MANAGEMENT ATTITUDES TOWARDS GAINSHARING AS A STRATEGIC TOOL FOR PRODUCTIVTY IMPROVEMENT AT A SELECTED SOUTH AFRICAN COMPANY

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30 November 2005

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This work has not been previously accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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DEDICATION

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ABSTRACT

There is a lack of commitment and participation in productivity initiatives at shop floor level in South Africa and companies are faced with competitive challenges of promoting innovativeness relating to productivity improvement amongst employees. South Africa's labour productivity in the manufacturing sector is low when compared to Korea, United States of America, Taiwan, Japan, France and the United Kingdom.

It has increasingly been recognised in industry that by introducing a carefully crafted incentive scheme, it may be possible to induce South African workers to work both harder and smarter and use existing technologies in new and better ways that enhance their productivity. The study proposes to evaluate to what extent gainsharing can be a solution. The literature review defines gainsharing as 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. The review concluded that there is a need for strong cooperation between management and labour to improve productivity thereby ensuring the survival of the South African companies.

The empirical data used during the study was based on questionnaires that were administered amongst managers of Smiths Plastics (Pty) Ltd. The research established that gainsharing would induce employees to effectively participate in problem solving or productivity improvement initiatives in the company. The majority of participants feel that gainsharing will benefit the company to deliver on client requirements; help enhance teamwork; create a feeling of ownership; share a proportion of saved-cost for productivity improvement purposes; stimulate organization learning; improve communication between management and employees; stimulate employees to make suggestions on ways to improve productivity; and increase profit and reduce costs.

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LIST OF ABBREVIATIONS

AMA	-	American Management Association
ANOVA	-	Analysis of Variance
BSU	-	Business Studies Unit of the Durban Institute of Technology
DIT	-	Durban Institute of Technology
GDP	-	Gross Domestic Product
HR	-	Human Resource
MS	-	Microsoft
SPSS	-	Statistical Package for Social Scientist
TQM	-	Total Quality Management
UK	-	United Kingdom
US	-	United States

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CHAPTER ONE:
NATURE, SCOPE AND ORGANISATION OF THE STUDY

1.1 INTRODUCTION

This chapter is an introduction of the entire 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; the author's awareness about the problem; the contribution of the study; the purpose and objectives of this study; an overview of research methodology; and the division of chapters.

Productivity improvement plays an important role in the life of every person and in the performance of every business. The need for productivity improvement should be uppermost on both the government and private sector's agenda. The majority of South Africans expect great prosperity and this can only be done 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 a 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 of 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, 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. Generally, group incentive schemes provide for the payment of bonus 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 (i.e., the difference between allowed time and actual time).

This study evaluates management attitudes towards gainsharing as a strategic tool for productivity improvement. The following section defines and clarifies the study concepts.

1.2 DEFINITION AND CLARIFICATION OF CONCEPTS

- **Gainsharing**: 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 & Murlis, 2001:297). Gainsharing may particularly be appropriate when teams carry out interdependent tasks and have to operate flexibly in a just-in-time or cellular manufacturing environment. These requirements may be prejudiced by incentive schemes, which emphasise the link between individual pay and performance. Gainsharing incentive scheme is 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 is a proper tool for the payment of such schemes and is defined in this section.

- **Incentive scheme:** A method of encouraging appropriate response from worker/s (Van Niekerk, 1989:123).

- **Productivity:** Management's ability to combine resources (i.e., men, materials, machines and money) optimally and utilise them fully in order to maximise production per unit of resource input (Carlisle, 1998:20). It is a ratio of inputs to output. The ratio specifically compares direct hours worked to units produced; the

cost per unit of output; or an added value ratio (i.e., employment or direct labour costs as a proportion of total sales value less the cost of bought-in parts and materials).

- **Strategic tool:** An instrument upon which strategic development and change are seen to be dependent (Johnson & Scholes, 2002:1067).

1.3 AWARENESS ABOUT THE PROBLEM

South Africa lacks both short and long-term influence to productivity growth. 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 (Slack, Chambers & Johnston, 2001:611). The misallocation of resources (i.e., capital and labour) and lack of training of the workforce are some of the causes.

As a result of the above and other factors, the production per worker in the manufacturing sector decreased by 3.1 per cent from 2003 to 2004, and this resulted from a decrease in manufacturing production alongside employment numbers that remained fairly constant (South African Reserve Bank, 2004:5). South Africa has the lowest work morale and this results from workers not being clear about what is expected of them. Productivity loss is costing the country about R154.4 billion annually and this represents 14.4 per cent of gross domestic product (GDP) (Venter, 2004:7). If the productivity problem could be solved over the next five years, the country could achieve almost 3 per cent GDP growth per year over the period (Cooper, 2004:13).

1.4 CONTRIBUTION OF THE STUDY

Problems highlighted in the previous section indicate the need to improve productivity. Productivity performance of a company affects its costs, prices, profitability, output, employment and investment policies. South Africa's labour productivity level is far

behind when compared to overseas countries (de Jager, 2002:65). Gainsharing, as a reward management instrument, arouses interest and demands attention and deliberations in the context of a changing South African industry. Productivity gainsharing rewards 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 also against this background that the study focuses on gainsharing given the low labour productivity level in the South African manufacturing industries.

1.5 PURPOSE AND OBJECTIVES OF THIS STUDY

The study aims to evaluate management attitudes towards gainsharing as a strategic tool for productivity improvement. The objectives of this study are as follows:

- to present a comprehensive framework for gainsharing theory and practice;
- to explore the suitability of gainsharing as an appropriate monetary reward;
- to ascertain the perceptions of management with regard to implementing the gainsharing programme;
- to ascertain reasons for implementing a gainsharing programme; and
- to evaluate if these reasons have been met by the company's scheme currently in place.

Having discussed productivity level facing South African industries (amongst other things); the need to revise reward strategies; and outlined study purposes and objectives; the following sections give an overview of a research methodology, followed by the division of chapters.

1.6 RESEARCH METHODOLOGY

This relates to the sampling techniques, the data collection method used and the data analysis techniques. The influence of literature review to the study, as well as, the empirical research and study population are highlighted as follows:

1.6.1 Literature study

The relevant literature study as covered in chapter two was the main source of information to complete a conceptual framework on areas of research for chapter three. Different approaches were critically considered before the researcher could make informed decisions about their suitability for the study, bearing in mind the purpose and objectives of the research. Various articles on gainsharing related issues as expanded to the literature review were used to collect data. The literature review has twelve sections covering amongst other things, the alignment of rewards to organisational goals; gainsharing as a method of working in groups to identify ways for improving productivity; gainsharing as organisation learning and the conclusion relates to factors that must be addressed to create an effective gainsharing programme.

1.6.2 Empirical research and study population

This study is quantitative in nature and questionnaires were administered amongst managers of Smiths Plastics (Pty) Ltd. Empirical data was based on a single company and the sampling plan was dictated by the willingness of managers who participated in the study. A total of 50 managers were identified within the company but the findings were much broader in their application.

The following is the structure of the research method used:

- **Research instrument:** A questionnaire was designed to elicit data from management about their attitudes towards gainsharing. The research instrument was adapted from Bussin & Thomson (1995:22-25) and was informed from the literature study.

- **Pre-testing the questionnaire:** Copies of the preliminary questionnaire were circulated among academics in the discipline, as well as, a statistician, to ensure validity and reliability of the instrument. A pilot study was also conducted to ensure that the questionnaire elicits the required data to be collected.

- **Sampling technique:** Due to the relatively small size of the sampling frame in this study, it was decided to send out questionnaires to all managers of the company. Forty-two managers returned the completed questionnaires.

- **Administration of the questionnaire:** The covering letter (See Annexure A), intended to ensure that the respondents are informed of the nature and the purpose of the research, accompanied the questionnaires. Self-administered questionnaires were handed to managers through their Human Resources department. As a result, participants returned the completed questionnaires to the Human Resource assistant.

- **Statistical testing:** The necessary statistical analyses were conducted and during this process, the relevant tests and interpretation of results were performed on the data.

1.7 DIVISION OF CHAPTERS

The remainder of this study is structured as follows:

Chapter two: 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 3: Research methodology

Chapter three discusses the research design, research instrument, the procedure followed in collecting data, the pre-testing and the administration of the questionnaire, statistical testing, research site, study limitations, and steps that were taken to avoid bias.

Chapter 4: Data analysis and the interpretation of results

This chapter analyses and interprets results obtained after applying the statistical techniques identified in chapter 3. A comparative descriptive statistics, analysis of variance (ANOVA), correlations, chi-square tests, t-tests, central tendency descriptive statistics and the interpretation of results are outlined.

Chapter 5: Summary, recommendations and conclusions.

Chapter five highlights, amongst other things, the summary of theoretical orientation, and achievements of research objectives, recommendations and conclusions.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

The first chapter outlines South Africa's productivity level when compared to overseas countries and explains the importance to improve productivity. Organisations were encouraged to revise their reward philosophies and develop reward strategies, policies and practices that help to achieve business and productivity goals. Gainsharing, as a reward strategic tool for productivity improvement, was introduced. Gainsharing arouses interest and demands attention and deliberation in the context of a changing South African industry.

The second chapter commences with a comprehensive overview of the development of pay strategies that helps the organisation achieve its business and productivity goals. This entails aligning rewards to organisational goals. Running as a thread throughout the discussion is the importance of gainasharing for company performance. Employee compensation, highlighting the four traditional forms of gainsharing, is outlined. Gainsharing as a method of working in groups to identify ways of improving performance, and the identification of national and culture differences that explain different societies in respect to pay reward and risk are explored. Gainsharing as organisational learning and its implications for organisational development is explained. In addition, a discussion of gainsharing as a tool that contributes to attractive working conditions aimed at improving productivity concludes this chapter.

2.2 ALIGNING REWARDS TO ORGANISASTIONAL GOALS

Reward policies have often been made on an ad hoc basis (Smith, 1992:12), resulting from immediate difficulties in the labour market or to pave the way to settle awkward negotiations with employees. This has led to the collection of reward practices being out of line with each other and with the overall business needs. One has to look at many of the 1970s style shop floor incentive schemes which were based solely on

productivity where good results (often as a result of countless allowances) often led to poor quality, an increase in waste and poor delivery performance (Paulsen, 1991:69). Even today, many schemes of performance related pay have been a built-in conflict because they have been devised to reward the achievements of individuals while other parts of the human resource policy puts great emphasis on building up team working skills and practice. Shonfield (2003:7) maintains that (in the last ten years), reward policies have begun to follow the parade, rather than just watching. He suggests that business should consider the following two aspects:

2.2.1 Strategy

There must be a compensation strategy in place and this should be derived from and contribute to corporate strategy and be based on corporate values and beliefs. The development of strategy is related to the development of competences. Organisations identify specific competencies that differentiate them from their competitors. The generic competences include effective communication, teamwork and a focus to quality. Remmen (2003:24) emphasises the need for organisations to seek to align these organisational generic competencies to the behaviour and performance of employees. Therefore, the development of a compensation strategy is important.

2.2.2 Flexibility

There is a need for rewards to retain considerable flexibility. The effects of global market create a need for more flexible reward packages. A single compensation package, which, with minor adaptations, that suit a transfer to any country in the world, has become outdated. Integration with a pay system for any country has led to a far more flexible and contingent approach to international long- and short-term assignments (Smith, 1992:12).

This section has laid groundwork for the entire literature review. The importance to align rewards to organisational goals was encouraged. Compensation strategy that

supports the overall strategy and the need for reward to retain flexibility in a company's goals were discussed. This section is an inherent progression of the next section of this chapter. The next section highlights the forms, features and aims of gainsharing.

2.3 EMPLOYEE COMPENSATION

Gainsharing is a process whereby employees are involved in performance improvements and share with the organisation in the financial benefits of these improvements. It is a method of working in groups to identify ways of improving performance. These working groups consist of a cross-section of employees and managers meeting regularly to plan and implement changes that produce improvements in company performance (Bowey, 2003:4). Gainsharing is also about improving productivity and attracting and retaining the kind of people one wants working in ones company (Duncan & Gross, 1998:3). 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 will attract motivated risk-takers and team-workers. Gainsharing is not a single type of incentive programme but rather an umbrella for a family of aggregate pay-for-performance approach that links financial rewards to improvements in the performance of the entire unit (Welbourne & Gomez-Mejia, 1995a: 1). These programmes are 'custom designed' in each company and they tend to be variants of four traditional forms of gainsharing programmes. They are the Scanlon programme, the Rucker programme, Improshare and Value Added. There are, however, many variations on these programmes based on added value and other performance measures (Nicholson, 2003:27) as discussed below:

2.3.1 **The Scanlon programme:** This programme utilises a fairly simple formula and this tends to be one of its advantages because it is easily calculated, administered and understood by employees (Johnson, 1993:8). The concept behind the Scanlon formula is that the 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 either revenues, net sales, or sales value of production. The simple calculation is often referred to as the 'single ratio'. The formula may also be modified by including other costs such as materials, overhead, rejects, etc. Gains in productivity that result from an increase in production or cost savings are shared with the workers when the observed ratio is less than the historic ratio (Miller & Schuster, 1987:46).

2.3.2 **The Rucker programme**: This programme utilises a different ratio to calculate value added gain. According to Welbourne & Gomez-Mejia (1995b: 3), the Rucker programme pays a bonus when a value-added gain is realised. Value added is defined as sales minus raw material and services procured outside the company. The Rucker programme is similar to a single ratio of the Scanlon programme in that the numerator (i.e., the labour cost) is the same. However, the Rucker programme attempts to account for an increased value of sales (due to market factors, inflation, etc., 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 to workers' efforts (Vandenberg, 1999:11).

2.3.3 **Improshare**: This is the proprietary programme based on an established standard that defines the expected hours required to produce an acceptable level of output (Kaufman, 1992:31). 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.

2.3.4 **Value added**: This is calculated by deducting expenditure on materials and other purchased services from the income derived from sales of the product (Kirkman, 2000:25). It is the wealth created by the people in the business. A manufacturing business 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 material (Armstrong &

Murlis, 2001:400). In doing that, the business 'adds value' through its process of production. Increases in value added are shared between employees and the company. Armstrong & Murlis (2001:400) contend that the employees' share is between 40 and 50 per cent.

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, 1995:36). The first tier committee is at the departmental level with members required to elect suggestion 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 done. Ross, Ross & Hatcher (1986:25) point out that if the cost of implementing the suggestion exceeds that of their budget authority, the suggestion is submitted to the second tier committee, which normally consists of a member from each of the first tier committees and a representative from top management. Suggestions relating to productivity improvement have a favourable impact on the gainsharing formula and this results in a bonus being paid to workers covered under the programme. Regardless of the actual programme used, the following reasons may account for the growing popularity of gainsharing (Abosch, 1998:23-26):

- The basic concept of a job may be undergoing a fundamental change from a prescribed set of tasks and duties assigned to individual workers to a broad definition of expectations, including a person's ability to perform multiple tasks and be flexible to contribute to one or more work teams. This new emphasis on flexibility and cooperative efforts is conducive to an aggregate incentive plan such as gainsharing, which rewards employees for group outcomes (Gomez-Mejia & Balbin, 1992:10). While team-based incentives may be used, their application is limited as a result of teams being transient, individuals belonging to multiple teams, the performance of various teams being likely to be interdependent and inter-team competition being dysfunctional to the

achievement of the overall corporate goals (Manz & Sims, 1993:41). 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, 1990:63).

- The dissatisfaction of United States (US) of American companies 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: 2).

Many reasons, as highlighted by Owens (1991:52-53), 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, 1992:11).

- The reason for greater reliance on gainsharing is that the programme is easier to sell to top management. The out-of-pocket expenses for the company is 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 so that the company is not committed to a permanent resource allocation (Hanlon & Taylor, 1991:52). Employees are made to partially carry the burden or risks of future performance uncertainty (Graham-Moore & Ross, 1990:21).

- Gainsharing has a long history and companies can easily imitate these programmes by copying or modifying gainsharing programmes used by competitors (Abosch, 1998:25).

- Gainsharing offers substantial flexibility in the chosen formulas to determine the 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, 1993:12). Many companies are experimenting with differential distribution of bonuses using such factors as team performance, seniority, job classification, cooperation, and special achievements (Manz & Sims, 1993:42). Peck (1991a,b: 3) 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 low motivational impact of aggregate incentives, namely the 'free riding' and a 'weak line of vision' between behaviour and outcome 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, 1995:9). Gainsharing represents a major exception. Many gainsharing programmes comprise of a committee structure, which elicit and evaluate employee suggestions, thereby providing an efficient channel to promote employee involvement and convert it into an action

plan.

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 – ownership, involvement and communication (Miller & Schuster, 1987:44). They describe the 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. Amstrong & Murlis (2001:398) 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, and build a large core of enthusiastic supporters.

