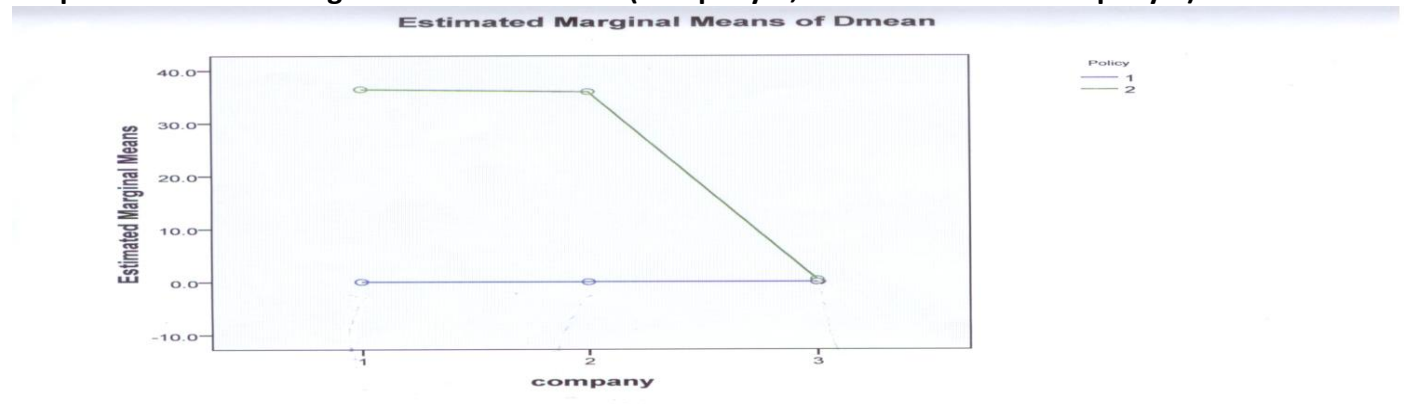
Source: Calculation based on research data (2009)

Note that numbers 1; 2 and 3 represent SMITHS; COMPANY B and Company C, respectively.

The multiple comparisons-output-reports show results of Tukey's Honest Significant Difference (HSD) test dmean for Company A (as company 1) compared to dmeans of COMPANY B (as company 2) and Company C (as company 3). Porkess (2005) points out that the Tukey's HSD is a single-step multiple comparison procedure and its statistical tests are generally used in conjunction with an ANOVA to identify the means that are significantly different from one another. Results of Table 26 show that the differences between the means for the three companies are insignificant. Whilst there is difference between the means for both Company A and COMPANY B relative to Company C, it is also not significant. This is due to the fact that Company C has a wide variation in its data.

Having analysed differences between the means for the three companies, it is befitting to examine the marginal means of Dmean in support of the multiple comparisons (as analysed above). The following Graph 6 supports this analysis.

Graph 6: Estimated marginal means of dmean (Company A, COMPANY B and Company C)

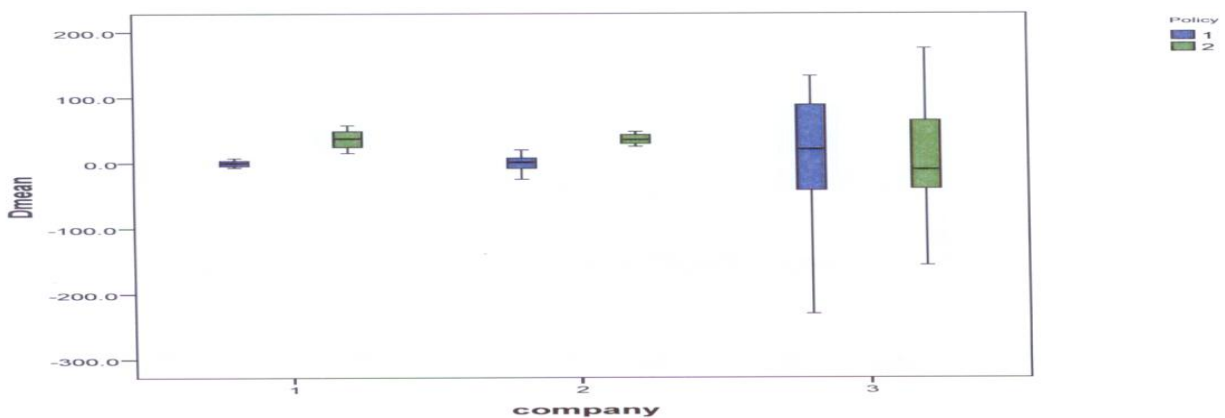


Source: Calculation based on research data (2009)

Note that Policy 1 is pre- dummy (or no policy period) whilst Policy 2 is post- dummy (or policy period). Company A is represented by company 1, COMPANY B by 2 whilst Company C by 3, on the x-axis.

Statistically, the interacting factors between the marginal means of the three companies' no policy and policy implementation periods have yielded patterns of differences between the dmeans. This means that policy interactions that took place between Company A and COMPANY B are significant in relation to Company C. The effect of marginal means of policy variable at Company A and COMPANY B are relatively different to marginal means of Company C. The mean difference is partly based on the fact that Company A and COMPANY B's method of operations, the product classification and policy types (that is, gainsharing system) are almost similar when comparing to Company C. Thus, there are no mean changes for Company C when comparing to mean changes for both Company A and COMPANY B in relation to pre and post policy periods (see Graph 6 above). However, the box plots will further help decide whether the assumptions of normality and homogeneity of variance have been met. The box plots are shown on the Graph 7.

Graph 7: Box plots to ascertain whether the normality and homogeneity of variance have been met



Source: Calculation based on research data (2009)

Roughly, there are similar spreads of Dmean for Company A (represented by company 1) and COMPANY B (represented by company 2). Although the Dmeans are similar, the variances of Company C (represented by company 3) are much larger when compared to Company A and COMPANY B. In all cases, the Dmeans are roughly normally distributed. The dissimilarities between the variance are confirmed by Levene's test:

$$df_1 = s / df_2 = \underline{60}. \quad 3.34 < 9.879$$

At $\alpha = 0.01$

F test is highly significant at one percent (1%) significant level suggesting that we must reject the H_0 of equality of variances. Exploratory analysis suggests that the population distribution represented by the cell data is roughly normal but with different variances.

5.3 Qualitative data and analysis

The second phase of data collection involved interviews with focus groups for Company A and COMPANY B. These were followed by individual interviews with middle managers from each of the two automotive parts-manufacturing companies. Focus group interviews were achieved through facilitating an organised discussion with a group of five workers from each company. The main objective of interviews was to examine production and related experiences of the two companies that have adopted gainsharing programmes. They established whether other variables like de-layering; trade unions; company age and qualification incentives paid to workers for upgrading their skills, play an even more important role in productivity improvement. This is in-line to study objectives explained in chapter 1 of this research. Focus group discussions brought insights and understanding in ways in which a simple questionnaire would not have been able to tap. Both the focus group facilitation and interviews with middle managers were carried out using a single set of questions.

5.3.1 Data presentation and thematic content analysis

This section commences with the coding of unstructured interviews. The employee and management themes analysis will conclude this section. This includes analysing the frequency of themes, a matrix showing the importance attributed to each theme as indicated by frequencies, themes comparison and the frequency of analysis. From the coding list (see Table 27 in Appendix F and 5.10 below), the researcher coded phrases that identify textual pieces of

information containing material that pertains to the themes under consideration. The content of the text refers to an explanation of the phenomenon.

To simplify the analysis, codes for all main themes under item number 1 to 5 are identified with their corresponding first letters A to E. However, the entire theme codes are identified by the first and the last letters on each of the full theme.

The main purpose of Table 27 in Appendix F is to define themes that are used in the entire thematic content analysis. It also lists themes of unstructured interviews and allocates the codes to sub themes. The main codes and their corresponding themes are sub categorised in order to simplify the analysis of Tables 28 and 31 and their respective graphs. Whilst the interviews were separately conducted to both employees and middle managers of each of the two companies, the thematic analysis will thus be split into employees and managers. However, the overall thematic content analysis will combine results for both employees and managers from the two companies that participated to focus group interviews.

5.3.1.1 Employee themes analysis

Table 28: Frequency of themes (Employees)

No.	Code	Themes	Frequency (SMITHS)	Frequency (COMPANY B)	Total Frequency
1.0		Improves Motivation	5	4	9
1.1	A-LR	Labour-Management Relations	1	-	1
1.2	A-FO	Feeling of Ownership	-	1	1
1.3	A-SF	Simple formula	1	-	1
1.4	A-RS	Opportunities to receive shares	-	2	2
1.5	A-FP	Frequent feedback and payout (monthly)	3	1	4
2.0		Enhance Productivity	7	6	13
2.1	B-RC	Reduce Manufacturing and Quality Costs	4	3	7
2.2	B-ET	Enhance Teamwork	3	3	6

3.0		Obstacles to Implement Gainsharing	1	1	2
3.1	C-II	Insufficient information about gainsharing	1	1	2
4.0		Impacts of Wellness Programme	6	3	9
4.1	D-WB	Worker behaviour	1	-	1
4.2	D-SI	Physical and Mental Stress related issues	-	1	1
4.3	D-CC	Counseling / coaching	4	1	5
4.4	D-RA	Reduced Absenteeism	1	-	1
4.5	U-DEP	Deal with emotional problems	-	1	1
5.0		Role of other variables in productivity improvement	17	14	31
5.1	E-DL	De-layering	4	4	8
5.2	E-TP	Trade Union Participation	4	4	8
5.3	E-CA	Company Age	3	4	7
5.4	E-OT	Ongoing training	2	1	3
5.5	E-EU	Equipment Upgrade	4	1	5

Source: Calculation based on research data (2009)

Table 28 presents the frequencies of themes for both companies based on responses that were provided by participants during the interviews. Frequencies were thus aggregated for analysis as shown on the last column of Table 28. The results assisted the researcher in developing the matrix of Table 29 and shows the importance attributed to each theme as indicated by the frequency of Table 28. Take note of the frequencies used in categorizing the importance of themes in Table 30. As a result, this table must be read with the main Table 28.

Table 29: Matrix showing the importance attributed to each theme as indicated by frequency of Table 28

	Importance of themes				
Themes	Not important	Some	Average	Very	Extremely
Improve Motivation			x		
Enhance Productivity				x	
Obstacles to Implement Gainsharing	x				
Impacts of Wellness Programme			x		
Role of other variables					x

Source: Matrix Data (2009)

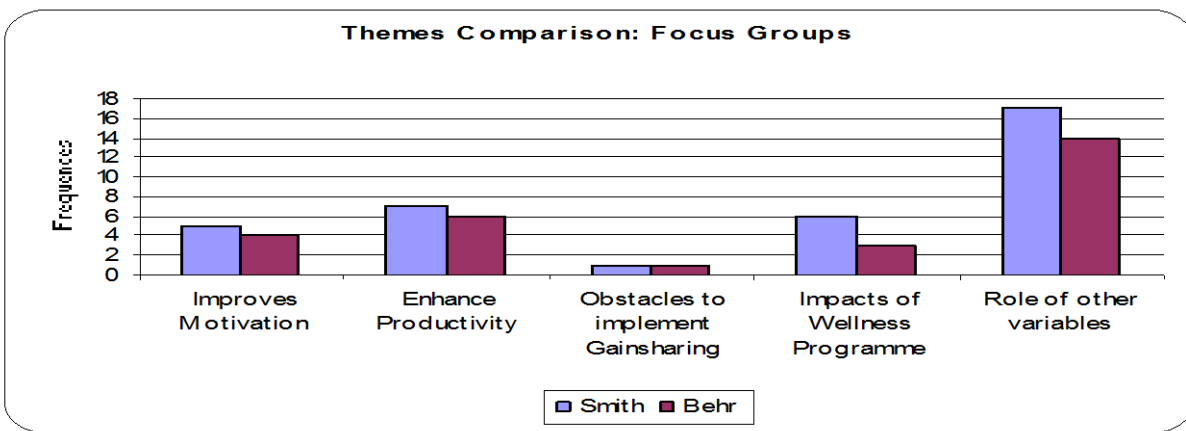
Table 30: Frequencies used in categorizing the importance of themes

Criteria used in the categories	Frequency
Not	0 - 5
Average	6 - 10
Very	11 – 15
Extremely	More that 15

Source: Calculation based on research data (2009)

Table 29 presents a matrix showing the importance attributed to each theme as indicated by total frequencies for both companies. It shows that obstacles to implement gainsharing were not important during its implementation. The influences of gainsharing programme to improve motivation as well as the impact of wellness programme during gainsharing implementation were somewhat important. They had an average score of importance. However, gainsharing as a tool to enhance productivity was very important whilst the role of other variables including de-layering, trade union participation, company age, ongoing training and equipment upgrade played were extremely important in productivity improvement. The following is a graphical presentation comparing themes frequencies for employees for both companies.

Graph 8: Themes comparison (Employees)



Source: Calculation based on research data (2009)

Graph 8 presents theme comparisons of focus groups' responses for both companies. The bar graph compares how each company regards the importance of each theme.

5.3.1.2 Management themes analysis

Table 31: Frequency of themes for management interviews

No.	Code	Themes	Frequency (SMITHS)	Frequency (COMPANY B)	Total Frequency
1.0		Improves Motivation	4	2	6
1.1	A-IM	Improve worker morale and motivation	1	1	2
1.2	A-FP	Frequent feedback and payout (monthly)	1		1
1.3	A-LR	Labour-Management Relations		1	1
1.4	A-FO	Feeling of Ownership	1		1
1.5	A-SE	Stimulate suggestions from employees	1		1
2.0		Enhance Productivity	4	3	7
2.1	B-ET	Enhance Teamwork	1	1	2
2.2	B-RC	Reduce Manufacturing and Quality Costs	1		1
2.3	B-PI	Productivity Improvement	1	1	2

2.4	B-PC	Problem Solving Capability	1	1	2
3.0		Obstacles to Implement Gainsharing	1	1	2
3.1	C-UH	Unavailable of outside help	1		1
3.2	C-II	Insufficient information about gainsharing		1	1
4.0		Impacts of Wellness Programme	6	3	9
4.1	D-WB	Worker behaviour	1	1	2
4.2	D-PM	Physical and Mental Stress related issues	1	1	2
4.3	D-OT	Ongoing training	1		1
4.4	D-SH	Self-help	1		1
4.5	D-CC	Counseling / coaching	1		1
4.6	D-RA	Reduced Absenteeism	1	1	2
5.0		Role of other variables	4	3	7
5.1	E-DL	De-layering	1	1	2
5.2	E-TP	Trade Union Participation	1	1	2
5.3	E-CA	Company Age	1	1	2
5.4	E-OT	Ongoing training	1		1

Source: Coding list based on research data (2009)

Table 31 presents frequencies of themes for both companies based on responses that were provided by managers during the interviews. Frequencies were thus aggregated for the analysis as shown on the last column of Table 31. The results assisted the researcher in developing the matrix of Table 32 and shows the importance attributed to each theme as indicated by frequency of Table 31. Take note of the frequencies used in categorizing the importance of themes in Table 33. As a result, this table must be read with the main Table 31.

