UNIVERSITY OF KWAZULU-NATAL

THE EFFECT OF ORGANISATIONAL DIFFERENCES IN OWNERSHIP, CONTROL AND STRUCTURE ON EMPLOYEE PERCEPTIONS OF PARTICIPATION AND EMPOWERMENT: AN ANALYSIS OF THESE PHENOMENA IN RELATION TO THE OPERATIONAL COSTS OF TWO LABOUR INTENSIVE SOUTH AFRICAN COMPANIES

by

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of
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This thesis is dedicated to the Memory of my Parents,

Victor Cuthbert Simpson

(20th August 1928 to 17th June 2002)

and

Margaret Ellen Simpson

(11th May 1934 to 02nd December 2006)

PREFACE

The work presented in this thesis represents original analysis by the author over several years under the auspices of the Graduate School of Business – Faculty of Management Studies, University of KwaZulu-Natal, Durban.

These results have not been submitted in any form to another University. Where reference has been made to the work of others it has been duly acknowledged.

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- To my wife Sharon who stood behind me through both a MBA followed by this DBA. Thank you.
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ABSTRACT

This study investigates the relationships between ownership, control, organisational structure and company operational costs. The workers' perceptions of participation (financial and decision-making) and empowerment are measured between two labour intensive factories with different ownership structures.

The first factory (Kopano) has a workforce that shares equity ownership, or holds proprietary title. It is significant to note that the Kopano workers share in the ownership of the manufacturing section only, and not the upstream activities (mining, etc.), nor the downstream activities (despatch, selling, marketing, etc.). Accordingly, the Kopano owner-workers concentrate on manufacturing only.

Employees at the second factory (Lawley) have no equity stake; they do not hold proprietary title and are "normal" salaried employees.

The hypotheses seek to identify differences between the two factories, relative to the worker's sense of participation (financial and decision-making) and empowerment. The rationale is that the workers who hold proprietary title (Kopano) should have a greater sense of financial participation, decision-making participation and empowerment than the workers (Lawley) who do not hold proprietary title. This is tested via questionnaires at both factories and the results obtained strongly support the hypotheses.

Given the abovementioned findings, the study then seeks to establish that there will be greater savings in operational costs at Kopano factory (where the workers hold equity title) compared to Lawley (where the workers are not involved in ownership participation). The rationale behind this hypothesis is that operational costs at Kopano should be lower than the operational costs at Lawley (because of the different ownership positions). An analysis of operational costs between factories supports this argument.

The study finally seeks to establish a strong balance of probability that the results obtained are because of the different ownership structures. This is confirmed using Mill's Method of Difference. However, identified weaknesses with this analytical tool suggest that conclusive declaration to this end be the subject of future research.

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ABBREVIATIONS

AESOP	All-Employee Share Ownership Plan
ANC	African National Congress
APP	Affirmative Procurement Policy
ASP	Average Selling Price
BCG	Boston Consulting Group (Share/Growth Matrix)
BE(s)	Brick Equivalent(s)
BBBEE	Broad Based Black Economic Empowerment
BBEE	Broad Based Economic Empowerment
BCE	Basic Conditions of Employment Act
BEA	Black Empowerment Act
BEE	Black Economic Empowerment
BIFSA	Building Industries Federation of South Africa
B&GWU	Brick and General Workers Union
CCH	Computer Configuration Holdings
CCMA	Commission for Conciliation, Mediation and Arbitration
CDC's	Community Development Cooperatives
CEO	Chief Executive Officer
CLP	Caja Laboral Popula
COP	Cost of Production
COS	Cost of Sales
COSATU	Congress of South African Trade Unions

DTI	Department of Trade and Industry
EFTA	European Free Trade Association
EMI	Enterprise Management Incentives
EOQ	Economic Order Quantity
ERG	Existence, Relatedness and Growth (theory)
ESOP	Employee Share Ownership Plan
EU	European Union
FASA	Franchise Association of South Africa
FDI	Foreign Direct Investment
GEAR	Growth, Employment and Redistribution Policy
GAAP	Generally Accepted Accounting Principles
GBP	Internationally accepted symbol for the British Pound (currency)
G.E.C.V.	Grup Empresarial Cooperativ Valencia
GP	Gross Profit
IRR	Internal Rate of Return
IT	Information Technology
JIT	Just in Time
JSE	Johannesburg Stock Exchange (JSE Securities Exchange)
KTI	Kagiso Trust Investment
LRA	Labour Relations Act
M&A	Merger & Acquisition
MCC	Mondragon Cooperative Corporation
MIS	Management Information Systems

NGO	Non Government Organisation
NP	Net Profit
NQF	National Qualifications Framework
NSA	National Skills Authority
R&D	Research and Development
RDP	Reconstruction and Development Programme
ROI	Return on Investment
SA	South Africa (RSA; Republic of)
SARS	South African Revenue Services
SBU	Strategic Business Unit
SMME	Small, Medium and Micro Enterprises
TVA	Transverse Arch (kiln)
UK	United Kingdom
UN	United Nations
UNIA	Universal Negro Improvement Association
US$	United States Dollars
US (A)	United States (of America)
VAT	Value Added Tax
WACC	Weighted Average Cost of Capital
WMCC	Weighted Marginal Cost of Capital

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INFLUENTIAL PERSONS IN THE COMPILATION OF THIS STUDY

Reference is made throughout the study to various persons and/or positions as mentioned below. It is important for the reader to familiarise themselves with these persons and positions, and their relative influence on the study, prior to proceeding.

Name	Company	Designation
Du Trevou, P. Mr	Corobrik Kopano	Managing Director Chairman
Voorma, H.O. Mr	Corobrik Chairman of the Clay Brick Association of South Africa	Executive Director
Lee, C. Mr	Corobrik Kopano	Financial Director Financial Director
Sosibo, S. Mr	Corobrik	Human Resources Director
Anthony, J. Mr	Corobrik	Engineer
Soper, S. Mr	Corobrik	Export Sales, past Factory Manager, Engineer.
Starr, I. Mr	Corobrik: Lawley	Past Factory Manager
Aveling, F. Mr	Corobrik: Lawley	Factory Manager
Reid, M. Mr	Corobrik	Manager Mineral Resources
Matlou, D. Mr	Kopano	Factory Manager
Mosala, B. Mr	Kopano	Asst. Factory Manager Production Manager: Making Dept.
Sebolai, S. Mr	Kopano	Materials Manager
Olivier, M. Mr	Kopano	Production Manager: Kiln & Sorting
King, S. Ms	Kopano	Secretary
Mathebula, K. Mr	Brick & General Workers Union.	Deputy President

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO THE RESEARCH TOPIC

The study investigates two labour intensive manufacturing entities in South Africa that exhibit significant differences in their ownership structures. The first factory (Kopano) has a low-skilled workforce that shares equity ownership (holds proprietary title). The second factory (Lawley), also has a low-skilled workforce, but is wholly owned by Corobrik (Pty) Ltd, and as such, the workers are "normal" salaried employees who do not hold proprietary title.

The transformation of the Kopano factory from its position under Corobrik management control, to its current status, took place in 1999. At the time of the research (2003) two complete financial years had passed. This is significant because one could argue that the first year after transformation could have been perceived as "unchartered territory", for both the new management at Kopano, as well as the workforce (a realistic argument), and as such unsuitable for stable study purposes.

A significant difference between factories is that the Kopano workers hold proprietary title (of the production process), whereas the workers at the Lawley factory do not have any equity stake (proprietary title). This ownership difference is regarded as a key distinguishing feature between the factories.

Each and every business unit (factory) owned by Corobrik is judged on its individual merits based on various aspects, the most important of which is the contribution to the bottom-line. This is normally in the form of an income statement with the assets and liabilities reflected on the head office balance sheet. The Kopano factory found itself in a situation where bottom-line contribution to head office was not sufficient to maintain production. The factory was considered a "dog" according to the Boston Consulting Group Growth/Share Matrix (Pearce and Robinson, 1994). The stakeholders were faced with numerous alternatives. Retrenchment was an absolute last alternative as the employees needed to work. Negotiations were entered into with Corobrik senior management, the representative union (B&GWU – Brick & General Workers Union), and non-union representatives of the workers.

Had Corobrik closed the factory and paid retrenchment costs, they would have had a retrenchment liability of approximately R2.5 million (the exact amount is not important to the study). Instead, it was decided to sell the factory operations (assets) to the workers for a sum equal to the retrenchment liability. A new entity was registered (called Kopano) where the shareholders included Corobrik who held twenty-five percent, two representatives of the union (B&GWU) who, with the new senior management held twenty-five percent, and the workers, who held the remaining fifty percent. The workers' fifty percent was deemed equal to the retrenchment liability. The workers' shares were allocated on a *pro rata* basis depending on length of service and seniority, and this was directly proportional to what they would have received by way of a retrenchment package. Corobrik's twenty-five percent shareholding was as a result of the workers requesting their continued involvement, given their expertise in clay brick-making. Corobrik's shareholding was to run for a period of two years, to be reviewed thereafter.

This study focuses on regional manufacturing by comparing identified variables between the Kopano factory and the Lawley factory. Both factories are situated approximately an hour's drive from central Johannesburg, Gauteng, South Africa. The Kopano factory was, while previously under Corobrik management, known as the Klerksdorp factory.

A problem experienced (at both factories) was that a large percentage of the workers were (and still are) illiterate, yet they had become equity owners of the Kopano factory. The factory is labour intensive with a large percentage of low-skilled workers. What transpired has been a paradigm shift for all stakeholders. The workers have been on a major and continual learning curve, with monthly meetings being held to explain financial statements of operations, etc. Discussions concerning all aspects of the business which did not occur to this extent prior to the change in ownership and control have now taken place. Currently, there is total transparency on all issues and concerns surrounding the production unit, and at all levels. Any Kopano owner-worker, in any position, can now approach management and discuss the running of the operation. This is encouraged. While under Corobrik management, and given that business and labour were on "opposite sides", a worker had to go through the correct channels (shop-floor steward, etc.) to lodge a complaint or suggestion with the union. The channels of communication were laborious, and arguably more of a barrier than a means for finding solutions.

Before the sale from Corobrik to Kopano, it is perceivable that the workers were not actively focused on costs. Since the transformation, the owner-workers now enquire why certain elements of expenditure are high, and consider what could be done to reduce them. If a situation arose where they had a special market requirement, they would come in to work during their days off at a reduction in pay so as to be competitive in securing that particular deal. This is in marked contrast to worker attitudes and behaviour under the previous conventional Corobrik management systems and strongly supports hypothesis # 3 (operational cost savings at Kopano).

Prior to the new arrangement, workers' levels of motivation were low. Having jobs was the workers' first priority. Since the transformation from Corobrik Klerksdorp, to Kopano, levels of motivation have risen dramatically (D. Matlow, personal communication, October, 2001). The Kopano workers are now fully involved with operational issues and there is total transparency. Every person in the factory has a vested interest in the profitability of the factory. The structure of the deal resulting in the change (1999) excluded the land and mineral rights which are still owned by Corobrik. Corobrik also retained the rights to the sales outlets, and signed a deal with Kopano whereby Corobrik would purchase the full budgeted production of Kopano

products, thus releasing Kopano from the responsibility of liquidating stock. Kopano's focus is simply on efficiencies in production. This is important in the context of the study, which investigates only operational activities, and excludes all upstream (mining rights) and downstream interests (sales and distribution).

This study is a comparative analysis between two factories. Because of differences in levels of technology, one is limited in the choice of other factories with which a comparison could be drawn. However, the Lawley factory employs similar technology to that of the Kopano factory, and thus offers a platform against which an analytical comparison can be made.

1.2 MOTIVATION AND PURPOSE OF THE STUDY

Following the transformation at Kopano, the factory is (now) owned and managed by the workers. The Lawley factory is owned and managed by Corobrik (Pty) Ltd.

In South Africa there exists very limited empirical investigation relative to ownership throughout an organisation, a situation worsened when said ownership is extended to the total workforce, including the illiterate black workers. This study consequently attempts to fill the void in the South African literature relative to ownership throughout the organisation.

This research project was conducted two years after the transformation of Kopano. The purpose and significance of this research is to investigate various differences between the two factories taking into account their different ownership structures, and hence control. Areas of comparison between factories include workers' perceptions of participation (financial and decision-making) and empowerment. The study seeks to confirm that the operational costs at Kopano, where the workers hold proprietary title, are lower than at the Lawley factory. It also seeks to confirm that these savings are as a result of the different ownership positions of the factories.

The following three hypotheses (detailed in Chapter Four) are identified:

Hypothesis # 1: Semi and unskilled workers who hold proprietary title at the Kopano factory will have a greater sense of participation (decision-making and financial) than semi and unskilled worker's at the Lawley factory who do not hold proprietary title.

Hypothesis # 2: Semi and unskilled workers who hold proprietary title at the Kopano factory will have a greater sense of empowerment than semi and unskilled workers at the Lawley factory who do not hold proprietary title.

Hypothesis # 3: Taking into account the differences in ownership between the two factories, operational costs at the Kopano factory will be lower than operational costs at the Lawley factory.

The first hypothesis seeks to identify a difference between the workers (between factories) relative to their sense of participation (both decision-making and financial participation). The second hypothesis identifies if there are differences relative to the workers' sense of empowerment, and the third and final hypothesis suggests that there will be greater savings in operational costs at the factory where the workers are also owners. The rationale behind these hypotheses is that the workers who hold proprietary title (Kopano factory) should have a greater sense of participation and empowerment than the workers at the Lawley factory who do not hold proprietary title. Following on from this the study then seeks to confirm greater savings in operational costs at Kopano, versus those at Lawley. Finally, the research seeks to identify a strong balance of probabilities using Mill's Method of Agreement and/or Difference (Cooper and Schindler, 2001) that the study findings are as a result of the different ownership structures.

As part of the investigative research examines the financial position of the Kopano factory for a full financial year, it could be argued that the second year (the year subsequent to the "settling down year"), would yield more realistic figures for comparative purposes. So, both the qualitative and quantitative information researched in this study were sourced from the second full financial year after transformation.

1.3 IMPORTANCE OF THE RESEARCH

South Africa is only ten years into a democratically elected government (as at 2004). The past fifty years (and beyond), being the apartheid years, are extremely complex and one cannot hope to cover the subject comprehensively in this overview. Ownership, financial participation, decision-making participation and empowerment are words not associated with (black) labour of the past and as such the changes at the Kopano factory relative to this study are prodigious.

Since 1994 there have been many attempts at involving previously disadvantaged (black) people into the mainstream economy. Mbendi (cited in Mummy, 2000) argues that the black economy, which constitutes 76% of the South African population (34, 3 million people), are ambivalent about the call for black empowerment. They are proud of their leaders, but see them as being in pursuit of self-interest before the interests of others, leaving the vast majority of black South Africans as economically disadvantaged as they were prior to the 1994 elections.

Jain (1980) stated that worker participation in any country needs to be seen in the context of its industrial relations system, and identified the major stakeholders in that system as the workers, their organisations, management and government. The successful functioning of participative processes is dependent on the goals, values and powers of these stakeholders' perceptions of the environment, comprising external, internal and behavioural forces. Given the dramatic changes to South Africa's industrial relations system over the past (approximately) fifteen years, it is important to appreciate the magnitude and significance of the changes at Kopano factory in light of said changes.

This study is written in the context of South Africa's political past. This refers to a long and torrid struggle by black workers against continuing repression from both state and employers alike. Despite the fact that twelve years has passed since Nelson Mandela's release, the re-engineering at the Kopano factory, the subject of this research, is (given the historical context) a paradigm shift of immense proportions.

It is evident that the relationship between the State, the employer and the employee has improved dramatically in recent years. There is now a greater protection of employee rights, something that was limited in previous years. While the current labour legislation (Acts) clearly improves the working conditions of the employees, the legislation falls short of worker participation (financial and decision-making) and empowerment (as defined in the context of this study; see Chapter Two). It could be argued that the various Acts are more relevant to the relationship between employer and employees at the Lawley factory, but are not that applicable to the workers at the Kopano factory (because of their ownership status). This study extends beyond the scope of the various Acts, and investigates participation and empowerment at worker level.

1.4 RESEARCH APPROACH

Two main research methods were employed: archival research and survey research.

Archival research entails the examination of recorded facts and is research conducted primarily by means of library research, that is, the examination of secondary data sources. In contrast, primary data sources deal with the original documents or official files and records (Saenger, 1991). Chapter 2 deals with archival research and covers the main subject headings of empowerment, financial participation, decision-making participation, ownership and control.

Chapters 4 to 6 deals with the survey research and includes the hypotheses, the respondent samples, the measuring instruments (the questionnaire), the data collection process, the preparation of the data for processing and analysis, statistical presentation and analysis of the data, interpretation of the research results and the drawing of conclusions and the making of recommendations on the basis of the research findings. Given the nature of the study a comprehensive section on ethical considerations is also included.

1.5 ORGANISATION OF THE STUDY

This study comprises 6 chapters which are introduced as follows:

CHAPTER 1: INTRODUCTION

In this chapter the background to the research topic, the motivation for the purpose of the study, the importance of the research, the research approach utilised and the organisation of the study are presented.

CHAPTER 2: A REVIEW OF THE LITERATURE

The literature review begins with an investigation into participative management (decision-making and financial), followed by empowerment. It is hypothesised that the reason for the different results between factories is as a direct result of the different ownership structures. Accordingly a theoretical understanding of ownership and control are next presented. The review of the literature then shifts to empirical examples with a presentation of international examples of employee participation and empowerment. The chapter ends with a comparative analysis of the various elements discussed in this chapter with those of the Lawley and Kopano factories.

CHAPTER 3: A COMPARATIVE ANALYSIS BETWEEN THE KOPANO AND LAWLEY FACTORIES

This chapter serves to confirm that the two factories being compared are similar relative to technology employed, manufacturing process and human resources. It further goes on to confirm the different ownership structures between factories, and closes with an explanation as to what is understood by “operational costs” in the brick-making industry.

CHAPTER 4: THE RESEARCH DESIGN AND METHODOLOGY

This chapter begins with the Research Objectives and Hypotheses being introduced. Mill's is the analytical tool used in an attempt to link the findings of the statistical tests to the different ownership structures between factories. Accordingly Mill's Method of Difference and/or Agreement is next discussed. This is followed by an explanation relative to the selection of the respondent samples and the design of the measuring instruments. The statistical techniques used in the study are then introduced, followed by ethical considerations and possible limitations to the study.

CHAPTER 5: PRESENTATION AND ANALYSIS OF THE RESEARCH FINDINGS

This chapter presents and discusses the results of the research findings. The point of departure was firstly to confirm that the respondent sample response rate was in accordance such that it was suitably representative of the respective population groups. Once this was confirmed the measuring instruments needed to be checked from a reliability and validity perspective. Only then could the results of the statistical analysis have credibility and accordingly they are now tabled and discussed. Following this is a discussion on the cost of operations between factories. The chapter closes with the results and discussion on a causal inference analysis of the findings using Mill's Method of Difference.

CHAPTER 6: DISCUSSION OF THE RESEARCH FINDINGS, RECOMMENDATIONS AND CONCLUSION

The final chapter discusses the research findings in relation to all three hypotheses. This chapter aims, as its main objective, to interpret the results in the light of previous research. This is done in the context of the theoretical commentaries and empirical research reports from the literature. Finally the chapter ends with recommendations and conclusion.

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CHAPTER TWO

A REVIEW OF THE LITERATURE

2.1 INTRODUCTION

The study measures two samples of workers with significantly different ownership positions. The identified hypotheses measure between workers relative to their sense of participation and empowerment. The study further attempts to connect the results of the tests with said ownership positions. Accordingly the first objective of this chapter is thus to provide an overview of the concepts of participation (decision-making and financial). This is followed by an overview on empowerment. Given the different ownership positions between the factories the next topic to be reviewed is the concepts of ownership and control. Empirical literature on numerous international companies, highlighting their involvement in empowerment and participative practices, is then discussed. Finally a comparative analysis of the various elements discussed in this chapter with those of the Lawley and Kopano factories is undertaken.