- **Involvement:** The involvement aspect of gainsharing means that the information generated on company results is used as a basis for giving employees the opportunity to make suggestions on ways to improve performance, and by empowering them to make decisions concerning their implementation (Miller & Schuster, 1987:44).

- **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 is twofold: management communicates performance information to employees, who, in turn, communicate their proposals for improvement back to management (Vanderberg, 1999:25). The financial basis of gainsharing provides extra focus for the processes of communication and involvement.

After deliberation about the main features of gainsharing, it is fitting to enlist the main aims of gainsharing. Johnson (1993:33) contends that the main aim of gainsharing is to

improve organisational performance by creating a motivated and committed work force who want to be part of a successful company. More specifically, Johnson (1993:3) enlists 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.

Having outlined the forms of the gainsharing programme; reasons for the growing popularity of gainsharing, as well as, the important features and aims of gainsharing; the next section would therefore discuss the theory of compensation (i.e., equity and expectancy theories) that relates to employee motivation resulting in an increase in company performance.

2.4 COMPENSATION AND COMPANY PERFORMANCE

Monetary incentives are associated with the largest average increase in physical productivity (VanErde & Thierry, 1996:9). 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 without running foul of many roadblocks that 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 & Olsen (1994:2) are of the view that goals for sales volume, profit, innovation and

quality are raised; employment growth is often tightly controlled and in many cases, substantial cuts are made in the employment of human resources through the power of compensation. 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 plant level, gainsharing has earned a well-deserved reputation (VanErde & Thierry, 1996:13). The logic behind gainsharing is to solicit workers' suggestions and participation in improving cost-output ratios and to share with them the gains achieved.

Abosch (1998:22) suggests that team and small group incentives have attracted considerable attention in recent years as one salient component of a total quality management (TQM) initiative. 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 & Rich (1996:19) insist that almost all companies using team pay have encountered administrative complexities, 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 the individual merit systems they have known throughout their working lives. Kraizberg, Tziner & Weisberg (2002:384) emphasise that the expectancy theory (in Vroom, 1964) and the equity theory (in Adams, 1963) play a bigger role in explaining employees' increased work motivation. According to Kraizberg *et al* (2002:384), the expectancy theory maintains that the link between behaviours (referred to as instrumentality perceptions) and the expected (rather than experience) rewards accounts for the propensity (i.e., motivational force) of an individual to pursue a given course of action. Two additional factors for the expectancy theory determine motivational force-driven behaviour. These are '*expectancy'* – the perceived link between effort and performance, and '*valence'* – the expected values of rewards to be received once the goal has been achieved (VanErde & Thierry, 1996:9). Merit pay is granted on an individual basis and is contingent upon performance at work, and 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 the Expectacy Theory, such a scheme should produce a considerably higher level of work motivation and, subsequently, improved performance, since rewards are directly dependent on individual efforts.

The aim of this section was to gain an insight on the importance of compensation in motivating employee to improve company's performance. Running as a thread throughout the section was the discussion of the impacts of motivational theories to the individual and team performance. The next section explains how the perception of inequity may result to the reduced or limited work motivation. It calls for support from all members of various departments to reinforce performance rewards for productivity improvement purposes.

2.5 PERCEPTIONS OF INEQUITY AND THE IMPORTANCE OF THE REINFORCEMENT THEORY

In gainsharing, the employee has no direct control over the amount of incentive he/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 bonus they earn. Bolster *et al* (1996:31) confirm that the gainsharing programme could result in reduced or limited work motivation that adversely affects employee performance. In other words, the instrumentality might be low. As a result, the Expectancy Theory predicts a lower level of work motivation and subsequent performance for gainsharing than for merit pay. On the other hand, Gerhart, Minkoff & Olsen (1994:6) maintain that the Equity Theory describes 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 their employment relationship. Perceptions of inequity often result in employees taking action in order to remedy the situation. This is a hypothesis upheld by empirical studies.

Gerhart *et al* (1995:6) 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 will lead to the perception of inequity.

Hanlon & Taylor (1991:71) emphasise the importance of the Reinforcement Theory. According to this theory, a response followed by a reward is more likely to recur in future. The implication for compensation management is that high employee performance followed by a monetary reward will make future performance more likely to be high. By the same token, high performance, not followed by a reward, will make it less likely in the future. The theory emphasises the importance of a person experiencing a reward. Kiernan (1993:9) 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 the 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 controllable by employees than profits performance. Owens (1991:54) believes that an organisation's commitment to gainsharing is represented by its investment of time, effort and resources in gainsharing implementation. Kim (1999:2) maintains that high commitment disposes organisational members to resist 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 (Kim, 1999:2).

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 (1991:75) 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 (2003:5) 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 controllable, gainsharing would then have the advantage of covering a smaller number of employees, which is also beneficial for motivation; because there is less likelihood of employees 'free riding' (i.e., working less hard because others will work hard). Gerhart *et al* (1994:21) as cited in Kaufman (1992) maintain that the doubling of employees covered by a gainsharing programme from 200 to 400 would reduce the expected productivity gain by 25 per cent. The implication is that the number of employees covered by gainsharing has a substantial impact on the programme's success. Vandenberg (1999:13) contends that small bonus groups are hypothesised to have better chances of survival than large ones. He highlights the following three reasons:

- 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 (1999:3) 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.

Further evidence on gainsharing is highlighted by Imberman (1996:1-2) who cites a 1989 finding from a study conducted by the American Management Association (AMA) on 83 companies. The study reported that only one-third of companies in the US had success with gainsharing, boosting their productivity handsomely and radically reducing the cost of waste, spoilage, rejects and rework. Two-thirds of the 83 companies had their gainsharing programmes result in flops.

Bolster *et al* (1996:15) list the major causes of failure as follows:

- 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* (1995:22) contend that the majority of organisations in the United States of America are moving to group and organisation-variable-pay plans 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 the merit plan as an entitlement.

This and the previous three sections of the literature review outlined the theory, evidence and impacts of gainsharing. Aligning rewards to organisational goals; employee compensation; compensation and company performance, as well as, perceptions of inequity and the importance of the reinforcement theory were discussed.

The sections enabled the author to present a framework for gainsharing theory and practice, as well as, to explore the suitability of gainsharing. As much as the reader will come across the theory and practice, as well as, aspects pertaining to the suitability of gainsharing in subsequent sections of the literature review, these aspects (i.e., theories and practical framework, as well as, the discussion relating to the suitability of gainsharing) are the important parts of the study objectives outlined in chapter one.

The next section will establish if different pay strategies are likely to differ from country to country or between cultures within a country. The suitability of gainsharing based on the South African culture will be analysed in chapter four in relation to the information obtained from the next section.

2.6 IDENTIFICATION OF NATIONAL AND CULTURE DIFFERENCES

Continued globalisation of markets means that the industrial sectors will have to increasingly consider whether the effect of different pay strategies are likely to differ from country to country, or between cultures within a country. Senior (2002:147) cites Hofstede's (1980) work on the identification of culture differences as dimensions of the following factors:

- **Power-distance:** This explains how a society deals with the fact that people are unequal in physical and intellectual abilities. Steers & Porter (1991:123) insist that some societies let these inequalities grow over time into inequalities in power and wealth. Other societies try to play down inequalities in power and wealth. In high power-distance societies, inequalities of power and wealth are accepted not only by leaders, but also by those at the bottom of the power hierarchy, with corresponding large differences in status and salaries. In low power-distance societies, inequalities among people will tend to be minimised, with subordinates expecting to be consulted by superiors over decisions that affect them and to be treated more as equals of those with power. Cooper (1992: 14) points out that gainsharing programmes in Western Europe have not been successful. Cultural

differences described by Hofstede (1980) and related customs are difficult to overcome. It is also probably easier to implement pay practices that are not typical of a country in a Greenfield setting as opposed to an acquisition. Japanese (e.g., Honda and Nissan) and German (e.g., BMW and Mercedes-Benz) automobile plants opened in the United States and have often been in Greenfield sites, where the company has maximum flexibility in screening and choosing employees who will fit well with their corporate culture, human resource management, and pay philosophies (Gerhart *et al*, 1994:25).

- **Masculinity/femininity**: This explains the degree to which social gender roles are clearly distinct. In high masculinity societies, the social division between sexes is maximised, with traditional masculine social values permeating the society (Iberman, 1995:38). These values include the importance of showing off, of making money and of *'big is beautiful'*. In more feminine societies, the dominant values (for both men and women) are those more traditionally associated with the feminine role of nurturing and caring, putting relationships before money, minding the quality of life and 'small is beautiful'.

- **Uncertainty-avoidance**: This refers to how society deals with the fact that time runs only in one way (from the past to the future) and, therefore, is uncertain. Some societies accept this uncertainty and do not get upset about it; others seek to reduce uncertainty as much as possible. People in weak uncertainty-avoidance societies tend to accept each day as it comes and are comfortable with a higher degree of risk taking. Societies demonstrating strong uncertainty-avoidance characteristics socialise their people into trying to beat the future. Precision and punctuality are important in a context of fear of ambiguous situations and unfair risks. Variable pay such as gainsharing may face difficulties in countries that have a high need for certainty avoidance such as Japan, South Korea and Taiwan (Gerhart *et al*, 1994:25).

- **Long-term/short-term orientation**. Societies with long-term orientation look to the past and present for their value systems. People living in these societies have a respect for traditions and fulfilling social obligations. They do not believe in absolute truths. Societies with a short-term orientation look towards the future, cultivating habits of thrift and perseverance. People living in these societies value analytical thinking and search for truths (Tsui, 1990:37).

- **Individualism/collectivism**: This refers to relationships between an individual and his or her fellow individualistic society. Ties between individuals are very loose. Individuals in these societies have a large amount of freedom of action. In collectivist societies the ties between individuals are very tight. The concept of the extended family is important and cannot reach work groups and organisations. Everybody is supposed to look after the interests of their in-group, which will protect them when they are in trouble. Steers & Porter (1991:9) are of the view that individualistic programmes such as merit pay could be a problem in cultures where collectivism is a stronger norm than individualism (e.g. Pacific Rim countries). As mentioned, one criticism of a gainsharing programme is that it is prone to free riding because the performance criteria used to distribute rewards encompass collective contributions but not individual inputs. In a highly individualistic culture such as the US, this form of aggregate incentive is likely to be demotivating and perhaps lead to opportunistic behaviours because a person's relative contribution is neglected in the bonus allocation (Owens, 1991:52). He points out that this problem may possibly be minimised under the following conditions:

- a growing number of companies are differentially allocating gainsharing proceeds (which are generated via an aggregate performance formula) to teams and individuals based on relative contributions to the "common good" ; and

- many companies utilise multiple layers of rewards simultaneously so that the

disadvantages of one plan may be neutralised by the advantages of another. For instance, although merit pay and key contributor bonuses recognise individual contributions they also engender competition. If gainsharing is used alongside these programmes, it can promote cooperation but may not increase individual motivation.

The following table shows how different regions/countries are identified in terms of power-distance, individualism, masculinity, uncertain-avoidance and long-term orientation as discussed in this section.

Table 2.1: National and culture differences.

Region or Country	**Power-Distance**	**Individualism ***	**Masculinity ****	**Uncertain-Avoidance**	**Long-term orientation *****
China	High	Low	Moderate	Moderate	High
France	High	High	Moderate	High	Low
Germany	Low	High	High	Moderate	Moderate
Hong Kong	High	Low	High	Low	High
Indonesia	High	Low	Moderate	Low	Low
Japan	Moderate	Moderate	High	High	High
Netherlands	Low	High	Low	Moderate	Moderate
Russia	High	Moderate	Low	Low	Low
United States	Low	High	High	Low	Low
West Africa	High	Low	Moderate	Moderate	Low

Source: Senior (2002:148)

A low score implies collectivism. ** A low score implies femininity. * A low score implies short-term orientation.*

Regarding organisational culture, Iberman (1995:36) defines culture as an amalgam of values, beliefs and attitudes that is communicated and sustained both directly and symbolically. Commonly accepted instruments and expressions of organisational culture include leadership, structure and the environment of control.

Regarding the structure, gainsharing would reduce the need for hierarchical organisation structure because it creates an incentive alignment system that substitutes direct monitoring by supervisors with mutual monitoring by peers (Vandenerg, 1999:320). By linking rewards to common interests, agents have a stake in the contributions of their peers and, as a consequence, engage in monitoring those with whom they are cooperatively linked. This means that the individuals involved play a dual role. They act as principals in monitoring others, but also serve in the role of agent to the same people they are monitoring (Remmen, 2003:31). A number of US companies implement gainsharing in an effort to modify or redirect the organisation's culture (Kiernan, 1993:8). A common objective is to create a shared sense of corporate mission and to rally workers behind this mission, through greater employee involvement and aggregate performance contingent bonuses. It is often believed that gainsharing can move an organisation from a climate of distrust, adversarial relations and internal conflict to one that is more open, supportive and cohesive. From a contingency perspective, it is important to understand how other elements of the system (work design and organisational structures) may need to change concurrently for gainsharing to be effective (Wageman, 1995:146). It is also possible that some specific forms of gainsharing may better be change-agents under some conditions than others. For example, an Improshare-type programme may be more appropriate for a situation with a poor labour relations climate because it demands less employee involvement.

Alternatively, it could be argued that a Scanlon-type programme that requires extensive employee participation may offer the greatest benefits for companies that have a dysfunctional, conflict-ridden culture because it forces people to discuss and solve their differences in the open instead of letting these problems fester behind closed doors (Nicholson, 2003:57). Nevertheless, all gainsharing programmes involve some degree

of economic risk to employees because the bonus is uncertain. Few companies would reduce salary when the aggregate performance outcomes fall below a certain level. Most companies infuse risk by making it difficult to reach performance goals and/or by allocating fewer resources in order to increase fixed income (e.g., merit pay which becomes part of base salary) in exchange for offering employees the potential to earn a higher reward. Employees respond to perceived risk in future-unsecured income by being more or less conservative in work-related decisions that they believe affect that future income (Wageman, 1995:147).

The key factor by which employees exert some control on a gainsharing programme is on the generation and assessment of suggestions. These suggestions may vary in the amount of risk involved. For instance, the resources required to implement the suggestion, the technological and work-flow changes associated with the suggestion and the uncertainty in mean-end relationships affect the relative risk of decisions made under the auspices of the gainsharing programme (Kirkman, 2000:32). Gainsharing uses a variety of formulas with varying levels of employee control over the outcomes or criteria used to trigger the award. Programmes that rely on productivity measures, because workers can influence efficiency and cost structure, afford the greatest degree of control.

The lowest degree of control exists in gainsharing programmes where bonuses are linked to broader criteria of firm performance such as profitability or market value, because these are more sensitive to external events that may have little to do with how efficiently a company is run. It is possible that the relationship between risk shifting to employees (e.g., if a high proportion of take-home pay is in the form of a non-recurrent bonus), and the benefits derived from gainsharing is curvilinear (Welbourne & Gomez-Mejia, 1995a:18). Collective risk is beneficial to a certain point in the organisation because of greater consonance of interest between employees and the company and the incentive to engage in mutual monitoring. Too much risk sharing in-group incentive programmes is likely to be dysfunctional at a certain point. For instance, increased productivity or efficiency may be perceived as detrimental to job security as more risk is

shifted to employees (Iberman, 1995:35). It is possible that employees will rebel by using mutual monitoring to increase job security as much as possible within their own work teams. Prospect theory predicts that the performance context facing the company might influence the employee's risk adversity in a gainsharing programme (Remmen, 2003:28). Individuals facing a loss context tend to be more risk seeking than those facing a gain context. This suggests that a gainsharing programme introduced *'to turn things around'* (i.e., a loss context) would trigger a risk-seeking response. Conversely, if a gainsharing programme is implemented to *'make a good situation better'* (i.e., a gain context), then it is more likely to evoke a risk-averse response. The more collective risks shifted to employees under a group incentive programme, the more salient the perceived fairness of the programme becomes to the risk posture adopted by employees (Vandenberg, 1999:17).

By definition, making riskier decisions involves a greater possibility of loss. The perceived negative consequences of failure and associated insecurities augment when fairness is low. This induces the group to become more cautious in decision making for fear of retaliation, whether real or imagined. At the opposite end, positive justice perceptions allow individuals to see risk more as an opportunity than a threat, and therefore this increases their willingness to trade off risk against potential high returns where the benefits of alternative options increase with their risk. In other words, lack of perceived fairness increases the perception of loss, the significance of those losses and the uncertainty associated with those losses (Kiernan, 1993:11). This triggers a self-protection reaction leading to increased risk aversion. Risk represents a key construct that may affect the effectiveness of gainsharing and that can enhance the behavioural understanding of how employees respond to these programmes.

The purpose of this section was to determine the basis that differentiates pay strategies in different regions/countries. It featured the elements of risk that are related to variable pay and how other societies see that as an opportunity rather than a threat.