Table 32: Matrix showing the importance attributed to each theme as indicated by frequency of Table 31

	Importance of themes				
Themes	None	Some	Average	Very	Extremely
Improve Motivation				x	
Enhance Productivity				x	
Obstacles to Implement Gainsharing	x				
Impacts of Wellness Programme					x
Role of other variables				x	

Source: Matrix Data (2009)

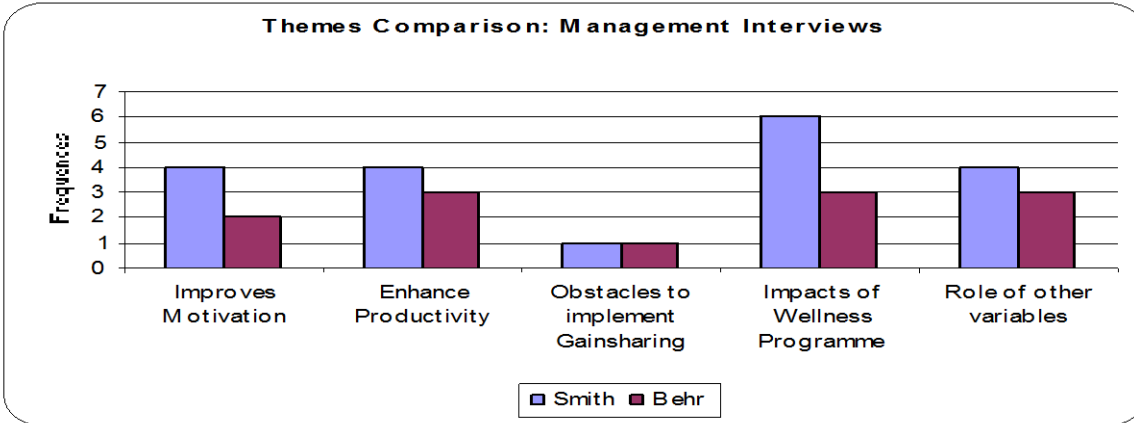
Table 33: Frequencies used in categorizing the importance of themes

Criteria used in the categories	Frequency
Not	0 - 2
Average	3 - 5
Very	6 – 8
Extremely	9 - 11

Source: Calculation based on research data (2009)

Table 32 presents a matrix showing the importance attributed to each theme as indicated by total frequencies from the two companies. Obstacles to implement gainsharing were not important. Other variables (including de-layering, trade union participation, company age, ongoing training and equipment upgrade) as well as gainsharing as a tool to improve motivation and to enhance productivity were regarded as very important themes. However, the impacts of wellness programmes during gainsharing implementation were extremely important. The bar graph compares how each company regards the importance of each theme.

Graph 9: Themes comparison (Management)



Source: Calculation based on research data (2009)

Graph 9 presents theme comparisons of managements' responses for both companies. The bar graphs compare how each company regards the important of each theme relative to the corresponding theme as well as other themes.

5.3.2 Overall analysis on company's perceptions about gainsharing: Company A and COMPANY B

Table 34: Perceptions about gainsharing programme

No	Important Themes	Level of importance		Aggregate Frequency	% Frequency
		Managers	Employees		
1.	Improve Motivation	Very	Average	15	16%
2.	Impact of wellness programme during gainsharing implementation	Very	Average	18	19%
3.	Enhance Productivity	Very	Very	20	22%
4.	Role of other variables that contributed to productivity improvement includes:	Extremely	Very	40	43%
	○ De-layering			10	
	○ Trade union participation				

○ Company age		10	
○ Ongoing training		9	
○ Equipment upgrade		5	
		6	
TOTAL (1 – 4)		93	100%

Source: Calculation based on research data (2009)

Results in Table 34 indicate interview responses of both Company A and COMPANY B that productivity improves motivation by sixteen percent (16%); wellness programme had a positive impact to employees during the implementation of gainsharing programme by nineteen percent (19%); gainsharing enhance productivity by twenty two percent (22%); and the role of other variables played an even more important role in productivity improvement by forty three percent (43%).

Other variables that contribute to productivity improvement (based on its frequency aggregate of 40); de-layering contributes twenty five percent (25%); trade union participation also contributes twenty five percent (25%); company age contributes twenty two point five percent (22.5%); ongoing training contributes twelve point five percent (12.5%); and equipment upgrade contributes fifteen percent (15%).

5.4 Summary

This chapter presented the results of the investigation using both inferential statistics and thematic analysis from focus group interviews. The OLS and factorial ANOVA were two inferential statistics used in the study. The OLS enabled the researcher to quantify the magnitude of the impact that gainsharing programme has had on the productivity improvement. A clear presentation of results enables ones to identify significant relationships and differences between variables in the study. This being a comparative investigation, it further compared 360° PMS (which is a different incentive system) with gainsharing against similar study variables. The researcher also analysed the effects and interaction between study variables using factorial ANOVA.

The Thematic Content Analysis resulting from separate focus groups and middle management interviews' transcripts enabled the researcher to examine production and related experiences of the two companies that have adopted gainsharing programme. It further established whether other variables play an even more important role in productivity improvement.

The next chapter discusses the results of this study. This will includes a summary of theoretical orientation and the achievements of the research objectives (i.e., the research conclusions).

CHAPTER SIX: THE DISCUSSION OF RESULTS

6.1 Introduction

The previous chapter analysed and interpreted data provided by the two companies that have implemented gainsharing programme (that is, Company A and COMPANY B). It also analysed data from a third company that uses a different incentive system (that is, Company C) for comparison purposes. The first analysis involved OLS and the aim was to quantify the magnitude of the impact the implementation of gainsharing has had on labour productivity, capital investment, the number of workers involved in production, absenteeism and spoilage rates. The same variables were used to analyse Company C data when comparing the 360° PMS impact against gainsharing impact. The researcher also analysed the quantitative data using factorial designs. The analysis revealed interactions between variables in a much more detail. The analyses were based on factorial ANOVA assumptions of normality and homogeneity of variances.

The second phase of the analyses comprised of thematic content analysis. This involved the analysis of data from focus groups and middle management interviews from Company A and COMPANY B. The aim was to determine employee and management perceptions about gainsharing and to establish whether other variables like de-layering; trade union participation; company age; qualification incentives paid to workers for upgrading their skills, play an even more important role in productivity improvements.

After elaborating on some of the findings (as discussed in the previous chapter), this chapter forms a 'golden thread' between research objectives and study outcomes. It will outline the summary of theoretical orientation; empirical study used during the study period; ascertain if the study objectives were achieved; and highlight study restrictions that were encountered during the study process.

6.2 Summary of theoretical orientation for this study

The first chapter of the study outlined the state of productivity level in South Africa, and this includes the lack of an advanced knowledge of how to produce more, efficiently. The need to improve productivity was the cornerstone behind the theoretical background. A strong co-operation between management and labour to improve productivity is emphasised. Gainsharing, as a pay-for-performance scheme was discussed as a solution to productivity improvement because it can contribute to raising the competence levels of an organisation. The pros and cons of gainsharing programmes were deliberated in the literature review. This includes the importance of gainsharing as a method of working in groups to identify ways of improving performance. Other factors that differentiate gainsharing programmes from other incentive schemes were also discussed in chapter two. This includes the theory pertaining to compensation and company performance; perception of inequity and the importance of reinforcement theory; gainsharing as organisation learning; gainsharing and organisational change; marriage of lean six sigma and gainsharing; union status in gainsharing programmes; major theoretical perspectives of gainsharing; and gainsharing implications for organisational development.

This being a comparative investigation of gainsharing programmes in the automotive parts manufacturing sector of South Africa; it became imperative to discuss a different type of an incentive system. As a result, the 360° PMS was discussed in the literature review chapter. This includes the role of 360° PMS in employee development and performance; individuals involved in 360° PMS process; organisational and individual perspectives of 360° PMS; the 360° PMS feedback instrument; and the benefits of 360° feedback.

Furthermore, the study established the impacts of gainsharing programmes from companies in other countries. It highlighted the experience of different countries that have implemented performance-related pay like gainsharing programmes and its trends. This discussion formed part of chapter 3 and was a natural progression from literature study.

The next section outlines the type of empirical research used during the study period, as well as, the bases that helped the researcher in reaching study outcomes. This includes the logical stages that were followed in carrying out this research.

6.3 Empirical study

Each research project has an important relation to the existing theory of pertinent field for the research and the *empiria*, the tangible world of people, as well as, the objects and the events (Murray & Lawrence, 2000). These relations determine which methods of research are possible and effectual; and they also prescribe the general character of the research project. Empirical research is any activity that uses direct or indirect observation as its test of reality (Remenyi, Williams, Money & Swartz, 1998). Therefore, the accumulation of evidence for or against any particular theory involves 'planned' research designs for the collection of empirical data (Nicholson, 2003). This study is classified under applied research as it promotes both the theory and practice.

The reasoning process against the bases of arguments (as laid out in the research objectives) that support the conclusions for this study was done using the scientific research methods of inductive logic. The support, through which the conclusions had to be drawn, depends on the extent of data and information given to the researcher as well as the willingness of participants to participate to this study. As a result, this study was conducted following the logical stages of planning and framing; the gathering and recording of data; the analysis of data and the interpretation of study results, as well as, the report writing. This logical sequence is shown in the process flow diagram in Figure 6 of Appendix A. These stages are briefly discussed below.

- **Planning and framing:** The topic for the study was identified, aims and objectives set out, and the formal research proposal developed. The preliminary reading of books, journals and articles enabled the researcher to properly frame the research statement. Research questions were also formulated from secondary data.

- **Gathering and recording of secondary data:** The skills for the empirical research are built from the record keeping skills (Shonfield, 2003), and the researcher had to gather and keep copies of the relevant information, label, and categorise data. The three companies that participated in the study provided pre- and post incentive scheme data impact on labour productivity, absenteeism and spoilage rates, training costs and the number of days workers attend to training. Focus group facilitations and middle management interviews conducted from Company A and COMPANY B were achieved using a single set of a questionnaire.
- **Analysing data and interpreting study results:** This research is both qualitative and quantitative in nature. Raw data for quantitative research was collected from the two companies that uses gainsharing programme as well as the third company that uses 360° PMS. The purpose for the inclusion of the third company that uses 360° PMS was to compare its results to the main gainsharing results (for comparative purposes). Data were coded in a form of language that can be written clearly and unambiguously in standardised 'tables'. These tables were subsequently used in the analysis. The analyses were mainly used to test the research hypothesis (that is, inferential statistics).

On the other hand, the analysis used for qualitative methods was Thematic Content Analysis. Such analysis has data that originates from employee focus groups and middle management interviews from the two companies that have implemented gainsharing programme. The aim was to determine employee and management perceptions about gainsharing and establish whether other variables like de-layering; trade union participation; company age; qualification incentives paid to workers for upgrading their skills, play an even more important role in productivity improvements.

- **Report writing:** This involved the alignment of the problem statement to the theoretical foundation (that is, the literature review) and study findings, and presenting these in an

acceptable report format.

The next section evaluates if the study objectives outlined in chapter one of this research have been achieved. Each study objective will be highlighted and the outcomes briefly explained on how the objective was achieved.

6.4 Research conclusions

The extent to which the study successfully achieves practical results is important. Research objectives serve as the backbone of the entire study. The following are conclusions for this research:

6.4.1 To explore the suitability of gainsharing as an appropriate tool for productivity improvement at Company A and COMPANY B

- a) The implementation of gainsharing programme improves labour productivity. However, the 360° PMS has no impact to productivity improvement. The pre and post gainsharing changes between Company A and COMPANY B were relatively different to Company C.
- b) The number of workers involved in production has an impact to productivity improvement after gainsharing programme is implemented. As a comparison, the number of workers involved in production has no impact to productivity improvement after 360° PMS is implemented.
- c) There is no impact of absenteeism rate to labour productivity level after gainsharing programme or 360° PMS is implemented. Therefore, any increase or decrease in the absenteeism rate has no impact to labour productivity level.
- d) There is also no impact of spoilage rate to labour productivity level after gainsharing programme is implemented. Any increase or decrease in spoilage rate has no impact to labour productivity level. As a comparison, spoilage rate has an impact to labour productivity after 360° PMS is implemented. Any increase or decrease in spoilage rate increases or decreases labour productivity, respectively.

- e) Dummy variables (that is, gainsharing programme and 360° PMS) improve labour productivity if labour productivity level is evaluated 1 period after capital has been invested.
- f) Gainsharing improves motivation and enhance productivity. This was affirmed by theme frequencies from focus groups and middle management interviews. Bearing in mind that the study investigates the applicability of gainsharing for the improvement of productivity in the automotive parts-manufacturing sector of South Africa, this objective has been achieved. During the interview process, the participants showed confidence on the use of gainsharing programme.

6.4.2 To ascertain whether incentive schemes (in general) have a productivity enhancing effect

Study results reveal that both the gainsharing and 360° PMS have a productivity enhancing effect. The following table presents a summary of such findings.

Table 35: Results determining whether incentive schemes have a productivity enhancing effect

Item No.	Type of the incentive scheme to the study variable	Study results
1.	Gainsharing to productivity level	The implementation of gainsharing programme improves productivity
2.	Spoilage rate to labour productivity level if 360° PMS is used	Spoilage rate has an impact to labour productivity level. Any increase in labour productivity increases spoilage rate. The opposite is also true.
3.	The number of workers involved in production to labour productivity level if gainsharing programme is used	Labour productivity level is influenced by the number of workers involved in production. It may increase or decrease, depending on the company's production workflow, the setup processes within work centres, as well as, the skills capacity.
4.	Incentive schemes to labour productivity level	Incentive schemes improve labour productivity (even if productivity level is evaluated 1 period after capital has been invested in the company)

Source: Results based on research data (2009)

6.4.3 To establish whether other variables play an important role in productivity improvements

- a) Focus groups and management interview results show that employees and management have confidence to other variables as playing an important role to productivity improvement. This includes de-layering activities, company age, trade union participation, ongoing training as well as equipment upgrade.
- b) Employees regard the role of other variables in productivity improvements as 'extremely' important. From the frequency of themes, the de-layering activities and trade union participation were regarded as most important when compared to other variables. They were followed by company age and equipment upgrade. The ongoing training was the least important variable by employees.
- c) Middle managers regard the role of other variables in productivity improvement as 'very' important. From the frequency of themes, the de-layering activities; trade union participation; and company age were regarded as the most important variable when compared to ongoing training. As a result, the ongoing training was the least important variable by managers.