2.2 PARTICIPATIVE MANAGEMENT

2.2.1 Introduction

The study is essentially about participation at worker level with hypothesis # 1 testing the difference between workers, between factories, relative to their sense of both financial and decision-making participation. The inclusion of participative management in the literature review serves to lay the foundation for in-depth reviews on both decision-making participation and financial participation. In achieving this goal the following sub-objectives are dealt with in sequence:

- Definitions of participative management
- A review of three conceptual frameworks of participative management
- A discussion of the determinants of participation
- Participation schemes in South Africa
- An overview of the major theoretical foundations of employee motivation that underpin participation strategies
- Summary

2.2.2 Definitions of Participative Management

The terms employee participation and employee involvement first began to appear in management literature in the late 1970's (Salamon, 1998). Since then, numerous companies have implemented some sort of employee participation program designed to improve workplace policies, and to develop and effect operational changes advantageous to both management and workers. These programs were referred to as managed work teams, quality of worklife groups and action committees or worker-manager committees, and typically provided a forum in which employees could present proposals or ideas to management concerning workplace issues and obtain a management response (Salamon, 1998).

Cabrera *et al.* (2001) state that there is no clear consensus regarding the definition of employee participation. It is a process that involves employees in the sharing of information and/or making of decisions. Participation may be direct or indirect (Cabrera *et al*., 2001; Salamon, 1998; Markey *et al*., 2001). Direct participation

involves the employees themselves, whereas indirect participation takes place through an intermediary of employee representative bodies, such as work councils, trade unions, etc. There are two main types of direct participation being consultative and delegative participation (Geary and Sisson, 1994: cited in Cabrera *et al*. 2001). Consultative participation refers to practices where management encourage employees to share their opinions yet retains the right to make the final decisions. Delegative participation gives employees increased responsibility and autonomy to organise and perform their jobs as they see fit.

Markey *et al*. (2001) support Cabrera *et al*. (2001) in their definition of employee participation. It can be defined as any workplace process which allows employees to exert some influence over their work and the conditions under which they work. Markey *et al.* (2001) agree with the division between direct and indirect participation, but refer to indirect participation as representative participation. Indirect participation is arguably practiced at Lawley (where non-owner workers negotiate through unions), whereas direct participation is arguably practiced at Kopano (where the workers are the owners).

Two theoretical models address the potential advantages of direct employee participation (Cabrera *et al.* 2001). According to cognitive models of participating effects (Anthony, 1978; Frost, Wakely and Ruh, 1974; Miller and Monge, 1986; cited in Cabrera *et al.,* 2001), employee involvement increases the flow of information in organisations. Practices that encourage employees to more freely share information lead to higher levels of performance (Lawler, 1986; Lawler, Mohrman and Ledford, 1995; cited in Cabrera *et al.,* 2001).

Lord (1995) agrees with Cabrera *et al.* (2001) that the concept of worker "participation" does not have a universally accepted meaning. Salamon (cited in Lord, 1995) identified three very different interpretations in practice:

- A socio-political concept or philosophy of industrial organisation.
- A generic term to encompass all processes and institutions of employee influence.
- A term denoting a phase in the evolutionary development of traditional joint regulation process.

Salamon suggested the following definition of employee participation: A philosophy or style of organisational management which recognises both the need and the right of employees, individually or collectively, to be involved with management in areas of the organisation's decision-making beyond that normally covered by collective bargaining (cited in Lord, 1995: 11).

This definition views labour relations as a point of departure, with participation as a "complimentary extension" (Lord, 1995: 11). It makes no mention of financial types of participation. Marchington *et al.* (Cited in Salamon, 1998) suggest that all definitions of participation should include the forms (direct, indirect or financial), degree, level (in the organisational hierarchy), and the range of the subject matter being considered in the involvement scheme, and categorised definitions of employee involvement into three types:

- Those that referred to employees taking part or having a say in decision-making with no attempt to quantify their impact on the process.
- Those that referred to participation as concerned with the extent to which employees might influence managerial actions.
- Those that linked together participation with the control over decision-making.

Wall and Lischerson (1977) agree with Marchington *et al.* (cited in Salamon, 1998) regarding the three elements (influence, interaction and information sharing), with various forms of involvement containing a greater or lesser degree of each element. Marchington *et al*. (cited in Salamon, 1998) describe the most useful definitions of employee involvement by stating: The term employee involvement is used to indicate that these initiatives were largely those designed and introduced by management and intended to improve communications with employees, to generate greater commitment, and enhance employee contributions to the organisations" (Marchington, 1992; cited in Salamon, 1998). He continues by saying that, "The nature of the relationship between employees and management in the organisations decision-making process is central to the character and conduct of the industrial relations system at the organisational level" (Salamon, 1998).

Salamon (1998) identified the following forms of employee involvement:

- Communication: Communication between management, employees and unions, on both the interpersonal and inter-organisational levels provides a means of identifying differences, developing, understanding, and seeking accommodation within a mutually acceptable solution.
- Employee Reports: It is increasingly common for larger companies to provide an annual report to all their employees.
- Briefing Groups: A briefing group system seeks to bring down the levels of verbal communication between management and the workforce to below those of departmental or unit meetings, and into the work groups themselves.
- Quality Circles: Small groups of employees meet voluntarily on a regular basis to identify, analyse and solve quality or other operational problems relevant to the organisation.
- Dedicated decision making: Emphasis is on sociotechnical systems and job design, and comes about through a concern to improve the quality of working life, and to adapt organisations and working arrangements to significant market and technological changes.
- Financial participation: A form of employee involvement which is employer driven, unitary in emphasis, and normally centred on individuals.

McGunnigle (2002) distinguishes between *participation* and *involvement*. Employee involvement is defined as "a range of processes designed to engage the support, understanding and optimum contribution of all employees in an organisation and their commitment to its objectives". On the other hand employee participation is defined as "a process of employee involvement designed to provide employees with the opportunity to influence and where appropriate, take part in decision making on matters which affect them" (McGunnigle, 2002: 1). Farnham (cited in McGunnigle, 2002) suggests that employee participation is one of four policy choices for managing the employment relationship. An employee has the right to question and influence organisational decision-making which may involve representative workplace democracy. The other policy choices identified by Farnham include worker subordination via managerial prerogative, union incorporation via collective bargaining, and finally, employee commitment via employee involvement.

McGunnigle (2002) maintains that there are clear differences between involvement and participation. He suggests that employee participation is a pluralist/collective approach with a continuum from "no involvement to employee control". Accordingly, it may involve processes and mechanisms such as collective bargaining, works councils, joint consultative committees, employee share schemes, worker directors and European works councils. Employee involvement, by contrast, is more individualistic and unitarist. It aims to harness commitment to organisational objectives and relies on the maintenance of management control. This usually involves both upward and downward communication flows, defined as follows:

- Downward communication flows (top management down to line staff) involving written information (staff newsletters, notice-boards, staff handbooks, house journals, etc.) and other formal channels such as team briefings and staff forums.
- Upward communication flows (formal and informal) involving employee suggestion schemes (paid/unpaid), surveys of staff (general/attitudinal), appraisal schemes (traditional/upward (boss)), which are sometimes linked to quality management TQM tools such as quality circles, quality improvement teams, etc. (McGunnigle, 2002).

Bendix (1989: 115) defines participation as "… the involvement of the employee in the organisation and planning of the work process, in the establishment of procedures and future processes, in the decision-making function at various levels and in the management and policy-making bodies of the undertaking". Bendix's (1989) interpretation excludes any reference to financial participation. Given the time period in which Bendix writes (still in the apartheid era in South Africa), this is arguably because the workers were not involved at all in financial participation schemes; a view shared by Lord (1995). Based on the broad definitions of participative management, Lord proposed the following definition, "The sharing by all employees of an organisation in both decision-making relating to their work, and in the financial performance of the firm." (1995: 13).

The next section introduces conceptual frameworks for participative management.

2.2.3 Conceptual Frameworks for Participative Management

Three examples of theoretical frameworks within which employee participation might be studied are introduced. They are Jain's framework for industrial relations and participative processes, Jones and Maree's continuum of worker participation in control, and Brownell's framework of participative budgeting.

2.2.3.1 Jain's Framework for Industrial Relations and Participative Processes

Jain (1980) recognised that worker participation should be seen within the context of a country's particular industrial relations system. Arguably, worker participation schemes in South Africa pre-1994 would be very different to worker participation schemes post-1994, and even more different given the empowerment (BBBEE) transactions of recent years. Following this view, Jain proposed a conceptual framework that included industrial relations and participative processes. This framework is reproduced in table 2-1.

The framework recognises the key actors as being the workers, their organisations, management and government. All of these actors operate in an environment comprising external, internal and behavioural forces. The framework is dependent upon the goals, values, and powers of the actors, and upon their perceptions of their roles within the organisation and in respect of each other.

The effects of the combined schemes are dependent on the perceptions of the actors of environmental forces, and the relationship between the various forms of participation within the organisation and how well they were integrated at the different levels of the organisation's hierarchy.

Table 2-1 Industrial Relations System and Participative Processes: A Conceptual Framework

ACTORS	GOALS, VALUES & POWER	ENVIRONMENTAL INFLUENCES	FUNCTIONING OF PARTICIPATIVE PROCESSES
1. Workers & their organisations (informal & formal).	**Goals:** Objectives of the actors.	**External:** Economic, political, social & legal.	Dependent upon: **1.** Goals values & power of the actors in the I.R. system and perception of their role within the framework of organisational networks & vis-à-vis each other.
2. Management.	**Values:** Norms & standards that an actor observes in accomplishing his objectives.	**Internal:** Structural, Organisational structure, size of the enterprise, technology. Forms and content of participation.	**2.** Their understanding of the environmental influences.
3. Government.	**Power:** Ability of an actor to satisfy his needs or goals despite the resistance of others.	**Behavioural:** Actor's perception of the work situation; organisational climate; managers & supervisors autonomy; leadership styles and expectations; interpersonal & Intergroup interactions.	**3.** Relationship among various forms of participation and their integration at all levels of the enterprise.

This model highlights the importance of the individual perceptions of each worker about a particular scheme, and of the ideology, goals and values of each "actor" in the framework (Jain, 1980: 7).

2.2.3.2 Jones and Maree's Continuum of Worker Participation in Control

Jones and Maree (1989) proposed a continuum of worker participation in control, to reflect the extent to which workers had power to influence or control decisions in their employer organisation. Lord (1995) cites James and Horwitz (1992) who argue that there was no universal agreement as to the classification of various forms of participation. However, Lord further cites Coldwell (1992) and Nel (1984) who support Jones and Maree's concept.

The model is reproduced in Table 2-2.

Table 2-2 Continuum of Worker Participation in Control

DESCRIPTION OF TYPE OF CONTROL	EXTENT OF WORKER CONTROL	FORMS OF PARTICIPATION
Total Management Control	**LOW**	None
One-Way (top-down) communication		None
Two-Way Communication		None to Partial
Limited Joint Decision-Making		None to Partial
Delegated Control		Partial
Total Worker Control	**HIGH**	Full (all levels only)

Source: James and Horwitz (1992: 7), as cited in Lord (1995: 16).

The concept states that participation is a measurable construct, the degree of which could be measured on a continuum.

2.2.3.3 Brownell's Framework of Participative Budgeting

Lord (1995) cites Brownell's (1982) framework of participative budgeting to divide the body of literature into two parts. The two variables include conditions such as environmental uncertainty and organisational variables, and the consequences of participation such as increased employee motivation, satisfaction, and performance. Brownell is, however, more concerned as to whether participation is effective or not, rather than specifying the conditions under which it was effective.

2.2.4 Determinants of Employee Participation

Jain's framework for Industrial Relations and participative processes (section 2.2.3.1) recognises that worker participation should be seen within the context of the country's particular industrial relations system. Jain (1980) lists the determinants as being the employees themselves, the employers and the government (the "actors"). Further determinants include the goals, values and power (of the actors), external influences (economic, political, social and legal), internal influences (structural, organisational structure, size and technology) and behavioural influences. Bronwell's (1992) framework of participative budgeting (section 2.2.3.3), lists the main determinants as environmental uncertainty and organisational variables.

Cabrera *et al.* (2001) conducted a study to identify the determinants of employee participation in organisations across Europe. Power distance, uncertainty avoidance, competition, unionisation, sector, organisational size and business strategy were all expected to influence the amount of employee participation. The hypothesised relationships were contrasted using data from the "EPOC survey" (2001: 1), a representative survey of over 5,700 organisations located in 10 European countries. The results supported all but two of the hypotheses. Power distance and organisational size did not predict the amount of participation. A closer inspection of the relationship between organisational size and employee participation revealed a significant relationship when type of participation, consultative or delegative, was included in the analysis (Cabrera *et al*., 2001).

The first determinant identified was national culture. National cultures are a powerful force in explaining organisational behaviour (Boyacigiller and Adler, 1991; Child, 1981; cited in Cabrera *et al*., 2001). As much as 50 percent of the difference in employee's attitudes and behaviours could be explained by national culture (Cabrera *et al.,* 2001). There are two dimensions of national culture that may explain differences in use of employee participation: power distance and uncertainty avoidance. Power distance is the extent to which the members of a society accept that power is distributed unequally. In high power distance countries employees show a great deal of respect for those in authority.

In small power distance countries subordinates have limited dependence on their boss and there is a preference for consultation. Accordingly, the first hypothesis tested was: "The level of power distance in the country where an organisation is located will be negatively related to amount of participation" (2001: 6).

Uncertainty avoidance is the extent to which members of a society feel threatened by uncertain or unknown situations. In high uncertainty avoidance countries, employees tend to feel more stressed at work, and prefer rules and regulations that reduce ambiguity. The employees demonstrate low job mobility. Individuals in a high uncertainty avoidance society feel comfortable in highly structured environments and tend to want to avoid conflict. Accordingly, the second hypothesis tested was: "The

level of uncertainty avoidance in the country where an organisation is located will be negatively related to amount of participation" (2001: 6).

The second determinant identified was competition. The increasingly competitive environment faced by organisations has caused the re-evaluation of structures and employee relations. Companies which operate in highly competitive environments must maximise their productivity, and recent meta-analyses have shown that employee participation is positively related to productivity. The third hypothesis identified was: "The level of competition faced by an organisation will be positively related to amount of participation" (2001: 7).

Another determinant was union membership. Trade unions have traditionally been suspicious of participative management practices, because they fear that increased employee involvement might draw employees away from the union and thus weaken their power (Eaton and Voos, 1992: cited in Cabrera *et al*., 2001). Some unionists even view participative management as a negative initiative, wherein employees take on more responsibility and more work for the same pay (Heller *et al*., 1998; Hyman and Mason, 1995; cited in Cabrera *et al*., 2001). The results of a longitudinal study of U.S. companies showed that unionised organisations are less likely to adopt most types of employee involvement practices (Lawler *et al.,* 1995). Accordingly, the next hypothesis tested was to determine the percentage of employees who are union members that were negatively related to the amount of participation.

The further determinant was sector. Heller *et al*. (1998: cited in Cabrera *et al.,* 2001) attribute the spread of participation in part to the growth of the service industry. Service employees' attitudes, unlike those of manufacturing employees, are "an essential part of the "product" they provide" (Heller *et al*., 1998; cited in Cabrera *et al*., 2001). As participation has been shown to be positively related to satisfaction, one would expect higher levels of participation to lead to better service quality (Cabrera, *et al*., 2001). Cabrera *et al.* (2001) suggested that there is agreement that the motivational impact of employee involvement is more important for success in the service industry than in the manufacturing sector. Accordingly the next hypothesis tested was: "The amount of participation will be greater in the service sector than in the manufacturing sector" (2001: 8).

Organisational size was the next determinant discussed. Most findings suggested that larger organisations adopt more participative management practices than do smaller organisations (Cabrera *et al*., 2001). The aggregate results of surveys conducted in the U.K. between 1985 and 1991 showed a positive linear relationship between organisational size and number of involvement initiatives (Hyman and Mason, 1995; cited in Cabrera *et al*., 2001). This could be because the larger organisations are more likely to adopt innovative practices and/or because they have greater motivational problems that they try to resolve through participative management (Cabrera *et al.,* 2001). The hypothesis tabled was: "Organisational size will be positively related to amount of participation" (2001: 8).

Strategy was a further determinant discussed. Strategy represents an organisation's ultimate goal and determines its objectives (Cabrera *et al*., 2001). Organisations which follow a cost leadership strategy emphasise cost control and efficiency in order to be able to offer lower prices (Porter, 1980; cited in Cabrera *et al*., 2001). It is important to minimise labour costs, and when the employee is treated as a "cost" then s/he is treated as part of production. As such they are closely monitored and are given little discretion in their jobs (Hyman and Mason, 1995: cited in Cabrera *et al*., 2001). The hypothesis tested was: "The pursuit of a cost leadership strategy will be negatively related to amount of participation" (2001: 9).

Differentiation was the final determinant introduced by Cabrera *et al.* (2001). An alternative strategy to cost leadership is one of differentiation (Porter, 1908: cited in Cabrera *et al.,* 2001). This strategy focuses on the development of a product or service that is unique. The two most obvious differentiation strategies are those of product quality and customer service. The hypothesis tested was: "The pursuit of a differentiation strategy based on quality will be positively related to amount of participation" (2001: 9).

Employee participation is also important for customer service, with increased information sharing leading to better planning and problem-solving, which in turn improves service delivery efficiencies. A positive relationship has been found between employee satisfaction and customer satisfaction, and between participative

management and employee satisfaction (Cabrera *et al*., 2001). Accordingly, the final hypothesis tested was: "The pursuit of a differentiation strategy based on service will be positively related to amount of participation" (2001: 10).

The EPOC survey was commissioned by the European Foundation for the Improvement of Living and Working Conditions. It was designed to determine the nature and extent of direct participation of employees in organisations across ten European countries: Denmark, France, Germany, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the U.K. Companies from both the manufacturing and services sectors were included, as well as both public and private companies (Cabrera *et al.,* 2001). The questionnaires were mailed to 32,582 companies in June 1996. The final number of questionnaires returned was 5,786 representing a response rate of 18%.

Measures – Dependent variable: The survey included 24 items pertaining to the practice of direct participation. Eight questions assessed the use of forms of consultative participation, and sixteen questions assessed the use of delegative participation. These items were aggregated to form a single measure of amount of participation (0-24). Independent variable: Measures of culture were excluded. One item categorised organisations into one of ten countries. Each of the countries represented in the survey was included in Hofstede's original IBM study (Hofstede, 1980; cited in Cabrera *et al*., 2001). Thus the indices for power distance and uncertainty avoidance for each of the ten countries was added to the original EPOC data set. Competition was assessed with one item which rated the company products or services on a scale of 1 to 4. Trade union membership was assessed by one item that asked for the proportion of union members among employees in the largest occupational group.

The organisations were categorised into one of 15 sectors, with these sectors being further categorised into five sectors: industry, construction, trade, private service and public service. A natural logarithm of the number of employees was used to test for the effects of organisational size (Cabrera *et al*., 2001). Three items assessed the business strategies as included in the hypotheses. The first item assessed the importance of price, the second item assessed the importance of quality, and the third

item assessed the importance of service. Table 2.3 below illustrates the EPOC survey.

Table 2-3 EPOC Survey: Means, Standard Deviation and Correlations among Study Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Participation										
2. Power Distance	-.07									
3. Uncertainty Avoid.	-.11	.83								
4. Competition	.05	.09	.04							
5. Unionisation	-.07	-.14	-.10	-.03						
6. Sector	.12	-.06	-.09	-.42	-.10					
7. Organisational Size	.02	.09	.09	.15	.08	-.13				
8. Price Strategy	-.05	-.02	-.02	.31	-.07	-.20	.09			
9. Quality Strategy	.11	-.00	-.01	.05	-.01	.06	.04	.06		
10. Service Strategy	.08	-.07	-.08	.01	-.03	.10	.04	.06	.23	
Mean	5.36	45.17	64.72	2.85	6.41	1.57	.79	2.66	2.89	2.78
Standard Deviation	4.22	13.56	20.81	1.11	4.97	.50	.14	.57	.37	.45
Range	0-23	18-68	23-10	1-4	1-15	1-2	0-1	1-3	1-3	1-3

Correlations greater than 0.29 are significant at the 0.05 level.

Correlations greater than 0.34 are significant at the 0.01 level.