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 incentive, will improve the problem-solving mindset of the workers.

2.7 GAINSHARING AS ORGANISATIONAL LEARNING

Gainsharing is experiencing increases in popularity, with estimates that over a third of large companies in the US now rely on some form of gainsharing programme (Lawler & Cohen, 1992:17). 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, 2003:3). An absence of a strong theory based on understanding how these programmes work is particularly problematic because gainsharing represents a complex organisational intervention that require 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, 2000:3). Decisions must also be made about how and when to adjust the gainsharing formula and payouts based on continuous monitoring of external changes and the performance of the gainsharing programme (Ross *et al*, 1986:16). Hanlon & Taylor (1991:69) contend that it is a mistake to view gainsharing as a group incentive and suggestion programme and 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:4).

They add that most of these theoretical treatments focus on one of the two primary characteristics of gainsharing and these are (Welbourne & Gomez-Mejia, 1995a:4):

- 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, 2000:3). It is crucial to evaluate the influence of organisation learning to gainsharing. Organisation learning is a fundamental concept in organisation theory that has experienced a resurgence of interest among researchers and practitioners in recent years and found a prominent place in the manufacturing and strategy literatures (Cooper, 1992:14). Wageman (1995:146) describes organisation 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 they often take one of two forms. The first form, labelled as *first-order* (Hedberg, Nystrom, & Starbuck, 1976:4) or single-loop learning (Argyris & Schön, 1996:17), 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, 1991:73). This inquiry can result in a second type of learning called double-loop (Argyris & Schön, 1996:17), or *second-order* learning. 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, 1993:49).

From a more cognitive perspective, Owens (1991:52) define this type of learning as an organisational inquiry that resolves incompatible organisational norms by setting new priorities and weighing of norms, or by restructuring norms themselves together with associated strategies and assumptions. In essence, the 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, 2003:13).

Arthur & Aiman-Smith (2000:9) 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 (i.e., 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, 2000:9). 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 & Schön (1996:28) identify certain organisational structures, behaviours and cognitive maps as learning systems because they provide a framework for further problem-solving inquiry and learning.

Steers & Porter (1991:31) give 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.

As this section explains how gainsharing as organisational learning can contribute in developing a problem-solving mindset amongst employees, it further warns organisations not to 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 the study objectives outlined in chapter one.

2.8 ORGANISATIONAL LEARNING AND SUGGESTIONS

Viewing gainsharing as a learning system led to the re-interpretation of the functions of various structural characteristics of the gainsharing programme (Kirkman, 2000:25). 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 (1979:85) 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 (i.e., able to be articulated by individuals) and consensual (i.e., accepted by other organisational members). In the Scanlon gainsharing programme, employees communicate their ideas in the form of written suggestions that they make by submitting them to a joint employee-management department team and the screening committee in order that they be evaluated and implemented. Argyris & Schön (1996:25 - 28) 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 (i.e., policies, programmes and structures) and behaviours (i.e., assumptions, routines and modes of interaction) that impact on the organisational performance (Bussin & Thomson, 1995:23). These performance impacts provide important feedback to individual members whose search process may be altered by changes in the perceived performance gap. Gainsharing bonus 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 & Aiman-Smith (2000:11) 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. A key assumption on 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 pent-up 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, 1991:74). 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 (2000:35) 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 organisation learning perspective. Based on this logic, Arthur & Aiman-Smith (2000:13) 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 & Schön, 1996:28). 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 enact the same structure and behavioural norms.

Nicholson (2003:29) 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 is expected to decline over time, as second-order learning suggestions decline as well (Arthur & Aiman-Smith, 2000:15). 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 programme as trust is built up within the system and employees learn to think about work in new ways. The proportion of growth relative to the 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 the 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. Major themes of gainsharing that helps facilitate organisational development will be discussed.

2.9 GAINSHARING AND 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 & Collins, 1991:41). This argument operates in two levels. The higher-level argument, stemming from organisation theory, is that compensation is central to performance management, which in turn is a vital instrument of congruence, communication and motivation within organizations 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 & Gowen (1990:13) 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; and it helps 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 organizational behaviour.

Hatcher *et al* (1991:33) insist that the second level of this argument, is that gainsharing seems particularly suited to the task of organisational change. Hanlon & Taylor (1991:53) suggest that gainsharing utilises two streams of incentives and rewards (i.e., intrinsic and extrinsic), to motivate improvement in job performance. Since the incentive relates to collective performance, it prompts improvement in the content, quality and climate 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.

Steers & Porter (1991:22) 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 (1999:33-36) illustrates employees participation, work methods, quality, organisational development, productivity and sustainability as major themes of gainsharing as follows:

- Employee participation: Nichols (1989:17) puts a considerable emphasis on employee participation, aided by both a formal system of involvement and a philosophy of co-operation. She regards gainsharing 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. The usual argument advanced is that groups are better placed to handle modern features of the work place, notable in manufacturing operations, such as unpredictable workflow, rapid product introduction, shortened lead-times and complex technology (Owens, 1991:53).

- Quality: A recurring theme is the contribution that gainsharing makes to quality. De Bettingnies (1992:29), for example, characterises gainsharing as *'putting the teeth'* into quality efforts by empowering workers to focus their attention on continuous improvement. Hatcher & Ross (1991:16) 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 (1993:9) insists that gainsharing

programmes enhanced employee awareness of organizational goals, improved communication, aided integration and provided personal growth and development. He concludes that gainsharing and organisational development are complementary.

- Productivity: An almost universal theme is the productivity gains generated by gainsharing programmes. Owens (1991:58) states that companies typically reported profit and productivity improvements of between 5-15 per cent in the first year after implementing a gainsharing programme.

- Sustainability: Cooper (1992:19) 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, organizational 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 design, structure and employment relationships. The importance of on-the-job training is emphasised during the course of this section. Merits of performance measurements that are part of study analysis in chapter three conclude this section.

2.10 GAINSHARING IMPLICATIONS FOR ORGANISATIONAL CHANGE

Hanlon & Taylor (1991:55-66) discuss the relationship between gainsharing and organisational development in terms of the performance factors that includes work design; structure; and employment relationships as follows:

- **Work design:** The fact that gainsharing has an immediate focus on the way in which work is done; it creates incentives to work smarter rather than merely 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 emphasised functional specialisation as a means of obtaining efficient performance. Reductionist approaches to performance management, including setting discrete objectives, recording discrete costs and reporting discreet results can result in efficient parts but 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 (Sekaran, 1992:28). 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. '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, 1995:4). De-layering of structure is 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. He

continues to say that the environment requires nimble and 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 structure provides the ideal context for gainsharing (Kirkman, 2000:31). He concurred that gainsharing is an incentive for high involvement in an organisation's performance by employees and for 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, 1995:17).

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, 1990:39). Therefore, gainsharing enables the organisation to recognise its employees' creativity and intelligence in ways other than by increasing 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, 1993:17). A valuable spin-off for the organisation is that it helps to identify employees with management and leadership potential. Cooper (1992:16) emphasises that training in gainsharing programme might help reduce obstacles relating to the application of the proramme, 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, 1993:29). They add that if the scheme is promoted to employees as a means of securing such 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:** It is important to recognise that gainsharing disrupts established patterns of relationships within organizations (Hanlon & Taylor, 1991:55). The reason is primarily that it alters the distribution and use of power within the organisation. They add that gainsharing therefore 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, notable those arising from formal status and from the ability to reward and punish. It would seem that gainsharing prompts internalisation 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 Bowen and Lawler (1992:11) 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.

It is evident from this definition that performance management is a 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 empowerment of employees can only occur through disempowerment of managers (Peck, 1991a:6). It is clear from the literature 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, 1993:16).

Vandenberg (1999: 26) insists that organisations must ensure that management, particularly front-line managers, buy into the gainsharing scheme. The reason for this is that managers serve as conduits of information, training and ideas and, if poorly disposed towards the scheme, a well placed to 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 emphasises 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 (1990:37) 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 (1995:11) 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 changes in power relationship that take place during gainsharing implementation.

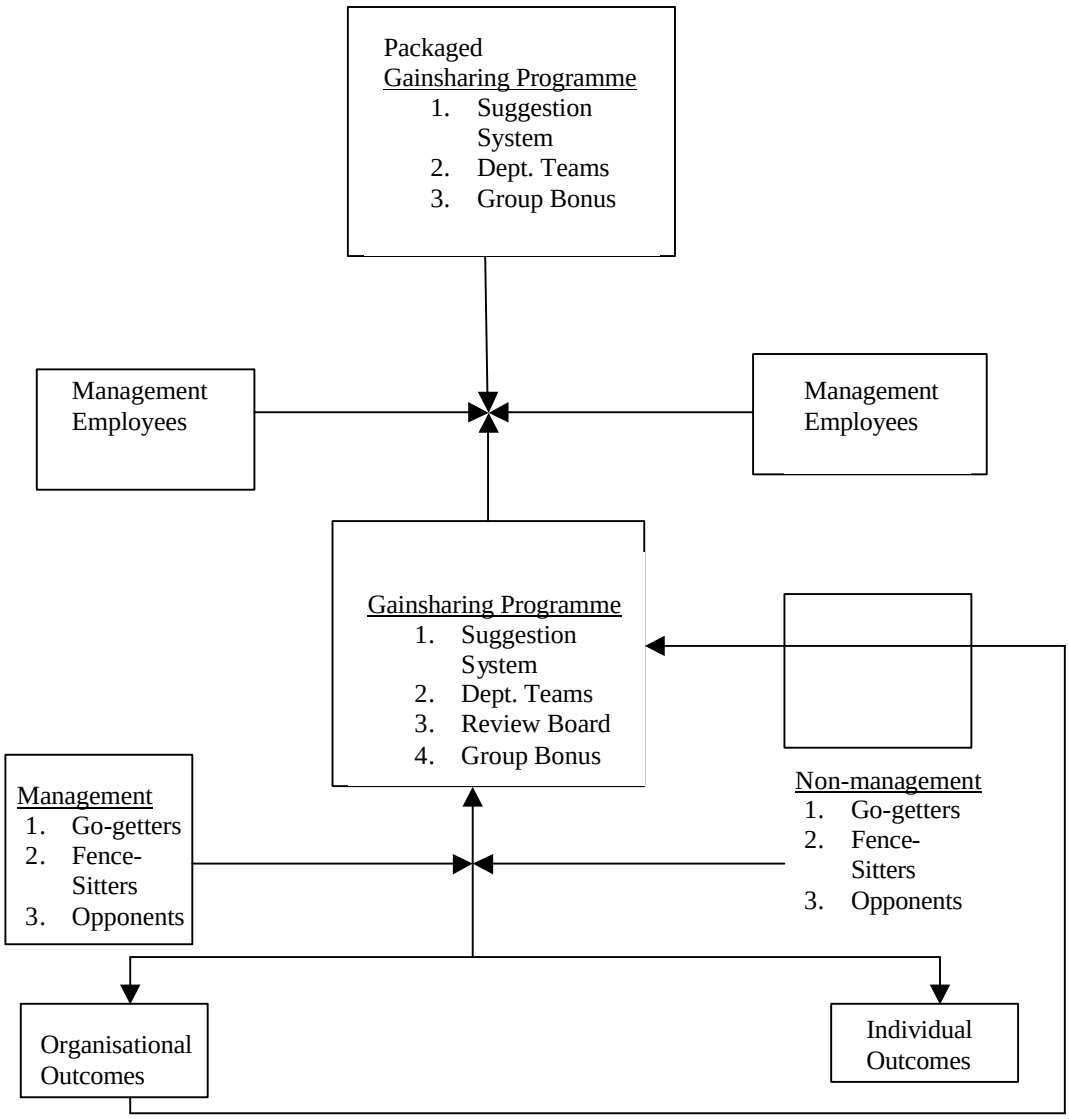
2.11 CHANGES IN POWER RELATIONSHIP DURING GAINSHARING IMPLEMENTATION

It is also crucial to discuss the political dimensions of gainsharing, the changes in power relationship during gainsharing implementation and the wave to the future. De

Bettignies (1992:31) 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 the 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, 1996:32).

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 obviously result in changes in power relationships. Gainsharing is a threat to management power and to the traditional management-to-non-management relationships (Steers & Porter, 1991:21). Blindness towards political dimensions of gainsharing result in management abandoning gainsharing rather than fixing the problems. The following structure as adapted from Collins (1996:32) represents a pattern of political behaviours that take place when organisations adopt gainsharing.

Figure 2.1: Pattern of political behaviours that take place when organisations adopt gainsharing.



Source: Collins (1996:33)

He points out that most corporate organisations have management and non-management employees who support (the 'go-getters'), oppose (the 'opponents'), or are neutral towards (the 'fence-sitters') organisational changes; and 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, 1995:37). 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, 1996:34). Both management and nonmanagement 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, 1995:22). 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. 1996:14).

While individuals within the organisation display different power relationships during gainsharing implementation, as shown in this section, the next section explores positive benefits of gainsharing as a tool that contributes to attractive working conditions. It emphasises on an effective and openness to communication, and this might be a solution when changes to power relationship outlined in this section are displayed.

The next section concludes the literature review by highlighting the six factors that must be addressed in creating an effective gainsharing programme.

2.12 GAINSHARING AS A TOOL THAT CONTRIBUTES TO ATTRACTIVE WORKING CONDITIONS

It should be emphasised that there are several things that gainsharing is not about. It is neither lowering labour costs nor profit sharing. It is about improving productivity and attracting and retaining the kind of people you want working in your company (Duncan & Gross, 1998:7). In today's market, workers are choosing where they want to work, and numerous studies show that, 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, 1996:5). Gainsharing is also not a magic bullet

that can be used in splendid isolation from company strategy. It implies management accepting that all employees will have some say in how the company is run. Imberman (1996:7) continues to say that 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 to communication. It is a result-oriented programme that looks to create incremental improvements (Kaufman, 1992:34). 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 a compensation plan that will get them there. When culture change is required, pay will not drive that change, but effective leadership can drive it (Manz & Sims, 1993:45). Pay will be a strategic tool for leadership. Nevertheless, Recardo & Pricone (1996:12) 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 expects to guide design process.

- 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.

Gainsharing originates from the developed countries such as the United States of America. South Africa's labour productivity in the manufacturing sector is low when compared to Korea, United States of America, Taiwan, Japan, France and the United Kingdom (de Jager, 2002:70). Increase in productivity can finance higher wages without burdening the customer with higher selling prices (de Jager, 2002:71). A strong co-operation between management and labour to improve productivity, thereby ensuring the survival of South African companies, is required.

2.13 CONCLUDING REMARKS

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

The research into gainsharing shows that nothing motivates human beings better than the expectation of the reward for his or her efforts. Workers react favourably to productivity enhancing measures when they have the assurance of their share in the resulting productivity gains. Participation without empowerment will not give workers a sense of belonging and ownership, which are essential ingredients of high morale and higher productivity, and this is true for South African workers.

The next chapter explains and justifies the selection of the appropriate research design and sample to explore the broad issues of the study. This is followed by a description of the research process, in particular the procedure used in collecting data and the

administration of the questionnaire. The method of analysing data will also be outlined in the final section.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Having perused the relevant literature as the main source of information to complete a conceptual framework for the areas of research in the second chapter, it is now fitting to focus on the thinking that guided the research methodology, the research design and research techniques that have been used in this study. Different approaches had to be critically considered before the researcher could make an informed decision about their suitability for the study, bearing in mind the purpose and objectives for the study, as well as the broad issues to be explored, as described in chapter one.

The chapter begins with the research site, thus briefly describing the company under which the research was conducted. The research site influenced the method and sampling techniques that were used to conduct this research. The remaining sections to be covered in this chapter include the methods used to collect data, the research instrument, sampling techniques as well as values and principles employed by the researcher in conducting the study. Techniques for data collection that cover areas of the draft questionnaire, the pre-testing and administration of questionnaires are outlined. Study limitations, steps that were taken to avoid bias and the method for the analysis of data conclude this chapter.

3.2 RESEARCH SITE

Smiths Manufacturing (Pty) Ltd has six manufacturing and assembly plants, and are situated at 2 Progress Road in New Germany. Its area is in excess of 25 000m^2. Quality is an integral part of the company's strategic planning and daily operations, and this has been the responsibility of every employee. Continuous improvement teams (known as Mission Directed Work Teams), run by line operators, have been established throughout the company. Teams are encouraged to identify areas for improvement in their work processes. Improvements relate to the basic time required to manufacture

components parts, quality of products and cost.

The study was therefore conducted at Smiths Plastics (Pty) Ltd. Smiths Plastics employs 550 people, of whom nearly 80 are qualified engineers. Products range from delicately balanced air-conditioning rotors, complex and thin-walled mouldings as well as aesthetic parts such as large door panels.