It should be noted that both the employees and managers regard the de-layering activities and trade union participation as the most important variables in productivity improvements.

6.5 Limitation of the study

The study primarily focuses to two companies that are situated within the e-Thekwini municipal district that uses gainsharing programmes. It is likely, however, as the companies have branches elsewhere (and are similar to other parts manufacturers in the country) that the findings are much broader in their application.

6.6 Summary

In overall, this study has highlighted productivity levels in South Africa and the need to improve them. Issues relating to compensation and gainsharing as a pay-for-performance incentive scheme that results to improved business performance were discussed. Gainsharing as a formula-based company-wide bonus plan, which provides for employees to share in the financial gains made by a company as a result of its improved performance were explored. The forms, practical application of gainsharing programmes and its pros and cons were discussed in the literature study. These were followed by empirical evidence highlighting practical implications of gainsharing programmes as experienced by overseas companies. After this results of the investigation were presented and analysed.

The qualitative research data used during the study period was captured from separate focus group interviews as well as the interviews conducted with middle managers from Company A and COMPANY B. In addition, the two companies provided the researcher with the pre and post quantitative data on gainsharing impact against productivity levels, absenteeism and spoilage rates. For comparison purposes, similar variables of pre and post data of 360° PMS were collected from Company C.

An evaluation on the achievements of study objectives has been outlined in this chapter. The following conclusions from study results can also be made and they reveal that gainsharing programmes:

1. Is recognised as an appropriate monetary reward for productivity improvement.
2. Creates a working environment that encourages worker participation and provides an opportunity for linking improved performance to compensation.
3. Improves motivation and worker morale.

The next and the final chapter will discussion the implications of the research and the recommendations for future research.

CHAPTER SEVEN: THE IMPLICATIONS OF RESEARCH AND RECOMMENDATIONS

7.1 Introduction

The previous chapter formed a golden thread between the research objectives (or assumptions) and research conclusions. It explained how each conclusion was achieved, and these were based from the study objectives. The first part of chapter six presented the summary of theoretical orientation that was used in this study as well as the empirical study. The final part of the chapter discussed research conclusions.

However, the entire research had some implications that were linked to the nature of the study. This chapter evaluates both the methodological strengths and weaknesses of this study. It will also discuss recommendations for future research, and how this study will be disseminated.

7.2 Methodological strengths of the study

7.2.1 The ability to solicit data

A large amount of data was made available for this study. These were both qualitative and quantitative data. Qualitative data from focus groups had a propensity to capture rich descriptions of events during gainsharing implementations as well as the employee experiences of gainsharing impacts (based on the pre and post periods of gainsharing) from Company A and COMPANY B. Such large amount of data was collected through the use of interviews with employee focus groups and middle managers. Furthermore, a large amount of pooled quantitative data on absenteeism, spoilage, the number of workers involved in production and productivity level from Company A, COMPANY B and Company C were available for this

research. This enabled the researcher to arrive to study conclusions through the use of the large amount of data using inferential statistical techniques (including regression analysis and the factorial ANOVA) and the thematic content analysis from interview data.

7.2.2 Provides the basis for comparison

This study was formulated on the basis of comparison between pre and post gainsharing periods. It enabled the researcher to investigate the gainsharing impacts from the two automotive parts manufacturing companies. As a result, the researcher was able to compare similar variables from Company A and COMPANY B. Furthermore, the study was able to compare gainsharing variables to the similar variables of a different incentive system (i.e., 360° PMS). The pre and post gainsharing quantitative data and the comparison of such data to 360° PMS data provided the opportunity to ascertain the suitability of gainsharing programme.

On the same note, the employee focus groups and middle management interviews were able to capture perceptions from participants on whether they view gainsharing as a better incentive scheme compared to the previous one.

7.2.3 Management commitment and willingness to allow their companies to participate in the study

Although fixing the dates for focus groups and management interview sessions was not easily secured and nearly became a constraint to the entire study, management was finally able to allocate time to a less demanding period (in terms of their production level) of the year. Furthermore, the management was accessible and willing to have the study done successfully. This was also shown by their willingness to provide pre and post quantitative data for analysis.

In ensuring the success of the study, management brought in a diverse group of participants (in terms of age, experience, race and gender) to focus groups sessions. The employees were also coming from different departments.

7.3 Methodological weaknesses of the study

7.3.1 The unavailability of other departmental managers for the interviews

The study failed to secure appointments of other departmental managers for interviews. Managers were either highlighting departmental meetings, the deadlines to be met or the unavailability of time from their excuses against participating to the interviews. This impacted the depth of information from managers in different levels of the organisation.

7.3.2 The inability to get the views of customers on the quality of the products supplied by Company A and COMPANY B after the two companies have implemented gainsharing

The study was unable to get feedback on product quality from customers supplied by Company A and COMPANY B. This being a comparative investigation of gainsharing, it would have been better to get the views of customers on the state of quality of products currently supplied to them compared to the pre gainsharing period.

7.3.3 The inability to study companies that are outside the e-Thekwini district municipality

The lack of resources (particularly funding) was a constraint to expand the study to the automotive parts-manufacturing companies situated outside the e-Thekwini district municipality.

7.4 Recommendations for future research

During the course of this study, issues relating to the long term survival of gainsharing after implementation; and the applicability of gainsharing to a wider sector of the economic activity including the public sector were not intensively covered. The nature of this research did not allow these areas to be covered in depth. It is recommended that future research should examine the following issues in greater depth:

- when to use and when not to use a gainsharing programme;
- and the applicability of gainsharing to other industrial sectors.

7.5 Dissemination of research

This study will be made available for inter-library loans. A journal article will be submitted for publication to an accredited journal at the discretion of my promoters. Results specific to each individual company that participated to the study will be printed and presented to them.

7.6 Summary

This is the final chapter of the entire study. It presented the implications of this research. This includes the methodological strengths and weaknesses of the research. It also highlighted the recommendations for future research.

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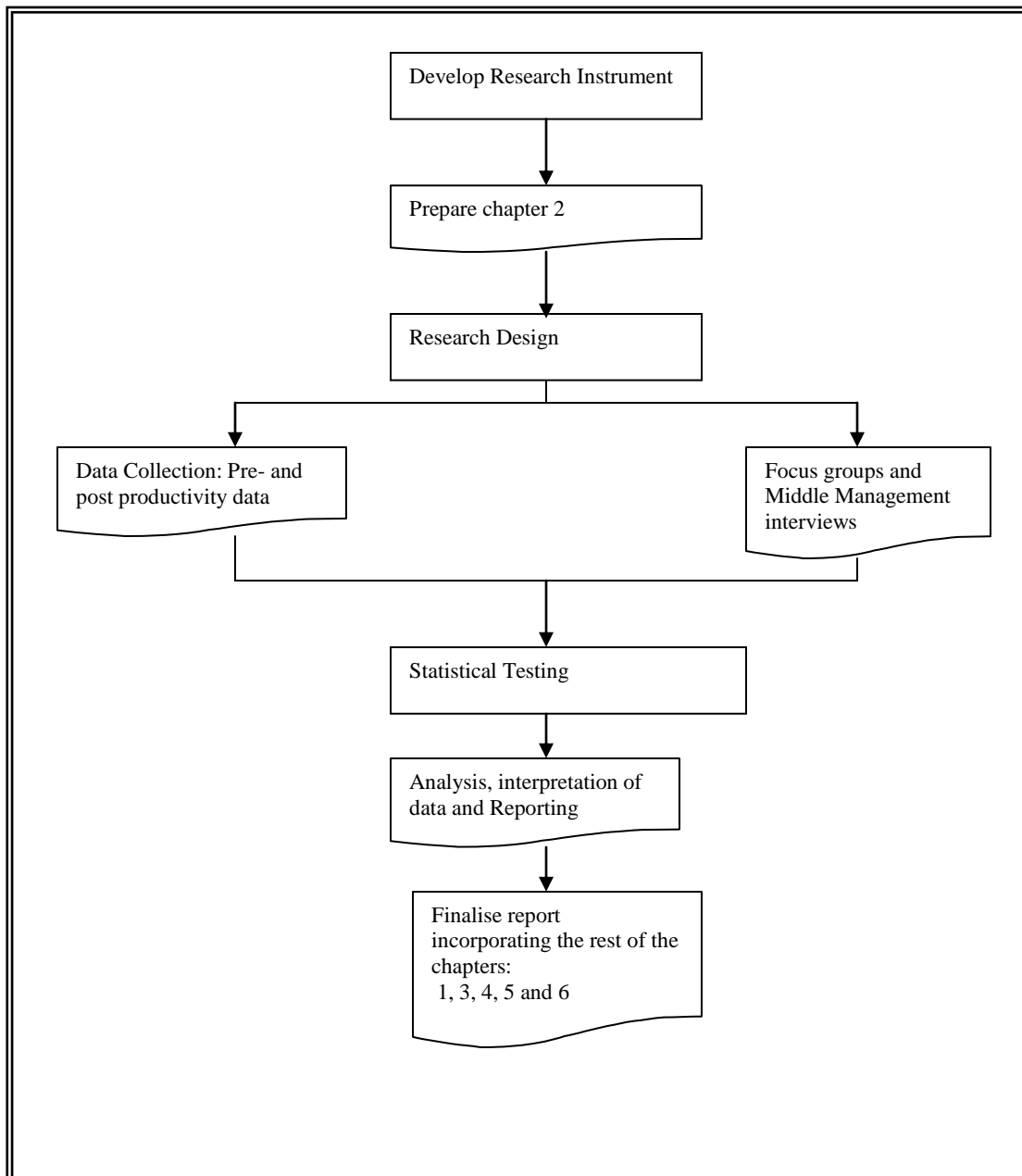
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APPENDIX A:

RESEARCH PROCESS FLOW

Figure 6: Research Process Flow (Source: Diagram based on research process followed (2009))



APPENDIX B:

CORRELATION AND RELIABILITY OF PRODUCTIVITY TESTING TABLES

Table 1: NPI and UNIDO's Labour Productivity

		UNIDO's Labour Productivity
NPI's Labour Productivity	Pearson Correlation	0.739
	Sig. (2-tailed)	0.000
	No. of cases	17
	Reliability Coefficient	
	(Cronbach Alpha test):	2
	Number of items	
	Alpha	0.7740

Source: Calculation based on research data (2009) Correlation is significant at the 0.01 level (2-tailed)

Table 2: NPI and UNIDO's Multifactor Productivity

		UNIDO's Multifactor Productivity
NPI's Multifactor Productivity	Pearson Correlation	0.823
	Sig. (2-tailed)	0.000
	No. of cases	17
	Reliability Coefficient	
	(Cronbach Alpha test):	2
	Number of items	
	Alpha	0.8805

Source: Calculation based on research data (2009) Correlation is significant at the 0.01 level (2-tailed)

Table 3: NPI and UNIDO's Fixed Capital Productivity

			UNIDO's Fixed Capital Productivity
NPI's Fixed Capital Productivity	Pearson Correlation		0.970
	Sig. (2-tailed)		0.000
	No. of cases		17
	Reliability Coefficient		
	(Cronbach Alpha test):	2	
	Number of items		
	Alpha		0.9830

Source: Calculation based on research data (2009) Correlation is significant at the 0.01 level (2-tailed)

APPENDIX C:

**COPIES OF CONFIDENTIALITY AGREEMENTS SIGNED BY AN ASSISTANT MODERATOR (OR
SCRIBE) AND A FACILITATOR DURING FOCUS GROUP INTERVIEWS:**

**Company A
and
Company B**

39 Caversham Road
Pinetown
3610

Dear Participant,

LETTER OF CONSENT: SMITHS MANUFACTURING (Pty) Ltd

I am undertaking a Doctoral Dissertation that aims to investigate the applicability of gainsharing programme for the improvement of productivity in the automotive sectors of South Africa. The main objective of this study is to explore the suitability of gainsharing as an appropriate tool for productivity improvement.

I'm currently gathering data for study analysis. This involves research interviews and focus group facilitation, and would appreciate if you participate to this important exercise. Supervisors for the study are Dr K Nel and Mr I Kaseeram in the Faculty of Commerce, Administration and Law at the University of Zululand. The following is the consent that ensures the confidentiality of information and needs to be signed by both the participant and the facilitator.

Consent:

I agree to participate to this research interview and hereby give consent that under no circumstances will my name be revealed and that my participation is strictly confidential. I understand that the study will be published in the form of a dissertation and paper but that my input will not be disclosed nor will I be identified at any stage. My signature, or first name, or any name that I go by on this confidentiality release is strictly to show that I understand what my participation means.

Signed
(Assistant Moderator)

Date 03. 02. 09

Signed
(Facilitator)

Date 13/02/09

39 Caversham Road
Pinetown
3610

Dear Participant,

LETTER OF CONSENT: BEHR SOUTH AFRICA (Pty) Ltd

I am undertaking a Doctoral Dissertation that aims to investigate the applicability of gainsharing programme for the improvement of productivity in the automotive sectors of South Africa. The main objective of this study is to explore the suitability of gainsharing as an appropriate tool for productivity improvement.

I'm currently gathering data for study analysis. This involves research interviews and focus group facilitation, and would appreciate if you participate to this important exercise. Supervisors for the study are Dr K Nel and Mr I Kaseeram in the Faculty of Commerce, Administration and Law at the University of Zululand. The following is the consent that ensures the confidentiality of information and needs to be signed by both the participant and the facilitator.

Consent:

I agree to participate to this research interview and hereby give consent that under no circumstances will my name be revealed and that my participation is strictly confidential. I understand that the study will be published in the form of a dissertation and paper but that my input will not be disclosed nor will I be identified at any stage. My signature, or first name, or any name that I go by on this confidentiality release is strictly to show that I understand what my participation means.