The results are shown in table 2-3 and report the means, standard deviations and correlations among all the study variables except for sector, which was a categorical variable. The findings indicate that:

- Hypothesis 1 was not supported by the available evidence: Power distance was not related to employee participation.
- Hypothesis 2 was supported by the available evidence: Uncertainty avoidance was negatively related to the amount of employee participation.
- Hypothesis 3 was supported by the available evidence: Competition was significantly related to participative management.
- Hypothesis 4 was supported by the available evidence: Unionisation and employee involvement reflected a negative relationship.
- Hypothesis 5 was supported by the available evidence: Sector was significantly related to participation.

- Hypothesis 6 was not supported by the available evidence: The relationship between organisational size and employee participation was not significant.
- All the hypotheses regarding business strategy were supported.

Cabrera *et al*. (2001) conclude by stating that the study adds to the employee participation literature in numerous ways. Firstly, it presents data from over 5,000 companies across 10 European countries. It also fills a gap in this field which was previously dominated by studies based on data from US companies. The study also focuses on determinants rather than outcomes, of employee participation. The results indicate that the cultural dimension of uncertainty avoidance, competition, unionisation, sector and business strategy are all important determinants of participation. The final contribution of the study is that it provides support for the conclusions of Cotton *et al*. (1988) and Black and Gregersen (1997), both as cited in Cabrera *et al.* (2001), that participation should be studied as a multidimensional construct.

While most of the study results showed relationships with participation in general, one variable was found to have a differential relationship with participation according to the form participation takes. Organisational size was positively related to consultative participation, yet negatively related to delegative participation. This demonstrates the importance of research that includes hypotheses and measures of different types of participation. Cabrera *et al.* (2001) suggest that further studies are needed to explore other possible differences among the various types of employee participation.

2.2.5 Participation Schemes in South Africa

The involvement of workers in participative schemes in South Africa needs to be viewed in the context of South Africa's historical past as well as the developments, post-1994, of the country's amended labour relations policies. The (black economic) empowerment transactions conducted in recent years were an attempt by government to involve the workers in both the decision-making process, as well as in financial participation. Cordova (1982) suggested that employee participation schemes were not a real issue in times when organisational survival and job security were the more

pressing issues. This comment seems to be particularly relevant to the changing dynamics of industrial relations in South Africa in recent years, and more particularly to the changes experienced at the Kopano factory. Cowley (1992; as cited in Lord, 1995) noted that it would be necessary to conduct an in-depth research on employee participation in the South African situation:

> "... to ascertain the expectations of employees in this particular socio-political and economic environment. It would be unreliable to simply extrapolate results from overseas studies with very different circumstances" (1995: 35).

This study aims to follow this recommendation by exploring the perceptions of two different samples of employees relative to their perceptions of empowerment, decision-making participation and financial participation. However, despite the aforesaid, it is worth noting the findings of a study conducted in the UK which suggests that unions do not like employee participation groups and the term "employee participation", because the participation groups reduce the need for the unions. If employers effectively and successfully deal with employee concerns, then it is less likely that employees will turn to the union(s) for assistance (Salamon, 1998). One could argue that this could be the situation in South Africa.

For the purpose of this study it is proposed that Lord's definition of "integrated participation" (The sharing by all employees of an organisation in both decision-making relating to their work, and in the financial performance of the firm (Lord, 1995: 13) be adopted, because it combines the two salient aspects of relevance of employee participation to this thesis, namely: decision-making and financial participation as a holistic concept.

Major theories relating to employee incentives and motivation underpin the work-design and remuneration strategies of many organisations (Lord, 1995). A discussion of these theories comprises the subject matter of the following section.

2.2.6 Motivational Theories

Employee participation fulfils higher-order needs which lead to greater satisfaction. Higher levels of satisfaction in turn strengthen motivation which has a positive effect

on productivity (Miller and Monge, 1986). Thus cognitive models propose that employee participation affects productivity directly, by increasing the flow of information in organisations, while affective models propose that employee participation has a direct effect on employee satisfaction, which may, in turn, increase productivity (Cabrera *et al.,* 2001). This view is supported by Salamon (1998) who states that employers who make employee morale and motivation a priority are often rewarded with increased productivity and superior quality.

There are five main theories that dominate the literature in relation to employee participation strategies. These are Maslow's (1943) hierarchy of needs, Herzberg's (1966) two-factor theory of motivation, Vroom's (1964) expectancy theory, Adam's (1965) equity theory, and the theory of McClelland (1961). This section briefly introduces these different theories. Ouchi's theory Z is not discussed because it is not regarded as a pure motivation theory, but can rather be categorised as a special management style, incorporating Western and Eastern approaches to the management of people (Gerber *et al.,* 1995). This section closes with guidelines as to how employees in South Africa can be motivated through a participatory process.

Maslow's Needs Hierarchy: Two components make up Maslow's (1943) theory. Firstly, people are "continuously wanting" beings. As soon as one need is satisfied, another takes its place, and as such, people are never satisfied. Secondly, people's needs are arranged in order of importance, with the lower needs being satisfied before the higher needs. Handy (1993) supports Maslow's theory of instinctual needs and postulates that needs are only motivators when they are unsatisfied. Maslow divided human needs into five main categories, in a hierarchy according to importance. The levels in Maslow's hierarchy are physiological needs (the lowest), followed by safety needs, social needs, ego needs and finally self-actualisation needs. Malsow's (1943) theory therefore underpins both financial and decisional participation schemes, with financial participation being the lower order needs, and decision-making participation being the higher order needs. Lord (1995) cited empirical examples in various countries that have investigated the validity of Maslow's (1943) propositions. The findings have not consistently supported the rankings of original "hierarchy". "These conflicting research findings have led commentators to suggest that while a hierarchy of workers' needs may indeed exist, the ranking of needs within that hierarchy may

differ between cultures." (1995: 46). While Maslow's "hierarchy" may have proven a difficult concept to operationalise and test in practice, the implications of Maslow's theory, if it can be supported, are substantial (Lord, 1995). One would only reach their full potential once they have attended to their lower order needs, and then focussed more on the upper order needs.

Herzberg's Two-Factor Theory of Motivation: Herzberg (1954) distinguished between "hygiene" factors and "motivators" in the work environment. Herzberg refers to the dissatisfiers as the maintenance or hygiene factors and the satisfiers as the motivators. Hygiene factors are the lower-order needs and include organisational policy and administration, supervision, interpersonal relationships with colleagues, supervisors and subordinates, salary, status, working conditions and work security. Motivating factors are the higher-order needs and include achievement (for example the successful execution of tasks), recognition for what has been achieved, the job itself (how interesting, meaningful and challenging), progress and growth, and responsibility (Gerber *et al*., 1995).

The two sets of factors are very different. The hygiene factors play a role in preventing dissatisfaction and demotivation in the workplace, but they are not capable of actually motivating staff. Motivating factors must be present in order to promote increased levels of motivation. In terms of this theory, managers should ensure that both "hygiene factors" and "motivators" are effectively dealt with (Gerber *et al.*, 1995).

According to Lord (1995), because pay is merely a "hygiene" factor (incapable of motivating employees), the theory underpins decisional, but not financial participation schemes. Table 2-4 indicates through comparison the similarities between the theories of Maslow and Herzberg.

Table 2-4 Comparison between the Theories of Maslow and Herzberg

	MASLOW		**HERZBERG**	
Higher-Order Needs	**Self-Actualisation**		**Achievement Task Growth Responsibility**	Motivation Factors
Higher-Order Needs	**Ego**		**Achievement Recognition**	Motivation Factors
Lower-Order Needs	**Social**		**Supervision Interpersonal relationship with peers & supervisors Status**	Hygiene Factors
Lower-Order Needs	**Safety**		**Job Security Working Conditions**	Hygiene Factors
Lower-Order Needs	**Physiology**		**Salary**	Hygiene Factors

Source: Gerber *et al.* (1995: 330)

McClelland's Theory of Achievement Motivation: McClelland's (1961) theory is based on the assertion that there is a relationship between the achievement motivation aroused in individuals, entrepreneurship, and economic growth of a particular cultural group (Gerber *et al.,* 1995). In his opinion culture and community play a definitive role in the achievement motivation of the members of that culture or community. McClelland (1961) suggests that any person has the ability to display a variety of behaviours, but these behaviours are dependent on the relative strength of his or her motives, and the opportunities offered in the situation, and these are largely determined by cultural factors. Litwin and Stringer (1968) as cited in Gerber *et al.* (1995: 330) give the following description of McClelland's theory:

> "A person's aroused motivation to behave in a particular way is said to depend on the strength of readiness of his motives and on two kinds of perceptions of the situation: his expectancies of goal-attainment and the incentive values he attaches to the goals presented".

McClelland (1961) identified three primary needs that are important to different individuals. People with a high need for achievement motivation, want and accept a

high degree of personal responsibility, set realistic performance goals, take calculated risks, and show a need for concrete feedback on their actions. Therefore McClelland (1961) states that some people have a much higher need for achievement than others, and they therefore make a greater effort to overcome difficulties in order to achieve their goals. Gerber *et al*. (1995) suggested that a shortcoming of McClelland's (1961) theory is the oversimplification of the complex composition of work motivation. In the context of this study, the workers at Kopano were presented with an opportunity (equity ownership) that the workers at Lawley were not, and because of this, their (Kopano) levels of motivation are arguably higher than those of the Lawley workers.

Vroom's Expectancy Theory: Vroom (1964) suggests that individuals will be motivated to work well if they have the perception that their efforts will result in successful performance. The individual must expect or believe that successful performance will result in desirable outcomes. Vroom's theory comprises three variables, namely "expectancy", "instrumentality" and "valence".

Expectancy is regarded as the effort that an individual will make to obtain the first-level outcome, which is influenced by his or her expectancy that the outcome will be realised. If the level of expectancy is low then the individual will not expend much effort on the realisation of the task. Alternatively, if the level of expectancy is high, then every effort will be made to achieve this goal. However, expectancy is based on the individual's perception of the situation and not on objective reality. Reaching a first-level outcome may not in itself, mean everything to a person. It may, however, be instrumental in reaching a second-level outcome. Instrumentality is the degree of conviction that the first-level outcome (performance) will result in attaining the second-level outcome (reward). Valence is regarded as the expected satisfaction that will follow an outcome, rather than the immediate satisfaction it brings. The strength of an individual's preference for an outcome is called valence. Lord (1995) refers to valence as the relative worth of the reward (which may or may not be monetary in nature). Vroom's motivation process contains all three variables that effect motivation. These are collectively termed VIE. Schuler (1980; cited in Lord, 1995), in testing a role and expectancy perception model of participation in decision-making, found positive relationships between participation in decision-making and the performance-reward expectancy of employees. There was also a positive association

between participation in decision-making and an individual's satisfaction with his/her work and supervisor.

Adams' Equity Theory: Adams (1975) bases his equity theory of motivation on the assumption that motivation is influenced by the degree of equity an employee experiences in the work situation. What will one employee receive on the basis of his/her efforts compared to what another employee receives on the basis of his/her efforts? There could be a degree of "inequity" by comparing the relationship between an employee's outcomes (remuneration) with his or her inputs (effort), with that of a comparable employee.

Aspects of Adams' theory are "income-outcome factors" and "the inequity comparison process".

Income-outcome factors inputs include anything the employee regards as an investment in his or her work that is worthy of a certain yield (skills, training, education, previous experience/effort, etc.). Outcomes are anything an employee may regard as a yield from the work situation. This may be positive (salary, intrinsic job satisfaction, satisfactory supervision, seniority benefits and the status of the organisation) or negative (poor working conditions, monotony, lack of security and other hygiene factors). The inequity comparison process is when an employee's present position is compared with other employees, as well as where he or she would have been in a previous or other organisation. When this happens, the employee can experience a sense of equity (the ratio's are equal), a sense of underpayment (the employee's ratio is less than the comparable employee), or a sense of overpayment (where the outcome-input ratio is more than that of a comparable employee) (Gerber *et al*., 1995).

Many researchers have tested the predictions of Adams' theory with most studies providing support for the theory. However, there have been some researchers who failed to support Adams' theory, or found only moderate support for the theory (Lord, 1995).

Further to the abovementioned motivational theories, Gerber *et al.* (1995) list nine "guidelines" as to how employees in South Africa can be motivated. These are:

- Democracy in the workplace.
- The realisation that people are the most important asset of an organisation.
- The job satisfaction experience of an employee.
- Policies, procedures, rules and regulations are to be a guide to employees in their decisions, and are not to be slavishly followed.
- Giving responsibility to the employee.
- Sound interpersonal and group relations in the workplace.
- Respecting the employee as a human being.
- The employee, irrespective of race, sex, religious conviction, age and physical or mental state is a human being in his/her own right, i.e. a being created by God; and
- Remunerating according to their real worth to the organisation they serve.

2.2.7 Summary

Participative schemes are clearly divided into two distinct parts (decision-making participation and financial participation). The decision-making path of the workers at the Kopano factory (as a result of different structures and ownership status) is different to that of the workers at the Lawley factory. The Kopano workers have direct access to all the financial statements as well as direct access to any position (e.g., the Managing Director), at any time. The Kopano workers are directly involved in the decision-making process. This is not the case at Lawley where the financial statements form part of a bigger Group and are not accessible, and hierarchical structures are in place for decision-making participation. Furthermore, as a result of their ownership status, the Kopano workers benefit financially from capital growth and dividend receipt, whereas the Lawley workers do not.

This section served to lay the foundation for the subsequent two sections that present reviews on both decision-making participation and financial participation (Hypothesis # 1). Accordingly, the next section is an in-depth review on decision-making participation.

2.3 DECISION-MAKING PARTICIPATION

2.3.1 Introduction

Decision-making is considered a "partial" form of employee involvement (Lord, 1995). The effects of decision-making participation include improved industrial relations, better quality of decision-making, and improved financial and operational performance at the organisational level. Improvements in industrial relations and reductions in unionism have been suggested to flow from the introduction of employee participation in decision-making (Lord, 1995). Latham and Lock (1979; cited in Lord, 1995) and Vroom (1979) noted that participation was not only a potential motivational tool, but could also be used by management to improve the quality of work-related decision-making within an organisation. Salamon (1987) suggested that the various forms of employee participation in job-related decision-making should be differentiated in terms of their extent of participation; the level in the organisation of the participants; and the scope of participation.

This section reviews the literature concerning decision-making participation. In achieving this main objective the following sub-objectives are dealt with in sequence:

- Components of decision-making
- Approaches to decision-making
- Models for group decision-making
- The effects of employee participation in decision-making
- Actual, versus perceived extent of employee participation in decision-making
- Co-determination

2.3.2 Components of Decision-Making

Harris (1998) cites three main variables as being the components of decision-making. They are: the decision environment, the effects of quantity on decision-making and decision streams.

2.3.2.1 The Decision Environment

The first component for the decision-making process is the environment (Harris, 1998). Every decision is made within a decision environment. The ideal environment includes all the possible information, all of it accurate, and every possible alternative. However, Harris (1998) suggests that there is normally a time constraint involved in obtaining information to make decisions and because of this information gathered is often incomplete. The major challenges of decision-making are uncertainty, as one seldom has all the information needed to make the decision with certainty. As a result of this, most decisions involve an inevitable amount of risk. Harris (1998) suggests that decisions are made within a limiting decision environment and this suggests two things. Firstly, that hindsight is far more accurate than foresight. Even after the decision is made, the decision environment grows and expands. With hindsight one can look back and often make a better decision than the original one because of an expanding decision environment, and secondly, because the decision environment continues to expand. It is often advisable to put off a decision until close to the deadline. Delaying the decision for as long as possible provides three benefits:

- The decision environment will be larger, thus providing more information with the possibility of extended time for more thoughtful analysis.
- New alternatives might be recognised or created.
- The decision maker's preferences might change. With further thought, wisdom and maturity, one might change an original decision.

2.3.2.2 The Effects of Quantity on Decision-Making

Often, too much information is gathered in order to make an effective decision (Harris, 1998). As a result of this several problems may arise. These include: a delay in making the decision while information is being sought, information overload (too much information to process), selective use of the information, mental fatigue resulting in slower work and/or poor quality work, and the onset of decision fatigue (where the decision-maker tires of making decisions). Harris (1998) suggests that the quantity of information that can be processed by the human mind is limited.

Information must be consciously selected, failing which, the processing will tend to be biased toward the first part of the information received.

2.3.2.3 Decision Streams

Harris (1988) suggests that there is a misconception about decision-making because decisions are made in isolation from each other. Harris (1998) argues that this is not so, and that decisions are made in context of other decisions previously made. This is referred to as the stream of decisions surrounding a given decision. Many decisions follow from previous decisions, and they in turn enable or prevent future decisions. Every decision made affects the decision stream and the alternatives available to one, currently, and in the future.

Following on from the components of decision-making are the various approaches to decision-making.

2.3.3 Approaches to Decision-Making

Harris (1998) describes four different approaches to the decision-making process: the authoritarian, group decisions, consensus decision-making, and the "group-think" approaches.

- Authoritarian decision-making is where the manager makes the decision and then "sells" the idea to the group in order to gain their acceptance.
- A group decision is where the group shares ideas and analyses, and agrees upon the decision to be made. Harris (1998) refers to studies which conclude that the group often has values, feelings, and reactions quite different from those the manager supposes they have.
- Consensus decision-making is a process for group decision-making.
- Groupthink is a process whereby a group of individuals mutually reinforce each other into believing that their collective point of view is correct.

Consensus is a process by which an entire group of people can come to an agreement. The input and ideas of all participants are gathered to arrive at a decision acceptable to all. Consensus is not voting. Voting is a means by which one solution is chosen

from many alternatives. Consensus, on the other hand, is a process of synergising many diverse elements together. While consensus decision-making uses more resources, and takes more time and skill before a decision is made, it creates commitment to the decision and often facilitates creative decisions. For consensus to be positive, it is best if the group has common values, some skill in group processes and conflict resolution (or a commitment to let these be facilitated), a commitment and responsibility to the group and sufficient time to participate in the process. Difficulties in reaching consensus include non-support, reservations, standing aside, blocking, and withdrawal from the group.

Research on groupthink grew out of an identification of group polarisation which began with the discovery of the "risky shift" in group decision-making by Stoner (cited in Hilton, 2001). When presented with risky choices to be made, students at the School of Industrial Management at the Massachusetts Institute of Technology were often likely to prefer riskier options after group discussions. Stoner (cited in Hilton, 2001), found that twelve of the thirteen groups studied had a significant collective shift towards greater risk after discussion. The risky shift effect has proven very robust, having been replicated in 100 studies in over a dozen countries (Hilton, 2001).

In general, research shows that groups make better decisions than individuals. The reasons behind this are that more information is likely to be shared, different points of view examined, etc. Group discussion is also more likely to improve decision quality if it is conducted in a way that facilitates information pooling and an objective and complete analysis of options. There are circumstances in which group discussions actually worsen decision-making performance, as per the phenomenon discussed earlier.

Harris (1998) suggests that group decision-making is far more efficient than individual decision-making. With group decision-making there are two types of sessions. The first is free discussion, where the problem is put on the table for the group to discuss and solve. Secondly, there is developmental discussion where the problem is broken down into steps; smaller parts with specific goals. Developmental discussion insures systematic coverage of a topic and insures that all members of the

group are talking about the same aspect of the problem at the same time (Harris, 1998).

Following approaches to decision-making, Lahti (1996) discusses four different models that can be used to describe group decision-making.

2.3.4 Models for Group Decision-Making

The four models highlighted by Lahti (1996) are the rational, political, process and the garbage can model.

All organisations are dependent on decision-making processes, be they small-scale or large-scale. In order to determine the appropriate use of a group decision-making model, the advantages and disadvantages of the models should be discussed. Burke (cited in Lahti, 1996) states that the advantages of using a model are that it helps to enhance understanding. The use of a model will lend structure to a procedure that is dynamic and conceptual, and it assists in identifying the key aspects of group functions. Using one particular model should not preclude the consideration of other models or other means of assessing group decision-making. Each model carries its own assumptions and effectiveness criteria with it (Lahti, 1996).