3.3 RESEARCH DESIGN

Research design is defined as a plan according to which the researcher obtains research participants (subjects) and collects information from them (Welman & Kruger, 2003:46). The identification of the purpose for the study, the setting up of items from the initial data, decision on the data collection process and validation of data were done during the conceptualisation phase of the study.

3.3.1 Method of data collection

The range of various research methods that stretch across the quantitative-qualitative continuum provide the researcher with a choice that needs to be carefully deliberated in conjunction with a number of issues that are specific to the study concern. After much consideration of such factors, which will be elaborated on below, the selection of the structured questionnaire instrument was deemed the most appropriate for this study. It was decided that a standard format questionnaire would be administered amongst the managers of Smiths Plastics (Pty) Ltd. The study was quantitative in nature. The advantage of a quantitative approach was based on the possibility of measuring the reactions of managers to a limited set of questions, thus facilitating comparisons and statistical aggregation of data.

A researcher randomly identified the company and had to request fifty managers to participate to the study. It took two full days for the company to decide on their participation. Fifty questionnaires were then submitted to the company's Human

Resources Department at the beginning of September 2005. An allowance of seven working days was given for participants to complete their questionnaires. Forty-two completed questionnaires were collected from the Human Resources Manager in 14 day's time, and this represents an 84 per cent response rate (See the percentage breakdown of respondents in table 3.1).

The sampling plan used was dictated by the willingness of managers who had to participate in the study. As much as management showed huge interest in the study, it became evident that the company was not keen to divulge information that might influence their competitive advantage. Participants were therefore assured that the information would be kept confidential. The reason for this is that the incentive scheme is still a sensitive issue in most companies in South Africa.

3.3.2 Research instrument

Questionnaires were designed to elicit data from management about their attitudes towards gainsharing. The structured questionnaire includes questions on the demographic profile of the respondents; the company's involvement in performance measurement and problem solving; management's perceptions towards the gainsharing programme; and ascertaining reasons for implementing gainsharing programmes and comparing them with the company's scheme currently in place. The method by which questions were structured assisted the researcher:

- to elicit participants' behaviours and activities that would have been observed had the researcher been present; and

- to understand the emotional responses of managers to their experiences, perceptions and thoughts about gainsharing.

Questionnaires were drawn from MS word document and delivered to the company's Human Resource department in hard copies. The research instrument was adapted

from Bussin & Thomson (1995:22-25) and was informed from the literature study.

3.3.3 Sampling technique

As mentioned in section 3.3.1 of this chapter, a total of 50 managers were identified within the company. Due to relatively small size of the sampling frame in this study, it was decided to send out questionnaires to all managers and, as a result, 42 managers completed the questionnaires. In order to make inferences from survey data, managers from different departments were listed with the full co-operation of the Human Resource Department. The list became the universe for the survey. This enabled the researcher to understand how the sampling frame of the management's population is represented. Table 3.1 below shows the breakdown in the number of managers who participated in the study and their respective percentages in relation to their level of management.

Table 3.1: Level of management that participated in the study

			Gender of the respondents		
			Male	Female	Total
Level of management. Please indicate below	Top management	Count	2	0	2
		% of total	4.8	.0%	4.8
	Middle management	Count	10	3	13
		% of Total	23.8	7.1	31.0
	Lower level supervisor	Count	15	12	27
		% of Total	35.7	28.6	64.3
Total		Count	27	15	42
		% of Total	64.3	35.7	100.0

The study was therefore designed as a cross-section of the general management population. This helped the researcher compare responses from various management levels within the company. The following section outlines the values and principles displayed by the researcher throughout the study process.

3.3.4 Values and principles of the researcher

Whatever methods are used to collect data, it is essential that the author should display a professional approach throughout the research process to enhance the quality of the research. The following describes the values and principles that guided the study during its progress.

- The researcher complied with the essential tenets of ethics, and strict ethical standards were maintained at all times.

- Prior to engaging the participants in the research process, they were informed of the purpose of the study and the use of information they were providing.

- Respecting the right of all those who were interviewed to anonymity and confidentiality of information was given.

- Essential ingredients of a researcher are trust, honesty, and fairness. These qualities found their expression when making meeting arrangements with the company's Human Resources Manager.

3.4 DATA COLLECTION

The preceding section of this chapter dealt mainly with the instrument and sampling techniques used in the study. Occasionally, where it was felt appropriate, some aspects of the actual research activities and the research site were illustrated. In this section the process of developing, pre-testing and administration of the questionnaire are described.

3.4.1 Draft questionnaire

In order to gain an insight and understanding of the area of research prior to writing a report, the problem statement was developed and the research proposal formulated. The research proposal and the questionnaire were therefore drafted and compiled in February 2005. Various articles on gainsharing-related issues were used to collect data, and were expanded to the literature review. The questionnaire comprised of the biographical details of participants; performance measurement and problem solving; perception to gainsharing programme; and what would be the manager's main reasons for implementing gainsharing programme. The study focused on management attitudes towards gainsharing as a strategic tool for productivity improvement at Smiths Plastics (Pty) Ltd.

The proposal and a questionnaire were then submitted to the research advisory committee members of the Business Studies Unit (BSU) of the Durban Institute of Technology (DIT). Re-submission was necessary after the research advisory committee requested minor changes to the proposal. A final draft of the proposal and a questionnaire were finally submitted for evaluation to the Commerce Faculty Research Committee of DIT. The DIT approved both the proposal and the questionnaire.

3.4.2 Pre-testing the questionnaire

In order to detect any shortcomings in its design and administration (Remenyi, Williams, Money & Swartz, 1998:151), copies of preliminary questionnaires were circulated among academics in the discipline as well as a statistician, to ensure validity and reliability of the instrument. A pilot study amongst six of my colleagues was conducted to ensure that the questionnaire would be able to elicit the required data to be collected.

Few changes were made on the following areas:

- corrections on the likert scale, where “1” was wrongly coded as strongly agree and “5” strongly disagree; and

- splitting some questions that appeared to be double-barreled.

3.4.3 Administration of the questionnaire

Self-administered questionnaires were handed to all managers through the company’s Human Resources (HR) Department. The covering letter accompanied each questionnaire with the intention to ensure that the respondents were informed of the nature and the purpose of the research. Participants were asked to return the completed questionnaires to the HR assistant who administered the questionnaires. The questionnaire is attached as Annexure B.

3.5 STUDY LIMITATIONS

The study focused only on one company, but the findings were much broader in their application. A substantial amount of data was available as it pertains to the global world, and not specifically to South Africa.

3.6 STEPS TAKEN TO AVOID BIAS

In any survey, bias in sampling and interviewing can distort results. Two forms of bias are frequent and the researcher had to guard against them. These are:

3.6.1 Question bias

A draft questionnaire was developed to its final form. Particular attention was given to the sequence of questions, misunderstandings resulting from question wording and

errors in recording due to poor questionnaire layout.

3.6.2 Subjectivity

Interpretation before recording the events was avoided. The researcher adopted a stance of neutrality with respect to the phenomenon under study.

3.7 METHOD FOR THE ANALYSIS OF DATA

Data analysis forms the real reason for the research effort, and therefore the method for data analysis was planned to be part of the research design. It serves to bring order, intelligible and logical patterns, and meaning to all the information that has been gathered (Murray & Lawrence, 2000:161). Data analysis will be covered in chapter four.

Questionnaires were designed in a way that the responses could be coded, and as a result, the first step was to capture data into a computer. Measurements were analysed using statistical techniques. The purpose was to test the hypotheses by measuring the difference between variables. Data from the questionnaire were analysed by a research analyst, using SPSS (Statistical Package for Social Scientist) for Window's latest version. Analyses were carried out:

- by looking at frequency distribution tables and demographic items;
- by looking at central tendency and variability of appropriate demographic information and likert items;
- by cross-tabulation of survey items and average factor scores; and
- by conducting appropriate statistical tests of study hypotheses.

Significant measurements were used to determine whether the correlation was obtained by chance or whether it could safely be inferred. The presentation of findings in this study is mainly narrative, supported by figures and tables, so as to express complicated relationships and to impart information simply. Depicting factual data in the form of categorical tables enabled different variables to be cross-tabulated and to be viewed quickly.

3.8 CONCLUDING REMARKS

In this chapter the rationale for selecting the quantitative methodology approach and for using a questionnaire as an appropriate research method has been explained. The design of the research, including the method of data collection, sampling techniques, study limitations and steps taken to avoid bias during the research process were discussed. The real world activities of gathering and the method for analysing data concluded the deliberations.

Chapter four is dedicated to data analysis and the presentation of the empirical research results. A comparative description statistics, analysis of variance (ANOVA), correlations, chi-square tests, t-tests, central tendency descriptive statistics, and the interpretation of results will be used.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 INTRODUCTION

In the previous chapter, the research methodology and techniques that were selected to design a questionnaire for this investigation were discussed and justified. It is opportune to present a detailed analysis of the findings emanating from 42 questionnaires that were administered to managers of Smiths Plastics (Pty) Ltd.

This chapter is dedicated to the analysis of data and the interpretation of results. Findings are analysed using numerical cross-tabulations. Responses from participants aimed at establishing, amongst other things, whether performance measurements meet company's objectives, the suitability of gainsharing, as well as, their perception to gainsharing have also been analysed. Data from questionnaires that were completed by respondents are further analysed using the analysis of variance (ANOVA) tests; central tendency descriptive statistics; Chi-Square tests; correlations and t-tests. By analysing and testing relevant sections of the chapter and relating them to the literature review, enabled the author to effectively interpret study results.

4.2 PERFORMANCE MEASUREMENT AND PROBLEM SOLVING

Issues relating to performance measurements were drawn from the literature study in chapter two. For instance, the literature review suggests that the Improshare gainsharing scheme should be based on an established standard that defines the expected hours required to produce an accepted level of output. This (and other sections of the literature review) clearly explains the importance of performance measurement when gainsharing programme is in place.

Section 2.10 of the literature review emphasised that the established performance measurements should ensure that customer requirements are met; should set sensible objectives; provide standards for establishing comparisons; provide scoreboards for

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

Issues relating to performance measurements were therefore analysed and have resulted in the following findings:

4.2.1 To establish whether performance measurements ensure that customer requirements are met

Table 4.1: Establish whether performance measurements ensure that customer requirements are met

			Gender of the respondent		
			Male	Female	Total
Ensure that customer requirements are met	Uncertain	Count	4	1	5
		% of Total	9.5%	2.4%	11.9%
	Agree	Count	15	10	25
		% of Total	35.7%	23.8%	59.5%
	Strongly Agree	Count	8	4	12
		% of Total	19.0%	9.5%	28.6%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.1 indicates that 28.6 per cent of respondents strongly agree that performance measurements ensure that customer requirements are met, 59.5 per cent agree and 11.9 per cent are uncertain. Hence, the majority of respondents accept that performance measurements ensure that customer requirements are met.

4.2.2 To establish whether performance measurements enable the department or work centre to set sensible objectives

Table 4.2: Establish whether performance measurements enable the department or work centre to set sensible objectives

			Gender of the respondents		
			Male	Female	Total
Set sensible objectives	Uncertain	Count	4	4	8
		% of Total	9.5%	9.5%	19.0%
	Agree	Count	13	8	21
		% of Total	31.0%	19.0%	50.0%
	Strongly Agree	Count	10	3	13
		% of Total	23.8%	7.1%	31.0%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.2 indicates that 31 per cent of respondents strongly agree that performance measurements enable their departments or work centres to set sensible objectives, 50 per cent agree and 19 per cent were uncertain. The 'total' of 82 per cent of respondents that agree and those that strongly agree with the statement indicates that performance measurements do help departments (and work centres) to set sensible objectives.

4.2.3 To establish whether Performance Measurements provide standards for establishing comparison

Table 4.3: Establish whether performance measurements provide standards for establishing comparison

			Gender of the respondents		
			Male	Female	Total
Provide standards for establishing comparison	Uncertain	Count	3	5	8
		% of Total	7.1%	11.9%	19.0%
	Agree	Count	13	3	16
		% of Total	31.0%	7.1%	38.1%
	Strongly	Count	11	7	18
		% of Total	26.2%	16.7%	42.9%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.3 shows that 42.9 per cent of respondents strongly agree that performance measurements provide standards for establishing comparison, 38.1 per cent agree and 19 per cent are uncertain. The 'total' of 81 per cent of respondents that agree and those that strongly agree with the statement indicates that performance measurements do provide standards for establishing comparisons.

4.2.4 To establish whether performance measurements provide scoreboards to monitor performance

Table 4.4: Establish whether performance measurements provide scoreboards for people to monitor their performance

			Gender of the respondents		
			Male	Female	Total
Provide scoreboards for people to monitor their performance	Disagree	Count	0	1	1
		% of Total	.0%	2.4%	2.4%
	Uncertain	Count	2	3	5
		% of Total	4.8%	7.1%	11.9%
	Agree	Count	12	8	20
		% of Total	28.6%	19.0%	47.6%
	Strongly	Count	13	3	16
		% of Total	31.0%	7.1%	38.1%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Data in Table 4.4 establish that 38.1 per cent of respondents strongly agree that performance measurements provide scoreboards for people to monitor performance, 47.6 per cent agree with the statement, 11.9 per cent are uncertain, and 2.4 per cent disagree. The 'total' of 85.7 per cent of respondents that agree and those that strongly agree with the statement indicates that performance measurements do provide scoreboards for people to monitor their performance.

4.2.5 To establish whether performance measurements provide feedback for driving important efforts

Table 4.5: Establish whether performance measurements provide feedback for driving important effort

			Gender of the respondents		
			Male	Female	Total
Provide feedback for driving efforts	Uncertain	Count	7	3	10
		% of Total	16.7%	7.1%	23.8%
	Agree	Count	16	7	23
		% of Total	38.1%	16.7%	54.8%
	Strongly Agree	Count	4	5	9
		% of Total	9.5%	11.9%	21.4%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Source: Research data

From Table 4.5, 21.4 per cent of respondents strongly agree that performance measurements provide feedback for driving important efforts, 54.8 per cent agree and 23 per cent are uncertain. The 'total' of 76.2 per cent of respondents that agree and those that strongly agree with the statement indicates that performance measurements do provide feedback for driving important efforts.

4.3 PERCEPTION TO GAINSHARING PROGRAMME

The majority of the respondents who participated in section 4.2 agreed that performance measurements 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 will ascertain management's perceptions of the gainsharing programme. This fits well with study objectives outlined in chapter one. The entire section 2.9 and 2.10 of the literature review outline issues relating to management perceptions to gainsharing. An issue relating to perceptions of the gainsharing programme has resulted in the following findings:

4.3.1 To establish whether gainsharing would induce employees to effectively participate in problem solving or productivity improvement initiatives in the company

Table 4.6: Establish whether gainsharing would induce employees to effectively participate in problem solving or productivity improvement initiatives in the company

			Gender of the respondents		
			Male	Female	Total
Whether gainsharing programme would induce employees to effectively participate in problem solving or productivity improvement initiatives in your company	Uncertain	Count	14	5	19
		% of Total	33.3%	11.9%	45.2%
	Agree	Count	10	8	18
		% of Total	23.8%	19.0%	42.9%
	Strongly Agree	Count	3	2	5
		% of Total	7.1%	4.8%	11.9%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.6 indicates that 11.9 per cent of respondents strongly agree that gainsharing would induce employees to effectively participate in problem solving or productivity improvement initiatives in the company, 42.9 per cent also agree with the statement and 45.2 per cent are uncertain. The 'total' of 54.8 per cent of respondents that agree and those that strongly agree with the statement indicates that gainsharing will induce employees to effectively participate in problem solving or productivity improvement initiatives in the company.

4.4 SUITABILITY OF GAINSHARING

Section 2.3 of the literature review explains that gainsharing is particularly well suited to team environment because rewards are linked to the performance of the entire unit, which reflects the cumulative contribution of all teams. It further explains that this aggregate incentive might result in a situation where employees that contributed substantially to the company's success get the same reward with whose contribution was less significant.

Table 4.7: Suitability of gainsharing

			Gender of the respondents		Total
			Male	Female	
When gainsharing is implemented, employees who contributed substantially to the company's financial success receive the same rewards as those whose contribution is less significant. This might affect the suitability of gainsharing	Strongly Disagree	Count	0	3	3
		% of Total	.0%	7.1%	7.1%
	Disagree	Count	8	3	11
		% of Total	19.0	7.1%	26.2
	Uncertain	Count	15	6	21
		% of Total	35.7	14.3	50.0
	Agree	Count	4	3	7
		% of Total	9.5%	7.1%	16.7
Total		Count	27	15	42
		% of Total	64.3	35.7	100.0

Table 4.7 shows that 26.2 per cent of respondents disagree with the statement, 7.1 per cent strongly disagree, 16.7 per cent agree and 50 per cent are uncertain. A 'total' of 33.3 per cent of respondents disagree and strongly disagree with the statement, while the majority of respondents (50 per cent) are uncertain. These percentages indicate that the majority of respondents are not sure if gainsharing is suitable to use in their organization.