Signed
(Assistant Moderator)

Date 13. 02. 09

Signed
(Facilitator)

Date 13/02/09

APPENDIX D:

INTERVIEW QUESTIONNAIRE

Semi-Structured Questionnaire

Company Name.....

Details of participants:

No.	Age	Gender	Department / Work Centre	No. of years in the company
1				
2				
3				
4				
5				

1. Were you employed by this company prior to its gainsharing implementation?
2. What were the reasons for implementing gainsharing?
3. Do you find gainsharing better than the previous incentive scheme you had before?
4. Why is it better
5. Were there obstacles that hindered the implementation of gainsharing in your company?
6. If yes, what were the obstacles?
7. Has your company set-up a wellness programme during gainsharing implementation?
8. If yes, how has it assisted the staff?

9. Are other variables like de-layering, trade union participation, company age, export activities and qualification incentive paid to workers for upgrading their skills played a role in productivity improvement?
10. Is there anything else you would like to add (ask each participant)

APPENDIX E:

INTERVIEW TRANSCRIPTS

COMPANY B: Focus Group Interviews

This interview transcript is a verbatim record of the interaction that took place during the interview but does not include references to non-verbal behaviour. Short pauses in the speech are indicated as (...). Interruptions are indicated as //. Words and phrases emphasised by the speaker are underlined.

Five interviewees participated on an interview and were recognised by number tags (written on blue triangular labels and placed on the left-side of the chest). Next to the number is participant's real name so that the facilitator called them on their real names during the course of the interview. The facilitator (Dumisani Zondo) was accompanied by an assistant moderator who was took notes during the facilitation process. The interview started at 9h40 on Friday of the 13 February 2009.

Facilitator	Good morning everyone!
Interviewees	Good morning!
Facilitator	As introduced by your Manager, I like to thank every one of you for being present in this interview. Management had mercy to us by giving us this lunch hour to conduct and probably finish this session and we, therefore need to comply with this time so that the production and your targets are not affected. My name is Dumisani Zondo and next to me is my assistant moderator, who will be taking notes. I'm doing a PhD through the University of Zululand and that's why I'm conducting this research interview. I therefore would like to welcome all of you and appreciate for making yourself available to this session. I would also like you to

	introduce yourself, starting from left side (...) Just tell us your name, age, section / department you work for and the number of years with the company.				
Interviewees	(Each participant introduced him/herself)				
Interviewees	(Participants introduced themselves)				
	Tag No.	Age	Gender	Dept / Work Centre	No of years in the company
	1	45	Male	KOMO (Condenser Module Plant)	15
	2	31	Female	HVAC	10
	3	36	Male	Engineering	13
	4	33	Female	Radiator Assembly	9
	5	41	Male	Auto-Fans and Blower	17
Facilitator	Thanks for a short introduction. Let’s go through the consent and once finished reading it, we sign confidentiality ensuring that your response on this interview is safe. I also guess that proceedings with this exercise will be much easy, in terms of time given by management. I know you guys might have questions as we proceed and we will have time to cover or answer them. Ok, any question so far?				
Interviewees	(Quite)				
Facilitator	Let’s continue (The research topic and the letter of concert read. Each copy signed). I must emphasize that your responses are important. There is no right or wrong answers. Only one person speaks at a time and everyone will have equal opportunity to speak. Agree? (...). For the sake of time, let’s try to be short on answering questions but to the point. And please everyone; let’s stick to the question asked.				

	OK (...) Um ... // Were you all employed by this company prior to its gainsharing implementation?
Interviewees	Yes (by 'ALL') (...)
Facilitator	What were the reason(s) for implementing gainsharing?
No. 1	<p>We used produced a lot of rework and scraps on our Aluminium Tube production with many of our radiator- tubes being out of specification. Some radiators that we were manufacturing were not properly welded, others were over-welded and others had holes on them. We were told that the loss in Rands was too much. Well (...), it's difficult to express in such problems in words if you haven't visited our plant that time. Ya, it was bad and stressful even to us as employees. Some problems resulted from delayed machine service and we were losing man-days and could not meet required production daily target, not to mention the monthly target. So, I think, part of the reason the company implemented gainsharing was to team-up with us to improve on those quality related problems //. Um (...), Ya, that's what happen if I remember quite well, I know you guys will add more on what made us consider some form of incentive //</p>
No. 2	<p>I agree with you No.1. We had lot of production related issues. Whilst our quality mission is 'Zero Defects' this worked against it. Managers were pushing us for production targets and at the same time, emphasized on zero defects. They took us to numerous training sessions on quality, Health and safety and productivity with PMI, with slight improvement on rejects, rework and productivity. Performance related disciplinary actions led to labour stress and absenteeism. I think, management realized that gainsharing will have positive impact in motivating employees, but also teaming up employees with management in decision-making initiatives aimed at solving production challenges.</p>

Facilitator	Hmm, (...) Was it so bad, guys?
No. 1	You know what? (...) Before gainsharing, Management was working in silos without involving us. So, they should also take the huge blame, I think.
Facilitator	Ok. Point taken. Let us go back to the question. Specifically, what were the reasons for implementing gainsharing?
No. 2	If I may come in (...) It was really to <u>stimulate continuous improvement</u> , <u>eliminate rejects or spoilage</u> , <u>improve productivity</u> and <u>reduce absenteeism</u> . That's as far as we were made aware of it's introduction.
Facilitator	Thanks. Anything you want to add No. 3?
No. 3	I agree with my two colleagues. But eliminating scrap or spoilage and reducing absenteeism are the results of a process. I wonder if you and the other guys understand me. I mean, (...) as far as I'm concerned, (...), Err, the main reasons for gainsharing implementation was to <u>motivate</u> us as employees, thus by making us to have a <u>feeling of ownership</u> to company. That was a good step on the part of management because we get something for our efforts. Management felt that, if they listen to our views on production related issues, we will co-operate and, through a feeling of ownership, we will work for the best of 'our' company. As a result, these would subsequently result to a reduction of scrap, improved productivity and a reduction of absenteeism. That's my contribution for now.
Facilitator	Point taken and thank you. Anything you want to add No. 4?
No. 4	I also agree with my colleagues. The main reason was to improve product quality of our tubes and radiators thus reducing scrap which was quite high.
Facilitator	Thank you. Do you want to add anything No. 5?
No. 5	Um, (...) Whilst management and everyone else realized that the scrap and low productivity and morale were getting out of hand, and

	management learnt that the main weapon was to get teams to work together for common objectives. Management realized that gainsharing will <u>promote problem solving mindset</u> amongst teams and also <u>improve labour-management relationship</u> . You see what I mean, the mindset for us had to change to problem solving, and that was the crux! They realized that gainsharing is about team-work and employees will <u>participate to productivity improvement initiatives</u> . As my colleagues have just mentioned them, these were the main reasons, I believe, gainsharing was implemented.
Facilitator	Thanks all of you. Um, (...) Do you find gainsharing better than the previous incentive scheme?
Interviewees	Yes! (All)
Facilitator	Why is it better? Want to come in, No. 1?
No. 4	Er (...) I would say, it gives ordinary workers like us the <u>opportunity to receive shares</u> from cost saved based on the implementation of our suggestions, which we've never dreamt of them. I mean we, particular myself, have never dreamt of getting some form of shares from this company from hard work. That was the crux of what it impact to us, being the ordinary employees. From company's perspective, it improves profitability of the company, as I believe, through improved productivity, I think so, and it seems its working. Ja, I think those are my reasons on why it is better.
Facilitator	So, you are saying, it benefits both the ordinary employees and the company?
No. 1	Of-course!! It is a win-win system. I wish it's not impacted by company politics but I'm not going to go there.
No. 2	Um, (...) It's a new system and, I believe if it is well managed, our company will go places. To add from No. 1, (...) <u>payouts are much quicker</u> (on a monthly basis) with gainsharing and this <u>motivates</u> us to

	continuously bring and implement production related changes on a continuous basis. It really entices us with cash, in the form of shares and <u>lifts our standard of motivation</u> and we end-up doing more than expected.
Facilitator	Interesting! (...) Is that all No. 2?
No. 2	Yes, that's all I wanted to say.
Facilitator	Thank you for your contribution. Anything you want to add No. 3? (...) Um, The question is, why gainsharing is better.
No. 3	Err, gainsharing also makes <u>teamwork</u> to be very effective. It is because, as far as I'm concerned, it gives a <u>sense of ownership</u> to us, as was highlighted before by my colleagues. Therefore, <u>co-operation</u> between teams, unions, Siyakha Committee (which is a Gainsharing Committee), departments and management has improved. (...) Also the fact that payouts are done on a monthly basis makes it to be outstanding compared to other incentives we use to have before. That's all I wanted to say (...) I'm not sure if you got anything more No. 4?
No. 4	Yes. Um. I, Err, (...) the measurements are more focused and within our control. I don't mean gainsharing has done that but I mean gainsharing brought a sense to focus to few critical measurements. I'm not sure if management has done that purposely. The emphasis is on labour productivity, spoilage or scrap and absenteeism and these are factors within our control. I mean, (...) if one machine produces scrap it may mean that we didn't service it or it requires to be serviced or we might have been relaxed and not focused to quality issues during production, <i>etc.</i> So, 'causes' are things we may easily identify. I mean, the measurements and control are within reach. It therefore makes gainsharing works better compared to other incentives the company had before. That's it from me so far.
Facilitator	Thank you very much. Anything on your mind No. 5?

No. 5	Um, (...) Seemingly, I will repeat what others have said (...) but, Err, to emphasize, (...) gainsharing is an <u>involvement system</u> , and (...) Ya, I think No. 1 said that. It is an involvement system in the sense that, somehow, we are now involved in decision making. Whether your suggestion is considered or not, it then becomes a decision of a Siyakha Committee to consider the effectiveness of anyone's point of view or decision. As other colleagues have said it, this results to <u>productivity improvements</u> ; as seen to our scoreboards, the <u>reduction of scraps for our Aluminium tubes</u> , which falls under my section and the radiator casings; <u>increased worker morale</u> and the <u>reduction of absenteeism</u> . Ja, (...) I think I've covered what I wanted to say.
Facilitator	Thank you everyone. Let us proceed. Um, (...) Were there obstacles that hindered the implementation of gainsharing?
No. 1	I think, we did experienced minor obstacles.
Other Interviewees	Yes, there were minor obstacles.
Facilitator	Briefly, What were the obstacles?
No. 2	Yes, (...) To me, the 14 th cheque was not as motivating as the current scheme.
Facilitator	I understand that the previous system had problems. Coming back to gainsharing, what were the obstacles that you experienced during its implementation?
No. 1	Ya, Um (...) There were too many bosses who wanted to implement it on its own way. Initially there was no proper direction on how it was to be implemented. I think, management knew what they wanted to achieve but there was no proper structure and direction for achieving this. I'm sorry if I sound negative about this but that's fact. Lot of things were happening. I know it is difficult to summarize this but the initial implementation of gainsharing was not properly done and (...)

Facilitator	What exactly was the challenge?
No. 1	<p>Err, I think that there should have been a project team that had to help facilitate and make us understand the company's intention.</p> <p>Nevertheless, the involvement of a consulting help. But we were very patient to see where was this going and I guess union knew what's going on as they keep requesting us to be patient.</p>
Facilitator	Thank you. For the sake of time let us be brief. Agree guys? (...) No. 2, anything you want to add?
No. 2	<p>We initially confused this with profit sharing. Agreeing with No. 2 on the absence of a project team, the whole thing began like confusion with no structure at all, resulted to that confusion. Until <u>Human Resource Manager and a Consultant</u> who was brought in later, as mentioned by No. 1, helped explained everything and laid out our fears. We had the fear of the unknown. We didn't understand on how this will affect our jobs, wages when these shares are implemented. It was difficult to understand then what our bosses were up to.</p>
Facilitator	<p>Hmm, Thanks. I can understand what went through your minds. Well (...)</p> <p>Err, anything to add, No. 3?</p>
No. 3	No, it has been said already.
Facilitator	Anything to add No. 4?
No. 4	No.
No. 5	No. I will come-in if I think of anything. Nothing for now. Thanks.
Facilitator	Has your company set-up a wellness programme during a gainsharing implementation?
No. 1	<p>Our wellness programme is termed as 'Kulani Niphilile'. This is a Zulu slogan meaning 'Grow while Caring' employee wellness programme. If I'm not mistaken, our wellness programme was one year before gainsharing was implemented. It started as an HIV/AIDS management programme in the workplace and developed into a behavioural risk</p>

	management during gainsharing programme, and was very instrumental before and after gainsharing implementation.
Facilitator	Interesting! It looks like it was a well thought programme
No. 1	Yes. With the prevalent of HIV/AIDS pandemic and with gainsharing coming to the picture, the company had to manage various risks ensuring that people are well supported.
Facilitator	Interesting. How is it assisting the staff?
No. 2	(...) Our wellness programme attempts to cover employees for any eventuality. As No. 1 has mentioned, it is not a programme focuses on gainsharing but for any eventuality, and I must admit, I yet to see its full impact to the company. Well (...) besides being negative, I think it's a good programme. It involves face-to-face contact sessions with the affected staff members and wellness campaigns that are conducted once a month with each team members.
Facilitator	This sound very good. But practically how these campaigns benefit you people, as workers?
No. 3	As my colleagues have mentioned, our employees benefits through counseling, depending on their work related behaviour that is either linked to gainsharing or health support for instance HIV/AIDS related issues. There is also a professional support, awareness and training linked to different programmes of gainsharing and, most importantly, for HIV/AIDS. I dispute my colleague who said he yet seen its benefit. I think its impacts are quite huge. I hope I've answered your question.
Facilitator	Thank you. Do you want to add anything No. 4?
No. 4	Um, (...) // I think my colleagues have covered a lot of points. Our wellness programme is very broad. We are assisted on most <u>work related concerns</u> , <u>family programmes</u> , <u>trauma</u> and <u>health</u> . With regards to gainsharing, specifically. There are wellness programmes that have been incorporated. These are <u>emotional problems</u> which, I

	think, try to calm emotions amongst groups during gainsharing brainstorming sessions as well as training and guidance in managing finance. Ja, That's it from me.
Facilitator	Thanks for your contribution. Is there anything you want to add No. 5?
No. 5	(...) Um, Although I did not follow our wellness programme closely as my colleagues but I think it has contributed to our lives positively. It really <u>improving morale</u> and job satisfaction, <u>deal with our work stress</u> and <u>emotions</u> . People are co-operating to these programmes well, due to influences from our HR, supervisors and shop stewards. As mentioned before, it helped us cope with stress which is related to both work and health. Um, Ya, that is all from me.
Facilitator	Thank you, guys. Are there variables like de-layering, trade union participation, company age, export activities and qualification incentive paid to workers for upgrading their skills played a role in productivity improvement?
No. 4	If I may ask, what is de-layering?
Facilitator	De-layering is a planned reduction in the number of layers of a management hierarchy. The question is whether these variables as listed on the question, played a role in productivity improvement?
No. 1	To me, Um, (...) de-layering played a huge role in our company. In 4 to 5 years time we had a long structure but has now been reduced through a restructuring campaign that took place. Decision making and communication are now much faster than before. Also the trade union participation did play an even huge role in productivity improvement. Company age, I would say, yes, Err, because experienced managers who have been in the company for years and it's experienced workers who knows the processes quite well. I wouldn't know the influence of export activities and I'm not aware of qualification incentives, maybe my colleagues may help me on that //