2.3.4.1 The Rational Model

The rational model is based on an economic view of decision-making (Lahti, 1996). It has goals/objectives, alternatives, consequences and optimality. The model assumes that complete information regarding a decision is available. The model further assumes that decision-makers consistently assess the advantages and disadvantages of any alternative with specific goals and objectives in mind. One then evaluates the consequences of selecting, or not selecting each alternative. The alternative that provides the optimum choice is then selected. The rational model is the baseline against which other models are compared (Allison, 1971; Cheshire and Feroz, 1989; Lyles and Thomas, 1988; cited in Lahti, 1996).

An advantage of the rational model is that it is logical and uses a sequential approach. Decisions are made inductively by determining goals or objectives to be obtained, evaluating the potential alternatives based on the information at hand and choosing the optimal alternative. Lyles and Thomas (1988; cited in Lahti, 1996) suggest that the rational model has a weakness in that it assumes that there are no intrinsic biases to the decision-making process. However, intrinsic biases are inevitable and are something that requires constant attention (Lahti, 1996).

2.3.4.2 The Political Model

The second basic decision-making model is the political model. In contrast to the preceding model, the individuals involved will not accomplish the decision task through rational choice concerning objectives. The decision-makers are motivated by their own needs and perceptions. What results is a process of bargaining and debate, where each person attempts to get their perspective to be the one choice ultimately. Decision-makers try and sway others to adopt their viewpoint and thereby influence the remaining decision-makers at odds with it (Allison, 1971; Cheshire and Feroz, 1989; Lyles and Thomas, 1988; Schneider, Shawyer and Martin, 1993; cited in Lahti, 1996).

Lyles and Thomas (cited in Lahti, 1996) suggest that the political model does not involve making the full information available, nor does it focus on an optimal view (as the rational model does). Power and favour influences the decision. Lahti (1996) suggests that information is often withheld in order to promote a given perspective. An advantage of the political model is that potential problems and conflict can be foreseen and minimized. Swaying powerful people to support a particular viewpoint will often result in other groups falling in line.

While the political model has the advantage of emulating the way “the real world operates” (a cycle of bargaining related to personal agendas), this fact is also a disadvantage because the best solution may not be selected.

2.3.4.3 The Process Model

The process model is more structured, with decisions being based upon standard operating procedures or pre-established guidelines within the organisation. Cheshire and Feroz (1989) and Allison (1971), as cited in Lahti (1996), state that actions and behaviours occur in accordance with these procedures and guidelines.

The organisation of past, present and future events as well as conformity, are integral parts of this model. This is important, because they can be used as a consistent foundation for decision-making. Conformity is an important part of the process model. Decision-makers who are uncertain as to the potential effectiveness or the results of a decision conform to pre-established standards. This is not to say that this conformity means that the decision will have a solid foundation, but only that it is based on pre-determined guidelines (Cheshire and Feroz, 1989; cited in Lahti, 1996).

2.3.4.4 The Garbage Can Model

This model is most appropriate for judgement tasks in organisations where the technologies are not clear, the involvement of participants fluctuates in the amount of time given, the choices are inconsistent and not well defined (Cohen, March and Olsen, 1972; Lovata, 1987; Schmidt, Dodd and Tropman, 1987; cited in Lahti, 1996).

Both problems and solutions are "dropped" independently of each other by decision-makers as they are generated. Both problems and solutions are not necessarily related to each other. These components are the combination of options available at any given time, the combinations of problems, the combination of solutions needing problems, and the external demand on the decision-makers (Lahti, 1996).

With the garbage can model decisions are often made on an *ad hoc* basis and are not based on logical, political or even standard fashion.

2.3.4.5 Deciding on a Model

Lahti (1996) argues that all four models have their advantages and disadvantages. The purpose of using a model is to provide a base for comparison. A model is a starting point for evaluating a process, and group decision-making is a process. Lahti states that one way of evaluating this process is to decide which model, if any, a group is using to make decisions. Once this is determined, the decision procedure can be analysed in order to facilitate improvements to the procedure. Knowing that a group utilizes a process model for making decisions can also increase the effectiveness of the decision procedure. Moreover, identifying a model when the decision process does not function effectively is of value, because the decision makers then know the method to avoid. The group can decide to avoid that particular method and opt for another.

Lahti (1996) points out that even if the group decision-making procedure does not fit one of the aforementioned models, the procedure for analysing the decision task "in and of itself in order to identify a model is beneficial." The cognitive flow of the group is important because it enables an understanding of the group members' rationale for judgement. This cognitive flow may result in the creation of another group decision-making model.

In conclusion, models of group decision-making can be helpful. They are however merely a starting point for potential improvement. Models can aid in assessing the interaction of group members regarding a judgement procedure. Group decision-making models provide form to an intangible and abstract concept and promote the discovery and resolution of problems that can occur during the decision-making process (Lahti, 1996).

2.3.5 The Effects of Worker Participation in Decision-Making

No single theory of the effects of employee participation in decision-making dominates the literature (Lord, 1995). Miller and Monge (1986) stated that the literature has led to disagreement as to the effects and justification thereof. A major component of the "new social contract" between employers and employees is

workplace reforms that increase worker participation in decision-making processes within firms (Mizrahi and Shlomo, 2002). Locke and Schweiger (1979) further add that numerous commentators have advocated the use of employee involvement on moral grounds, irrespective of whether it actually achieves its objectives or not. Mizrahi (2002) argues that company efficiency and stability, as well as workers' satisfaction, can be achieved through participatory decision-making rules. Employees should take part in establishing rules; otherwise managers will make rules that allow them to retain control of the key points in the decision-making process. In constructing such rules, the involvement of unions is required; however, once rules are set, union activity becomes marginal. Government intervention remains marginal throughout (Mizrahi, 2002).

Gallagher (2002) refers to the "terms of engagement" between the leader or employer, and the employees. Gallagher (2002) presents a "ladder of decision making" which provides an image and a conceptual model to help clarify the role of participants in the process. This tool builds on a similar image and model, a "ladder of public participation," developed by Arnstein (1969; cited in Gallagher, 2002). The seven levels in the ladder are:

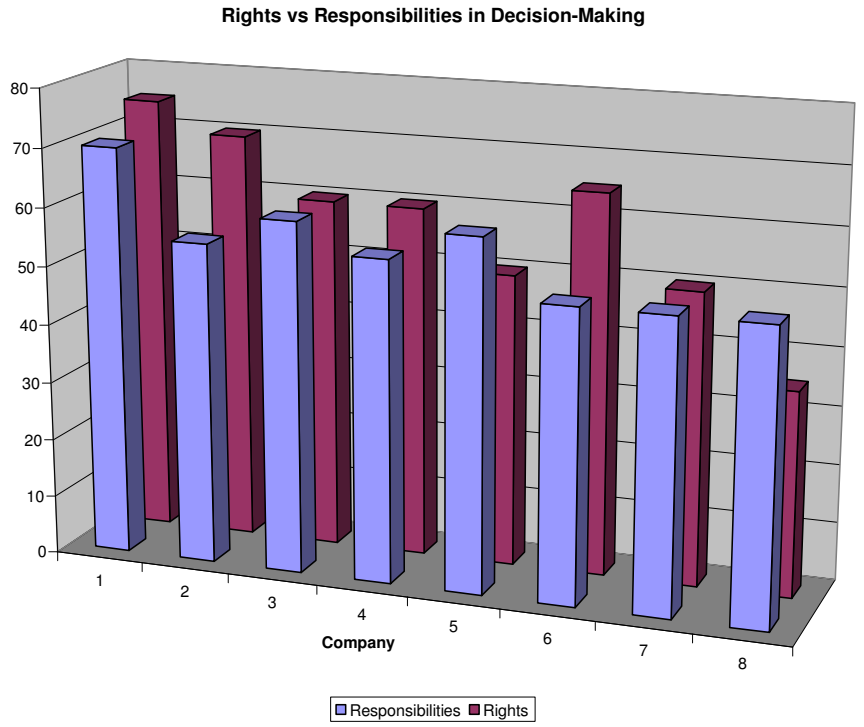
- Level 1: Executive Decision - when the executive makes the decision and does not involve or inform the employees.
- Level 2: Executive Decision with Report – the executive still makes the decision, but reports to the employees.
- Level 3: Consultative Decision – the executive asks the employees for their input. The employees may be able to influence the decision given the strength of their value statements, information and alternatives. However, the executive still makes the final decision.
- Level 4: Employee Recommendation – the executive delegates the responsibility for the decision-making process to the employees. The employees offer their recommendation(s) to the executive who makes the decision.
- Level 5: Delegated Decision with Veto – the executive delegates the authority to the employees to make the decision, but retains authority to exercise veto power if necessary.

- Level 6: Delegated Decision without Veto – this is the same as level 5, however, the employees make the decision and the executive supports the decision through to a future evaluation period, perhaps a year or two for most programmes.
- Level 7: Employee Decision – the employees make the decision and do not inform the executive, except perhaps as part of the normal reporting protocols, such as in periodic meetings or annual reports.

Gallagher (2002) suggests that everyone involved in the decision-making process should understand his or her role, and the ladder assists in defining that role. The ladder offers greater benefits in improving the quality of decisions by incorporating employee values, information, and alternatives for the decision. It further increases the potential for decisions to be implemented as employees help make, and "own," the decision.

The desire to have a degree of input in decision-making almost invariably arises when ownership of a company is extended to employees (as is the case at the Kopano factory). Decision-making, however, is a complex, multi-dimensional issue (The Ownership Culture Report; 1998). The owner-employees may be clear that they expect increased authority to make decisions, but they may be less clear about the full meaning and implications of such authority. Data collected from the Ownership Culture Survey (OCS) suggest that a feature of decision-making that employees overlook is the specific responsibilities that decision-making authority entails. Ownership does bring new rights, but responsibilities are equally important to a healthy ownership culture (The Ownership Culture Report, 1998). The report suggests that balance between decision-making rights and decision-making responsibilities is central to their model of ownership culture. Data from eight companies are plotted in figure 2-1. Each pair of bars represents one company with each company having both a "rights" score and a "responsibilities" score.

Figure 2-1 "Rights" versus "Responsibility" in Decision-Making

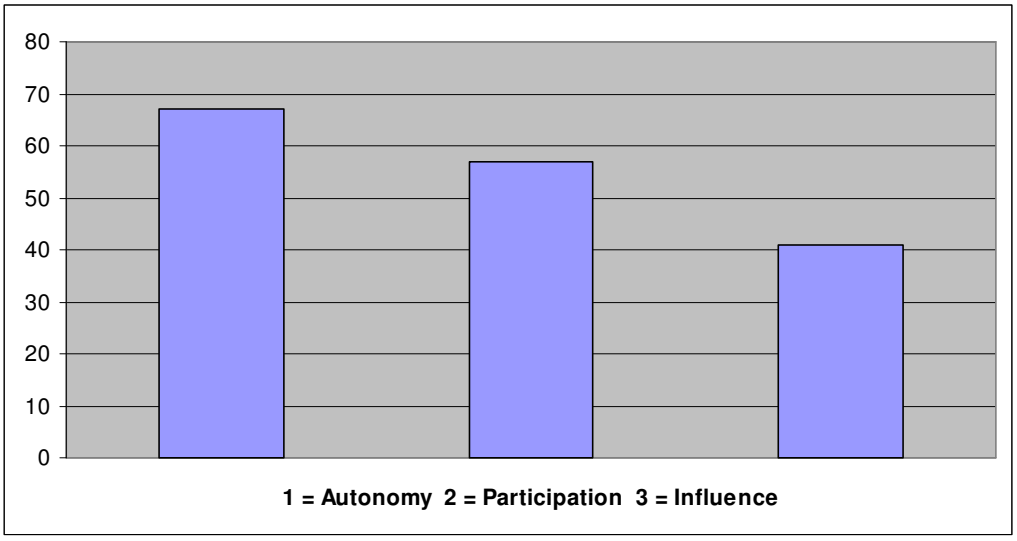


The figure suggests that companies with higher rights scores tend to have higher responsibilities scores as well. The analysis is correlational and not causal, and the results are consistent with the theoretical orientation that rights and responsibilities tend to mirror one another. There are however some companies that are "out of balance". Companies 6, 7 and 8 have nearly identical responsibilities scores, but different rights scores. Company 6 is slightly "rights heavy", company 7 is balanced (but not strong), and company 8 is slightly "responsibilities heavy". Experience suggests that companies 6 and 8 will experience dissonance that will need to be addressed (The Ownership Culture Report, 1998).

The report separates the decision-making process into two types of decision-making responsibilities components, and three types of decision-making right's components. The first responsibility of decision-makers is to take their authority seriously, and the second is to have a "responsible voice". The report suggests that producing this clarity is a major ownership culture challenge which involves changes in both structures and attitudes. The kind of decisions over which employee-owners potentially have rights fall into three categories, namely autonomy (decisions relating to daily job activities), participation (input over local decisions), and influence

(company-wide decisions such as acquisitions or strategic direction). The Ownership Culture Survey (1998) measured these three types of decision-making. Figure 2-2 indicates the overall scores for *autonomy*, *participation* and *influence* for the companies in the OSC database. The scores represent the extent to which employees perceive themselves as exercising these rights.

Figure 2-2 DECISION TYPES (Autonomy, Participation and Influence)



(The Ownership Culture Report, 1998)

As expected, the scores tend to be the highest for autonomy, lower for participation and lowest for company-wide influence.

The implications on management were demonstrated in a case study where understanding these components of decision-making can promote efficient management were established. In figure 2-1, company 8, the "responsibilities heavy" company, the employees felt that, despite their motivation and abilities to contribute to the company decision-making process, they were largely excluded. Breaking decision-making rights down into components helps clarify the situation. Participation scores relatively strongly, however, autonomy and influence scores were very low. As a result, company 8 took two steps: first, they implemented training to help supervisors adjust to a "coaching" role; second, they began inviting two employees each to observe board meetings. The results of their actions are not yet clear, but management are optimistic (The Ownership Culture Report, 1998).

The survey results indicate a few general lessons for companies:

- Building a participative culture is a multi-stage process
- Participative decision-making arguably pays off
- Rights and responsibilities reinforce one another

(The Ownership Culture Reports are a series of working papers published by Ownership Associations, Inc.).

The next section highlights the effects of employee participation on their work-related attitudes.

2.3.5.1 The Effects of Employee Participation on their Work-Related Attitudes

Lord (1995: 59) refers to a "social control system" as being a system that encourages employees to work towards the attainment of the organisation's goals. Etzioni (1961: cited in Lord, 1995) classifies organisations according to their goal-alignment, or the extent of commonality between individual and organisational objectives. A business organisation is termed an "instrumental organisation" where there is neutrality between individual and organisational goals. Otley and Berry (1980) state that in these instrumental organisations the predominant design of the control system is one where an exchange of inducements is provided by the organisation in order to gain contributions from individual employees. A psychological effect is created because the employee feels valued by the employer, and a sense of responsibility is created among participating employees, which in turn leads to a greater sense of commitment (Lord, 1995).

Locke and Schweiger (1979) support this psychological approach and state that greater participation in decision-making would lead to greater fulfilment of employees' psychological needs, thus providing enhanced job satisfaction. Coch and French (1948: cited in Lord, 1995) support this theory by suggesting that participation would assist in a greater understanding and acceptance of decisions by employees.

Lord (1995) states that a number of South African commentators also note the potential motivating effects of involving employees in work-related decision-making. Lord cites Moi (1988: 20) who states that:

> "Even at the lowest levels (i.e. unskilled jobs) workers can be given a sense of pride and achievement … They can be allowed to solve their own work problems, even though they may be relatively simple problems".

Empirical evidence supporting a positive association between participation and job satisfaction was provided by Kelly and Kelly (1990) who reviewed seventeen case studies of employee involvement. They found a strong relationship between the introduction of decision-making participation schemes and improved workers' attitudes. Patchen (cited in Lord, 1995) provided additional support derived from his study on the effects of employees' feelings of integrated participation in decision-making. Patchen found that such participation did result in increased feelings of integration in the organisation.

However, not all research into the effects of employee participation has been unambiguously supportive of a positive effect on employee attitudes (Lord, 1995). In a detailed review of prior research into participation in work decisions, Cotton *et al.* (1988: cited in Lord, 1995) found that the reported effects on job attitudes were inconsistent. Four out of six identified studies found improvements in job satisfaction, but such improvements were only significant in two cases. Lord (1995) quotes other authors who actually note a decrease in job satisfaction after the implementation of a participation programme.

Summers and Hyman (2005) reviewed recently published research in the area of employee participation, and also consulted current policy proposals in search for evidence of links between employee participation and company performance. Government policy promotes employee participation as a means of improving company performance, particularly by changing employees' attitudes and improving the work environment. While there is evidence in the literature that participation can have a positive effect on companies' financial performance and the working environment, a significant body of work also questions these links. This argument is supported by numerous authors including Lord (2005) and Cotton *et al.* (1988). In their analysis Summers and Hyman (2005) found that:

- The effects of participation schemes vary with the environment into which they are introduced. An insecure workplace environment may induce an

employee's compliance with participation measures, but may not achieve the commitment needed for attitude changes.

- Links between participation and attitude change appear to depend on the degree of influence granted to employees under participation measures. Low degrees of perceived influence are unlikely to produce positive results. However, middle management appears to resist participation initiatives which are perceived as reducing their influence or authority, thus posing an obstacle to the success of participation programmes.
- A combination of financial and work-related participatory measures can have a positive impact on company performance, as employees do not all react to participation initiatives in the same manner. Some respond well to financial initiatives and others to more work-related elements.
- Assumptions that participation measures affect all employees identically, regardless of gender, age and contractual status can amplify social disadvantage. Disadvantaged groups such as older workers, disabled people, and those with caring commitments, may have only a restricted voice at work.
- In terms of the work-life balance and family-friendly working, employees' voices remain muted. They tend to have a weak collective voice in larger organisations, whereas in some smaller firms individuals can sometimes negotiate flexible working arrangements.
- A combination of participation and welfare measures (such as equal opportunities and family-friendly policies) appears to enhance organisational performance and the quality of working life. Policy support should focus on union recognition and activity within a human rights framework, since this can positively influence employees' behaviour towards their goals.

2.3.5.2 The Effects of Employee Participation on their Productivity

Employee involvement has been proposed by many theorists as a means of improving employee, and therefore organisational, productivity and performance (Lord, 1995). This section reviews empirical research into the effects of participation in decision-making on employees' levels of work-related productivity and performance.

Lord cites Miller and Monge's (1986) meta-analysis into the effects of employee participation in decision-making which included a review of studies that had measured the effects of employee productivity. Of the 47 studies included in their meta-analysis, they recorded 25 significant correlations between participation and productivity. The findings suggested the relationship between participation and productivity to be less striking than that between participation and job satisfaction. However, their meta-analysis suggested the existence of a small but statistically significant relationship between participation and improved productivity. This relationship is supported by Cotton *et al*. (1988: cited in Lord, 1995), who reviewed 15 prior studies of the effects of decision-making participation on productivity. Only one study reported a decrease. They concluded by stating that there is a strong case that performance and/or productivity were enhanced by such participation schemes.

Again there are conflicting and ambiguous results supporting a positive association between participation and productivity/performance (Lord, 1995). Lord cites Locke *et al.* (1980) that analysed a number of field studies concerning relationships between participation and improved productivity and found that the introduction of employee involvement resulted in a negligible change in productivity.

2.3.6 Actual versus Perceived Extent of Worker Participation in Decision-Making

> "Commentators and researchers (e.g. Drago and Wooden, 1991; I.D.E., 1979) have distinguished between "de jure" and "de facto" participation by employees. "De jure" participation is that which is formally prescribed and which in due course becomes part of the organisational structure, while "de facto" participation is that which is perceived to occur and thus forms part of an employee's process of decision-making. Dickson (1982: p 915) pointed out that although "de jure" participation facilitated "de facto" participation, involvement as a style of management could occur without being formally instituted" (Lord, 1995: 81).

Miller and Monge (1986) divided their meta-analysis between reviews of prior studies that had measured actual versus perceived participation. They concluded that the strongest effects of participation on satisfaction were to be found in studies of

perceived participation focusing on multiple decision-making issues. They further concluded that their findings in respect of the relationships between perceptions and attitudes provided significant support for affective models of participation.

Ward (2001) states that cooperation entails "co-determining the future" to achieve development which she defines as the reduction of material want, and the enhancement of people's ability to live a life they consider good. It is suggested that the Kopano workers "co-determine" their future which is not the case with their Lawley counterparts. The following section investigates co-determination in more detail.