4.5 TO ESTABLISH WHETHER THERE COULD BE OBSTACLES THAT MIGHT HINDER THE APPLICATION OF GAINSHARING IN THE COMPANY

Table 4.8: Establish whether there could be obstacles that might hinder the application of a gainsharing programme in the company

			Gender of the respondents		
			Male	Female	Total
Are there obstacles that might hinder the application of gainsharing programme in your company	Yes	Count	10	5	15
		% of Total	23.8%	11.9%	35.7%
	No	Count	4	3	7
		% of Total	9.5%	7.1%	16.7%
	Unsure	Count	13	7	20
		% of Total	31.0%	16.7%	47.6%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.8 indicates that 35.7 per cent of respondents agree that there could be obstacles that might hinder the application of gainsharing in the company, 16.7 percent disagree and 47.6 per cent are uncertain or not sure. Since the majority of the respondents is not sure if obstacles exist that might hinder the application of gainsharing, it is evident that management requires awareness training on gainsharing. Insufficient information about gainsharing could be the reason for respondents not predicting if obstacles might exist when gainsharing is implemented in their organisation.

When respondents were further asked if employee or union resistance (or both) could be an obstacle to the application of gainsharing, 95.9 per cent of respondents declined to comment. A 'no comment' could mean that the respondents neither agree nor disagree with any possible causes, and this could be uncovered by in-depth structured interviews on gainsharing in the future.

The analysis that follows would enable the researcher to establish if insufficient information about gainsharing could encourage managers to resist the application of gainsharing.

4.5.1 To establish whether obstacles could be caused by insufficient information about gainsharing

Table 4.9: Establish whether obstacles could be caused by insufficient information about gainsharing

			Gender of the respondents		
			Male	Female	Total
Insufficient information about gainsharing	Agree	Count	6	2	8
		% of Total	14.3%	4.8%	19.0%
	Strongly Agree	Count	4	3	7
		% of Total	9.5%	7.1%	16.7%
	NA	Count	17	10	27
		% of Total	40.5%	23.8%	64.3%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Data presented in Table 4.9 indicates that 19 per cent of respondents agree that the obstacles towards the application of gainsharing could be caused by the insufficient information about the gainsharing programme, 16.7 per cent strongly agree and 64.3 per cent had no comment (represented by 'NA' on the table) on the issue. The 'total' of 35.7 per cent of respondents agreeing and strongly disagreeing with the statement, indicates that most respondents would like to get more information about gainsharing. Lack of information could be an obstacle towards the application of gainsharing.

4.5.2 To establish whether obstacles could be caused by the unavailability of outside help

Table 4.10: Establish whether obstacles could be caused by the unavailability of outside help

			Gender of the respondents		
			Male	Female	Total
Unavailability of outside help	Uncertain	Count	1	1	2
		% of Total	2.4%	2.4%	4.8%
	Agree	Count	6	2	8
		% of Total	14.3%	4.8%	19.0%
	Strongly Agree	Count	3	2	5
		% of Total	7.1%	4.8%	11.9%
	NA	Count	17	10	27
		% of Total	40.5%	23.8%	64.3%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Source: Research data

Data depicted in Table 4.10 indicates that 19 per cent of the respondents agree that the obstacles towards the application of gainsharing could be caused by the unavailability of outside help, 11.9 per cent strongly agree, 4.8 per cent are uncertain and 64.3 per cent have no comment (i.e., NA) about the issue. The “no comment” (which accounts for the majority of the respondents) could mean that the respondents neither agree nor disagree with the statement, and this could be uncovered by in-depth structured interviews on gainsharing in the future.

4.5.3 To establish whether gainsharing is not suitable with the culture of the African people

Table 4.11: Establish whether gainsharing is not suitable with the culture of the African people

			Gender of the respondent		
			Male	Female	Total
Not unsuitable to the culture of the African people	Strongly Disagree	Count	1	0	1
		% of Total	2.5%	.0%	2.5%
	Disagree	Count	4	4	8
		% of Total	10.0%	10.0%	20.0%
	Uncertain	Count	3	1	4
		% of Total	7.5%	2.5%	10.0%
	NA	Count	17	10	27
		% of Total	42.5%	25.0%	67.5%
Total		Count	25	15	40
		% of Total	62.5%	37.5%	100.0

Table 4.11 shows that 2.5 per cent of respondents disagree that gainsharing is not suitable to the culture of the African people, 20 per cent strongly disagree, 10 per cent are uncertain and 67.5 per cent have no comment (i.e., NA). The “no comment” (which accounts for the majority of the respondents) could mean that the respondents neither agree nor disagree with the statement, and this could be uncovered by in-depth structured interviews on gainsharing in the future.

4.5.4 To establish whether gainsharing is not suitable with the culture in the company (i.e., Corporate Culture)

Table 4.12: Establish whether gainsharing is not suitable with the way we do things in the company

			Gender of the respondent		
			Male	Female	Total
Not unsuitable to the way we do things in the Company (i.e., corporate Culture)	Strongly Disagree	Count	0	1	1
		% of Total	.0%	2.4%	2.4%
	Disagree	Count	6	2	8
		% of Total	14.6%	4.9%	19.5%
	Uncertain	Count	3	2	5
		% of Total	7.3%	4.9%	12.2%
	NA	Count	17	10	27
		% of Total	41.5%	24.4%	65.9%
Total		Count	26	15	41
		% of Total	63.4%	36.6%	100.0

In Table 4.12, 2.4 per cent of respondents strongly disagree that gainsharing is not suitable with the way we do things in the company, 19.5 per cent disagree, 12.2 per cent are uncertain and 65.9 per cent have no comment (i.e., NA) on this issue. The “no comment” (which accounts for the majority of respondents) could mean that the respondents neither agree nor disagree with the statement, and this could be uncovered by in-depth structured interviews on gainsharing in the future.

4.6 POSSIBLE REASONS FOR IMPLEMENTING GAINSHARING

The previous section established management perceptions towards the gainsharing programme. It becomes evident that most respondents show strong positive perception with gainsharing. This means that management is in favour of the gaisharing programme. This finding fulfills the study objective of evaluating their perception as outlined in chapter one.

This section evaluates reasons for implementing the gainsharing programme, and they are as follows:

- to deliver on client request;
- to enhance teamwork;
- to create a feeling of ownership;
- to share a proportion of saved-cost for continuous productivity improvement purposes;
- to stimulate organisation learning;
- to improve communication between management and employees;
- to stimulate employees to make suggestions on ways to improve productivity;
- to increase profitability; and
- to reduce costs.

The author will further establish if the above reasons have been met by the company's scheme currently in place. Responses detailing the results of the *'majority of respondents*' will be revealed on the second paragraph of each category (i.e., on pages 76 to 84) and analysed on this 'second analysis'. The analysis is in keeping with study objectives outlined in chapter one.

4.6.1 To deliver on client requirements

Table 4.13: Establish whether the implementation of gainsharing would help the company deliver on client requirements

			Gender of the respondents		
			Male	Female	Total
To deliver on client requirements	Yes	Count	20	9	29
		% of Total	47.6%	21.4%	69.0%
	Unsure	Count	7	6	13
		% of Total	16.7%	14.3%	31.0%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.13 indicates that 69 per cent of respondents agree that their reasons for implementing gainsharing would be to deliver on client requirements and 31 per cent are not sure. Interestingly, the majority of respondents, at 69 per cent, affirm Smith Plastic's objective of quality, which aims at enabling the company to conform to client requirements. Section 3.8 of chapter three explains that the company has continuous improvement teams run by line operators. Such teams are encouraged to identify areas for improvement in their work processes. Results from table 4.13 confirm the company's objective to deliver on client requirements.

However, the majority of the respondents, at 56.1 per cent, is not sure if the objective has been met by the company's scheme currently in place. This entails that management has not realised the benefit of the current scheme in delivering on client requirements.

4.6.2 To enhance teamwork

Table 4.14: Establish whether the implementation of gainsharing would help the company enhance teamwork

			Gender of the respondents		
			Male	Female	Total
To enhance teamwork	Yes	Count	24	15	39
		% of Total	57.1%	35.7%	92.9%
	Unsure	Count	3	0	3
		% of Total	7.1%	0%	7.1%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.14 shows that 92.9 per cent of respondents agree that their reasons for implementing gainsharing would be to enhance teamwork and 7.1 per cent are unsure. The majority of respondents, at 92.9 per cent, confirm the strategy of Smiths Plastics to the use of teamwork. Smiths Plastics has mission directed work teams that are run by line operators. As mentioned in the previous section, teams are encouraged to identify areas for improvement in their work processes. Section 2.3.4 of the literature review points out that 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. Results from table 4.14 confirm the company's objective to enhance teamwork. Management feels that this could be a reason to implement gainsharing.

The majority of respondents at 36.6 per cent agree that the scheme currently in place also enables the company to enhance teamwork. Nevertheless, there is huge number of respondents at 92.9 per cent who are in favour of gainsharing for the company to be effectively able to enhance teamwork.

4.6.3 To create a feeling of ownership

Table 4.15: Establish whether the implementation of gainsharing would help the company create a feeling of ownership

			Gender of the respondents		
			Male	Female	Total
To create a feeling of ownership	Yes	Count	19	8	27
		% of Total	45.2%	19.0%	64.3%
	No	Count	2	1	3
		% of Total	4.8%	2.4%	7.1%
	Unsure	Count	6	6	12
		% of Total	14.3%	14.3%	28.6%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.15 indicates that 64.3 per cent of respondents agree that their reasons for implementing gainsharing would be to create a feeling of ownership, 7.1 per cent disagree and 28.6 per cent are unsure. This shows that the majority of respondents agree with the statement. The acceptance of this reason by management is in-line with gainsharing's key feature discussed in the literature review, which explains that the success of gainsharing depends on creating a feeling of ownership. This feature entails that management is prepared to enlist the involvement of all employees so that the company can increase employees' identity with, and their commitment to, the gainsharing programme.

On the other hand, the majority of respondents at 32.5 per cent are not sure if the objective has been met by the company's scheme currently in place. This entails that management has not realised the benefit of the current scheme in creating a feeling of ownership.

4.6.4 To share a proportion of saved-cost for continuous productivity improvement purposes

Table 4.16: Establish whether the implementation of gainsharing would help the company share a proportion of saved-cost with employees for continuous productivity improvement purposes

			Gender of the respondents		
			Male	Female	Total
To share a proportion of the saved-cost for continuous productivity improvement purposes	Yes	Count	24	13	37
		% of Total	57.1%	31.0%	88.1%
	No	Count	1	0	1
		% of Total	2.4%	.0%	2.4%
	Unsure	Count	2	2	4
		% of	4.8%	4.8%	9.5%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Source: Research data

Table 4.16 indicates that 88.1 per cent of respondents agree that their reasons for implementing gainsharing would be to share a proportion of saved-cost for continuous productivity improvement purposes, 2.4 per cent disagree and 9.5 per cent are unsure. This reason is in-line with the aims and objectives of gainsharing contained in section 2.3 of the literature review. One of the aims for gainsharing is to share a significant proportion of performance gains with employees who have collectively contributed to improvement. This shows that the majority of respondents expect a share of productivity improvement outcomes that came from their participation or suggestions.

On the other hand, the majority of respondents, at 87.8 per cent, disagree with the observation that the incentive scheme currently in place enables them to share a proportion of saved cost for continuous productivity improvement purposes. This gives gainsharing an edge over the incentive scheme currently in place.

4.6.5 To stimulate organisational learning

Table 4.17: Establish whether the implementation of gainsharing would help the company stimulate organisational learning

			Gender of the respondents		
			Male	Female	Total
To stimulate organisation learning	Yes	Count	22	10	32
		% of Total	52.4%	23.8%	76.2%
	Unsure	Count	5	5	10
		% of Total	11.9%	11.9%	23.8%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.17 shows that 76.2 per cent of the respondents agree that their reasons for implementing gainsharing would be to stimulate organisational learning and 23.8 per cent disagree with the reason. This finding indicates that the majority of respondents agree that the implementation of gainsharing would improve the problem-solving mindset amongst the workforce.

On the other hand, the majority of respondents at 41.5 per cent are not sure if the objective has been met by the company's scheme currently in place. This finding entails that management has not realised the benefit of the current scheme in stimulating organisation learning.

4.6.6 To improve communication between management and employees

Table 4.18: Establish whether the implementation of gainsharing would help the company improve communication between management and employees

			Gender of the respondents		
			Male	Female	Total
To improve communication between management and employees	Yes	Count	25	15	40
		% of Total	59.5%	35.7%	95.2%
	Unsure	Count	2	0	2
		% of Total	4.8%	.0%	4.8%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.18 indicates that 95.2 per cent of respondents agree that their reasons for implementing gainsharing would be to improve communication between management and employees, and 4.8 per cent disagree with the reason/issue. The underlying assumption on gainsharing, as shown in the literature review section 2.7, is on a belief that employees posses an untapped reservoir of effort and knowledge for improving organisational processes and effectiveness, and that communication mechanisms and equitable reward structure release this reservoir in the interest of the company. The majority of respondents affirming with the issue might have realised the benefit of gainsharing to communication.

However, the majority of respondents, at 80.5 per cent, agree that the objective has been met by the company's scheme currently in place. Therefore, the scheme currently in place does improve communication between management and employees.

4.6.7 To stimulate employees to make suggestions on ways to improve productivity

Table 4.19: Establish whether the implementation of gainsharing would help stimulate employees to make suggestions on ways to improve productivity

			Gender of the respondents		
			Male	Female	Total
To stimulate employees to make suggestions on ways to improve productivity	Yes	Count	26	15	41
		% of Total	61.9%	35.7%	97.6%
	Unsure	Count	1	0	1
		% of Total	2.4%	.0%	2.4%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.19 indicates that 97.6 per cent of respondents agree that their reasons for implementing gainsharing would be to stimulate employees to make suggestions on ways to improve productivity, and 2.4 per cent disagree with the reason. This finding indicates that the majority of respondents agree that the implementation of gainsharing would stimulate employees to make suggestions on ways to improve productivity. Management feels that this could be a reason to implement gainsharing because workforce participation to problem solving and productivity issues reinforced by an incentive is a burning issue in the South African business environment and the labour unions.

Nevertheless, the majority of respondents, at 78 per cent, agree that the scheme currently in place enables the company to stimulate employees to make suggestions on ways to improve productivity. There are, however, a huge number of respondents at 97.6 per cent who are in favour of gainsharing for the company to effectively stimulate employees to make suggestions on ways to improve productivity as compared to the percentage relating to the incentive scheme currently in place.

4.6.8 To increase profitability

Table 4.20: Establish whether the implementation of gainsharing would help the company increase profitability

			Gender of the respondents		
			Male	Female	Total
Increase profitability	Yes	Count	21	9	30
		% of Total	50.0%	21.4%	71.4%
	Unsure	Count	6	6	12
		% of Total	14.3%	14.3%	28.6%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.20 indicates that 71.4 per cent of the respondents agree that their reasons for implementing gainsharing would be to increase profitability, and 28.6 per cent disagree with the reason/issue. Part of management's objective, highlighted in section 2.4 of the literature review, is to increase sales volume and profitability. If gainsharing can play a part on this objective, management feels that this could be one of the reasons to implement it.

On the other hand, the majority of respondents, at 53.7 per cent, are not sure if the objective has been met by the company's scheme currently in place. This finding entails that management has not realised the benefit of the current scheme in increasing profitability.

4.6.9 To help reduce costs

Table 4.21: Establish whether the implementation of gainsharing would help reduce costs

			Gender of the respondents		
			Male	Female	Total
Reduce costs	Yes	Count	27	14	41
		% of Total	64.3%	33.3%	97.6%
	Unsure	Count	0	1	1
		% of Total	0%	2.4%	2.4%
Total		Count	27	15	42
		% of Total	64.3%	35.7%	100.0

Table 4.21 indicates that 97.6 per cent of respondents agree that their reasons for implementing gainsharing would help reduce costs, and 2.4 per cent disagree with the reason. The finding relates to Table 4.19, in which respondents agreed that the implementation of gainsharing might stimulate employees to make suggestions on ways to improve productivity. Smiths Plastics' motive is to reduce costs. If gainsharing can play a part in reducing operating cost, management feels that this could be one of the reasons to implement it.

Nevertheless, the majority of respondents, at 92.7 per cent, agree that the scheme currently in place enables the company to reduce costs.

The following Sections 4.5 to 4.10 comprise of tests that were conducted in this study. These tests enabled the author to make inferences based on samples from the population studied during the research process. Tests used include the Analysis of Variance (ANOVA), Central tendency descriptive Statistics, Chi-Square tests, correlation, T-tests, as well as the Cronback Alpha test.