Facilitator	Thank you. Any comment from you No. 2?
No. 2	I think the restructuring that took place that resulted to almost flatter structure contributes to productivity improvement. Restructuring normally cause stress to everyone affected because no-one want to loose a job. I wish bosses take that into account and find other ways instead of job cutting. Strangely, this becomes a very selective job cut and ...
Facilitator	I know that any restructuring frustrates and result to a lot of stress. Of-course, this depends on the direction of change. But, coming back to the question, ... did it played a role in productivity improvement?
No. 2	<p>Sorry for not sticking to answering the question.</p> <p>Well, in that case, Err, it did play a huge role. The fact that the reporting levels are few, resulting to almost a flatter structure, resulted to an involvement style of management and subsequently resulted to <u>productivity improvement</u>.</p> <p>On the other point, I always regard trade union participation to partnership with management. For most initiatives including gainsharing that have been implemented in this company with full union partnering with management results to positive consequences. Yes, union participation did contribute to <u>productivity improvement</u>. Company Age (...), Um, I think it does contribute to productivity improvement. The reason I agree on company age is that the company would over the years have tried-and-tested various ways of operations and knows the best ways to do various jobs compared to new companies. So, yes, it does contribute to productivity improvement. I'm not sure on export activities and qualification incentives paid to workers. That's it from me for now.</p>
Facilitator	Thank you. Anything to add No. 3?
No. 3	As far as I'm concerned, de-layering became an enhancing tool for our new gainsharing programme. I think it helped everyone to focus on

	<p>production issues that are, Err, (...) scrap reduction, Um, (...) meeting of production targets and quality. I mean, during restructuring, machines were also re-aligned, other equipment upgraded and we had to attend numerous training and productivity scoreboard show improvements compared to the period prior to de-layering. But there are other factors that contributed to productivity improvement but I agree, Um, // de-layering contributed to such improvement.</p> <p>I agree also agree with my colleagues on union participation. I think there is no question about it! Really. If union partners with management it obviously results to positive spin and in this case, this contributed to productivity improvement.</p> <p>On company age, I would strongly say, Yes. It did contribute to productivity improvement. Our company has been operating for ages and it does benchmark current activities with previous year's activities and also is learning from its mistakes. Well, that's it from me for now. Thanks.</p>
Facilitator	Any comment with regards to export activities as well as qualification incentive paid to workers for upgrading their skills to productivity improvement?
No. 3	(...), Err, I wouldn't say so, well, (...), maybe. I'm sorry I wouldn't know how those two factors impacted to productivity improvement.
Facilitator	Thank you. Anything you want to add No. 4?
No. 4	(...) Err, Um, No, the colleagues have said it all. I agree with them.
Facilitator	Any contribution from you, No. 5?
No. 5	The first two (...), Um, // de-layering and union participation were instrumental to improving productivity to our company. Although there were not the only variables, others not mentioned here like training, our hard work, new machinery and other factors, contributed to it. But on these listed here, I would agree, // Err, de-layering and trade union

	participation did contribute to productivity improvement. Company age cannot be disputed. This is an old company and has learnt from its experiences and has improved its processes, technology in various work-centres and departments and, of-course productivity. Well, my colleagues have said it all and I agree with them. And, //, Um, that's it from me.
Facilitator	Has anyone wants to add anything?
No. 1	No
No. 2	No
No. 3	Not from me. Thanks.
No. 4	No
No. 5	No.

Management Interview: COMPANY B

The interview started at 11h15 on Friday of the 18 February 2009.

Facilitator	Were you employed by this company prior to its gainsharing implementation?
Manager	Yes. In fact I joined the company in 1993.
Facilitator	What were the reasons for implementing gainsharing?
Manager	Over the past few years, productivity level was very low compared to our competitors and was not only that (...), people's-related issues concerning to discipline and grievances, <i>etc</i> were not healthy to us as managers and we thought that this will be felt and impact our customers, and we may end-up loosing them. We needed to come up with some kind of turnaround strategy. We even felt that, even if we invest to equipment, people have to operate those machines whilst the level of motivation was low. Absenteeism was high, reject rate unacceptable and

	<p>labour productivity low compared to industry.</p> <p>We had to do a sole-searching to ourselves. The question was: Do we need to operate like that or change. The next question was on the level or mode of change. Departments had to prepare and presents breakthrough strategies that had to turn the company around and change the status quo of our operation and ... I can go on and on and on (...). To cut it short, our MD sent some managers to our sister company in Germany to learn some few breakthrough strategies including gainsharing, and that was the birth of gainsharing.</p>
Facilitator	Interesting! So, specifically, what led you to implement it?
Manager	Yes, Um, (...) What I told you were the driving forces that led us consider change. Amongst various breakthrough recommendations, gainsharing programme was amongst the top intervention, particularly that our sister company in Germany is using it. In fact if we didn't consider change we would have gone under. If I may add, various proposals for interventions were carefully considered. You know what I'm saying?
Facilitator	Yes, but (...)
Manager	Therefore we needed a system that will help improve quality of radiators; that will enhance continuous improvement and reduce scraps; stimulate problem solving mindset with the entire workforce and improve labour-management relation.
Facilitator	Besides on what you've learnt from your sister company in Germany, why gainsharing instead of other system? Well, Germany has a different culture to South African workers and that's why I keep asking this question.
Manager	As I said, we were on a desperate situation and a breakthrough change was not a question. We needed something that will help us partner with employees. Profit-sharing which was in-force had little impact and gainsharing was proposed. The Siyakha Project Team was developed to

	<p>design and assist on the gainsharing implementation. With a positive assistance of everyone in the company, they, with minor hiccups, effectively do a good job. This team gave birth to Siyakha Gainsharing Committee that is currently facilitating improvement.</p> <p>As I said, quality of our products, scrap reduction, partnership with rank-and-file employees and, most importantly, motivate employees and give them ownership to business.</p> <p>For our choice of gainsharing, is that, gainsharing features well with our 360-degree evaluation and our profit sharing. Our 360-degree evaluation involves obtaining inputs from co-workers and supervisors from more than one team to give an employee a more holistic perspective on his / her performance. Employees receive continuous feedback from their close peers. To make gainsharing effective, we had to embark and, particularly, implement open-book management policy to ensure that gainsharing is accepted by everyone and remain successful. Our open-book policy involves sharing the financial Figures with team members through their unions representatives and Siyakha Team so that everyone understand company's performance vs productivity goals upon which gainsharing compensation is based.</p> <p>Up till now, our productivity goals including scrap rate, absenteeism and quality have been achieved.</p>
Facilitator	Do you find gainsharing better than the previous incentive you had before?
Manager	<p>Look, (...) we had a profit-sharing scheme by which individuals had to get 14th cheque, depending on company performance in terms of sale. This payout system was weak for the rank-and-file employees because they believe that their decisions will make little impact on the overall business. Our employees believed that the deciding factors of profit sharing will be management on the big ticket items. Employees believe that they</p>

	<p>achieve cost reductions but management spends saved funds on capital expenditure and they don't see the benefit of their efforts.</p> <p>Our gainsharing system is much more effective in motivating rank and file employees. It is measured and shares are paid out on a monthly basis. Also, it has a greater motivational impacts of the rewards paid out to employees because rewards are tied to performance. To add, it is an inclusive system. It include top management, workers, part-timers – everyone.</p>
Facilitator	Thanks. Anything you want to add? What about, the impact to work culture?
Manager	<p>Yes! Um, Er, when we speak about corporate culture, we are concerned with behaviors that are encouraged and rewarded. Our gainsharing system impacts corporate culture directly because it changes what is expected and rewarded. Thus productivity gainsharing culture works for our objectives. Well, regarding measurable impacts, gainsharing improves worker morale and resulting in reduced scrap, increase productivity, Um, Um, involvement of workers and effective teamwork for a common targeted goals.</p>
Facilitator	Thank you. Were there obstacles that hindered the implementation of gainsharing in your company?
Manager	<p>I initially thought that we would have more huddles but, with my big surprise, there were not much. We had to win unions and, you can imagine, Um, (...) one union was quickly convinced and believed that we were on the right track (thanks to one-on-one meetings with Union Members' decision makers). Whilst the other union with majority membership was very skeptical. We, as management, realized that we bring the system that we believe on it, based on its track record worldwide, I mean you can think of Asia and European countries, and we would be a big laughter if we can't defend or, at least, explain or convince</p>

	<p>people about it. There were critical questions we were asked by Union Representatives and we felt we were not satisfactorily answering them. Before we could loose some credit from labour we then seek the services of an expert and that's where we seek the services of competent gainsharing expects from outside the company. It's then that we, as management, also learnt a lot about gainsharing, assess the possibilities for implementing gainsharing, and once all the unions groups were with us, updated our operation and strategic plan, and came up with a proper action plan. We moved together with everyone including the unions, during the whole process of planning, implementation and, whilst we now on monitoring and continuous improvement stages. I know, it might sound as if it was easy but no, it wasn't, Er, (...). Lot of convincing was necessary!</p>
Facilitator	<p>Thank you. Has your company set-up a wellness programme during gainsharing implementation?</p>
Manager	<p>Yes, Um, //, the wellness programme has been there long before we even thought of gainsharing. In fact, we expanded our wellness programme to cater people's issues during gainsharing implementation. In that sense, I would say, Yes! to answer your question.</p>
Facilitator	<p>How has it assisted the staff?</p>
Manager	<p>Our wellness programme combines Behavioural Risk Management Employee which, of late, incorporate worker-behaviour that results from gainsharing implementation e.g., incapacity issues, financial management difficulties, emotional problems, work morale issues, <i>etc.</i> as well as the integration of all health risk, Um, (...) during the gainsharing implementation process, and even now, we just have expanded our wellness programme ensuring that our staff can, mentally and physically manage all stress – related issues for major operational changes.</p>
Facilitator	<p>Thank you. //, Um, But has it assisted the staff?</p>

Manager	<p>Ya! Err, (...), I was coming to that issue, Mr Zondo. This was just a brief background. Um, (...) Our wellness programme assisted our employees on emotional and behavioural health issues; work stress through our counseling and support services, provided resources for individuals including training, improved morale and increased flexibility in working hours. Um, I think, in overall that's how it benefited our employees.</p>
Facilitator	<p>Are there other variables like de-layering, trade union participation, company age, export activities and qualification incentive paid to workers for upgrading their skills played a role in productivity improvement? Maybe, let's focus to each variable and add any, if we can.</p>
Manager	<p>Um, on, Er, //</p> <p><u>De-layering</u>: We did embark on the restructuring exercise and in its nature (that is de-layering), it did contributes on improving productivity. But those were tough times in our company and we regret it, and obviously started with great resistance from union members.</p> <p><u>Union participation</u>: It definitely played a huge role on our productivity improvements initiatives like gainsharing.</p> <p><u>Company Age</u>: Obviously Yes! We (...), benchmark our processes from previous period and try to do better thus improving. That is, learning from our experience. Yes! It did play a role.</p> <p>On export, we currently supply local market and wouldn't comment on it. On qualification incentive paid to workers, Um, Er, (...) I wouldn't think of it as a having any link to productivity improvement. And, Yes, I wouldn't think of anything to it.</p>
Facilitator	<p>Once again, thank you. Is there anything else you would like to add?</p>
Manager	<p>No. I think, in brief, I covered most aspects you asked me.</p>

Company A: Focus Group Interviews

This interview transcript is a verbatim record of the interaction that took place during the interview but does not include references to non-verbal behaviour. Short pauses in the speech are indicated as (...). Interruptions are indicated as //. Words and phrases emphasised by the speaker are underlined.

Five interviewees participated on an interview and were recognised by number tags (written on blue triangular labels and placed on the left-side of the chest). Next to the number is participant's real name so that the facilitator called them on their real names during the course of the interview. The facilitator (Dumisani Zondo) was accompanied by an assistant moderator who was required to take notes during the facilitation process. The interview started at 10h00 on Friday of the 3rd of February 2009.

Dumisani	Greetings everyone!
Interviewees	Greetings!
Facilitator	As introduced by your HR, my name is Dumisani Zondo and next to me is my assistant moderator, who will be taking notes. Your HR has said it all during the introduction but to repeat, I'm doing a PhD at the University of Zululand and that's why I'm conducting this research interview. I therefore would like to welcome all of you and appreciate for making yourself available to this session. Before we proceed, has anyone have any question or comment?
Interviewees	(Silent) (...)
Facilitator	Could you please introduce yourself, starting from left (...). Just tell us who you are, how old are you, name of the section / department you operate and number of years in the company as shown on the questionnaire copies.