2.3.7 Co-Determination

2.3.7.1 Introduction

McMurdy (1999) cites the corporate merger between companies like Daimler-Benz AG and Chrysler Corporation, and highlights labour relations as being the biggest divide between the companies. Daimler has traditionally had a heavy unionised relationship with its workforce and was founded in the concept of "mitbestimmung" which translated from German means "co-determination". As a corporate philosophy it states that management and labour consider themselves as partners with joint decision-making power. Senior management at Daimler-Benz AG consider their embracement of co-determination to be the reason behind the company not being exposed to costly and disruptive strikes. However, despite this approach to co-determination only one seat of the 20-member board is allocated to a representative of the United Auto Workers and this clearly does not represent power and/or control.

Reese (1991) defines co-determination as all forms of power sharing, whether these involve the shop floor, the plant or the boardroom, and that in the Western industrialised world, co-determination is a product of collective bargaining. Reese (1991) cites three factors as having a direct bearing on the attractiveness of co-determination to the unions, being the degree of autonomy of the company, technology and size. The degree of autonomy refers to the decision-making power that senior management has. If management has a high degree of autonomy then the

reality that co-determination will prosper is relatively high, with the converse also being true. If the technology employed in the company is very complex then the likelihood of co-determination functioning is limited. The third factor affecting co-determination is the size of the enterprise. The larger the company the more difficult it is to implement co-determination (Reese, 1991).

Reese (1991) makes reference to the "continuum of co-determination" which identifies a range where both parties (management and workers) are roughly equal as far as decision-making is concerned. Outside this range either management or workers dominate. At the one end of the continuum there is total control by management where they would announce a decision and push through regardless. This is outside the range. Moving along the continuum towards co-determination, the next level is where management announce their decision but change it if worker resistance is too great. This is the first step towards co-determination. The next step is when management announce their intention and their decision is influenced by the workers' views. When management still retain the decision-making process but pose problems, share problem-solving, etc., then this is still considered in the range where co-determination is considered to be functioning. Co-determination is evident when decisions are reached jointly. Moving further along the continuum one reaches a stage where management proposes, but the workers decide. This is not co-determination and is moving towards total control by the workers (Reese, 1991).

This scenario is depicted in table 2-5.

Table 2-5 Layers of Co-Determination

Facets **Co-Determination**	Potential for conflict	Central Issues	Aim of Unions	People Involved	Participation of workers
On the supervisory board of the company	Labour vs. capital, particularly over distribution of profit	Control of company and legitimacy of power	Re-Allocation of power	Representatives of labour and capital	Indirect, via representatives
Throughout the plant / firm	Plant vs. company priorities	Personal consequences of company strategies	Collective protection from personal / social exploitation	Work councillors	Indirect, via councillors
In Work Groups	Group vs. plant priorities	Co-ordination of group activities	Extend and secure the individual's scope for self actualisation	Shop stewards and workers	Direct
On the Job	Individual vs. group priorities	Rights of individual workers	Extend and secure the individual's scope for self actualisation	Workers	Direct

(Source: Vilmar, F. (1977). Humanisierung der Arbeit, *Aus Politik und Zeitgeschichte*, Beilage zur Wochenzeitung das Parlament, October 29, adapted; as cited in Reese, 1991).

It is suggested by Reese (1991) that co-determination be practiced on all levels simultaneously from the shop floor to the boardroom. Implementation can be achieved through contractual agreement between employers and the union, or by legislation. Reese (1991) suggests that the unions view collective bargaining as the foundation for co-determination. Reese argues that in developing economies equal bargaining strength does not exist between management and employees, and as such, no tradition of amicable collective dealings exists. As a result, the governments of these third world countries have no option but to prescribe a labour relations system by law. As time moves on, the unions grow stronger and government reduces the

degree to which they prescribe. Reese (1991) suggests that South Africa's move from prescriptive to enabling labour legislation is a step in the right direction.

2.3.7.2 Demand for Co-Determination

Reese (1991) cites three conditions that identify whether co-determination is a demand by the workers, namely economic, social and cultural conditions of the country, with culture being the decisive variable. If the culture values equality for its citizens, then there will be tension between unions and management when the workers are denied participation in decision-making at all levels. Empirical research in the ECC countries confirmed that workers are in favour of co-determination, but only at shop floor or plant level. While they wanted co-determination at board level, they were not sufficiently equipped to handle this. Co-determination had to be well entrenched at the lower levels before it filtered up to board level.

2.3.7.3 Economic Viability of Co-Determination

Many South African managers feel threatened by co-determination because they feel that it will reduce efficiencies and become less efficient than non-participative management (Reese, 1991). Co-determination could arguably be referred to as "the cheapest anti-strike insurance the company could have bought." In the late 1970's the question of co-determination possibly affecting the economic viability of companies was investigated in depth by the so-called Biedenkopf Commission of the Christian Democrats in Germany. The commission concluded that the union representatives in co-determined companies had:

- Shown as much interest as the shareholder in securing their firms' competitiveness.
- Never hindered necessary rationalisation.
- Had no negative affect whatsoever on planning and investment.
- Accepted management's suggestions for dividend payments and profit plough-backs.
- Never pushed for sacrificing efficiency for the sake of greater social justice.

These findings were confirmed by the International Institute of Management in Berlin who investigated co-determination firms (Reese, 1991). All firms had increased productivity with rising profits after co-determination at all levels was introduced. This issue was investigated again by the Supreme Court in Germany. American multinationals that had branch offices in Germany complained that co-determination was a barrier to productivity and profit maximisation. The court ruled that "co-determination at all levels was compatible with efficient management and sustained profitability, and that it did not constitute an undue infringement on management's freedom to act" (Reese, 1991).

Wherever co-determination has been implemented there has been an increase in productivity and profits (Reese, 1991).

2.3.7.4 Socialisation

By socialisation, Reese (1991) refers to the pressure on the workers' elected office-bearers to adopt management values once involved in co-determination. This would begin with the "managers" having to familiarise themselves with balance sheets, income statements, etc. (as has been the case with the Kopano owner-workers). The workers themselves must also learn the basic principles of economics. This is a problem of education which must be dealt with prior to co-determination being introduced, without which co-determination will fail. Co-determination must be practiced and implemented slowly. As understanding increases, so co-determination can move more aggressively throughout the company. South African companies have not educated their workers and therefore the benefits of co-determination are not known. Until this happens, South African companies will not reap the rewards that co-determination brings as illustrated by Germany (Reese, 1991).

2.3.7.5 Organisational Structures for Co-Determination

In order for co-determination to be effective there must be stability on the shop floor with shop stewards being involved early in any changes planned (Reese, 1991). Joint committees comprising both sides are set up to discuss aspects such as staffing, wages, safety, housing, etc. The highest level of co-determination is at board level.

In Germany the unions demanded equal representation of the supervisory boards arguing that both labour and capital are of equal importance. Representatives from external trade union headquarters would also sit on the board and would:

- Bring the backing of solidarity of unions into the supervisory board.
- Be independent of the managers and specific employee groups within the firm, and could raise unpopular issues, from which shop floor representatives might shy away.
- Bring a wide range of qualifications and skills, not normally found among the shop floor representatives (Reese, 1991).

The German example resulted in the two-tier board structure being established rather than the British-style unitary board. Two-tier boards exist in countries like Germany, France, the Netherlands, Italy and Belgium. South Africa still subscribes to the one tier board (Reese, 1991).

Reese (1991) cites various alternative management structures that can be classified as failures. It is important to discuss them to be able to make comparisons with structures at both Lawley and Kopano factories. Alternatives investigated include the Yugoslav experiment, the Peruvian way, the Ahrensburg model and the Porst model.

In the 1950's the Yugoslavs felt that capital needed to be "neutralised" with labour being more the dominant force behind the production of goods. Companies with over five employees were expropriated and placed into employee hands, with all profits being paid to the workers and no capital being retained for future expansion. Eventually the state introduced "institutional constraints" to prevent the workers from "asset stripping" the company they controlled. The Yugoslavs eventually conceded that capital is important for ongoing stability and moved back to the capitalist system (Reese, 1991).

The Peruvians wanted to introduce co-determination by making the workers 50 percent owners of all Peruvian joint stock companies. In 1970 the Ley de Communidad Industrial, or Industrial Community Act was passed. All workers of the firm, at all levels, were part of the industrial community. The law dictated that 27 percent of pre-tax profits were set aside for distribution. Of this, two percent went to

the national research fund, 10 percent to workers' profit sharing, and the remaining 15 percent was given back to the firm for investment, in return for shares. This process continued until such time as the industrial communities owned half the equity. Once this was achieved then power shifted to the shareholders, both old and new. Reese (1991) states that there has been no final verdict on its economic viability but adds that Peru is not known for its economic success.

The Ahrensburg model was to create a "model of democracy" in industry with the employees becoming partners in the firm. An advisory council was established has final authority for all disputes between partners. A cash flow problem arose during the recession of 1977 and because all partners were jointly liable, the employee-partners tried to pull out of the firm. This model finally dissolved when the firm was transformed into a joint stock company in which the employees held 92 percent of the shares. The firm continued operations with an organisational structure similar to other German joint stock companies (Reese, 1991).

In 1919 the Porst model originated with the opening of a shop selling photo equipment in Nuremburg, Bavaria and the company grew to command a 20 percent share of the German market for photo-equipment. In 1971, Hanscheinz Porst announced to the employees that he was handing control of the company over to them, which he did a year later. A company constitution was drawn up which subscribed to five principal goals, namely that employees had the right to independence and self-fulfilment at their work place, to participation in committees at every level and in any function, to reject their superiors, to dismiss management provided a majority of votes was allowed for this at a general meeting of all employees, and to bring their case to the arbitration committee for a final decision, if they felt unjustly treated by their colleagues and/or superiors. Profit was firstly used to pay back capital loans at a rate of three percent above the prevailing bank rate, but less than seven-and-a-half percent per year. The remaining balance was distributed amongst the employees. In 1982 the firm had declared losses of about R60 million. The workers handed back the company to Porst who sold 60 percent to Photo-Holding Interdiscount of Fribourg in Switzerland, and in doing so paid off the loss and also accumulated capital for future investment. The firm continued trading but the workers held no equity stake (Reese, 1991).

Co-determination has proved successful in first world countries such as Europe, the USA and Japan. Reese (1991) suggests that some South African companies have implemented co-determination, but at shop-floor level only. What remains is for South African companies to progress to co-determination at plant level and ultimately board level.

2.3.8 Summary

This section has provided a review of the theory of, and some empirical research into, the effects of decision-making participation by employees. The next section investigates financial participation by employees.

2.4 FINANCIAL PARTICIPATION

2.4.1 Introduction

Financial participation is another "partial" form of employee involvement (Lord, 1995). This is particularly relevant to the discussion here because the Kopano worker's, who hold equity title, receive remuneration in four different forms. These include monthly salaries, incentive bonuses, dividend receipt, and capital growth on their shares. Lawley worker's who do not hold proprietary title, receive only two forms of remuneration; their monthly salaries and performance bonuses. This section reviews literature concerning financial participation. In achieving this objective, the following sub-objectives are dealt with in sequence:

- Financial Participation (Remuneration and Reward): A General Overview
- Pay and Productivity
- Employee Share Option Schemes (ESOP's)
- Dividends.

2.4.2 Financial Participation (Remuneration and Reward): A General Overview

Hegewisch (1991: 28; cited in Lord, 1995) stated that:

> "… the pay package is the most obvious and visible expression of the employment relationship; it is the main issue in the exchange between the employer and the labour market, the individual's work and the performance of the employing organisation itself".

Locke (1983) adds to this by stating that money is the crucial incentive because, as a medium of exchange, it is the most instrumental, and is used to purchase numerous other items.

Financial participation is viewed as a sub-section of employee participation schemes, and as a potential constituent of the remuneration and reward policies of companies. Recent trends in human resource management have invoked new concepts in reward management with particular emphasis on performance-reward schemes. These schemes may be individual or group based. Beardwell and Holden (1994) stated that, because of the ever-increasing competitive pressures on companies, management has reverted to extracting greater effort and performance from employees. This has been achieved by setting new and higher performance targets for the employees.

Lord (1995) states that both financial participation and the belief that it will lead to better performance are not new ideas. The most significant effects of financial participation schemes are similar to those reviewed in respect of decision-making: an enhancement of employee attitudes and performance resulting in an improvement of organisational results. Peel *et al.* (1991) suggested that the advantages of employee participation in profits have been hypothesised to include: increased employee commitment, motivation and loyalty; improved industrial relations; improved productivity and financial performance; and increased financial awareness by workers. Lord cites Hanson and Hanson (1989) and La Mantia *et al*. (1990), who indicate that profit-sharing and share-ownership schemes have been encouraged by the governments of the United Kingdom and the United States, on the grounds that such schemes generate a greater sense of involvement and satisfaction in employees which can lead to tangible gains in profitability and productivity. Beardwell and

Holden (1994) state that these schemes should also have the objective of achieving higher worker earnings which create joint appreciation of the necessity to increase profits, so that both the company and the workers benefit from such initiatives. However, research by Kelly and Kelly (1990) in the United Kingdom revealed that benefits resulting from shareholding and profit-sharing schemes had usually amounted to only 2 to 4 per cent of the employees' total pay. Blanchflower (1991) cited in Lord (1995) made similar observations and suggested therefore that such schemes would have limited motivational effect.

Lord (1995) cites numerous commentators who have identified money as a means of satisfying numerous employees' needs: short-term material enjoyment, long-term security, social status, and recognition of personal achievement. Lord (1995) argues that it is therefore no surprise that financial gain has been proposed as an incentive for motivational purposes. Pay has further been identified as a valued reward by staff at all levels of the organisation's hierarchy (Lord, 1995).

Garratt (2000) suggests that understanding personal role competence and role perceptions are important in understanding the effort-reward connection. Personal competence includes not only an individual's attitude, knowledge and applied skills, but also organisational attitudes to the investment in training, development and employability it is required to make. How the individuals see their role in the organisation will also greatly influence the effort that they put in achieving performance objectives. Garratt (2000) suggests that throughout the world "government type employees" have traded off financial remuneration for guaranteed employment. Financial rewards must be linked to both individual performance as well as total corporate performance at all levels (Garratt, 2000). Garratt suggests that most companies link reward to output volumes rather than profitability and/or productivity. Garratt (2000) further argues that bonuses should be linked to medium and long-term performance and not short-term performance only (the current financial year, or the next balance sheet). Short-term bonuses should be limited to one third of the payout (with the balance to follow), failing which the decisions made by the staff would be short-term focused. This would also reduce their propensity to change jobs quickly.

Casey *et al*. (1992: cited in Lord, 1995: 94) categorised incentive-based systems into four broad groups:

- Bonus schemes which directly reward an individual for his/her performance, such as piece-work systems, output, commission or target-based bonuses, and day-work schemes.
- Collective bonus schemes, where the payments are based on the output or productivity of a group within the company, or on such measures for the entire company.
- Collective bonus schemes, where the payments are based on profits generated. Profit-sharing and employee share-option schemes fall within this category.
- Schemes where an individual's remuneration is determined according to his/her performance. Such plans are usually referred to as merit-pay or performance-related pay schemes.

Koopman *et al.* (1987) refer to the fact that the reward system and culture of an organisation are closely linked and are dependent on each other. The success of participative schemes comes from the company having a performance-based (task) culture. A problem encountered here is that the worker does not believe that any increase in reward that he gets is as a result of his working better, but rather the good work done by his representative trade union. Also, unions are going to be far stronger in their fight for equal pay for similar positions, rather than performance-based remuneration. Because of this idea, lower levels of performance will become the norm, rather than higher levels of excellence (no incentive to be more productive). Koopman *et al.* (1987) go on to discuss various principles of performance-based reward systems. Koopman discusses "debureaucratising", by this he means getting rid of all the rules, procedures, job descriptions, etc., which restrict and label employees. While this mechanistic role culture has in the past offered the employee a sense of security, the shift should be towards a more organic task-orientated culture. Here the emphasis is on getting the job done by positive energy rather than negative energy in adhering to the rules. A company with this type of culture will be more flexible and adaptable to the ever-changing dynamics of the external environment. The employee must set his own realistic targets for his area of control and must be empowered to perform the task. Trust is very important. Initially, smaller but more achievable targets are set so as to encourage a feeling of success. Koopman's

company, Cashbuild, structured their reward system in favour of team incentives, rather than individual incentives. While they still recognised individual performance within the team, it encouraged poor workers within the team to improve on their personal performance so that they were not a liability to the team's success. Koopman *et al.* (1987) advocate that, because the workers' share in the decision-making process which has a direct bearing on the results and profitability of the business, it is therefore only correct that workers share in the distribution of the wealth created. This can be achieved via numerous methods, the most common of which is a split in accordance with a percentage of salary/wages. It is pointless if the only scheme in operation is of a team type nature where workers are either rewarded, or penalised, in relation to the results of the team as a whole.

With all forms of incentive schemes organised labour must be involved, and the process must be totally transparent. Without this, the unions will not support the scheme and it will fail. Koopman *et al.* (1987) list numerous methods of sharing rewards. The first is a look at a very important aspect of retailing, namely shrinkage (stock loss). Any amount of shrinkage is directly off the bottom-line. Here a realistic percentage given in the industry norm is budgeted as a loss (say 1% of turnover), and any savings on that amount are distributed amongst the employees. Another method of reward is via share options. This ensures that the employee is motivated to grow the share price and in doing so, create wealth for himself. Next, an involvement in profit share, where an amount is negotiated and agreed upon as being realistic as the bottom-line profit for a particular period, be it a month or the financial year. Any profit above this amount is shared by the employees, albeit as only a percentage thereof. For example, say the budget is R300, 000-00 and the company actually earns R400, 000-00; the difference, being R100, 000-00, is split, with 50% being retained as income for the company and 50% being divided amongst the employees. This percentage split is negotiable, and can deviate from the 50/50 split in the above example. Finally, but also very important, is non-monetary reward. A simple "thank-you" can have an immense amount of power with very positive motivation being generated.

Salamon (1998) agrees with Koopman *et al*. (1987) by listing four types of financial participation. The first of these is profit sharing (a plan in which an employer pays to

eligible employees, an additional amount to their normal remuneration, in the form of cash and/or shares, once achieved targeted profits in the business has been achieved). The second type is profit related pay (a system of determining part of a pay award, usually in the form of a lump sum bonus payment, with reference to measured corporate success). The third type of financial participation is employee share ownership (shares allocated to an employee according to a set formula). The fourth type is gain sharing (the provision of a bonus for all workers in the company which is related to an overall measure of company performance).

Beardwell and Holden (1994) state that profit-share schemes also establish an impression of ownership (of the business) among employees. A stronger relationship between workers and management can result from this, which can have the effect of reducing conflict, wage claims, disruptive industrial action, etc. Beardwell and Holden (1994) argue that this stronger management-employee relationship minimises the role of the unions. In the context of this study, the need for union involvement is largely eliminated at the Kopano factory because employees and management own and control the company. The existence of a profit-sharing scheme encourages labour to be responsive to the performance of the company and thus assists in ensuring its ongoing survival (Lord, 1995).

Lord (1995: 101) cites numerous researchers who have investigated whether the extent of financial participation (actual or perceived) affects employee attitudes. Reported results, as in the case of similar research undertaken into the effects of decision-making participation, have tendered to be ambiguous. Schuster (1984) reviewing twenty-eight organisations, found that half displayed significant improvements in productivity after the introduction of profit-sharing schemes. Schuster (1984) reports a significant increase in productivity after the implementation of profit-sharing schemes in manufacturing organisations. Bullock and Lawler (1984) analysed 33 cases during 1950 and 1961. Two-thirds of similar programmes were reported as being successful, with improved worker attitudes and performance being the noted outcome.

As discussed earlier financial participation schemes can be focused on either profit-sharing or cost-saving measures. A tendency has been recently identified for firms to

reward the achievement of cost-saving targets rather than the attainment of profit-goals (Lord, 1995). This is significant in this study because the Lawley workers are more focused on cost reduction, whereas the Kopano workers receive dividends based on profit-sharing (savings in operational costs that generally allow an increase in overall profitability).