4.7 ANALYSIS OF VARIANCE (ANOVA) TESTS

Analyses of Variance (ANOVA) are statistical methods used to test the null hypothesis that the means of several populations are equal (Cooper & Emory, 1995:457).

ANOVA has been used to test the significant level between:

- the 'Level of Management' to study variables relating to the departmental objectives of performance measurements;
- the 'Number of Employees under Management's span of control' to study variables relating to the departmental objectives of performance measurements;
- the 'Marital Status' to study variables relating to the departmental objectives of performance measurements;
- the 'Length of Service' to study variables relating to the departmental objectives of performance measurements;
- the 'Ethnic Group' to study variables relating to the departmental objectives of performance measurements; and
- the 'Education' to study variables relating to the departmental objectives of performance measurements

Variables relating to performance measurements mentioned above are the following:

- to ensure that customer requirements are met;
- to set sensible objectives;
- to provide standards for establishing comparison;
- to provide scoreboards for people to monitor their performance; and
- to provide feedback for driving important efforts.

4.7.1 Level of Management

Table 4.22: Level of management

ANOVA : Level of Management

		Sum of Squares	df	Mean Square	F	Sig.
C10.1	Between Groups	2.756	2	1.378	4.110	.024
	Within Groups	13.077	39	.335		
	Total	15.833	41			
C10.2	Between Groups	5.767	2	2.883	7.682	.002
	Within Groups	14.638	39	.375		
	Total	20.405	41			
C10.3	Between Groups	1.260	2	.630	1.099	.343
	Within Groups	22.359	39	.573		
	Total	23.619	41			
C10.4	Between Groups	.828	2	.414	.726	.490
	Within Groups	22.244	39	.570		
	Total	23.071	41			
C10.5	Between Groups	3.210	2	1.605	3.970	.027
	Within Groups	15.766	39	.404		
	Total	18.976	41			
D15	Between Groups	2.657	2	1.328	3.106	.056
	Within Groups	16.677	39	.428		
	Total	19.333	41			
D16	Between Groups	.276	2	.138	.197	.822
	Within Groups	27.343	39	.701		
	Total	27.619	41			

Codes depicted on Table 4.45 represent the following variables:

C10.1: Ensure that customer requirements are met

C10.2: Set sensible objectives

C10.3: Provide standards for establishing comparisons

C10.4: Provide scoreboards for people to monitor their performance

C10.5: Provide feedback for driving important efforts

D15: To establish if gainsharing would induce employees into effectively participating in problem solving or productivity improvement initiatives in the company

D16: To establish the suitability of gainsharing in which employees who

contributed substantially to the company's financial success receive the same rewards as those whose contribution is less significant.

(a) Anova test results, as shown on Table 4.45, reveal that there is a statistical significance different between the levels of management groups towards the study variables relating to the department's objectives to performance measurements. They include ensuring that customer requirements are met, the setting of sensitive objectives, and the provision for feedback to drive important efforts. The study variables' **p** significant values are 0.024; 0.002; 0.027 respectively and are less than **0.05.**

(b) There is no statistical significance difference between the levels of management groups towards study variables relating to the department's objectives towards performance measurements. They include the provision of standards for establishing comparisons, provision of scoreboards for people to monitor their performance, inducing employees to effectively participate in problem solving or productivity improvement initiatives and the suitability of gainsharing in which employees who contribute substantially to the company's financial success receive the same reward as those whose contribution is less significant. The study variables' **p** significant values are 0.343; 0.490; 0.056; 0.822 respectively and are more than **0.05**.

4.7.2 Number of employees under management's span of control

Table 4.23: Number of employees under management's span of control

ANOVA : Number of employees under your span of control

		Sum of Squares	df	Mean Square	F	Sig.
C10.1	Between Groups	1.320	3	.440	1.326	.282
	Within Groups	10.950	33	.332		
	Total	12.270	36			
C10.2	Between Groups	2.441	3	.814	1.691	.188
	Within Groups	15.883	33	.481		
	Total	18.324	36			
C10.3	Between Groups	.387	3	.129	.214	.886
	Within Groups	19.883	33	.603		
	Total	20.270	36			
C10.4	Between Groups	1.427	3	.476	.801	.502
	Within Groups	19.600	33	.594		
	Total	21.027	36			
C10.5	Between Groups	2.690	3	.897	2.071	.123
	Within Groups	14.283	33	.433		
	Total	16.973	36			
D15	Between Groups	.786	3	.262	.611	.612
	Within Groups	14.133	33	.428		
	Total	14.919	36			
D16	Between Groups	1.861	3	.620	.820	.492
	Within Groups	24.950	33	.756		
	Total	26.811	36			

Anova test results indicated on Table 4.23 reveal that there is no statistically significant difference between the number of employees under management's span of control groups towards study variables relating to the department's objectives to performance measurements. They include the provision of standards for establishing comparisons, provision of scoreboards for people to monitor their performance, inducing employees to effectively participate in problem solving or productivity improvement initiatives and the suitability of gainsharing in which employees who contribute substantially to the company's financial success receive the same reward as those whose contribution is less significant. The study variables' **p** significant values are 0.282; 0.188; 0.886; 0.502; 0.123; 0.612; 0.492 respectively and are more than **0.05**.

4.7.3 Age group in years

Table 4.24: Age group in years

ANOVA : Age groups

		Sum of Squares	df	Mean Square	F	Sig.
C10.1	Between Groups	.967	3	.322	.824	.489
	Within Groups	14.866	38	.391		
	Total	15.833	41			
C10.2	Between Groups	3.867	3	1.289	2.962	.044
	Within Groups	16.537	38	.435		
	Total	20.405	41			
C10.3	Between Groups	1.324	3	.441	.752	.528
	Within Groups	22.295	38	.587		
	Total	23.619	41			
C10.4	Between Groups	1.971	3	.657	1.183	.329
	Within Groups	21.100	38	.555		
	Total	23.071	41			
C10.5	Between Groups	4.012	3	1.337	3.396	.027
	Within Groups	14.964	38	.394		
	Total	18.976	41			
D15	Between Groups	1.467	3	.489	1.040	.386
	Within Groups	17.866	38	.470		
	Total	19.333	41			
D16	Between Groups	2.619	3	.873	1.327	.280
	Within Groups	25.000	38	.658		
	Total	27.619	41			

(a) Anova test results as shown on Table 4.24 reveal that there is a statistical significant difference between age groups towards the study variables relating to the department's objectives to performance measurements. They include the setting of sensitive objectives, and provision of feedback for driving important efforts because these variables' **p** significant values are 0.044; 0.027 and are less than **0.05**.

(b) There is no statistical significance difference between age groups towards the study variables relating to the department's objectives to performance measurements. They include ensuring that customer requirements are met, provision of standards

for establishing comparisons, provision of scoreboards for people to monitor their performance, inducing employees to effectively participate in problem solving or productivity improvement initiatives in the company and the suitability of gainsharing in which employees who contribute substantially to the company's financial success receive the same reward as those whose contribution is less significant. The study variables' **p** significant values are 0.489; 0.529; 0.329; 0.386; 0.280 respectively and are more than **0.05**.

4.7.4 Marital Status

Table 4.25: Marital status

ANOVA : Marital Status

		Sum of Squares	df	Mean Square	F	Sig.
C10.1	Between Groups	1.867	1	1.867	5.346	.026
	Within Groups	13.967	40	.349		
	Total	15.833	41			
C10.2	Between Groups	3.438	1	3.438	8.106	.007
	Within Groups	16.967	40	.424		
	Total	20.405	41			
C10.3	Between Groups	.152	1	.152	.260	.613
	Within Groups	23.467	40	.587		
	Total	23.619	41			
C10.4	Between Groups	.038	1	.038	.066	.798
	Within Groups	23.033	40	.576		
	Total	23.071	41			
C10.5	Between Groups	.060	1	.060	.126	.725
	Within Groups	18.917	40	.473		
	Total	18.976	41			
D15	Between Groups	1.867	1	1.867	4.275	.045
	Within Groups	17.467	40	.437		
	Total	19.333	41			
D16	Between Groups	.952	1	.952	1.429	.239
	Within Groups	26.667	40	.667		
	Total	27.619	41			

(a) Anova test results as indicated on Table 4.25 reveals that there is a statistically significant difference between the marital status group towards the study variables relating to the department's objectives to performance measurements. They include ensuring that customer requirements are met, the setting of sensitive objectives, and the provision of scoreboards for people to monitor their performance. The study variables' **p** significant values are 0.026; 0.007; 0.045 respectively and are less than **0.05**.

(b) There is no statistically significant difference between the marital status groups towards the study variables relating to the department's objectives to performance measurements. They include the provision of standards for establishing comparisons, the provision of scoreboards for people to monitor their performance, the provision of feedback for driving important efforts, and the suitability of gainsharing in which employees who contribute substantially to the company's financial success receive the same reward as those whose contribution is less significant. The study variables' **p** significant values are 0.613; 0.798; 0.725; 0.239 respectively and are more than **0.05**.

4.7.5 Length of Service

Table 4.26: Length of service

ANOVA : Lenght of Service

		Sum of Squares	df	Mean Square	F	Sig.
C10.1	Between Groups	.767	2	.383	.992	.380
	Within Groups	15.067	39	.386		
	Total	15.833	41			
C10.2	Between Groups	5.071	2	2.536	6.450	.004
	Within Groups	15.333	39	.393		
	Total	20.405	41			
C10.3	Between Groups	1.286	2	.643	1.123	.336
	Within Groups	22.333	39	.573		
	Total	23.619	41			
C10.4	Between Groups	.688	2	.344	.599	.554
	Within Groups	22.383	39	.574		
	Total	23.071	41			
C10.5	Between Groups	1.393	2	.696	1.545	.226
	Within Groups	17.583	39	.451		
	Total	18.976	41			
D15	Between Groups	.150	2	.075	.152	.859
	Within Groups	19.183	39	.492		
	Total	19.333	41			
D16	Between Groups	.952	2	.476	.696	.504
	Within Groups	26.667	39	.684		
	Total	27.619	41			

(a) Anova test results, as indicated on Table 4.26, reveal that there is a statistically significant difference between the length of service group towards the study variable relating to the department's objectives to performance measurements. This includes the setting of sensitive objectives. The study variables' **p** significant value is 0.004 and is less than **0.05**.

(b) There is no statistically significant difference between the length of service groups towards the study variables relating to the department's objectives to performance measurements. Study variables include ensuring that customer requirements are met, provision of standards for establishing comparisons, the

provision of scoreboards for people to monitor their performance, the provision of feedback for driving important efforts, inducing employees to effectively participate on problem solving or productivity improvement initiatives and the suitability of gainsharing in which employees who contribute substantially to the company's financial success receive the same reward as those whose contribution is less significant. The study variables' **p** significant values are 0.380; 0.336; 0.554; 0.226; 0.859; 0.504 respectively and are more than **0.05.**

4.7.6 Ethnic group

Table 4.27: Ethnic group

ANOVA : Ethnic group

		Sum of Squares	df	Mean Square	F	Sig.
C10.1	Between Groups	3.038	3	1.013	3.008	.042
	Within Groups	12.795	38	.337		
	Total	15.833	41			
C10.2	Between Groups	3.631	3	1.210	2.742	.056
	Within Groups	16.774	38	.441		
	Total	20.405	41			
C10.3	Between Groups	.646	3	.215	.356	.785
	Within Groups	22.973	38	.605		
	Total	23.619	41			
C10.4	Between Groups	1.977	3	.659	1.187	.328
	Within Groups	21.094	38	.555		
	Total	23.071	41			
C10.5	Between Groups	1.415	3	.472	1.020	.394
	Within Groups	17.561	38	.462		
	Total	18.976	41			
D15	Between Groups	1.426	3	.475	1.009	.400
	Within Groups	17.907	38	.471		
	Total	19.333	41			
D16	Between Groups	2.496	3	.832	1.258	.302
	Within Groups	25.123	38	.661		
	Total	27.619	41			

(a) Anova test results depicted on Table 4.27 reveal that there is a statistically significant difference between ethnic groups towards the study variables relating to the department's objectives to performance measurements. It includes ensuring that customer requirements are met. The study variables' **p** significant value is 0.042 and is less than **0.05**.

(b) There is no statistically significant difference between ethnic groups towards the study variables relating to the department's objectives to performance measurements. They include the setting of sensible objectives, provision of standards for establishing comparisons, the provision of scoreboards for people to monitor their performance, the provision of feedback for driving important efforts, inducing employees to effectively participate on problem solving or productivity improvement initiatives and the suitability of gainsharing in which employees who contribute substantially to the company's financial success receive the same reward as those whose contribution is less significant. The study variables' **p** significant values are 0.056; 0.785; 0.328; 0.394; 0.400; 0.302 respectively and are more than **0.05**.

4.7.7 Education

Table 4.28: Education

ANOVA : Education

		Sum of Squares	df	Mean Square	F	Sig.
C10.1	Between Groups	1.809	2	.905	2.515	.094
	Within Groups	14.024	39	.360		
	Total	15.833	41			
C10.2	Between Groups	2.936	2	1.468	3.277	.048
	Within Groups	17.469	39	.448		
	Total	20.405	41			
C10.3	Between Groups	.522	2	.261	.441	.647
	Within Groups	23.097	39	.592		
	Total	23.619	41			
C10.4	Between Groups	1.603	2	.801	1.456	.246
	Within Groups	21.469	39	.550		
	Total	23.071	41			
C10.5	Between Groups	.007	2	.004	.008	.992
	Within Groups	18.969	39	.486		
	Total	18.976	41			
D15	Between Groups	.559	2	.280	.581	.564
	Within Groups	18.774	39	.481		
	Total	19.333	41			
D16	Between Groups	.744	2	.372	.540	.587
	Within Groups	26.875	39	.689		
	Total	27.619	41			

(a) Anova test results as shown on Table 4.28 reveal that there is a statistically significant difference between education groups towards study variables relating to the department's objectives to performance measurements. It includes setting of sensible objectives because these variables' **p** significant value is 0.048 and is less than **0.05**.

(b) There is no statistically significant difference between education groups towards the study variables relating to the department's objectives to performance measurements. They include ensuring that customer requirements are met, provision of standards for establishing comparisons, the provision of scoreboards for people to monitor their performance, the provision of feedback for driving important efforts,

inducing employees to effectively participate on problem solving or productivity improvement initiatives and the suitability of gainsharing in which employees who contribute substantially to the company's financial success receive the same reward as those whose contribution is less significant. The study variables' **p** significant values are 0.094; 0.647; 0.246; 0.992; 0.564; 0.587, respectively, and are more than **0.05**.

4.8 CENTRAL TENDENCY DESCRIPTIVE STASTISTICS

Central tendency descriptive statistics will be used to locate data values on the number line. It will incorporate frequency, the mean, median, mode, standard deviation, the range, minimum as well as the maximum in this study. In most instances, the Likert scale is used in the interpretation of results.

Table 4.29(a): Descriptive Analysis

		C10.1: Ensure that customer requirements are met.	C10.2: Set sensible objectives	C10.3: Provide standards for establishing comparisons	C10.4: Provide scoreborads for people to monitor their performance	C10.5: Provide feedback for driving important efforts
N	Valid	42	42	42	42	42
	Missing	0	0	0	0	0
Mean		4.17	4.12	4.24	4.21	3.98
Median		4.00	4.00	4.00	4.00	4.00
Mode		4	4	5	4	4
Std. Deviation		.621	.705	.759	.750	.680
Variance		.386	.498	.576	.563	.463
Range		2	2	2	3	2
Minimum		3	3	3	2	3
Maximum		5	5	5	5	5

Table 4.29(b): Descriptive Analysis

		D15	D16
N	Valid	42	42
	Missing	0	0
Mean		3.67	2.76
Median		4.00	3.00
Mode		3	3
Std. Deviation		.687	.821
Variance		.472	.674
Range		2	3
Minimum		3	1
Maximum		5	4

Source: Research data

Code: D15 represents the level of agreement on whether the gainsharing programme would induce employees to effectively participate in problem solving or productivity improvement initiatives.

Code: D16 represents the suitability of gainsharing due to the fact that employees who contributed substantially to the company's financial success receive the same rewards as those whose contribution is less significant.

4.8.1 Descriptive Statistics

Descriptive statistics refers to the collection of methods for classifying and summarising numerical data. It provides summary measures of data contained in all the elements of a sample (Kinnear & Taylor, 1990:546). Descriptive analysis incorporates frequencies, measures of central tendency, and measures of dispersion. The following are measurements (decoding) in likert scale, and will be used in the interpretation of results:

1: Strongly disagree
2: Disagree
3: Unsure / uncertain (i.e., neither disagree nor agree)
4: Agree
5: Strongly agree

Note that the variable codes are described in Table 4.29 (a) and 4.29 (b).