Interviewees	(Participants introduced themselves)				
	Tag No.	Age	Gender	Dept / Work Centre	No of years in the company
	1	28	Male	Radiator: Assembling Plant	8
	2	41	Female	Panel and Components	12
	3	31	Female	Moulding and Blower section	9
	4	49	Male	Rotor and Wiring	19
	5	38	Male	Quality Assurance	10
Facilitator	Thank you for introducing yourself. Um, (...) As indicated on your letters of consent, this is a data gathering session and once more, I appreciate your participation. Before we proceed, let me read the consent, (...) and we should then bind ourselves to confidentiality by signing your individual copies. Any doubt or question so-far?				
Interviewees	No (all)				
Facilitator	(The research topic and the letter of consent read and each copy signed)				
Facilitator	Before we proceed I must say that all your comments or answers are important and please you shouldn't judge your comments negatively. Be free to talk to me. One person should speak at a time and everyone will have an opportunity to speak. As mentioned before, all your comments are confidential // (tea trolley arrived). Let's take 10 minutes tea-break and when we come back we go direct to questions. (We all attend to tea-break and after tea-break interviews continued).				
Facilitator	Were you employed by this company prior to its gainsharing implementation? (Going through one-by-one from left hand side participant to the last one on the right hand side)				
Interviewees	No.1 – Yes No. 2 – Yes No. 3 – Yes				

	<p>No. 4 – Yes</p> <p>No. 5 - Yes</p>
Facilitator	What were the reasons for implementing gainsharing programme?
No. 1	We were always in the process of improving our operations but have faced numerous production challenges resulted to loss in output and sales. That's was the reason.
Facilitator	Will you please be specific? What do you mean?
No. 1	<p>Um, Management felt people were working <u>individually</u> instead of working in teams. The concept of teams was introduced sometimes ago, but couldn't materialize and management felt it's time to operate along the lines of teams. With an individual mindset amongst employees, management felt that workers are keeping improvement proposals to them and not suggesting possible improvement initiatives. Operation Manager said, at one stage, that the employees have vast amount of ideas and knowledge and there is no method to channel and give everyone a platform to bring improvement initiatives. Thus working <u>individually instead of teams</u> couldn't help but promoted divisions amongst us. We were just competing amongst ourselves and this was working to the detriment of the company, particularly, on areas of quality: <u>scraps were increasing at an alarming rate, external complains from customers and internal department-to- department complaints were increasing and the morale was also down.</u> On one of our meetings, management hinted out that, most workers have long years of experience and one could sense it when workers discuss production related issues, particularly on their work-centres, lunch breaks, <i>etc</i> or outside work areas. Management realized that people have ideas on how to improve things in the Company But there was no method to get them share information with management, and managers were not open enough to employees. It was more of a top-down approach. Employees were just told what and how to</p>

	do things without getting their contributions on how they feel things should be done. I think management felt that production problems were not incidental but results from uncoordinated efforts, resulting in employees keeping suggestions to them and management spoon-feeding employees. Employees felt that they were treated as any other tools instead of being involved to some decisions. All in all, there was <u>no knowledge sharing</u> aimed at reducing losses as well as customer complaints and, of-course, improving productivity.
Facilitator	Interesting! In anyway, gainsharing is about team-work and knowledge sharing. Do you want to add anything No. 1?
No. 1	Um, (...) Er, yes! Well, gainsharing has really helped us as employees or the company to enhance team-work. Before gainsharing, we were working in silos. We now operate in teams and able to brainstorm improvement initiatives where everyone contributes to such sessions. I think that's the basis for gainsharing implementation. Do you agree guys? – (look towards his colleagues).
No. 2	Yes, Um, (...) If I may come in (...); I concur with you, Er, No. 1. Gainsharing being a <u>share</u> scheme, it creates a feeling for ownership for everyone.
Facilitator	Yes! (...) Please explain?
No. 2	I mean (...), As far as I'm concerned, in gainsharing we don't feel as outsiders in decision making but we are part in influencing improvements in our company. Also on your point of <u>teamwork</u> , gainsharing has the capability to stimulate suggestions from all of us on ways to improve work performance. Maybe the problem for now is that some people force their ideas on us irrespective whether they will add any value to the company or the gainsharing committee because of their own agendas, which according to me is a wrong method. We should not be unfairly competing for ideas and ...//
No. 4	Yes, I agree with you but ...

Facilitator	I understand that you find elements of problems when implementing or managing a programme but let's focus on this issue. Time is not on our side, unfortunately. Have you got anything to add No. 2?
No. 2	// No. That's all I can say.
Facilitator	Any reason or reasons you want to add No. 3?
No. 3	(...) um. I agree with No. 1 and 2. One thing I want to add is that we seem to <u>communicate</u> more compared to the time before gainsharing was implemented. I wonder if other guys have noticed that. – (looked around to other colleagues).
All participants	(Agreed and, at the same time, nodded their heads in agreement with No. 3)
No. 3	We communicate more amongst ourselves in teams, individually and top management. What happens, Err, Dumisani, (...) if you may allow me to explain, (...) is that we get involved to issues or problems which are related to production and the willingness for being involved helps improve communication and productivity. By productivity, I mean, we participate to team meetings, agree on areas for improvements and such suggestions are discussed by the next level, that is, the Gainsharing Committee and, once the suggestions are recommended, the committee seek approval from top management, because most suggestions has financial and other resource's implications.
Facilitator	It seems that it's quite a process to get employee suggestions implemented.
No. 3	On paper, it is. But the Gainsharing Committee does try to speedup the process. But in some situations there are delays.
Facilitator	Um, (...) // Lets go back to the question on the main reasons for implementing gainsharing. Nevertheless, thanks guys for your comments. Anything you want to add No. 4.
No. 4	Err (...) I've got one point to add, Um. // . The bulk of the reasons to

	<p>implement Gainsharing were related to the reduction of cost to manufacture a single component. One Shop Steward informed me that, in one of management and union meetings, management felt that the cost to manufacture a product is high and very little cooperation between labour and management take place. I feel that management wanted the involvement of unions and the entire workforce in production related issues, particularly on various issues including the cost to make a component or components. I hope colleagues will remember that our spoilage, rejects, customer complaints and absenteeism were too high. For instance, absenteeism in this company was more than the automotive norm and, well, the morale were down. Remember? (...) Though I'm not going to discuss some internal politics in this company, but management had to carry the blame for most unresolved issues including wages. I mean we are paid peanuts and had never had a decent increase and management really //</p>
Facilitator	<p>You made valid points but I don't want us to get into personal issues and some internal wage issues, as you said. Going back to the question, do you want to add anything?</p>
No. 2	<p>Sorry to come in on that issue (...), Um, I agree with No. 4. Issues of <u>cost for making a single component, spoilage, rejects, customer complaints and absenteeism</u> management felt as too high. Although in our industry the cost to manufacture is related to quality. Meaning if your manufacture at a right standard as set by Industrial Engineers and comply with quality control, other costs of spoilage and rejects are reduced. I hope guys; you remember the correlations per work station that were presented to us by Operations Managers and Team Leaders. I'm not sure if we were all invited to that session. Yes, Um, (...) that's what I wanted to say for now.</p>
No. 4	<p>Thank you, if I may come in. Um, (...) as I said, one of the main reasons for implementing gainsharing, as far as I'm concerned, was to <u>reduce</u></p>

	<p><u>manufacturing cost</u>. The <u>involvement system</u> that seemed to be appropriate was gainsharing (all nod their heads agreeing with No. 4). The system came with the full change of hearts from both labour and, particularly management, who seem very difficult to convince, even listening to employee suggestions. Remember guys how management used to behave? But we can't dwell on that now but we have to remember where we come from.</p> <p>Nevertheless, we now share the gains (this being gainsharing) with the company from our initiatives and efforts aimed at reducing manufacturing costs.</p>
No. 1	<p>I can't resist coming in, Mr. Facilitator, sorry, (...) Mr Zondo. Apologies for that (we all laugh).</p> <p>Gainsharing was established as a <u>cost saving strategy</u> and it is early to evaluate its impacts. But our visual management presentations show that its introduction has <u>motivated</u> everyone and results are positive as compared to the previous period before it was introduced. <u>Motivation</u> can also be seen where absenteeism, according to visual presentations or scoreboards, have gone down.</p>
Facilitator	<p>Thank you guys. Well, it's amazing how soft issues such as gainsharing impacts to the whole culture change in the company. Have you got anything to add No. 5?</p>
No. 5	<p>Most of my reasons have already been mentioned by my colleagues. I would say management realized that they should come up with a plan that will be acceptable to everyone, where everyone will benefit to its implementation, and will <u>facilitate problem solving</u> aimed at <u>reducing manufacturing costs</u>, as everyone have highlighted. It's working for now. For now it's just a matter of reinforcing trust between us as workers and managers. Otherwise it's still cool, I mean, it's still OK (everyone laugh with his movement gesture).</p>

Facilitator	Thank you everyone from your contribution on this question. Anyone wants to add?
All participants	No.
Facilitator	Do you find gainsharing better than the previous incentive scheme you had before? Let's start from you No. 1.
No. 1	Yes. It is better.
Facilitator	Do you all agree that it is better?
All participants	Yes! (all)
Facilitator	Back to you No. 1. Why do you say it is better?
No. 1	We sometimes had to get a 14 th cheque which was based on the individual performance of employees and also the sales performance of the entire company. So, I don't even know how it was calculated, so it was confusing. The only thing I know is that that 14 th cheque depends on sales performance of the company and other factors that impact sales, and, Ya, Um, I wont explain it much... // On the other hand gainsharing is clear to us. The <u>formula used is simply</u> and we know how the scheme works. Gainsharing depends on our initiatives or an improvement suggestion as well as our efforts to make improvement happens. At least we understand how we achieved share-payouts, and that's what I can say. I'm not sure if that's what you...Um, (...)
Facilitator	That's fine! Um, No. 1. Thank you. Do you want to add anything No. 2?
No. 2	If I may add // Gainsharing <u>payouts are obtained monthly</u> whilst the 14 th cheque is paid at the end the financial year. Waiting the entire year before you are told that you don't get or you get a 14 th cheque was not on. I know most companies use a 14 th cheque but once you start using gainsharing you will be able to compare and I find it OK. Look! With gainsharing you bring suggestions to the gainsharing-committee, they are

	evaluated for their applicability, once approved, they are implemented, any savings in cost:- could it be rework, rejects, productivity improvement, absenteeism (and these are our critical measurements ever since gainsharing started); - you get your share on saved costs.
Facilitator	Um, ...I can see your point and (...)
No. 2	Yes, sorry to cut you there (...). To me, the 14 th cheque was not as motivating as the current scheme.
Facilitator	You mean, gainsharing?
No. 2	Yes. Gainsharing does motivate us to put more effort in our work. The level of participation to our brainstorming sessions has improved. People bring brilliant, well-thought improvement ideas. Besides, everyone can see the improvement from our company after gainsharing was accepted and implemented. Production layout is streamlined, visual scorecards shows that we are achieving and exceeding set targets, scrap / spoilage is going down and work morale has improved. Don't you guys agree?
All participants	(All nodded their heads in agreement with No. 2)
No. 2	That's all I wanted to say. Thanks.
Facilitator	I also thank you, my friend. Anything to add No. 3?
No. 3	Our gainsharing has a committee represented by workforce members, unions, management and other departmental representatives. They determine and decide on the applicability, implications, and, I guess, lot of other criteria for each suggestion before it gets approved. The committee has won trust of everyone. Any saving as a result of the implementation of improvement initiative or employee suggestion is calculated and savings split into equal share between management and labour. In essence, that's gainsharing. This makes the whole process transparent compared to the 14 th cheque //.
Facilitator	Hmm..., You seem you still want to continue, No 3? Is isn't?

No. 3	No, No, No, No!! (...) That's it for now.
No. 4	You are right! I also agree with No. 2 in that gainsharing has short-term payouts. That's very motivating to us as workers. You don't wait for the entire year to finish before you know whether you qualify for a 14 th cheque bonus or not. What I like about gainsharing is that its measurements are within our control. Although management has to provide us with up-to-standard equipments in terms of technology, since there is high quality-demand for the automotive sector, the control of spoilage, absenteeism (unless it's unavoidable) and labour productivity rest within our control. But management has to play its part in motivate employees, promoting a togetherness culture and providing us with the right tools. I understand individual teams discuss issues of tools and machines in their brainstorming sessions, and the gainsharing committee emphasis and engage management in speeding-up to get the right machines that supports the achievement of gainsharing goals.
Facilitator	Thank you No. 4. Anything to add No. 5?
No. 5	From me, I think gainsharing is incomparable to 14 th cheque. Its advantage is that it is based on the performance of the entire workforce and make everyone contributes, without fear, to the improvement of the entire company. Nevertheless, there are still free-riders to the system where some workers depend on the contributions and efforts for other workers. But I've heard that the next committee meeting will discuss such issues. I wouldn't know how this will be overcome. Guys, have any of you heard of the free-rider issue? (And he laughs).
No. 2 and 3	(Confirmed that they heard such rumours).
No. 5	Otherwise, anything has its own disadvantages.
No. 3	In fact, this is not a disadvantage of the programme. It is something that needs to be managed. And is our challenge to motivate our colleagues thus reducing this practice. Yes, I'm sorry to jump in while you were

	expanding on your point.
No. 5	That's not a problem. Um, (...) Otherwise, I prefer gainsharing. As everyone has said, I will just repeat what they said, really. But to insists, gainsharing has short payouts (that is, a month), measurements are within our control, it motivates the entire workforce, the production is streamlined, we are achieving our gainsharing targets (that is, the reduction of scrap, spoilage, rework, absenteeism) and the morale and motivation is high. And I hope it will remain this way.
Facilitator	Thanks everyone for your contribution. Let's move to the next question. Were there obstacles that hindered the implementation of gainsharing programme in this company? Maybe, let's starts with you, No. 1. (...). Um, Err, Before you answer No. 1, please everyone, if there were obstacles, just highlight what they were...OK? Please.
No. 1	I can't remember of any. Not in plant A where I'm allocated. I heard that plant B and C had minor problems, or required clarity on some issues. Well, as far as I'm concern I wouldn't remember any.
Facilitator	That's fine No. 1. Since you guys are working in different plants, what were your experiences in your section or plant,(....), No. 2?
No. 2	If you guys remember, there were elements of resistance in some parts of the company due to, I believe, insufficient information about gainsharing. Some shop Stewarts even voted for a strike action but Human Resource Manager called on a meeting where gainsharing was explained. I don't think that those people were against gainsharing but it was like, some people felt that there were not <u>consulted</u> . It was more of an ego, due to my lack of a better term, Err, Ya... That's where the issue for involving a Reward Consultant was discussed, and ... //
No. 3	Sorry to cut you there, No. 2. Yes, you are right. Initially, there were elements of <u>mistrust</u> between some sections of the workforce and