Kalmi *et al.* (2004) investigate the incidence of financial participation in largely public trading companies in six European Union countries (Netherlands, Finland, France, UK, Spain, and Germany) to evaluate possible similarities between participatory practices. These countries include those where financial participation has been longstanding (France, UK), where it has become more popular recently (Finland, Germany, and the Netherlands), or where the use remains low (Spain). The sampling frame was 869 stock-market listed companies (see table 2-6). All companies in Helsinki and Amsterdam were contacted. In the other countries the largest 200 companies by market capitalisation were contacted. In the UK the sampling frame was the FTSE 100 in its entirety, plus a random selection of companies within the main market sectors in the FTSE 350. In Germany listed companies from the prime standard were contacted, and in France the top 100 companies were selected (CAC40 plus a selection). In Spain the top 100 of BME were selected (Barcelona and Madrid).

Table 2-6 Number of Respondents per Country

COUNTRY	INITIAL SAMPLE	NUMBER OF RESPONSES	RESPONSE RATE (%)	RESPONDENTS AS A % OF ALL RESPONSES
Netherlands	180	70	38.9	27.3
France	114	30	26.3	11.7
UK	169	56	33.1	21.9
Finland	145	42	29.0	16.4
Spain	94	17	18.1	6.6
Germany	167	41	24.6	16
TOTAL	**869**	**256**	**29.5**	**100**

(Source: Kalmi *et al*., 2004: 24)

A structured questionnaire was used as a vehicle for data collection. The questionnaire was sent to the financial manager (or equivalent) responsible for employee rewards. The questionnaire was targeted to collect information on financial participation and other forms of employee participation. Kalmi *et al.* (2004) suggest that the data gives a good picture of participation practices in the upper echelons of the listed sector in each country.

The incidence of financial participation by country is shown in Table 2-7.

Table 2-7 Incidence of Profit-Sharing, Options or Share Ownership
Percentages of companies (except where shown)

	NETHER LANDS	FRANCE	UK	FINLAND	SPAIN	GERMANY	TOTAL
Profit sharing (All forms)	47.1	83.3	51.8	57.1	11.8	48.8	52.0
Broad-based profit-sharing	38.6	83.3	50.0	50.0	5.9	41.5	46.5
Share Schemes (all forms)	64.3	63.3	89.3	57.1	41.2	80.5	68.5
Stock Options	60.0	56.7	78.6	54.8	35.3	61.0	61.3
Broad-based share schemes (incl. options)	37.1	46.7	64.3	35.7	11.8	48.8	44.1
Proportion of firms with at least one scheme	82.9	90.0	94.6	85.7	41.2	92.7	85.5
Proportion of firms with a broad-based scheme	57.1	80.0	66.1	66.7	11.8	56.1	60.2
Average number of schemes	1.31	2.03	2.16	1.48	0.65	1.59	1.61
Percentage of broad-based schemes of all schemes	76.9	88.9	69.8	77.8	28.6	60.5	70.3

Note that one company may have multiple schemes. The respondent is classified as having a broad-based scheme if it has at least one scheme where at least 50% of its employees participate (Kalmi, *et al.* 2004: 25).

A financial participation scheme is evident in over 80 percent of listed companies in all countries except Spain, where the figure is just over 40 percent. Share schemes are more common than profit-sharing schemes: almost 70 percent of respondents have an equity scheme, while slightly over 50 percent have a profit-sharing scheme. Stock option plans are widespread, with over 60 percent of respondents having such a plan. Most respondents with equity schemes have more than one scheme. One hundred and twenty-two respondents have an equity scheme other than stock options, but of these, 101 appear together with stock options. Over 85 percent of respondents have either an equity scheme or a profit-sharing scheme. Broad-based profit-sharing schemes are slightly more common than broad-based equity schemes (Kalmi *et al.,* 2004).

The analysis by Kalmi *et al.* (2004) further focused on the relationship between direct and indirect participation with financial participation. Seven forms of participation were selected in addition to financial participation, and these were selected to reflect direct and indirect participation. Forms of indirect participation refer to: the presence within the company of a trade union committee, a works council or joint consultative committee, and employee representation on the company board. Forms of direct participation include: employee surveys, suggestion schemes, quality circles, and teamwork. The final stage of the analysis is concerned with the determinants of employee participation rates in broad-based financial participation, and specifically whether other forms of employee participation have a positive effect. The analysis indicates that broad-based profit-sharing schemes are related to both direct and indirect participation, which is not the case for broad-based equity schemes (which are found to be negatively related to indirect participation).

Stock option plans appear to be negatively related to all forms of employee participation. The overall results show that the various forms of financial

participation have very different relationships with other forms of employee involvement and participation (Kalmi, *et al*. 2004).

2.4.3 Pay and Productivity

Reese (1991) states that classical writers on the subject agree on three basic issues. Firstly, they recognise that politics has a decisive influence on wage levels. Secondly, they agree that politics tends to overrule the forces of supply and demand in the labour market. Finally, they question any link between wages and productivity. Lord (1995) adds to this by stating that external factors such as managerial practices and the industrial relations climate can have a significant effect on its success.

Before democratic elections in 1994, many manufacturing entities in South Africa viewed a living wage as more important than being involved in profit-sharing. Reese (1991) suggests that no South African union has yet been successful in extracting from the employer a "living wage" for lower level workers. The problem here is that there is no consensus on what a "living wage" is. In the South African mining industry the unions were only concerned in obtaining a "living wage" for their members, and had displayed little enthusiasm for financial participation (Lord, 1995). Efforts to introduce financial participation in neighbouring countries such as Algeria, Tanzania and Zambia have also been relatively unsuccessful. Horwitz (1988; cited in Lord, 1995) suggested that the reasons for this are that, in these countries, the workers were more concerned about "hygiene factors" such as material rewards and security.

COSATU's resolution on a national minimum wage states that it is committed to financial transparency in the first instance. Only once this is achieved can workers demand their "fair share" of the wealth that they have helped create. COSATU feels that, should no wealth have been created, this would strengthen their case for "worker control" as management will have failed in its primary duty (Reese, 1991).

Productivity is an issue that Reese (1991) suggests is very difficult to discuss objectively. It is generally agreed that productivity is not a short-term issue, but rather a long-term issue requiring constant and sustained attention. However, after this "disagreement abounds" concerning how productivity is defined and measured.

The National Productivity Institute (NPI) in Johannesburg defines productivity as the ratio between goods and services produced in the national economy, in an industry or in an individual organisation on the one hand, and the resources used to produce them on the other hand. It indicates the productive efficiency with which labour, capital, materials and other inputs are combined and used to produce goods and services of a specific quality for the satisfaction of customer needs.

The NPI stresses that productivity is a holistic concept, as it deals with all inputs and outputs, and not just labour. The NPI states that the acceptance of this "holistic" definition should put an end to what it defines as the seven "myths." These are:

- That productivity improvements will result in a decrease in work opportunities.
- That productivity is a once-off affair.
- That productivity improvement programmes should be the responsibility of one person.
- That productivity is the same as production.
- That productivity means harder work.
- That productivity is promoted by the capitalist system only.

Management and the unions agree on some of these "myths" but differ on others.

The first myth – Increased productivity means a decrease in job opportunities: Reese (1991) agrees that the NPI is correct in stating that improved productivity will not necessarily lead to job losses. Trade unions are often of the opinion that as productivity increases there is a risk that supply will exceed demand resulting in falling prices. Alternatively, sluggish productivity could be an economic advantage as the goods and/or services will remain in demand. Reese (1991) quotes the medical profession as a striking case, and education to a lesser degree. The unions are cautious of the argument that increased productivity leads to greater global competitiveness, and hence increased jobs. The unions argue that according to statistics, increased productivity leads to job losses. Trade unions cite the 1986 annual report of Carlton Paper, which read: "Productivity improved and record production outputs were achieved, thereby enabling our production facility in Durban

to be closed" (Reese, 1991). The union also quote Charles Meth of the Department of Economics of the University of KwaZulu-Natal, who concluded that the NPI has produced analyses of dubious scientific merit but of considerable ideological use to the capitalist class. It is envisaged that the debate of productivity versus jobs will continue well into the future.

The second myth – Productivity is a "once-off" affair: Both management and the unions generally agree that increased productivity is never a once-off affair. Productivity improvements are a continuous process to be tackled jointly between management and the workers, as is the case of quality circles.

Quality circles are where teams of workers are given the chance to improve products and processes. Quality circles are very prominent in Europe, with British enthusiasts belonging to the National Society of Quality Circles (NSQC). The NSQC has hundreds of member-companies, resulting in thousands of quality circles. The French are the most active with over 12,000 quality circles (Reese, 1991). Quality circles tackle any aspect of the operations that may lead to improvements. Any recommendation emanating from quality circles must still be presented and approved by management. As a result of this, the quality circle members improve their written and presentation skills as well. At the 8th Quality Circle Congress in Cologne in October 1989, it was agreed that quality circles were the bedrock of total quality management (TQM).

The third myth – One person is responsible for productivity: It is unanimously agreed that all stakeholders must be involved (Reese, 1991).

The fourth myth – Productivity is the same as production: Both the unions and management agree that production is merely the cumulative output of goods and/or services, while productivity relates this output to the inputs to achieve it.

The fifth myth – Productivity is relevant to specific industry sectors only: Both management and the unions agree that productivity is relevant to all industries. In certain industries such as services, the outputs are less tangible, and they have to be measured or quantified in different ways.

The sixth myth – Productivity means harder work: The NPI statement is: "Obviously, it is necessary that all people should do a fair day's work, and idleness leads to low productivity. In general, however, productivity does not mean harder work; it means working without waste."

The seventh myth – Productivity is promoted by the capitalist system only: Reese (1991) cites Jean Fourastie who stated that, "productivity has no fatherland, nor any political colour. It is the only notion that is accepted by both Marxist and Liberal economic theories." The NPI quotes Lenin who, in 1943, declared that "productivity of labour is the most important, the principal thing for the victory of the new social system (communism)."

2.4.4 Employee Share Option Plans (ESOPs)

Share-options are categorised as non-cash-based schemes (Lord, 1995). Another such scheme is the share-trust scheme where companies are permitted to distribute shares to employees free of charge. Firms may periodically pay funds into a trust, which in turn uses the money to purchase shares in the company. Numerous share option plans are in existence, and are highlighted in this section. ESOPs are both a form of remuneration (dividends) as well as ownership (capital growth via the share price).

Various countries have introduced profit sharing through shareholding schemes and similar arrangements (Reese, 1991). Examples can be found in France, Germany, Sweden, the USA and Nigeria. Reese (1991) refers to this as the placing of a portion of the company's profits into a fund, which is subsequently passed on, in the form of shares, to the employees.

Empirical research in Germany concludes that unions were not totally in favour of profit sharing schemes. The reason for this is that if employees held shares in a company, many were transformed into capitalists. In the USA, the Employee Stock Ownership Plan (ESOP) has become an established part of daily business. This serves as a model that South Africa has followed, albeit to a lesser degree (Reese, 1991).

ESOPs are organisationally tailored plans that facilitate employee ownership of a percentage of the company (Phillips, 1999). Stock options and the possibility of capital gains are a strong attraction to skilled workers. Employee ownership can mean owning anything up to 100 percent of the company. Shares can be offered to all employees or designated personnel. ESOPs can offer stock options, common shares, preferred convertible shares and/or phantom stock. Phillips (1999) suggests that ESOPs not only attract workers to the company, but boost productivity and profitability. The participating company shows a higher return on average equity and capital, and a lower debt-equity ratio than non-ESOP companies. Participating employees "act like owners because they are owners." ESOPs are a powerful tool to share wealth and ownership (Phillips, 1999).

According to an annual report by management consultants Hewitt Associates, LLC, evidence suggests that companies are focussing more on their employees. The report found that total shareholder return for companies with ESOPs was an average of 7 percent higher than companies that do not have an ESOP scheme (Stock, 1999). In the short term, more than 60 percent of companies saw an increase in their stock price following the launch of a share ownership plan. Hewitt's national practice leader of Employee Ownership Consulting, Mike Butler, stated that other share ownership schemes including employee stock purchases, stock option plans, or 401(k)'s, with the company matching employee contributions with its own shares, have a similar effect (Stock, 1999). A 401(k) is a type of retirement plan that allows employees to save and invest for their retirement. Through a 401(k), you can authorise your employer to deduct a certain amount of money from your salary before taxes are calculated, and to invest in a 401 (k) plan. Butler states that many companies offer a defined contribution scheme in the form of a 401(k). According to Blair and Kruse (1999), about 20 percent of the U.S. adults own stock in the company for which they work. Butler warns that the scheme alone is not enough, with education and communication being paramount in getting the employees to act like owners. Some companies use the Internet for communication. This site advises employees of stock prices, comparisons, training, etc. The Ford Motor Co.'s employee communication programme also relies on its internal TV network which keeps costs low and communication high (Stock, 1999).

Share ownership schemes are relatively common in big organisations. Small companies are not as aggressive in issuing ownership or profit sharing schemes (Stretch, 2002). Stretch (2002) argues that revenue-approved schemes are often "over-complicated." The complexity of the tax system is another barrier for small companies. Costs pertinent to legal, accounting and tax advice are too big for small firms. Other problems are that SME employees could have difficulty in selling their shares as a result of an employee trust not being established to buy the shares. Stretch (2002) further concludes that poorly designed share-schemes contribute to the pressures that sent Enron and WorldCom into descent. In 1996 the British government announced that tax relief on share options would rise from GBP20,000 to GBP30,000. At the time, the Labour party were pushing for increased shareholding by the employees in the economy. The focus was that all employees should have access to shareholding, irrespective of their positions within the organisation, or the size of the organisation itself (Thatcher, 1996). The British government is encouraging smaller companies to get involved in share ownership, and as such, two new share schemes have been added to the existing three. This has been documented in the Finance Act 2000 (Jenkins, 2000). The two schemes are the all-employee share ownership plan (AESOP), and the enterprise management incentives (EMI). The flexibility of the AESOP should be attractive to smaller companies. The AESOP offers three "modules", consisting of free shares, partnership shares and matching shares.

If management decides to offer shares as an incentive, free shares are often regarded as the best option (Jenkins, 2000). If the goal is to lock employees into the organisation, then partnership shares are the best alternative. The matching share alternative involves employees sacrificing a portion of their salary (Jenkins, 2000). Details of the three alternatives are briefly highlighted below:

- Free shares can be awarded each employee up to a ceiling of GBP3,000 in a tax year. These are free of income tax and national insurance contributions. The award of free shares can be linked to performance of the individual, team, division or business.

- Partnership shares allow employees to purchase shares out of pre-tax salaries, up to a maximum of GBP1,500 per tax year, at a capped rate of GBP125 a month or 10 percent of monthly salary.
- Matching shares allow the employer to donate up to two matching shares pro-rata to each partnership share that an employee buys up to a value of GBP3,000 per annum.

  (Jenkins, 2000)

Across the EU employee share ownership and profit-share schemes are on the increase, with British companies leading the way (Pendleton and Brewster, 2001). Certain countries in the EU have long-standing legislative and fiscal support for financial participation, while others have none. The UK has employee share schemes supported by tax concessions. France has had compulsory profit share schemes since the 1960's (Pendleton and Brewster, 2001). The trend is growing; with Germany, Ireland and the Netherlands passing new laws to promote employee share ownership.

American developments in corporate governance have aimed at encouraging share ownership. In the mid-1980's corporate managers realised that the firms are less vulnerable to takeovers if a substantial block of their stock was held by employees, or held for them in ESOPs or other employee benefit plans (Blair and Kruse, 1999).

For example, in Delaware State where about half of all large corporations are incorporated, took two actions that strengthened the takeover protection provided by employee ownership. In 1987 the legislature required bidders who hold more than 15 percent of a company to wait three years to complete a takeover, unless they acquired at least 85 percent of the target company's shares. As a result of the takeover protection ESOPs afforded companies many large companies established such systems in the late 1980's (Blair and Kruse, 1999).

Renton (1994) highlights advantages and disadvantages of employee share schemes in Australia. Renton lists the positives of the share ownership schemes as:

- They give the recipients a positive incentive to increase their company's productivity and profitability.
- They increase industrial harmony.

- They help to create a greater awareness of the company's operations.
- They encourage greater employee identification with shareholder interests.
- They assist in remunerating staff properly, and in line with overall market conditions.
- They help keep the fixed component of wage costs at a lower level than would otherwise be the case.
- They are motivational.
- They can inspire greater loyalty to the company.
- They can provide another form of saving for retirement.
- They are tax effective.
- They help to attract and retain staff.

Renton's (1994) view is not supported by a British study which did not agree that ESOPs improved employee attitudes, but cast doubt as to whether this would automatically result in higher productivity, as the American study of 1981 implied (Reese, 1991). The British study concluded that there was sufficient evidence to support the hypothesis that share ownership improved employee behaviour.

Renton (1994) also lists some disadvantages of share ownership schemes:

- External factors such as interest rates, new taxes, government intervention, exchange rate changes, commodity price changes, etc., can make the share price drop, and this is completely unconnected with employee performance. A lower share price could then negatively affect existing shareholders.
- If things go wrong then some employees may lose their jobs as well as a major portion of their life savings (in the form of shares in the employing company).
- Serious conflicts of interest between outside shareholders and employees could arise.
- The shares involve an investment risk and may fall in value.

Renton (1994) refers to the Australian Shareholders Association and the Australian Investment Managers Group who both favour non-discrimination in employee share schemes. The offering of shares should not be limited to top executives, but rather to all levels of employment and in proportion to employee remuneration.

Profit sharing and employee share ownership schemes are more prevalent in financial and service firms than in manufacturing. The reason for this is that in manufacturing the workforce are normally "blue-collar" workers who would not contribute significantly to the growth or profitability of the enterprise. On the other hand "white-collar" workers are considered to be educated, and can therefore contribute more to bottom-line profitability. Pendleton and Brewster (2001) conclude that, overall, businesses that have high levels of knowledge are more likely to allow financial participation. Concern regarding the relationship between financial participation and other forms of employee representation, such as the unions is highlighted. The sharing of information is far stronger in companies that have an ownership scheme in place.

Pendleton *et al.* (1998) investigate the relationship between employee ownership and employee attitudes in the UK. It is hypothesised that employees who hold shares in a company will have a more positive attitude towards that company. Listed below are some of their findings:

- Nearly 70 percent of the respondents indicated that employee ownership had not given them a greater say in decision-making.
- Twenty percent suggested that their levels of participation had increased.
- About 30 percent of respondents stated that their work behaviour had improved because of share ownership.
- Just over 30 percent implied that their propensity to quit had been reduced.
- Most employee shareholders do not have a strong sense of ownership.

2.4.5 Dividends

Dividends are particularly relevant because the current study measures differences in perceptions between workers, relative to their financial participation.

Correira *et al.* (1993) state that profits earned but not paid to shareholders are retained income which form part of the capital structure that comprises both equity and debt. Therefore, payment of dividends reduces retained earnings. By paying out dividends

a company is depriving itself of equity which would have to be obtained elsewhere, should the company wish to react to an investment opportunity.

Correira *et al.* (1993: 637) refer to the decision for paying dividends or not, as "an active variable or a passive residual." Does the dividend decision rank equally with investment and financing decisions imparting on the value of the company? Correira *et al*. suggest that the answer lies somewhere between these two extremes. The decision to pay a dividend depends on the trading results and the environment within which the company operates (legal system, tax implications, the nature of the shareholders, the industry, etc.).

What Correira *et al.* (1993) are stating here is that if dividends have an influence on the value of the company they must be taken into consideration, whereas if dividend payout has no real effect on the company value then it can be ignored. If a bigger dividend increases the value of the company without a fall in growth expectations given the smaller retained income, then the model suggests that dividends have a positive effect on the company. Correira *et al.* (1993) refer to the "bird in the hand" theory suggesting that a dividend now is of greater value that an unknown or hypothetical growth. The reverse argument suggests that dividends are irrelevant and actually reduce the potential future growth of the company. Miller and Modigliani (cited in Correira *et al.,* 1993) suggest that dividend policy has no effect on the value of shares of a company. However, the Miller and Modigliani theory assumes that there is no tax, transaction costs or market imperfections.

Correira *et al*. (1993) suggest that differential tax rates could alter the perceptions of an investor who may have a preference for either capital growth or dividend payout.