4.8.1.1 Frequency

According to Sekaran (1992:136), frequency refers to the number of times various sub-categories of a certain phenomenon occur, from which the percentage and cumulative frequency of their occurrence can be easily calculated.

4.8.1.2 The Mean

The mean is an arithmetic average (Cooper & Emory, 1995:391). Cooper & Emory (1995:395) define the mean as the sum of the observed values in the distribution divided by the number of observations. It is the measure most frequently used for interval-ratio data but can be misleading when the distribution contains extreme values, large or small (Cooper & Emory, 1995:395).

Interpretation of mean results:

Variable C10.1: Has a value of 4.17 and is close to 4. This value indicates an Agree perception of respondents.

Variable C10.2: Has a value of 4.12 and is close to 4. This indicates an Agree perception of respondents.

Variable C10.3: Has a value of 4.24 and is close to 4. This indicates an Agree perception of respondents.

Variable C10.4: Has a value of 4.21 and is close to 4. This indicates an Agree perception of respondents.

Variable C10.5: Has a value of 3.98 and is close to 4. This indicates an Agree perception of respondents.

Variable D15: Has a value of 3.67 and is close to 4. This indicates an Agree perception of respondents.

Variable D16: Has a value of 2.76 and is close to 3. This indicates an Uncertain

perception of respondents.

4.8.1.3 Median

When the collected values have been arranged in ascending or descending order, the middle value is called the median value.

Interpretation of median results:

Variables C10.1; C10.2; C10.3; C10.4; C10.5; D15 and D16 have the same value of 4 and this indicates an Agree perception of respondents.

4.8.1.4 Mode

Mode is value that has the highest times of occurrences from the collected values.

Interpretation of mode results:

Variables C10.1; C10.2; C10.4; and C10.5; and have the same value of 4 values. This indicates an Agree perception of respondents.

Variable C10.3: has a value of 5 and this indicates a Strongly Agree perception of respondents.

Variable D15 and D16: Both have a value of 3 and this indicates an Uncertain perception of respondents.

4.8.1.5 The Standard Deviation

Standard deviation is obtained by subtracting each individual value from an arithmetic mean (Silver, 1992:79). It is the positive square root of the variance. Cooper & Emory (1995:398) emphasise that the standard deviation is the most frequently used measure of spread because it improves interpretability by removing the variance's square and expressing deviations in their original units. Like the mean, the standard deviation is affected by extreme scores (Cooper & Emory, 1995:398).

Interpretation of standard deviation results:

Variable C10.1: Standard (Std) Deviation values are 4.791 or 3.549. Values indicate a slight variation in respondent's perceptions.

Variable C10.2: Std. Deviation values are 4.825 or 3.415. Values indicate a slight variation in respondent's perceptions.

Variable C10.3: Std. Deviation values are 4.999 or 3.481. Values indicate a slight variation in respondent's perceptions.

Variable C10.4: Std. Deviation values are 4.96 or 3.46. Values indicate a slight variation in respondent's perceptions.

Variable C10.5: Std. Deviation values are 4.66 or 3.30. Values indicate a slight variation in respondent's perceptions.

Variable D15: Std. Deviation values are 4.357 or 2.983. Values indicate a slight variation in respondent's perceptions.

Variable D16: Std. Deviation values are 3.581 or 1.939. Values indicate a variation in respondent's perceptions.

4.8.1.6 Range

Range is defined as a difference between the highest and the lowest value.

Interpretation of range results:

Variables C10.1; C10.2; C10.3; C10.5 and D15: have the same value of 2 and this indicates a Disagree perception of respondents.

Variable D15 and D16: Both have a value of 3 and this indicates an uncertain perception of respondents.

4.8.1.7 Minimum

Minimum is the lowest scored value in a particular variable.
Interpretation of minimum results:

Variables C10.1; C10.2; C10.3; C10.5 and D15: Have the same value of 3 and this indicates an uncertain perception of respondents.

Variable C10.4: has a value of 2 and this indicates a Disagree perception of respondents.

Variable D16: has a value of 1 and this indicates a Strong Disagree perception of respondents.

4.8.1.8 Maximum

Maximum is the highest scored value in a particular variable.

Interpretation of maximum results:

Variables C10.1; C10.2; C10.3; C10.4; C10.5 and D15: Have the same value of 5 and this indicates a Strong Agree perception of respondents.

Variable D16: Has a value of 4 and this indicates the Agree perception of respondents.

4.9 CHI-SQUARE TEST

Having measured the location of data using central tendency descriptive statistics in section 4.6, it is now befitting to conduct a Chi-Square test in this section.

Chi-square tests are used to test if a sample of data came from a population with a specific distribution (Snedecor & Cochram, 1989:37). The interpretation of a chi-square test relies on the following conditions:

1. If **p** value is less than or equal **0.05**, there is a statistically significant relationship.

2. If **p** value is greater than **0.05**, there is **NO** statistically significant relationship.

Chi-Square tests will, for instance, be used to test the statistical significant relationship between the selected method by which employees participate in problem solving to each 'reason' of implementing gainsharing in this study.

Reasons to be tested include:

- to deliver on client requirements;
- to enhance teamwork;
- to create a feeling of ownership;
- to share a proportion of saved-costs for continuous productivity improvement purposes;
- to stimulate organizational learning;
- to improve communication between management and employees;
- to stimulate employees to make suggestions on ways to improve productivity;
- to increase profitability; and
- to reduce costs.

4.9.1 To test the statistical significant relationship between the method by which employees participate in problem solving, and an objective of delivering to client requirements as a reason to implement gainsharing

Table 4.30: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.311	2	.519
Likelihood Ratio	1.367	2	.505
Linear-by-Linear Association	.982	1	.322
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.519**, which is greater than 0.05. The result reveals that there is no statistically significance relationship between the method used to participate in problem solving, and an objective of delivering to client requirement as a reason to implement gainsharing. These two variables are independent of each other.

4.9.2 To test the statistical significant relationship between the method by which employees participate to problem solving, and an objective to enhance teamwork as a reason to implement gainsharing

Table 4.31: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.948	2	.622
Likelihood Ratio	1.480	2	.477
Linear-by-Linear Association	.169	1	.681
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.622**, which is greater than 0.05. The result reveals that there is no statistically significant relationship between the method used to participate in problem solving, and an objective of enhancing teamwork as a reason to implement gainsharing. These two variables are independent of each other.

4.9.3 To test the statistical significant relationship between the combination of the two variables/objectives for implementing gainsharing: Enhancing teamwork, and delivering on client requirements

Table 4.32: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.928	1	.165
Continuity Correction	.548	1	.459
Likelihood Ratio	1.753	1	.186
Linear-by-Linear Association	1.882	1	.170
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.165**, which is greater than 0.05. The result reveals that there is no statistical significance relationship between the two variables (or objectives) for implementing gainsharing (i.e., to enhance teamwork and to deliver on client requirements). These two variables are independent of each other.

4.9.4 To test the statistical significant relationship between the combination of the two variables/objectives: Enhancing teamwork, and creating a feeling of ownership

Table 4.33: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.259	2	.878
Likelihood Ratio	.472	2	.790
Linear-by-Linear Association	.002	1	.962
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.878**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables / objectives for implementing gainsharing. (i.e., to enhance teamwork and to create a feeling of ownership). These two variables are independent of each other.

4.9.5 To test the statistical significant relationship between the combination of the two variables/objectives for implementing gainsharing: Creating a feeling of ownership and sharing a proportion of saved-cost for continuous productivity improvement purposes

Table 4.34: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.662	4	.616
Likelihood Ratio	2.307	4	.680
Linear-by-Linear Association	.004	1	.951
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.616**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables / objectives for implementing gainsharing (i.e., to create a feeling of ownership and to share a proportion of saved-cost for continuous productivity improvement purposes. These two variables are independent of each other.

4.9.6 To test the statistical significant relationship between the combination of the two variables for implementing gainsharing: Sharing a proportion of saved-cost for continuous productivity improvement purposes and stimulating organisation learning

Table 4.35: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.321	2	.852
Likelihood Ratio	.552	2	.759
Linear-by-Linear Association	.007	1	.932
N of Valid Cases	42		

Source: Research data

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.852**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables for implementing gainsharing (i.e., to share a proportion of saved-cost for continuous productivity improvement and to stimulate organisation learning). These two variables are independent of each other.

4.9.7 To test the statistical significant relationship between the combination of the two variables for implementing gainsharing: Stimulating organisation learning, and improving communication between management and employees

Table 4.36: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.794	1	.373
Continuity Correction	.002	1	.968
Likelihood Ratio	.680	1	.410
Linear-by-Linear Association	.775	1	.379
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.373**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables for implementing gainsharing. (i.e., to stimulate organisation learning and to improve communication between management and employees. These two variables are independent of each other.

4.9.8 To test the statistical significant relationship between the combination of the two variables: Improving communication between management and employees, and stimulating employees to make suggestions on ways to improve productivity

Table 4.37: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.051	1	.821
Continuity Correction	.000	1	1.000
Likelihood Ratio	.099	1	.753
Linear-by-Linear Association	.050	1	.823
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.821**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables/objectives for implementing gainsharing (i.e., to improve communication between management and employees, and to stimulate employees to make suggestions on ways to improve productivity). These two variables are independent of each other.

4.9.9 To test the statistical significant relationship between the combination of the two variables for implementing gainsharing: Stimulating employees to make suggestions on ways to improve productivity and satisfying managerial motives to increase profitability

Table 4.38: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.561	1	.110
Continuity Correction	.230	1	.631
Likelihood Ratio	2.567	1	.109
Linear-by-Linear Association	2.500	1	.114
N of Valid Cases	42		

Source: Research data

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.110**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables (i.e., to stimulate employees to make suggestions on ways to improve productivity and to satisfy managerial motives to increase profitability). These two variables are independent of each other.

4.9.10 To test the statistical significant relationship between the combination of the two variables: Stimulating employees to make suggestions on ways to improve productivity and satisfying managerial motives to reduce costs

Table 4.39: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.025	1	.874
Continuity Correction	.000	1	1.000
Likelihood Ratio	.049	1	.825
Linear-by-Linear Association	.024	1	.876
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.874**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables for implementing gainsharing (i.e., to stimulate employees to make suggestions on ways to improve productivity and to satisfy managerial motives to reduce costs). These two variables are independent of each other.

4.9.11 To test the statistical significant relationship between the combination of the two variables for implementing gainsharing: Satisfying managerial motives to increase profitability and reduce costs

Table 4.40: Chi-Square Tests

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.561	1	.110
Continuity Correction	.230	1	.631
Likelihood Ratio	2.567	1	.109
Linear-by-Linear Association	2.500	1	.114
N of Valid Cases	42		

Interpretation: The above Chi-square (?) test result indicates a **p** value of **0.110**, which is greater than 0.05. The result reveals that there is no statistical significant relationship between the combination of the two variables for implementing gainsharing (i.e., to satisfy managerial motives to increase profitability and to reduce costs). These two variables are independent of each other.

4.10 CORRELATION

Correlation analysis examines the strength of the identified association between variables (Wegner, 1995:101). Pearson's Correlation Matrix indicates the direction, strength and significance of the bivariate relationship among the variables in the study (Cooper & Emory, 1995:391).

Generally, correlation tests are used to find any significant relationship between study variables, which any two-study variables are dependent or independent to each other and find the direction and strength of dependency. Correlation statistic tests are, therefore, used to explore or describe strength and direction of the linear relationship between two continuous dependent variables (Ex: Likert scale measures). Pearson correlation coefficient **(r)** can only take on values from **-1 to +1.**

Correlation can reveal the following conclusions or results:

1. the significance of correlation;
2. if significant, whether it is positive or negative (direction of correlation); and
3. the strength of the correlation.

The relationship between variables relating to objectives of performance measurements will be done in this section. The relationship aimed at establishing if gainsharing can be used to induce employees to participate in problem solving or productivity improvement initiatives to the suitability of gainsharing will also be conducted.

(a) Objectives for Performance Measurements

Table 4.41: Objectives for Performance Measurements

Correlations

		C10.1	C10.2	C10.3	C10.4	C10.5
C10.1	Pearson Correlation	1	.287	.069	.183	.298
	Sig. (2-tailed)	.	.065	.664	.246	.055
	N	42	42	42	42	42
C10.2	Pearson Correlation	.287	1	.082	-.095	.108
	Sig. (2-tailed)	.065	.	.604	.548	.497
	N	42	42	42	42	42
C10.3	Pearson Correlation	.069	.082	1	.337*	.200
	Sig. (2-tailed)	.664	.604	.	.029	.204
	N	42	42	42	42	42
C10.4	Pearson Correlation	.183	-.095	.337*	1	.010
	Sig. (2-tailed)	.246	.548	.029	.	.949
	N	42	42	42	42	42
C10.5	Pearson Correlation	.298	.108	.200	.010	1
	Sig. (2-tailed)	.055	.497	.204	.949	.
	N	42	42	42	42	42

*. Correlation is significant at the 0.05 level (2-tailed).

Interpretation for Table 4.41

The above correlation results reveal:

1. A variable for ensuring that customer requirements are met and a variable for setting sensible objectives have a p value of 0.065, which is more than 0.05. The variables do not statistically have a significant correlation.

2. A variable for providing standards for establishing comparisons and a variable for providing scoreboards for people to monitor their performance have a p value of 0.029, which is less than 0.05. The variables have a statistical significant

correlation. The positive sign indicates that both have positive correlation and the Pearson product correlation coefficient r-value 0.337 indicates a medium correlation in between both variables.

3. A variable for setting sensible objectives and a variable for providing standards for establishing comparisons have a p value of 0.604, which is more than 0.05. The variables do not statistically have a significant correlation.

4. A variable for providing scoreboards for people to monitor their performance and a variable for providing feedback for driving important efforts have a p value of 0.949, which is more than 0.05. The variables do not statistically have a significant correlation.

5. A variable for providing feedback for driving important efforts and a variable for ensuring that customer requirements are met have a p value of 0.055, which is more than 0.05. The variables do not statistically have a significant correlation.

(b) To establish if gainsharing can be used to induce employees to participate in problem solving or productivity improvement initiatives, and the suitability of gainsharing

Table 4.42: To establish if gainsharing can be used to induce employees to participate in problem solving or productivity improvement initiatives, and the suitability of gainsharing

Correlations

		D15	D16
C10.1	Pearson Correlation	-.210	-.303
	Sig. (2-tailed)	.183	.051
	N	42	42
C10.2	Pearson Correlation	.034	-.076
	Sig. (2-tailed)	.833	.631
	N	42	42
C10.3	Pearson Correlation	-.218	.015
	Sig. (2-tailed)	.165	.925
	N	42	42
C10.4	Pearson Correlation	.047	.085
	Sig. (2-tailed)	.766	.593
	N	42	42
C10.5	Pearson Correlation	-.331*	.164
	Sig. (2-tailed)	.032	.298
	N	42	42

*. Correlation is significant at the 0.05 level (2-tailed).

Interpretation for Table 4.42

1. A variable for ensuring that customer requirements are met and a variable to determine whether gainsharing would induce employees to effectively participate in problem solving or productivity improvement initiatives have a p value of 0.183, which is more than 0.05. The variables do not statistically have a significant correlation.

2. A variable for setting sensible objectives and a variable to determine the suitability of gainsharing on the premise that employees who contributed

substantially to the company's financial success receive the same rewards as those whose contribution is less significant have a p value of 0.631, which is more than 0.05. The variables do not statistically have a significant correlation.

3. A variable for providing standards for establishing comparisons and a variable to determine whether gainsharing would induce employees to effectively participate in problem solving or productivity improvement initiatives have a p value of 0.165, which is more than 0.05. The variables do not statistically have a significant correlation.

4. A variable for providing feedback for driving important efforts and a variable to determine the suitability of gainsharing on the premise that employees who contributed substantially to the company's financial success receive the same rewards as those whose contribution is less significant have a p value of 0.298, which is more than 0.05. The variables do not statistically have a significant correlation.

4.11 T-TESTS

A t-test is used to investigate if there is any significant difference in the means for two groups in the variables of interest, and the variations on the t-test are used for independent and related samples (Cooper & Emory, 1995:397). Generally, t-tests are used to find out if there are any significantly different perceptions of gender towards the study variables.