	management. I think, that's why management opted for outside help. I just wanted to concur with No. 2, (...) on that, and that's all from me.
Dumisani	Anything to add, No. 4?
No. 4	(...) I agree with my colleagues. I remember that one issue was on the calculation of payout-shares. Most of us had no clue on how it will be done. Some people thought that management was coming with some tricks. Ya, but at the end, it's a good programme, and no-one anticipated this success, so far.
No. 5	Um, you remember, guys (...). After some meetings between unions representatives and management, union, subsequently came back assuring us and believing to the programme. They subsequently explain the benefits of the programme for both the company and workforces' side.
Facilitator	Ok, guys. Has your company set-up a wellness programme during gainsharing implementation?
Participants	Yes! (All)
No. 1	If I may come in, Wellness Programme was not <u>only</u> set for gainsharing programme, it existed prior to gainsharing planning or implementation. I would say, it's a widely inclusive programme and, Um //
No. 3	Ya, Err, It covers health risk assessment thus incorporated into our Health and Safety policy as an employee assistance programme as well as exercise activity drives.
Facilitator	So, (...) in overall, the wellness programmes are in place?
Participants	Yes! (All)
Facilitator	How has it assisted you during the implementation of gainsharing programme? No. 1, you want to come in?
No. 1	Ok. Um, (...) Our Wellness Programmes are voluntarily. They involve coaching and our company has established self-help groups which help people in emotional situations. Correct me guys in I'm wrong, our self-

	help groups was developed to help people cope with emotional situations and recommend special training to HR Management. It was very instrumental through its <u>coaching programme</u> , during gainsharing implementation. Um, that's all for me on this issue.
No. 2	I agree with you. For me, it's not easy to assess the success of the Wellness Programme because it's voluntary and confidential, but without it, we wouldn't be able to manage work-stress, HIV/AIDS stigma and <u>finance, particularly after gainsharing was implemented</u> .
Facilitator	Thanks guys. Anything you want to add No.3?
No. 3	Training initiatives from management and self-help group are very effective. I agree with my colleagues on their impacts. We wouldn't have managed work stress as a result of gainsharing implementation changes. The ongoing training on "How to manage your finance" helps us deal with <u>financial issues</u> particularly because gainsharing payouts are variable values (...) and changes up or down from month to month. Wellness programmes and other training interventions help us to <u>manage budget or rather, our finances</u> .
No. 4	I want to concur with No. 2 on work stress due to gainsharing implementation. And, importantly, to health due to HIV/AIDS epidemic. I understand that self-help groups are very effective through Alcoholic Anonymous Programmes and telephone support. Workers with common challenges are encouraged to get together and discuss their emotional challenges. However, the HR is really more clued up on the impact of such a programme but it did help most of us during gainsharing implementation.
Facilitator	Do such initiatives made a change to gainsharing challenges you had to face? You want to come in No. 4?
No. 4	Indeed! (...) They were very helpful. Changes resulting from moving from individual-based operation and its pay structure to team-based system

	<p>were a mammoth task. It required good leadership and co-operation from us, and that's wasn't easy at all. To put you into the picture; there were lot of re-organisation through grouping employees into teams of 10 to 15 per team and encouraging team members to participate to brainstorming activities on our "green area's" 10 minutes meetings. And (...) there were lot of changes brought by gainsharing programme which we took time to adapt to them. So, I personally think that it's still early to gauge the full gainsharing impact for now. I believe, we are still on an early stage of it. I remember, the Consultant who was doing gainsharing facilitation said it take more years to realize gainsharing full impact. Nevertheless, we had to work hard to get our shares in a short space of time. Each team member had to police the other team-member and that created some friction amongst ourselves and sometimes more team cohesion and (...) // it was a bit stressful and, maybe, interesting.</p>
Facilitator	So, the road was bumpy?
No. 1	Very bumpy. Management should really thank Supervisors, self-help groups and shop Stewarts who kept encouraging us to cooperate.
Facilitator	Well... Um, Let us continue. Do you want to add anything No. 5, Er, (...), Um, with regards to (...) the impact of wellness programme?
No. 5	<p>I, (...) I agree with my colleagues. I think the wellness programme helped us deal with <u>stress related problems</u>, improved our <u>morale and motivation</u> and, as a result, <u>reduced absenteeism</u> and through wellness related training, <u>helped us manage our financial behaviour</u>. Um, Ya, (...) that's it from me. I'm sorry to repeat what other guys have said. It has its unique purpose.</p>
Facilitator	Thank you, Guys. Um, ... Are there variables like de-layering, trade union participation, company age, export activities and qualification incentive paid to workers for upgrading their skills played a role in productivity improvement?

	<p>Um, if I may define de-layering, shortly. It is the planned reduction in the number of layers of a management hierarchy.</p> <p>Please, everyone, look at variables (in you paper) and you may mention others that are not listed here, and try to determine if each played a role in productivity improvement. I'm not restricting you to the ones listed there only. Do you want to start No. 1?</p>
No. 1	<p>Um, Ja, As you've just define de-layering,(...) <u>it did contribute to productivity improvement</u> in our company. I personally believe it really did. If de-layering refers to few layers in the organisational structure, it did play a role. The introduction of changes in our company in an attempt to attain competitive edge through few layers in the organisational structure resulted to effective <u>shorter communication path</u>, thus <u>quick decision making</u>, particularly that now we are using gainsharing programme.</p> <p>And the (...), Ya, Trade Union participation to improvement initiatives and company age did contribute to productivity improvement. I wouldn't know how export activities and qualification incentive paid to workers for skills upgrading played a role to productivity improvement. I don't know what other colleagues might think of that?</p>
Facilitator	Any contribution from you, No. 2?
No. 2	<p>Starting from export activities and qualification incentive paid to the workforce (...), It difficult to say that they played any role to productivity improvement. Maybe, I'm not sure. I can't think of any role they played. Maybe, the contribution is there but minor and I wouldn't know.</p> <p>Regarding de-layering, it did play a <u>huge role</u>, I believe. The restructuring to few layers in the structure was part of a consultants' recommendation, almost about 8 months (if I'm not mistaken) prior to gainsharing implementation. Although it nearly resulted to a strike, but, with</p>

	compromise from both union and management, restructuring to few layers was part of gainsharing-labour-involvement method to decision making, as other guys have highlighted. But I think the structure is still heavy on top and has some useless managers on it, for example ...//
Facilitator	Sorry to cut you there. Let's not discuss the so-called, useless managers for now. Agree? Anything you want to add?
No. 2	I apologies for that but what I want to say //
Facilitator	No, No, No... I still maintain that we shouldn't discuss individuals or bring "useless" connotations. Please.
No. 2	Ok! And Sorry, Err, de-layering played a <u>huge role</u> . Trade Union participation and company age did contribute to productivity improvement, and they still contribute to productivity. That's all form me.
Facilitator	Anyone wants to add anything? (...), Yes, No. 3
No. 3	As far as I'm concerned, besides de-layering, trade union participation which contributed a lot and company age, I think on-the-job training as well as equipment upgrade, particularly in Plant 3 played a lot to productivity improvement. Plant 3 is an old plant and, as a result, has old machines and experiences a lot of machine breakdowns. They even contribute to scrap and rework to our production and negatively impact to us reaching targets. We kept reporting such issues but no one wanted to listen. Until new machines arrived from Germany, our production and the scrap or rejects has gone down tremendously. What I'm saying, gainsharing which was a platform for our voice in production-related improvements issues and seem to be effective for now if management continue to listen to us; <u>de-layering</u> , <u>trade union participation</u> , <u>company age</u> but mostly <u>equipment upgrade</u> in Plant 3 and <u>on-the-job training</u> contributed to productivity improvement. Sorry to keep repeating myself on my statements.
Facilitator	It's OK. Thank you, anyway. Your points are taken. Do you want to add

	anything, No. 4?
No. 4	<p>I agree with my colleagues. I think <u>equipment upgrade</u> was a major contributor. It was very frustrating to produce scraps from old machines. Some blame was labeled to ineffective Engineers, and poor guys absorb most of the blame. But we kept saying that we needed new machines otherwise the cost for servicing them, I assure you, were going up while producing scraps. I even thought that we were going to lose our ISO 9001 Quality System as well as some capable employees due to low morale. Back to your question, Um, (...) on, <u>de-layering</u>, <u>union participation</u> and <u>company age</u> contributed to productivity improvement.</p>
Facilitator	It seems that equipment upgrade and training had huge impact?
No. 2	<p>Definitely. Plants 1 and 2 are new plants and have new equipments. If you can walk through those plants, you will see hi-tech equipment. They are also well stream-lined. So, Yes, Err, <u>equipment upgrade</u> from old plant 3 had huge impact on productivity improvement.</p>
Facilitator	Do you want to add anything No. 5?
No. 5	<p>As far as I'm concerned, <u>de-layering</u> resulted to customer-focused culture as well as to the support of teamwork resulting from gainsharing programme and labour involvement. De-layering also supported gainsharing initiative and obviously, played a role in productivity improvement. I also think that as much as it reduced the number of grades, it also improved relationships between us as workers and management. With the previous structure, management was like occupying in 'high towers' but the structure is now short with more management visibility. I hope my colleagues have noticed that. But, Ja, Err, to me, de-layering, as much as it was painful with colleagues losing jobs, it was effective.</p> <p><u>Trade union participation</u> contributed a lot and that helped when unions kept motivating us on our shop Steward's meetings. I think that indicated</p>

	that our union representatives had good preparatory meetings with management, the focus being to put our company top on the map. I will say, Yes, (...), Um, also to company age. It simply shows that you cannot replace experience. That is, experience from long serving labour and management. I also want to add the <u>on-the-job training</u> which had huge impact particularly, training on quality and production. Not to forget <u>equipment upgrade</u> . It contributed a lot. I can't repeat what my colleagues have said, Plant 3 is now vibrant. With new equipment, our new gainsharing dreams, we've been promised, seem to be paying off! (...) That's my contribution, I don't know if I've covered your question?
Facilitator	Thanks all of you. With these few minutes remaining, Is there anything else you would like to add? Let's starts from left hand side.
No. 1	No.
No. 2	No. I think I said it all.
No. 3	No. What the next step on your research from here? I'm just being curious.
Facilitator	Oh, Yes! I will briefly explain after this session.
No. 3	Thanks. Nothing from me.
No. 4	Nothing from me.
No. 5	Also nothing from me.

Management Interview: Company A

The interview started at 14h30 on Friday of the 6 February 2009.

Facilitator	Were you employed by this company prior to its gainsharing implementation?
Manager	Yes. By that time I had 13 years in the company. That is, the beginning of 2007.
Facilitator	What were the reasons for implementing gainsharing?
Manager	<p>The main reason for us was to <u>improve productivity</u>. Our labour productivity index was always poor; below 100% and was below to the wide automotive sector. I think it ranged around 80% on average for the past 5 years prior to gainsharing implementation. This was not a good performance when considering the automotive productivity for a wider automotive. To achieve that, we had to involve labour in decision-making process.</p> <p>It was then that our Managing Director and Departmental Managers took a decision to seek for alternative. From our strategic session prior to arriving at a decision to implement gainsharing, we agreed that we should embark on it. Simply reason was that we needed a strategic tool that will <u>create a feeling of ownership</u> for our workers and, at the same time, <u>enhance teamwork</u>. Obviously, as a company, we always assess the performance of our sales figures thus a major reason was to increase productivity of the entire company. Productivity had to enable us to accomplish that.</p>
Facilitator	So, (...) you wanted to involve employees in decision making thus improve performance.
Manager	This is an automotive-component manufacturing company. The reason we opted for gainsharing was that it will help us focus on <u>improving</u>

	<u>organisational goals</u> , that is, quality, productivity, and thus reducing rework or reject, or scrap (as other people call them).
Facilitator	Interesting! Um, Do you want to add anything?
Manager	(...) Err, The period before gainsharing, we train and involve our employees to team-skills. Even though our employees posses technical expertise, we felt that they will not get team recognition they deserve when gainsharing is up-and-running. Mind you, gainsharing rely on teams – or – teamwork. <u>For maximum result we had to consider effective system which had to turnaround our company's performance, which will involve employees in decision making thus improving team work, which is reasonable to implement and which will improve employees' problem solving capability.</u> Before I forget, we really wanted a system that <u>stimulates suggestion from rank and file employees, help reduce defects</u> and, as I said, <u>facilitate problem solving</u> for productivity improvement. Though it is still early to give this system full credit but our quarterly reviews are promising.
Facilitator	Hmm, (...) Thank you! Let's continue. Do you find gainsharing better than the previous incentive scheme you had before?
Manager	Yes, it is much better. In fact we had profit sharing in place but gainsharing's impact and its acceptability by a wide labour force is wonderful.
Facilitator	Why do you think it is better?
Manager	We believed that gainsharing has the <u>power to motivate low-level employees</u> , as highlighted before. For employees to be properly motivated, they need to understand what they need to do, specifically, to make performance happen and how they are going to share in the gains. Well, (...) you know, they say "What's it for me". Gainsharing system is very strong in this regard, in that, our gainsharing system specify what needs to be done and we breakdown task into achievable targets. Profit