The residual approach to dividends suggests that dividends are a passive variable. In this case, dividends should be paid only after investment growth decisions have been made, or there are no investment opportunities available for the company in the near future. It is important for the company to identify its set of investment opportunities, its required rate of return and its debt ratio. Factors affecting the "dividend decision" include legal requirements, information content of dividends, the nature of the shareholders, and agency factors.

The legal requirements are determined by common law and take precedent over generally accepted accounting practice (GAAP). The information content of the dividends refers to investors' perceptions of the dividend policy (payout) as determinant judgement of the company's worth. Financial statements can be manipulated in many ways, whereas a dividend policy is a direct indication of the company's health. The nature of the shareholders is self-explanatory. Some investors might look for a larger capital growth, versus dividend payout. Others might look for a balance. Agency factors suggest that owner-managers should pay lower dividends than non-owner-managers because of tax considerations. Conversely, owner-managers may be encouraged to pay higher dividends because of diversification, wealth transfer, and further taxation.

Dividend payment policies include stable dividend amounts. In other words, when a fixed dividend is paid irrespective of the earnings of the company. The stable payout ratio is when a company has a dividend policy of (say) 3:1. This means that it has a payout ratio of 33.33% and that a third of its earnings are paid in the form of dividends. The stable dividend plus bonus can be viewed as a combination of the above two. A smaller fixed amount is paid out and a bonus is paid when appropriate given company earnings.

Eckert *et al.* (1996: cited in Gray *et al*., 2004) examined dividend payouts at an equity-share scheme in the Western Cape, South Africa. They found that very few respondents understood the term "dividend", but that they did understand they would receive a share of the business profits. Capital growth was viewed by respondents as an important benefit from equity-sharing, but the study did not attempt to measure capital growth in the scheme.

2.4.6 Summary

Despite the fact that the supporting empirical evidence is not conclusive, financial participation may be an effective way to focus the attention of employees on corporate goals through the enhancement of worker attitudes and performance. The following section investigates empowerment at worker level in detail.

2.5 EMPOWERMENT

2.5.1 Introduction

Hypothesis # 2 tests the workers' sense of empowerment. This section serves to review the literature on empowerment, and provide an understanding of the term "empowerment" in the context of the study. Other interpretations of "empowerment", such as Black Economic Empowerment (BEE) in a South African context, are not relevant given the context of this study. In achieving this objective the following sub-objectives are dealt with in sequence:

- Definitions
- Managing Empowerment
- Leadership and Empowerment
- Structural Empowerment
- Psychological Empowerment
- Empowerment Evaluation
- Summary

2.5.2 Definitions

The Oxford Concise Dictionary (1990) defines empowerment as "to authorise, or licence". A second meaning cited is to "give power to, or to make able". The Collins Concise Dictionary and Thesaurus (1991) cites a similar description for empowerment being "to enable, or to authorise". The thesaurus section lists words such as "allow, authorise, commission, delegate, enable, entitle, license, permit, quality, sanction and warrant" as alternative words for empowerment. Dawson (1998) defined empowerment as the effective application of understanding, enabling, and encouraging people for constant improvement of all processes.

Gerber *et al.* (1995: 348) are of the opinion that empowerment is spoken of often, but not understood. Their definition of empowerment is the "action of investment and the allocation of authority" so that people may attain certain goals. This involves the

sharing of power and the removal of barriers that restrict personal and organisational development.

Whetton *et al.* (1997: 388) describe empowerment as "using the enormous potential of man", and not allowing him/her to "hand in their brains as they would their coat". They refer to empowerment in a "new world" as multi-skilling. Whetton *et al.* (1997) suggest that when a company is operating in a stable and predictable environment, the company can function as "routine controlled and mechanistic units". Under these circumstances management operates with a top-down style. This is not empowerment! In today's business world it is seldom the case that an industry is stable, but is usually rather unpredictable, changing, etc. In such circumstances, the workforce needs to be empowered with less centralised decision-making, less top-down direction and less autocratic leadership. According to Peters and Drucker (1997: 396) this is what high performance companies need.

Whetton *et al.* (1997: 396) add further that in sociology, notions of empowerment are likened to "rights" movements where people campaign for freedom in their own circumstances (civil rights, gay rights, woman's rights, etc.). They suggest that people seek social change to increase their access to an empowered condition. Paul *et al.* (2001) add that the concept of empowerment is not new, but gained new prominence in the 1980's as American businesses faced new competitive threats.

Fullam and Lando (1998) declared that empowerment was the decentralisation of power, and defined empowerment as the context to an organisational environment that supports staff access to power, enabling them to be innovative and creative.

Menon (2001) maintained that scholars use the word empowerment to refer to different concepts. It can be seen as the act of empowering others, or it can describe the internal processes of the individual being empowered, while Thomas and Velthouse (1990) make reference to the internal state of the empowered individual (see psychological empowerment). If empowerment is equivalent to delegation, as defined by Burke (cited in Menon, 2001), or intrinsic motivation, as defined by Spreitzer (1995), then Menon (2001) argues that the status of empowerment as an independent construct is debatable. It is further suggested that empowerment should

be classified into three different categories: the structural, motivational and leadership approaches. Menon (2001) reviewed more recent research where empowerment was viewed as a psychological process.

Siegall *et al*. (2000) agree that there are many different meanings of empowerment. Various authors agree that all empowered employees have a high sense of self-efficacy, hold significant responsibility and authority, engage in "upward influence", and see themselves as innovative. This view is supported by Conger and Kanungo, Ford and Fottler, and Quin and Spreitzer (cited in Siegall *et al*., 2000).

McGunnigle (2002) suggests that there are significant differences between employee participation and employee involvement, but questions where empowerment fits within these approaches. The literature suggests a range of opinions from one that views empowerment as a management control/manipulation tool, to one which views empowerment as essential for the achievement of maximum organisational potential. McGunnigle (2002) states that the most widely shared view amongst employee-relations writers is that there is currently very little true "power" in the hands of "empowered" workers. Citing Rose's definition of power as: "… the extent to which one party to a relationship can compel the other to do something he otherwise would not do voluntarily" (2001: 5), it is hard to see that any real "power" is afforded to employees, outside the narrow scope of task-related decisions aimed at satisfying external customer needs quickly, without having to refer to management. "… *the overwhelming impression to be gained from the literature is that empowerment entails some additional employee "choice" at the margins of their jobs, rather than any substantial increase in employee voice"*. (McGunnigle, 2002: 1)

2.5.3 Managing Empowerment

Paul *et al.* (2000) state that management styles which promote individual or group involvement are not new topics for research. Authors who have researched management styles include Lawer (1992), Lazear (1998), Klein (1991), Greenberg & Baron (1997), Blau & Boal (1989), Cohen & Ledford (1994), Goodman *et al*. (1988), Ketchum (1992), Mantz *et al*. (1990), Wellins & Byham (1991), and Suman (1976). Managers are encouraged to involve employees either individually or in groups, so as

to increase workforce commitment and "humanize" the workplace. In return, the company should be the recipient of improved work performances, good citizenship behaviour and increased quality of life.

Randolph, (cited in Quin and Spreitzer, 1997), researching the characteristics of an empowered person, identified three steps as being necessary in order to navigate the journey to empowerment. Firstly, the company must be totally transparent with its employees. All information relevant to the company, from financial statements to marketing strategies, growth opportunities, etc., must be made available to the employees. Secondly, Randolph emphasises the need for a clear vision, clarification of organisational goals and individual roles, all of which impose a clear structure on the employee. This will ensure accountability. Finally, the traditional hierarchy should be replaced by teams with a strong leader. This view is shared by Bowden and Lawler (cited in Quin and Spreitzer, 1997), who add a further dimension; that of training and rewards.

Whetton *et al*. (1997) refer to empowerment as a process to enable employees to do what they want in order to fulfil a task. Managers who empower remove constraints, controls, boundaries, etc., and facilitate work by providing resources, stimulation, motivation, steering, and (most importantly) trust. Empowerment is described as a "pull" strategy. Sashkin (1982, 1984), Kanter (1983), Greenberger and Stasser (1991), and Spreitzer (1992), all as cited by Wetton *et al.* (1997), draw on research conducted which shows that, not only are empowered employees more productive and satisfied, but they also produce better quality products. Whetton *et al.* (1997) suggest that organisations are more effective when an empowered workforce exists.

A possible problem with empowerment is that managers must relinquish control and let others make decisions. It also means that they will not get the credit for certain developments. This "letting go" is very difficult for managers with a high need for power and control, hence it is stated that while there is high visibility of empowerment in modern day literature, it is the managers who have to learn the skills of empowerment in order to effectively practice it (Whetton *et al*., 1997).

In most bureaucratic organisations employees feel threatened because their employers encourage dependency and submission. The institution, and not the individual, is the recipient of empowerment. Managers need to understand how they can empower people.

Whetton *et al.* (1997) refer to Kanter (1983), Bandura (1986) and Hackman & Oldham (1980) who have identified eight specific prescriptions for fostering, or developing empowerment. These include:

- Fostering personal mastery
- Modelling
- Providing support
- Creating personal enthusiasm
- Providing necessary information
- Providing necessary resources
- Organising teams; and
- Creating confidence

Fostering personal mastery is enabling someone to "master" a particular challenge. A sense of personal mastery occurs when someone conquers something, accomplishes a task, or defeats an opponent. This can be achieved by encouraging the employee to begin with a relatively easy task, and as s/he succeeds, to move on to increasingly more difficult tasks. Managers must foster empowerment by helping employees develop the awareness that they possess the capabilities to succeed. Whetton *et al.* (1997) suggest that if a task is broken down into steps, or increments, then the empowered person will feel a sense of achievement, even if the task is formidable. While these smaller "wins" are only a portion of the complete task, they represent progress and movement towards the ultimate goal. Once this happens, and it is recognised, people feel more empowered and capable.

Another way to empower is to show how. "Modelling" is when people see others succeeding at difficult tasks, and then believe that they too are capable of doing the same. If the manager cannot show the employee what to do himself because of time constraints, then he can refer him to someone else who is frequently successful in their work. Whetton *et al.* (1997) remember Roger Bannister when he broke the four-

minute mile. Prior to this feat, the barrier was considered insurmountable. However, once it was broken others followed shortly afterwards.

The third technique according to Wetton *et al.* (1957) is to provide employees with social and emotional support. Both Kanter (1983) and Babdura (cited in Whetton, *et al*., 1957) each found that empowerment works best when there are supportive and responsive managers. By adopting this stance, workers are able to feel accepted, and that they are a valued asset and an integral part of the end goal.

Creating personal enthusiasm means replacing negative emotions (fear, anxiety, irritability, etc.), with positive emotions such as excitement and anticipation. The function of the task must be clear, with the work being challenging and exciting. The right side of the brain controls emotions and passion, whereas the left side controls logic and analysis. Here one must involve the right side of the brain.

Managers need to be clear on the vision, or mission of the company. Empowerment without clear direction could be chaotic. The vision needs to be linked with the employee's personal values.

Kanter (1983) identified information as a most powerful "tool" available to managers. Control of information can be a major force of power in an organisation. However, when managers feed organisational information to employees, the employees tend to have a greater sense of empowerment. Once this happens, employees will tend to work harder and work in close cooperation with the empowering manager. The resultant effect is an empowered workforce and achievement of goals. Spreitzer (1992) found that employees who had relevant information were more empowered than those who did not.

Providing resources will also create a sense of empowerment. Resources can include ongoing training and development experiences, as well as technical and administrative support. Empowered employees generally have all such resources and this enables them to reach their organisational goals successfully more often.

Organising teams is another way of creating empowerment. When a team is created, individuals may achieve something that they otherwise could not do on their own, and as such, a sense of empowerment is created. Team empowerment is most successful when individuals maintain autonomy within the group, when the team maintains autonomy over its own function, when individuals within the team can influence others, when the team as a whole can influence other teams, when individuals take control of their own success, and when the team takes responsibility for its own success. Whetton *et al.* (1997) suggest that three types of teams are to be used to foster a sense of empowerment and that these include "suggestion teams, job-involvement teams and high-involvement teams". A suggestion team is used when the goal is to create ideas. The role of the job-involvement team is to provide work specifically co-ordinated amongst all members of the team, and team members take responsibility to teach one another their individual jobs. Finally, a high-involvement team is organised to affect the whole organisation. Here, the team is judged almost as a stand-alone unit, or division, is treated as such and rewarded accordingly. (1997: 410).

Creating confidence is the final technique for engendering empowerment. If the worker is confident that the manager and organisation have honourable intentions then there will be a sense of trust and confidence. Mistrust and suspicion must be avoided. If the employer is honourable and admirable then s/he will create positive energy amongst others. Wetton *et al.* suggest that five factors are important in creating this trust. Reliability is a requirement from the employee. They must be consistent, dependable and stable. The manager must always be fair. Concern, or caring for the employees, will gain their trust. Finally, openness and competence are also prerequisites of the employer in order to fulfil a sense of trust within the employee. (1997: 410).

Block (cited in Whetton *et al.*, 1997) notes that empowerment is very difficult to implement. Block adds that if controls were removed then there would be a lot of positive energy released. However, when managers have desired more participation, or empowerment, this has very often been greeted with reluctance. Managers who do not wish to empower their subordinates hold a certain opinion in order to justify their actions. They may believe that subordinates are not competent enough, or simply

don't want (more) responsibility, or that the task is of such a nature that it should stay with the senior manager. The manager may believe that the problem with non-empowerment rests with the employee and not him/herself. Whetton *et al.* (1997) agree that some managers are insecure, and as such will not effectively empower others because they will lose control or reward which is task specific. They believe that if they hold the "trade secrets", then they are effectively in a position of power and are therefore "untouchable". Their problem with empowerment is exacerbated because they feel that they alone can competently perform the task – giving it out will be troublesome, and the task will not be correctly done. The manager simply feels that s/he is directly responsible for the task and s/he can therefore simply not trust anyone else. The manager desires to be fully aware of activities relative to the task at all times, and as such cannot effectively empower people to perform the function.

Whetton *et al.* (1997) state that certain of the above concerns may well be true, but they still deprive themselves of the benefits of effective empowerment. They suggest that incompetent empowerment can lead to drastic results, such as when the manager empowers someone, or a group of people, but then does not give them direction, or the necessary resources to fulfil the requirements of the task. One could refer to this as abdication of responsibility.

Paul *et al.* (2000) suggest that boundary conditions for empowerment exist. Reference is made to external forces, including labour markets, that allow moderate mobility and economic conditions where a firm can adopt a long-term view of productivity, and a culture that supports team or cooperative activities (Polley and Van Dyne, 1994; Ketchum and Trist, 1992; cited in Paul *et al.,* 2000). Besides the external factors, internal or personal characteristics of the organisation, as well as situational and group characteristics also exist, which impacts on empowerment efforts (Cohen, 1994; Lawler, 1989, 1992; cited in Paul *et al*., 2000). A large body of literature which relates to the internal environment and individual group characteristics that are conducive to effective empowerment is available. Again, reference is made to the fact that empowerment will breed entitlement beliefs of more empowerment that will be unfulfilled eventually (Paul *et al*., 2000). Empowerment thus creates a psychological contract that is difficult to maintain given human nature.

Paul *et al.* (2000) refer to the "Met Expectations Theory" where newcomers to an organisation will be disappointed when they realise that many of their expectations will not be met. This results in a high employee turnover amongst new staff which is as a result of unmet job expectations causing low job satisfaction. New employees may have high expectations of levels of empowerment in a new organisation.

2.5.4 Leadership and Empowerment

Gerber *et al.* draw a parallel between the definition of leadership and empowerment by defining leadership as the "competencies and processes required in order to enable and empower ordinary people to perform various tasks" (1995: 348). Leaders have a vision of the organisation's future, which they share with the employees and as such "energise" them into a state of empowerment. The leader provides clarity of direction and others follow. However, this direction must be of a higher purpose, a worthy cause, etc. (Menon, 2001).

Fullam and Lando (1998) refer to the "triad of empowerment" being leadership, the environment and professional traits. Handing power to unwilling or unprepared employees is both naive and futile. An empowerment environment needs to be created, given the variables of the environment, professional traits (of the recipient) and leadership qualities. All three variables or "ingredients" must be in place in order to obtain this "triad of empowerment". In dealing with professional traits, Sheer (cited in Fullam and Lando, 1998) investigated the nursing profession relative to the type of professional trait required by a nurse in order for them to have the ability to become empowered. Results indicated that they needed a sense of value about their work, and had to be an equal member of a comprehensive interdisciplinary team. Being involved in care-planning, problem-solving and goal-setting they assumed responsibility and accepted accountability. Professional traits required include education, mentoring, political activism, professional affiliations and networking. Education is most important, as it provides a broader perspective and a knowledge and appreciation of being able to function as a team member in a changing health care system. Mentoring gives the recipient the scope to learn and grow through encouragement and recognition, thus promoting self-esteem, confidence and support. Political activism provides a framework for connecting policy and politics to nursing

practice. The nurses' views, both politically, as well as in terms of nursing policy, must be communicated to policymakers. Professional organisations offer a forum from which one can share ideas, concepts and visions. Networking is a spin-off from the professional organisations, and could result in personal power.

The correct environment must be in place in order to develop and encourage empowered behaviour. Maslow's hierarchy of needs goes from the most basic physiological, to the most sophisticated, self-actualisation. One must firstly satisfy the basic needs, and only then move up to higher needs.

With reference to leadership styles, Fullam and Lando (1998) define leadership as the ability to influence the activities of an individual or group of individuals toward attainment of a goal or goals in a unique and given situation.

Paul *et al.* (2000) suggest that several leadership theories are based on the empowerment of employees. Those who practice permissive styles will empower their subordinates. The different tasks, situations and individuals involved will determine the degree of permissiveness allowed. Paul *et al.* (2000) refer to various authors in saying that:

> Leaders who show consideration (Likert, 1961; Stogdill, 1963), have a high concern for people (Blake and Mouton, 1969), have charisma, provide intellectual stimulation, individualised consideration and inspirational motivation (transformational leadership) (Conger, 1991). They also assist subordinates in achieving goals that are important to themselves (Path-Goal Theory) (House and Baetz, 1979) and apply normative decision theory (focus on strategies for choosing the most effective approach to decision making) (Vroom and Yetton, 1973). Leaders who accept the view that high levels of skill among subordinates or certain features of technology and organisational structure sometimes serve as substitutes for leadership (Kerr and Jermier, 1978) are empowering their followers.

2.5.5 Structural Empowerment

Menon (2001) refers to the structured approach where empowerment is understood to mean the granting of power and decision-making authority. Power in organisations stems from hierarchical authority, control of resources and network centrality (Ashley and Sachdeva; cited in Menon, 2001). Also cited in Menon (2001) is Mintzberg who refers to power as the ability to affect organisational outcomes. Under structured empowerment, one would have to move the decision-making process down the hierarchical ladder so as to affect organisational outcomes. Kanter (cited in Menon, 2001) supports this by concluding that empowerment results from decentralisation, a flattening of the hierarchy, and increased employee participation. Power is thus shifted from those who hold it, to those who are being empowered.

Wellins (cited by Paul *et al*., 2000) defines empowerment as a process of passing authority and responsibility to individuals at lower levels in the organisational hierarchy, a view supported by Kreitner and Kinicki (cited in Fullam and Lando, 1998). Juhl and Kristensen (1997) refer to empowerment as the delegation of authority. They declare that the cycle time of decision-making is important in business relations. Empowerment is supposed to improve customer satisfaction, as the employee in direct contact with the customer is "empowered" to make a decision then and there. Employee loyalty is also expected to increase, as employees will have a sense of pride and self-respect. Finally, the delegation of authority should result in increased profits because of increased productivity, as due to empowerment, the staff ought to be highly trained, informed, committed and motivated.

Whetton *et al.* (2002) refer to "empowered delegation". This involves developing capabilities and knowledge of employees, and can be a technique to encourage personal mastery experiences. The employee will also feel a sense of trust and confidence. Empowered delegation when done correctly can achieve all five dimensions of empowerment – a sense of competence, choice, impact, value and security. Ineffective delegation can take time for supervision, evaluation, etc. Employees could end up taking longer to complete a task because they do not have the resources, know-how, experience, etc.