Table 4.43: Independent Sample Test

Independent Samples Test

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
C10.1	Equal variances assumed	-.256	40	.799
	Equal variances not assumed	-.269	33.339	.790
C10.2	Equal variances assumed	1.282	40	.207
	Equal variances not assumed	1.278	28.845	.211
C10.3	Equal variances assumed	.662	40	.512
	Equal variances not assumed	.605	22.469	.551
C10.4	Equal variances assumed	2.360	40	.023
	Equal variances not assumed	2.183	23.209	.039
C10.5	Equal variances assumed	-1.119	40	.270
	Equal variances not assumed	-1.072	25.591	.294
D15	Equal variances assumed	-.937	40	.355
	Equal variances not assumed	-.944	29.701	.353
D16	Equal variances assumed	.952	40	.347
	Equal variances not assumed	.837	20.273	.412

Codes depicted on Table 4.66 represent the following variables:

C10.1: *Ensure that customer requirements are met*

C10.2: *Set sensible objectives*

C10.3: *Provide standards for establishing comparisons*

C10.4: *Provide scoreboards for people to monitor their performance*

C10.5: *Provide feedback for driving important efforts*

D15: *To establish if gainsharing would induce employees into effectively participating in problem solving or productivity improvement initiatives in the company*

D16: *To establish the suitability of gainsharing in which employees who contributed substantially to the company's financial success receive the same rewards as those whose contribution is less significant.*

Interpretation:

1. On the above t-test results on Table 4.43, the p significance values are above 0.05 and they include the following variables for performance measurement outcomes:

    - ensuring that customer requirements are met;
    - setting of sensible objectives;
    - providing standards for establishing comparisons;
    - providing feedback for driving important efforts, inducing employees to effectively participate in problem solving or productivity improvement initiatives; and
    - the suitability of gainsharing where employees who contributed substantially to the company's financial success receive the same rewards as those whose contribution is less significant.

The result reveals statistically that there is NO significant difference between gender towards the study variables stated above.

2. On above t-test results in Table 4.66, the p significance value is less than 0.05 for performance measurement variable of providing scoreboards for people to monitor their performance. This finding reveals that there is statistically significant difference between gender towards the study variable mentioned.

4.12 CRONBACH ALPHA RELIABILITY TEST

This section determines and interprets the co-efficiency of reliability (or consistency) for the entire study as follows:

Reliability Co efficiency:
Number of Cases = 40.0 Number of Items = 13
Alpha = .8375

Interpretation:
Reliability analysis for the questionnaire reveals Cronbach's alpha value 0.8375. This is above 0.7, which is an indication of the internal consistency and reliability of the questionnaire variables.

4.13 CONCLUDING REMARKS

This chapter objectively presented the results of the study using descriptive and inferential statistics. Descriptive and inferential statistics provided a description and interpretation of results using different methods. A clear presentation of results enables one to identify significant relationships and differences between the variables in the study and also point out areas where improvement is required.

The next and final chapter will outline a summary of theoretical orientation; indicate achievements of research objectives; present recommendations; and determine the possibility for further research.

CHAPTER FIVE: SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 INTRODUCTION

In the previous chapter the study findings were analysed and interpreted using descriptive and inferential statistics. Statistical tests that were used to analyse and interpret data include the analysis of variance (ANOVA); central tendency descriptive statistics; Chi-Square tests; correlations and t-tests.

After elaborating on some of the findings in the previous section, this chapter will outline the summary of theoretical orientation; empirical study used during the study period; ascertain if study objectives were achieved; highlight study restrictions that were encountered during the study process; and present recommendations for future research.

5.2 SUMMARY OF THEORETICAL ORIENTATION

The first chapter of this study highlighted 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, therefore, 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 were deliberated in-depth in the literature study. This includes the importance of gainsharing as a method of working in groups to identify ways of improving performance. Other factors that differentiate gainsharing from other incentive schemes were explored and analysed in chapter two. This includes the theory pertaining to compensation and company performance; perception of inequity and the importance of reinforcement theory; the identification of culture difference; gainsharing as organisation learning; gainsharing and organisational change; and gainsharing implications for

organisational development. In order to establish perceptions towards gainsharing, the study seeks to evaluate management attitudes towards gainsharing as a strategic tool for productivity improvement.

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

5.3 EMPIRICAL STUDY

Each research project has an important relation to the existing theory of the pertinent field of research, and usually also to *empiria*, the tangible world of people, objects and events (Murray & Lawrence, 2000:17); and that's the reason for this section. They explain that these relations determine which methods of research are possible and effectual, and they also prescribe the general character of the project. Empirical research is any activity that uses direct or indirect observation as its test of reality (Remenyi et al, 1998:3). Therefore, the accumulation of evidence for or against any particular theory involves 'planned' research designs for the collection of empirical data (Nicholson, 2003:57). This study is classified under applied research as it promotes both the theory and practice.

The reasoning processes against the bases of an argument (as laid out in the research objectives) that support the conclusion for this study was done using the scientific research methods of inductive logic. The support through which the conclusion had to be drawn depended on the number of managers (from different managerial levels) that were willing to participate in this study. This study was, therefore, conducted following the logical stages of planning and framing; the gathering and recording of secondary data; the analysing of data from respondents and the interpretation of study results as well as report writing.

Stages followed in carrying out this research are discussed below.

- **Planning and framing**: The author had to choose the topic, set out aims and objectives of the study, develop a formal research proposal and work out the timetable for the project. Preliminary reading of books, journals and articles enabled the author to properly frame the research statement and formulate the questions around the secondary data.

- **Gathering and recording secondary data**: Skills for empirical research are built on the record keeping skills (Shonfield, 2003:19), and the author had to make copies of relevant information, label and categorised the data. Questionnaires were drawn and delivered to the selected company.

- **Analysing data and interpreting study results**: The research is quantitative in nature, and the raw data collected from respondents were coded in a form of language that can be written clearly and unambiguously in standardized 'tables' that can be used for analysis. Study analysis used involved summarising data in a way that explains study concepts to the reader (i.e., descriptive statistics) and using these to test the research hypothesis (i.e., inferential statistics).

- **Writing a report**: This involved the alignment of the problem statement to the theoretical foundation (i.e., the literature review) and study findings, and presenting these in an acceptable report format.

The next section evaluates if the study objectives highlighted in chapter one of this research has been achieved. The relevant study objectives will be highlighted and the study outcomes explained in text and/or numerical format on how objectives were achieved.

5.4 ACHIEVEMENT OF RESEARCH OBJECTIVES

The extent to which the study achieved practical results, successfully, is important. Study objectives serve as the backbone of the entire study. Achievements of research objectives are briefly discussed below:

- **To present a comprehensive framework for gainsharing theory and practice**:

  Relevant theoretical foundation and its practical implications were discussed in both chapters one and two of this study. The main sources of information were journals, articles and relevant book editions. The study was, therefore, able to present a comprehensive framework of gainsharing theory and practice. Areas covered in the literature review includes, amongst others, a compensation and company performance; perception of inequity and the importance of reinforcement theory; the identification of culture difference; gainsharing as organisation learning; gainsharing and organisational change; gainsharing implications for organisational development; and changes in power relationship during gainsharing implementation.

- **To explore the suitability of gainsharing as an appropriate monetary reward**:

Results from study analysis reveals that 54.8 per cent of managers agree that gainsharing would induce employees to effectively participate in problem solving or productivity improvement initiatives. Bearing in mind that the study evaluates management attitudes towards gainsharing as a tool for productivity improvement, the results indicate that managers have faith in the gainsharing programme.

- **To ascertain management perceptions and reasons for implementing gainsharing:**

The majority of respondents feel that gainsharing will benefit the company, and this is shown by the 'large percentage response' from managers whose faith to gainsharing programme was developed. The following results (in table 5.1) confirm the above issues.

Table 5.1: Ascertain management perceptions and reasons to implement gainsharing.

Benefits for implementing gainsharing	**Percentage response accepting this benefit**
To deliver to client requirements	69
To enhance teamwork	92.2
To create a feeling of ownership	64.3
To share a proportion of saved-cost for productivity improvement purposes	88.1
To stimulate organisation learning (or problem solving mindset)	76.2
To improve communication between management and employees	95.2
To stimulate employees to make suggestions on ways to improve productivity	97.6
To increase profitability	71.4
To reduce costs	97.6

Management believes strongly in gainsharing, particularly, on critical issues relating to enhance teamwork; to share a proportion of saved-cost for productivity improvement purposes; to improve communication between management and employees; to stimulate employees to make suggestions on ways to improve productivity; and to reduce costs have achieved 'bigger' percentages ranges from 88.1 to 97.6 per cent. These and the rest of the issues tabled in table 5.1 indicate a good management's perception to the gainsharing programme

- **To ascertain if the above reasons have been met by the company's scheme currently in place**

Table 5.2: Ascertain if the above reasons have been met by the company's scheme currently in place

To ascertain if the following reasons have been met by the company's scheme currently in place	**An indication if the corresponding reason(s) have been: MET / NOT MET / UNSURE, is shown below**	**Percentage response for the outcome**
To deliver to client requirements	UNSURE	56.1
To enhance teamwork	MET	36.6
To create a feeling of ownership	NOT MET	42.5
To share a proportion of saved-cost for productivity improvement purposes	NOT MET	87.8
To stimulate organisation learning (or problem solving mindset)	UNSURE	41.5
To improve communication between management and employees	MET	80.5
To stimulate employees to make suggestions on ways to improve productivity	MET	78.0
To increase profitability	UNSURE	53.7
To reduce costs	MET	92.7

Table 5.2 indicates that management is 'not sure' if the scheme currently in place assisted the company to deliver on client requirements; stimulate organization learning (i.e., problem solving mindset); and increase profitability. They agree that the scheme enables the company to enhance teamwork; improve communication between management and employees; stimulate employees to make suggestions on ways to improve productivity; and reduce cost.

However, the scheme currently in place has 'not met' management's objectives to create a feeling of ownership; and to share a proportion of saved-cost for productivity improvement purposes.

5.5 RESTRICTIONS OF THE STUDY

The study focuses only on one company, but the findings are much broader in their application. A substantial amount of data is available as it pertains to the global world, and not specifically to South Africa.

5.6 RECOMMENDATIONS

During the course of this study, many issues relating to the 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 study didn't allow these areas to be covered in depth. It is recommended that future research should be examine the following issues in greater depth:

- critical review of gainsharing that will include the socio-psychological, organisational and economic perspectives,
- determinants that might help gainsharing to survive,
- when to use and when not to use a gainsharing programme, and
- applicability of gainsharing to other industrial sectors.

5.3 CONCLUDING REMARKS

Overall, this study has highlighted productivity level in South Africa and the need to improve it. 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. This was accompanied by practical implications of gainsharing as experienced by overseas companies. The forms, practical application of gainsharing and its pros and cons were discussed in the literature study. The empirical data used during this study was based on questionnaires that were administered amongst managers of Smiths Plastics (Pty) Ltd.

During the planning and framing stages of the problem statement, it became apparent that the study should be developed around the following objectives:

- to present a comprehensive framework for gainsharing theory and practice;
- to explore the suitability of gainsharing as an appropriate monetary reward;
- to ascertain the perceptions of management with regard to implementing a gainsharing programme;
- to ascertain reasons for implementing a gainsharing programme; and
- to evaluate if these have been met by the company's scheme currently in place.

An evaluation on the achievements of research objectives has been outlined in this chapter.

Besides the achievements of the study objectives and the reasons for managers to implement gainsharing as outlined above, the following conclusions can also be made:

1. Gainsharing has been recognised as an appropriate monetary reward for productivity improvement.

2. Gainsharing creates a working environment that encourages worker participation and provides an opportunity for linking improved performance to compensation.

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ANNEXURE A:

LETTER OF INFORMATION AND CONSENT

39 Caversham Road
Pinetown
3610
7 September 2005

Dear Participant,

LETTER OF INFORMATION AND CONSENT

Title of study: Management attitudes towards gainsharing as a strategic tool for productivity improvement at a selected South African company

I am currently undertaking a research project that aims to determine management attitudes towards gainsharing as a strategic tool for productivity improvement.

It would be appreciated if you would kindly complete the enclosed questionnaire. The questionnaire would take approximately fifteen minutes to complete. I will call personally to clarify any problems you may have in finalising your responses. You have the opportunity to receive a summary of the results of the study, if so desired. Should you wish to discuss this further please feel free to contact me or my supervisor (Dr Darry Penceliah on 031 308 5425). Confidentiality of information will be respected.

Your assistance will be much appreciated,
Yours faithfully,

Dumisani Zondo
(031) 308 6300 (W) or 083 631 9124

……

Please complete the following as confirmation of your willingness to participate in this research project:

I, ……have adequately discussed the study with the researcher, understand that I may withdraw from it at any time without giving reasons, and voluntarily agree to participate by returning the questionnaire.

Signature:……Date……..

ANNEXURE B:

QUESTIONNAIRE ON GAINSHARING PROGRAMME

RESEARCH QUESTIONNAIRE:

A. GENERAL INORMATION

1. Level of Management. Please indicate below.

Top Management	Middle Management	Lower level Management / supervisor

2. Department (e.g. Technical Department, Quality Department, etc)

3. Indicate the number of employees under your span of control. Please select one answer.

<10	10 – 20	21 – 30	31 - 40	41 – 50	>50

B. BIOGRAPHICAL DETAILS

4. Gender

Male	Female

5. Age in years

<18	18 – 25	26 – 33	34 - 41	42 – 49	>50 & over

6. Marital Status

Single	Married	Divorced

7. Length of Service

0 – 3 years	4 – 7 years	8 – 11 years	12 years and over

8. Ethnic group

African	Asian	White	Coloured

9. Education

Primary	Secondary	High School	Tertiary

Please, specify below:

C. PERFORMANCE MEASUREMENT & PROBLEM SOLVING

10. Has your department or Work centre established performance measurements (e.g. work standards)?

☐ Yes ☐ No

If yes, please indicate from the scale of 1 to 5 your level of agreement on whether performance measurements enable your department to meet objectives listed below.

	1 Strongly Disagree	2 Disagree	3 Uncertain	4 Agree	5 Strongly Agree
Ensure that customer requirements are met					
Set sensible objectives					
Provide standards for establishing comparisons					
Provide scoreboards for people to monitor their performance					
Provide feedback for driving important efforts					

11. Do employees receive incentives relating to the achievement of predetermined goals?

☐ Yes ☐ No

12. Are employees encouraged to express production concerns on issues relating to Departmental's / Work centre's performance aimed at uncovering solution to work problems?

☐ Yes ☐ No

13. Indicate the method by which employees participate to problem solving initiatives for productivity improvement.

Individual-based suggestion method	Team-based method (e.g. Quality Cycles)	Combination of both Individual and team-based method	Other (Please Specify)

D. PERCEPTION TO GAINSHARING PROGRAMME

14. Is there an incentive scheme / programme (financial / non-financial) aimed at inducing employees to participate on problem solving or productivity improvement initiatives in your department?

☐ Yes ☐ No

If yes, please specify the type:

15. Indicate, from the scale of 1 to 5, your level of agreement on whether the gainsharing programme would induce employees to effectively participate on problem solving or productivity improvement initiatives in your company.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

16. When gainsharing is implemented, employees who contributed substantially to the company's financial success receive the same rewards as those whose contribution is less significant. Indicate, from the scale of 1 to 5, your level of agreement that the statement renders gainsharing unsuitable to use in your company.

1	2	3	4	5
Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree

17. Are there obstacles that might hinder the application of the gainsharing programme in your company?

☐ Yes ☐ No ☐ Unsure

If yes, please indicate, from the scale of 1 to 5, your level of agreement on whether the obstacles could be those listed below.

	1	2	3	4	5
	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Employee resistance					
Union resistance					
Insufficient information about gainsharing					
Unavailability of outside help					
Not suitable with culture of the African people					
Not suitable with the way we do things in the company (i.e. corporate culture)					

E. WHAT WOULD BE YOUR MAIN REASON (S) FOR IMPLEMENTING THE GAINSHARING PROGRAMME IN YOUR COMPANY?

Please indicate your reason(s) for implementing gainsharing by ticking one column in each row from the table below.

	Table		
	Your Reason(s) for implementing gainsharing		
	Yes	No	Unsure
18. To deliver on client requirements……..			
19. To enhance teamwork……			
20. To create a feeling of ownership……			
21. To share a proportion of the saved-cost for continuous productivity improvement purposes……..			
22. To stimulate Organization Learning (or Problem solving mindset)……...			
23. To improve communication between management & employees……..			
24. To stimulate employees to make suggestions on ways to improve productivity……..			
25. To satisfy managerial motives such as: - Increase profitability……			
- Reduce costs…….			

26. Other reason(s). Please specify them below:

Please indicate if the reason(s) are met by the company's scheme currently in place by ticking one column in each row of the table below.

	Table		
	Has this been met by the company's scheme that is currently used		
	Yes	No	Unsure
27. To deliver on client requirements……..			
28. To enhance teamwork……			
29. To create a feeling of ownership……			
30. To share a proportion of the saved-cost for continuous productivity improvement purposes……..			
31. To stimulate Organization Learning (or Problem solving mindset)……...			
32. To improve communication between management & employees……..			
33. To stimulate employees to make suggestions on ways to improve productivity……...			
34. To satisfy managerial motives such as:			
- Increase profitability……			
- Reduce costs…….			