	<p>sharing that we had before did not do good in motivating everyone to solve daily production problems. Mind you, Profit Sharing was for the Owners and Directors. If one wanted to increase production through profit sharing, you cannot tell what needs to be done <u>today, right now</u> – to make profit sharing happen, as far as I’m concern. To me, it is not as clear as gainsharing; and not benefiting to low-level employees:- well, (...) not motivating to the majority of workers.</p> <p>Our gainsharing focuses on the most important costs on a line-by-line basis in our financials, whereas our profit sharing had to accommodate all the line items in the company’s financials. And, Um, // the feedback in gainsharing is much more frequent. That was our motivating issue during our debate with union when trying to convince labour representatives on gainsharing before had to implement it. In fact, <u>frequent feedback</u> makes it possible to turn poor performance around and you take action prior to the problem get serious.</p>
Facilitator	Thank you. Do you want to add anything?
Manager	<p>(...) Er, (...) Um, I think I’ve said all. Maybe as an example on how gainsharing has influenced changes to our departments. After gainsharing was implemented, our Finance and IT functional teams have since been working together to attain a dramatic productivity improvements and while sales have increased from the beginning of the 3rd quarter of 2007, we then increased the work force in our Finance Department so that we have enough manpower to absorb pressure from production demand and other functions from external customers: – that is, subcontractors. Working together in team formats; the Sales Managers, IT and Finance teams coordinated the Accounts Receivables with customers to obtain electronic posting of credits and debits, which streamlined our processing time.</p>
Facilitator	Thank you. Were there obstacles that hindered the implementation of

	gainsharing in your company?
Manager	Yes. We did have few obstacles and // (...)
Facilitator	What were they?
Manager	<p>Um, (...) Prior to gainsharing implementation, we had Departmental plans, which we term as, Strategic Business Units (SBUs), which we consolidate them into Corporate Plans. Our rollout action plans for gainsharing initiative, as far as I'm concerned, was OK and included the role of union in the design and approval stage. As we held departmental and union meetings encouraging everyone to buy into gainsharing framework thus making everybody aware that the company is serious about teams and we need to engage into team skills with our employees for gainsharing to effectively work, we realized that, as we engaged ourselves to presentations and workshops on gainsharing, most people accepted the concept, and to put it bluntly, <u>we began to think and fell ourselves as owners</u>. It was a very strenuous drive where all managers had to play a huge part in selling the concept from the entire value chain. And the morale improved visibly, with sales increase. Peer pressure to do well, from Warehouse to Sales force, certainly worked in our favour.</p> <p>Other than that, the <u>designing a gainsharing payout model that fit to our company size and culture</u> became an issue and, in fact was a big obstacle. Nevertheless, we brought-in a Reward Management consulting company to assist us, particularly on areas of teamwork, individual team-profiling as well as the training of individuals into teams. He also had to help us to other gainsharing technicalities like payout formulas that best fit our company and on few technical glitches pertaining to the structure, for instance, de-layering which was part of the drive to improve communication and efficiency both departmental levels and across command team levels.</p>
Facilitator	Thank you, once again. And has your company set-up a wellness

	programme during gainsharing implementation?
Manager	Um, (...) In actual fact we had wellness programme that started long before we even think of gainsharing. Over the years, our focus was on health for the staff, and our Human Resource Department was very proactive in developing some organisational policies relating to wellness programmes. These were meant to support organisational culture that is conducive to worker health policies, drug use and testing, family leave programmes, etc. But our critical objective was to assist employees that were tested positive for HIV/AIDS.
Facilitator	Um, // Have you then set-up a wellness programme for staff to manage work stress as a result of changes brought in by gainsharing system?
Manager	I would say yes, Err, (...),... in the sense that we already had a wellness programme that was running called “my wellbeing” and we just needed to expand it to accommodate stress related issues resulting to whatever quarters including, gainsharing programme.
Facilitator	How has it assisted the staff?
Manager	<p>In brief, from our employee assistance programme (known as EAP) in particular, there is the recent programme we have established aimed at helping workers during gainsharing and includes:</p> <ul style="list-style-type: none"> ✚ <u>Assess your Emotional Health</u> – to boost employees’ interpersonal skills; ✚ <u>Coaching or Counseling</u> – Employees’ willingness to ask for help when needed; ✚ <u>Self help group</u> – To aid people in emotional situations in which they feel alone and we have developed various programmes under such scheme such as telephone support or alcoholic anonymous, etc. I will give you a brochure that explains them, if that will help. <p>Besides these, our <u>on-going training is very helpful in assisting employees</u></p>

	<p><u>manage their finances</u> as well as to other operational issues which impacts to employee's well being.</p> <p>Coming back to your question on how it assisted staff, YES, Um, (...) it helped <u>improve staff morale</u>, <u>motivation</u> and <u>productivity</u>; it <u>lowered the risk of stress</u>; <u>reduced absenteeism</u> and related costs and, of course, <u>employee health and safety</u>.</p>
Facilitator	<p>Are there variables like de-layering, trade union participation, company age, export activities and qualification incentive paid to workers for upgrading their skills played a role in productivity improvement?</p> <p>Maybe, let's cover each and we may add more if there are some that are not listed here, if you don't mind.</p>
Manager	<p>Yes, Um, I would say, some played critical role to productivity but it's difficult to quantify the contribution of each. Others (...) it was a combination of factors. As I said that it would not be easy to quantify their impacts, just to productivity. Some factors contributed INDIRECTLY. But as you said, let us go to each.</p> <p>On the qualification for incentive for upgrading (...) Err, Um, currently our Training section of the Human Resource Department are working on that policy and, Um, (...) it is still being reviewed, particularly, its practicality, so I won't say much on this //.</p> <p>(...) The de-layering played a huge role because we currently have few layers in our structure and there is strong focus to operational activities by everyone, including top management, and as a result, our <u>communication has improved</u>.</p> <p>Union participation is very crucial because our union representatives are part of our decision making framework. The mere consultation with unions and involvement of labour or shop stewards in the design of gainsharing programme (or any other programmes) where we felt they will add value and where they encourage and discuss such operational</p>

	<p>issues with their members, did contribute to productivity improvement. We also have learnt from our mistakes, learnt from our experience and improved from our previous practices. So, our previous performances including the manner we allocated our resources, stream-lined our operations, training and various programmes that have been introduced so-far shows that we performed better than the previous period. That means, we have benchmarked from our own activities. Yes. Um, (...) the company age (as listed here) played a role in our productivity improvement //. That's about it.</p>
Facilitator	Is there anything you want to add?
Manager	No. I think (...) Um, I've covered everything.

APPENDIX F:

**CODING LIST OF EMPLOYEE AND MANAGEMENT (FROM FOCUS GROUP
AND MIDDLE MANAGEMENT INTERVIEWS)**

TABLE 27: Coding list of unstructured interviews: Employees and Management from both companies (Company A and COMPANY B) - Source: Coding list based on research data (2009)

No.	Code	Themes	Definition
1.0		Improves Motivation	
1.1	A-LR	Labour-Management Relations	Partner and participate with management in decision making relating to the improvement of operating methods
1.2	A-FO	Feeling of Ownership	Sense of ownership from employees that applies from the plan to operation
1.3	A-SF	Simple formula	Simplified and easy to understand payout formula
1.4	A-RS	Receive shares	Opportunities by rank-and-file employees to receive shares
1.5	A-FP	Frequent feedback and payout (monthly)	Weekly feedback and payout done on a monthly basis
1.6	A-IM	Improve worker morale and motivation	Impact of the system to improve morale and motivation amongst employees
1.7	A-SE	Stimulate suggestions from employees	Increasingly encourage employees to bring improvement suggestions.

2.0		Enhance Productivity	
2.1	B-RC	Reduce Costs	Reduce manufacturing and quality costs including rejects and rework.
2.2	B-ET	Enhance Teamwork	Encourage teamwork and cooperation at all levels
2.3	V-IP	Improves productivity	Consistently increasing the quantity of products using the same resource inputs
2.4	B-PC	Problem solving capability	Enhance employees to solve production related problems aimed at the improvement of productivity and reducing quality related problems
3.0		Obstacles to Implement Gainsharing	
3.1	C-II	Insufficient information about gainsharing	Lack of information on how to plan, design and implement gainsharing
3.2	C-UH	Unavailable of outside help	Not sourcing the services of outside consultants or organisations
4.0		Impacts of Wellness Programme	
4.1	D-WB	Worker behaviour	Favourable consequences shown by employee(s)
4.2	D-SI	Stress related issues	Consequences of failure of employees to respond to emotional or physical threats. Symptoms include irritability, muscular tension, inability to concentrate and a variety of physical

			reactions such as headaches and elevating heart rate.
4.3	D-CC	Counseling / coaching	One-on-one engagement between a trained counselor / coach and an employee(s) on emotional, developmental and organisational issues
4.4	D-SH	Self help	Self guided improvements both emotionally and economically. Takes place on the basis of support-groups (that are supported by the company) where people in similar situation join together.
4.5	D-RA	Wellness programmes to reduced absenteeism	Reduction on the number days employees are absent from work as compared to the previous period
5.0		Role of other variables in productivity improvement	
5.1	E-DL	De-layering	Planned reduction in the number of layers of a management hierarchy.
5.2	E-TP	Trade Union Participation	Involvement of union members to structured changes in the workplace
5.3	E-CA	Company Age	Number of years for company's existence
5.4	E-OT	Ongoing training	On the job training attended by employees for production, stress related and the management of finance

5.5	E-EU	Equipment Upgrade	Buying of new equipment

APPENDIX G:

ETHICAL STANDARDS AS APPROVED BY THE HPCSA IN WHICH THE RESEARCHER COMPLIED TO ITS ESSENTIAL TENETS DURING INTERVIEWS

1. ETHICAL GUIDELINES IN RESEARCH

- 1.1 Researchers conducting research involving human participants need to consider the possible adverse impacts of their research on vulnerable groups and thus have a duty to observe the highest possible standards to protect the rights of research participants.
- 1.2 For research to be ethical, guidelines need to be followed. Such guidelines flow from underlying ethical values, standards, and principles. Effective guidelines contribute to achieving research that is scientifically, ethically and legally sound.

2. BASIC ETHICAL PRINCIPLES IN HEALTH RESEARCH

- 2.1 Some core ethical values and standards have the status of *basic ethical principles*.

2.1.1. *The principle of best interest or well-being*

The principle of non-maleficence: risks and harms of research to participants must be minimised.

The principle of beneficence: The benefits of research must outweigh the risks to the research participants.

2.1.2. *The principle of respect for persons:*

The principle of autonomy: participants that are capable of deliberation about personal choices should be treated with respect for their capacity of self determination and be afforded the opportunity to make informed decisions with regard to their participation in research. Therefore there must be special protections for those with diminished or impaired autonomy

that is dependant and / or vulnerable participants need to be afforded safeguards against harm or abuse.

The principle of confidentiality: A participant's right to both privacy and confidentiality must be protected. The researcher must ensure that where personal information about research participants or community is collected, stored, used or destroyed, this is done in ways that respect the privacy or confidentiality of participants or the community and any agreements made with the participants or the community.

2.1.3. The principle of justice

Justice imposes an ethical obligation to treat each person in accordance with what is right and proper. In research this is primarily distributive justice whereby there should be equitable distribution of both burdens and benefits of research participation. It is an ethical imperative that the study should leave the participant and / or community better off or no worse off. Researchers have an obligation to justify their choice of research questions and to ensure that such questions are neither gratuitous nor result in the exploitation of study participants. The selection, recruitment, exclusion and inclusion of research participants must be just and fair, based on sound scientific and ethical principles. No persons may be inappropriately or unjustly excluded on the basis of race, age, sex, sexual orientation, disability, education, religious beliefs, pregnancy, marital status, ethnic or social origin, conscience, belief or language. Where research involves participants from vulnerable communities, added protections will be necessary to safeguard their vulnerabilities. There needs to be justification for doing research in vulnerable communities. Moreover, the research should be responsive to their particular vulnerabilities. Enhanced or added consent procedures would be necessary where appropriate. Vulnerable communities should not be targeted for research just because of administrative and logistical ease of availability.

3. DUTIES TO RESEARCH PARTICIPANTS

7.2 ACTING IN THE BEST INTERESTS OF RESEARCH PARTICIPANTS

In order to always act in the best interests of research participants, researchers should always:

- 7.2.1 Place the life, well being, health, privacy and dignity of their research participants before all other interests.
- 7.2.2 Honour the trust that research participants place in them.
- 7.2.3 Recognise that they are in a position of power over research participants and should avoid abusing their position.
- 7.2.4 Abstain from engaging in research projects involving human research participants unless they are in no doubt that the risks involved have been adequately assessed and can be satisfactorily managed throughout the duration of the project.
- 7.2.5 Stop the involvement of research participants if continuation of the research may be harmful to them or where it becomes obvious that the risks are outweighing the benefits.
- 7.2.6 Be accessible to research participants in the course of their investigations.
- 7.2.7 Ensure that their personal beliefs do not influence their choice of research participants. Such beliefs may prejudice choices regarding the lifestyle, culture, beliefs, race, colour, gender, sexual orientation, age, social status, or perceived economic worth of research participants, and will be unethical.
- 7.2.8 Respond to criticism and complaints promptly and constructively.
- 7.2.9 Report violations and seek redress, if possible, in circumstances where they believe that violations of the rights of research participants are taking place.
- 7.2.10 Ensure that research participants are compensated for all reasonable expenses or loss of income incurred as a result of their participation in research and such compensation should be specified in the relevant research protocol or proposal.
- 7.2.11 Ensure that all research participants are compensated for trial related injuries and that there is adequate insurance cover for research participants.
- 7.2.12 Ensure that no undue inducements are offered to participants to encourage them to participate in the research by exploiting their unfavourable socio – economic status.

7.3 RESPECT FOR RESEARCH PARTICIPANTS

In order to demonstrate respect for their research participants, researchers should always:

- 7.3.1 Respect the privacy and dignity of research participants.
- 7.3.2 Treat research participants politely and with consideration.
- 7.3.3 Listen to the research participants and respect their opinions.
- 7.3.4 Respect the right of research participants to safeguard their integrity.
- 7.3.5 Avoid improper relations with research participants, their friends or family members.
- 7.3.6 Guard against human-rights violations and avoid participating in any actions that violate the rights of others.

7.4 INFORMED CONSENT

Researchers should always:

- 7.4.1 Give research participants sufficient information about the nature and effect of the research - in particular the effect of the research on the participants including its consequences, risks and benefits - to enable them to make an informed choice about their participation.
- 7.4.2 Give research participants the information they ask for and need about their research participation.
- 7.4.3 Remember that responsibility for the well-being of research participants always rests with the researcher - not the research participants - even though the latter have given consent.
- 7.4.4 Give information to research participants in a language that the participant understands and in a manner that takes into account the participant's level of literacy, understanding, values and personal belief systems. Participation at all times should be voluntary and not coerced.
- 7.4.5 Obtain the consent of legally authorised representatives in cases of research participants who cannot consent for themselves, e.g. children, mentally challenged, elderly and the unconscious. These groups should not be included in research unless the research is necessary to promote the health of the population represented and unless this research cannot instead be performed on legally competent persons.

- 7.4.6 Remember that the principle of informed consent should be viewed as an on-going process in that research participants are entitled to change their minds.
- 7.4.7 Inform research participants of their right to abstain from participating in the study, or to withdraw from participating in the study - by revoking their consent - at any time, without suffering prejudice or reprisal.
- 7.4.8 Allow competent research participants unimpeded access throughout the research period to information concerning the research.
- 7.4.9 Inform participants of the limits to the confidentiality of the information about them gathered during the research - e.g. bodies such as the National Health Research Ethics Council, the HPCSA, and the Medicines Control Council may review or inspect data.
- 7.4.10 Adhere to the principle of informed consent by keeping proper documentation. After ensuring that the research participant understands the information, the researcher should obtain the participant's freely given informed consent in writing. If the consent cannot be obtained in writing, the non-written consent must be fully documented and witnessed. Both verbal and written informed consent must be obtained unless there are good reasons for not doing so. Where the research participant is not literate verbal consent should be obtained in the presence of an independent literate witness who should verify this in writing. Where the independent witness is not literate, the consent process should be audio-visually recorded.