The question of when to delegate and when to do tasks oneself often arises. Vroom and Yetton (1973) identify five questions determining when to delegate:

- Do subordinates have the necessary information or expertise? It is possible that in many cases the subordinate is actually more qualified to make decisions as they are at the "coal-face" of operations, and therefore know the customer preferences, hidden costs, work processes, etc.
- Is the commitment of the subordinate critical to successful implementation? Here the employee must be involved in the decision-making process in order to be fully committed to the task.
- Will subordinates' capabilities be expanded by this assignment? Delegated tasks need to be constantly stimulating for the employee. If delegation is viewed as a method utilised by the boss to get rid of undesirable tasks then the process will very quickly go wrong.
- Do subordinates share with management and with each other common values and perspectives? A clear direction, objective and mission, is crucial for successful delegation.
- Is there sufficient time to do an effective job of delegating? There must be enough time for the manager to spend discussing the assignment with the employee. There must also be a channel of open communication during the task.

All five of the above questions must result in a positive answer in order for the empowered delegation to be successful.

Managers need to identify whether delegation should be directed to individuals, or teams. Also, whether the team or individual is just investigating the problem with a report-back, or whether they are empowered to make a decision based on their findings. A team needs to be formed when interaction will clarify the problem and promote motivation, where disagreements will lead to better solutions, where dysfunctional conflicts won't occur, and when time is not a factor. The manager can participate in the team when there is not competent leadership, the team needs resources that only the manager can provide, when her/his presence would not disrupt the free flow of thought, and when her/his time is spent productively with the team.

Paul *et al.* (2000) refer to "controlled empowerment". Structured teamwork including the following aspects is very important (careful experimental design, goal-setting, goal measurement, improvement in work process, training in teamwork approaches, structured meetings and creative sessions, planning, conflict management and specific mission). Emphasis is on structure, goals and measurement, which suggest some limitations on empowerment. In order for teams to be effective, they must have potential synergies, have access to resources in making decisions, and deal with "free rider" problems. So, empowerment works best when it is implemented in specific situations and is structured carefully and controlled.

Effective delegation means that the employer must delegate with the end in mind, and the delegation must be complete. Participation in the delegation of assignments must be allowed. One must establish parity between authority and responsibility. Work must be within the organisational structure. Support must be provided for the delegated tasks. Accountability should be a focus area for the person to whom tasks are delegated. Delegation should occur consistently. Upward delegation should be avoided and consequences clarified.

2.5.6 Psychological Empowerment

Empowerment has been described as the internal processes of the individual being empowered. Thomas and Velthouse (1990) make reference to the internal state of the empowered individual, with Spreitzer (1995) defining empowerment as intrinsic motivation.

The motivational approach is where empowerment is conceptualised as psychological enablement. Dawson (1998) adds that enabling people means creating opportunities where people can realise their higher-level motivators (achievement, recognition, advancement, personal and professional growth, and increasing levels of responsibility), take ownership, and operate in a team that improves all processes.

According to Paul *et al.* (2000) the modern psychological and sociological theories concur with the idea of work as being a means of personal development. This is important with self-actualisation theories. If people are able to use their skills, to

make responsible decisions and learn new skills, then their intellectual capacity and life satisfaction will grow. Such people will develop a healthy self-esteem and a sense of personal control. Expanding on motivational theories, Paul *et al*. (2000) refer to Maslow's (1970) theory suggesting that higher level needs will become dominant with a desire to move up the scale. At the top are the self-actualisation needs, which are the desire to become all that one is capable of, and to develop to one's fullest potential. Paul *et al.* (2000) agree that the basic concept is consistent with empowerment. Alderfer (1972) makes reference to his "ERG Theory" which states that needs are grouped into three categories being existence needs, relatedness needs and growth needs. Relatedness needs are the desire to have a meaningful social relationship. Growth needs are the desire to grow to one's full potential, and Paul *et al*. (2000) support these two needs as being most relevant for empowerment. The objectives of both empowerment and the ERG Theory are to develop a workplace that promotes improved work performance in an environment that is conducive to personal development as well (for motivational theories see section 3.3.5).

Argyris (1999) questions whether empowerment is actually working. Reference is made to both research and practice, indicating that the best results in re-engineering are when there is rigid control, and not empowerment. Argyris (1999) argues that most senior managers preach empowerment as the correct strategy, yet most are more comfortable with the old rules of control as these have a history of working. Argyris (1999) refers to two kinds of commitment in order to understand why there has been no transformation, namely internal and external commitment. Only internal commitment can reinforce empowerment as it encourages the individual to define the tasks, the behaviour required in order to perform the tasks, the importance of the goals, and both management and the individual to jointly define performance goals. Adler (cited in Whetton *et al*., 1997) makes reference to psychology, where the concept of "mastery motivation" was developed, where people strive for competence. White (cited in Whetton *et al.,* 1997) suggests that similar concepts include intrinsic motivation. Paul *et al.* (2000) suggest that job enrichment will promote greater motivation for better employee performance. This includes skill variety, task identification, task significance, autonomy, and feedback. Involvement of these variables can result in a job design that is intrinsically rewarding. External

commitment is where the nature of the task is defined by outsiders, as is the behaviour, performance goals, and importance of the tasks.

With internal commitment the person is driven from within, based on his/her own motivations, a view supported by Whetton *et al*. (1997) who add that empowerment is when employees are "intrinsically encouraged", and not because of an external reward system. Argyris (Harvard Business Review, 1999) likens participation to empowerment. If management wants the employees to be empowered it must practice participatory management philosophies. He further suggests that in order for there to be empowerment in an organisation, it must be "throughout" and not just restricted to certain individuals. Empowerment is a goal that companies never totally reach, but rather strive for, and exist at a point somewhere along the spectrum. Most companies practicing empowerment still have certain levels of internal commitment. This is not total, as employees still operate within boundaries, but some are more empowered than others.

Argyris (1999) comments that change programs are full of inner contradictions that inhibit internal commitment. In order to best implement organisational change it is important to break the process down into four steps. Firstly, a vision is to be defined. Then a competitive strategy consistent with the vision should be defined. Next, organisational work processes that will implement the strategy are defined, and finally individual job descriptions are defined, so as to successfully execute the processes. Argyris (1999) argues that this process involves external rather than internal commitment. Employees who prefer external commitment will be comfortable with this as it removes responsibility from them. Hammer and Champy (2001) refer to the changing roles of people. People who work under conditions of re-engineering are essentially empowered. They must have internal commitment. They argue that processes cannot be re-engineered without empowerment when it comes to creating a framework for managing a company's change programmes. A "balanced scorecard" needs to be put in place so as to clarify strategic objectives, and then to identify critical drivers. These initiatives include employee empowerment but compete for the scarce resource of senior managers' time and attention.

Argyris (Harvard Business Review, 1999) concludes that chief executive officers are the biggest inhibitors of empowerment and inner commitment. He argues that senior executives are more comfortable with processes where the activities of employees are very well defined, thus parameters, and boundaries within which an employee can operate, are defined. This is not empowerment. Argyris (1999) has worked with more than 300 "change professionals" and concludes that managers inhibit, rather than promote, empowerment. He suggests that empowerment too often enters the realm of political correctness and, as a result, individuals cannot speak out, so empowerment is suppressed. It is argued that many companies have top-down controls, as well as programs that empower people.

Thomas and Velthouse (1990) view power as energy - to empower is to energise, and they refer to four variables in their definition of empowerment, these being meaning, competence (self-efficacy), self-determination, and impact. Menon (2001) examined the psychological approach to empowerment where three variables, namely perceived control, perceived competence and goal internalisation could lead to empowerment being defined as the psychological empowered state that is a cognitive state characterised by a sense of perceived control, competence, and goal internalisation.

Quin and Spreitzer (1997) found that when top executives of a Fortune 500 company were interviewed, it was found that they fitted into two distinctly different groups in terms of their understanding of empowerment. Executives from the first group had a "top down" management style and believed that it was their function to identify and clarify the organisation's mission, vision and values. Next they specified tasks, roles, and the reward system with the employees. Finally, they delegated responsibility and held employees accountable for the results. The second group was completely different. They believed in risk-taking (for them). They had a thorough acceptance of growth and change. They believed in releasing the employee's sense of entrepreneurship, and that employees should embrace a sense of ownership in the business. The risk was that mistakes could happen, but they would prefer the employee to "ask for forgiveness rather than permission". Once these conflicting views were exposed to senior management, this resulted in conflict, with neither side willing to understand the other. What Quin and Spreitzer (1997) concluded from this

is that the successful implementation of empowerment requires both a mechanistic and an organic view from management.

Empowerment, self-managing work teams, employee ownership and profit sharing all encompass employee involvement in the workplace (Paul *et al*., 2000). However, Paul *et al*. (2000) suggest that empowerment creates a dilemma. Empowering employees creates beliefs about entitlements, which will eventually be fulfilled. Unfulfilled beliefs about entitlement may constitute a breach of the psychological contract between employee and employer, possibly resulting in behaviour that is counterproductive in terms of organisational goals. Paul *et al.* (2000) suggest that psychological contracts are about beliefs of the reciprocal obligations and rewards that make up the employment exchange. These beliefs are what both employee and employer expect to receive and are obligated to give in exchange for the other parties' contributions (Paul *et al*., 2000). Rousseau (cited in Paul *et al*., 2000) adds that these beliefs about entitlement are idiosyncratic and subject to cognitive processes that distort perceptions in self-serving ways. Because of this, over time, the psychological contract will change. The problem that exists is that there will be a feeling of unfulfillment created when one or both parties have failed to honour the entitlement beliefs of the psychological contract, and are perceived to be in breach of the contract. Morrison and Robinson (cited in Paul *et al*., 2000) state that if the breach is "significant", then it constitutes a violation. Violation is cognitive in nature and involves a strong emotional experience or feeling of betrayal, and deeper psychological distress. This will result in anger, resentment, a sense of injustice and harm. Menon (2001) refers to the three main dimensions of the experience of power underlying the empowerment process as being:

- Power as perceived control
- Power as perceived competence
- Power as being energy harnessed

On perceived control Menon (2001) highlights various authors by stating that internal drives have been referred to as the power motive or need for power (McClelland, 1961; Winter, 1973), effectual motivation (White, 1959), striving for personal causation (De Charms, 1968), and intrinsic motivation for competence and self-determination. Various studies, according to Menon (2001), state that a sense of

perceived control is essential for a feeling of power. Perceived control is a basic psychological state for empowerment. Perceived control can be derived from empowering strategies such as delegation, increased participation, and the provision of information and resources by the employees (Kanter, 1983). Both impact and choice also reflect the importance of perceived control for psychological empowerment (Thomas and Velthouse, 1990).

Perceived competence is the ability to believe in oneself as being competent enough to perform the task successfully. Employees will not readily accept a task when they fear that they may not succeed in it. On the other hand, they will get involved in activities which they believe are within their capabilities. Competence is therefore essential for psychological enabling. Perceived competence is a major component of Tomas and Velthouse's (1990) model of empowerment.

An organisation needs to have direction with visionary leadership, and the beliefs and attitudes of employees in line with those of the organisation. Bennis and Nanus (cited in Menon, 2001) identify numerous elements as being critical dimensions of empowerment, and these feelings of significance, community, and enjoyment reflect the appeal of ideas and goal internalisation. Future goals serve to energise, and hence empower subordinates so that these goals become internalised.

Spreitzer (1992) identified four dimensions of empowerment. Based on the research of Mishra (Whetton *et al*., 1997: 398) a further dimension has been added to this. In order for empowerment to be successful the following five qualities need to be instilled in those being empowered:

- Self-efficacy
- Self-determination
- Personal control
- Meaning
- Trust in other people

Spreitzer (1996) identified impact as a further dimension. The impact dimension suggests that individuals have a degree of control over their own jobs, which implies that they have some influence over the organisation (Ford and Fottler; cited in

Spreitzer, 1996). Thomas and Velthouse's (1990) model refers to the four cognitions as being impact, competence, meaningfulness, and choice.

The first dimension of empowerment identified by Spreitzer (1992) is self-efficacy where the empowered person must have a feeling that they are competent enough to perform the task adequately. They must also believe that they will learn and grow because of the empowerment, and therefore they will persist in the successful completion of the task. The opposite of self-efficacy is the feeling of powerlessness. Whetton *et al*. (1997) quote Banbura who suggested that self-efficacy was often used to overcome phobias and anxieties, alcohol and drug abuse (Seeman and Anderson, 1983), eating disorders (Schneider and Agras, 1985), smoking addiction (DiClememte, 1985), and depression (Seligman, 1975). Those with a strong sense of self-efficacy are more physically and psychologically resilient. Whetton *et al.* (1997) further cite Bandura who states that three conditions exist in order for people to feel a sense of self-efficacy. These are a belief that they have the ability to perform the task, a belief that they can give the required effort, and a belief that no outside force will interfere with their ability to successfully complete the task.

Conger and Kanungo (cited in Siegall *et al*., 2000) suggest that various factors could negatively affect self-efficacy. These include organisational factors such as poor communications and network forming systems. Another negative influence is the wrong "macro-level culture". This refers to a strict atmosphere, negative communication and a lack of information.

The second dimension of empowerment identified by Spreitzer (1992) is self-determination. Thomas and Velthouse (1990) view self-determination as reflected in autonomy in the situation and continuation of work behaviours and processes. Self-determination is a feeling of having choice, and is another trait of empowered people. Whetton *et al.* (1997: 399) define self-determination as "a sense of choice in initiating and regulating one's own actions". The empowered person must be proactive, make his/her own decisions and must not feel that his/her actions are predetermined, externally controlled, or inevitable. Self-determination results in greater job satisfaction and involvement, with less job strain. So, empowered people have more choices as to the methods used in the completion of the tasks, the amount of time

dedicated to the task, the amount of effort, etc. They have a feeling of ownership of the tasks. Having the choice is the critical component of self-determination.

Personal control is the third dimension of empowerment identified by Spreitzer (1992). Empowered people have a feeling of personal control over the outcomes. This is when a person strongly believes that s/he has the power to change things, or that "one man can make a difference". Empowered people believe that obstacles are not a rigid barrier, but can rather be controlled by them. They have a feeling of "active control" which is being in control of the environment, rather than "passive control" which is where their wishes are directed by external forces. Personal control is focused internally with the view of maintaining command over what they see. Whetton *et al*. suggest that people are intrinsically motivated to seek personal control, which is required in order for them to maintain a level of psychological and physical control. He further states that when people lose personal control over themselves they are generally labelled as insane or psychopathic. "Loss of control can lead to depression, stress, anxiety, low morale, reduced productivity, burnout, and even increased death rates" (1997: 400).

Spreitzer (1992) identifies "meaning" as the fourth dimension of empowerment. Thomas and Velthouse (1990) refer to meaning as the value of a work goal or purpose, judged in relation to an individual's own ideals or standards. An empowered person must have a sense of meaning, in that s/he values the activity in which s/he is involved. When engaging in an activity such a person feels a sense of personal involvement and personal integrity. The activity has meaning, which stimulates passion and purpose. Handy (1993) makes reference to the fact that there are many people who are "empty raincoats", who "exist" in their jobs. They are empty shells that exist entirely for the job. Handy (1993) suggests that these people must obtain more meaning for the job and take it more personally. They must become more worthy of being human. Research reveals that when an employee has meaning for a function, s/he will be more committed and involved. These people are also more innovative, upwardly functional and personally effective than those without meaning for the application of their work.

Trust is the fifth dimension of empowerment identified by Spreitzer (1992). Empowered people must have a sense of trust. They trust those around them, both up and down the organisational hierarchy. Being trustworthy places such a person in a position of vulnerability, but s/he believes that no harm will come to her/him. Trust is a sense of security. Whetton *et al.* agree that trustworthy individuals are more likely to be "open, honest and congruent rather than deceptive or shallow" (1997: 402). They exhibit a larger degree of co-operation and risk-taking in groups than others. They are more honest when communicating and more able to listen to others. Trust results in high personal ethical standards. Trusting environments result in an individual being able to unfold and flourish, and as such, empowerment is closely tied to a sense of trust.

Spreitzer (1996) identified impact as a further dimension of empowerment. Impact is the "degree to which an individual can influence strategic, administrative or operating outcomes at work" (Thomas and Velthouse, 1990).

Competence is "an individual's belief in his or her capacity to perform activities with skill" (Thomas and Velthouse, 1990). Siegall *et al.* (2000) note that this view is synonymous with Conger and Kanungo's (1988) focus on self-efficacy.

Paul *et al.* (2000) refer to criteria that must be present in order to achieve effective empowerment. Employees at the lower levels must have the "right mix" of information (processes, quality, customer feedback, events, etc.), knowledge, power (to act and make decisions), and rewards (tied to business results and growth in capability and contribution), to work autonomously or independently of management control and direction (Lawler, 1992; Lawler, 1998; cited in Paul *et al*., 2000).

Hall (2004) discusses the effect of strategic performance measurement systems (PMS) on managers' role clarity, psychological empowerment, job satisfaction and managerial performance. Data was collected using a survey of 83 strategic business unit managers from Australian manufacturing organisations. Consistent with the need to define the underlying theoretical properties of management accounting practices, the study identified comprehensiveness as an information characteristic of strategic PMS. Results showed that strategic PMS was not directly associated with

managerial performance. Rather, strategic PMS had an indirect positive association with managerial performance through psychological empowerment and role clarity. The results reflect a positive association with all four dimensions of psychological empowerment (meaning, competence, self determination and impact), and with dimensions of psychological empowerment positively associated with job satisfaction and managerial performance. Further results indicate that strategic PMS is positively associated with two dimensions of role clarity (goal clarity and process clarity), which in turn, are positively associated with psychological empowerment, job satisfaction and managerial performance. The results indicate that the comprehensiveness of strategic PMS provides performance information that improves managers' psychological empowerment and clarifies managers' role expectations, which, in turn, improves managerial performance (Hall, 2004).

2.5.7 Empowerment Evaluation

Scriven (1997) defines empowerment evaluation as the use of evaluation concepts and techniques to foster self-determination. Levin (1997) further interprets this definition of empowerment evaluation as a meaningful involvement by the evaluees in the design, implementation and use of evaluations.

This definition is consistent with the use of evaluation as a tool by those with power. Self-determination by those served by the programme is required. Levin (1997) states that knowledge is power, and that the staff will know about evaluation, but will not perform it or assist in performing it. Scriven (1997) adds that employees are empowered in the crucial way in which increasing medical knowledge empowers patients. They are enabled to be vigilant observers of the practice of medicine, especially, but not only on themselves, and are thus placed in a position to defend themselves and others against improper practices. These concepts of empowerment evaluation are consistent with the original definition. Empowerment evaluation is designed to help people help themselves and improve their programs, using a form of self-evaluation and reflection. Program participants will conduct their own evaluations and act as facilitators. An outside evaluator can serve as a coach or additional evaluator.

In any evaluation context, there are owners, managers, staff, and consumers. Other stakeholders such as shareholders, community, etc. also exist. Initially the evaluation process was just an "owners' and managers' " tool, with the purpose of identifying whether the targets and timelines were achieved. This was resented by some consumers who, in the early 1940s, set up consumer-orientated evaluation. This group was against exploitation of, or indifference to consumers. The result was that employees were "squeezed" between these two forces.

Recent times show that employees are getting more recognition in so far as evaluation is concerned with Scriven (1997) suggesting that this is a better situation as it improves the way that evaluations are designed, run, and implemented. When dissecting empowerment evaluation the employees benefit because of the focus on their needs and abilities. Empowerment evaluation is determining the success of an empowerment programme and one must remove direct interest to eradicate bias. This cannot be achieved by teaching people to evaluate themselves and then leaving them to do it. Empowerment evaluation is also labelled as inferior against an evaluation done by an external and independent evaluator. While it could be argued that an external evaluator is more objective, the external evaluator is a "passer-by" who lacks commitment to the program. Scriven (1997) supports this by suggesting that the evaluator is nothing more that a "passer-by whose visa is only valid for a little longer". The evaluator will not be there long enough to see if the staff missed problems that an external evaluator might have exposed. Scriven (1997) suggests that the answer is to use both external and internal evaluation.

2.5.8 Summary

The theory relating to empowerment given the context of this study highlights and promotes self-esteem, perceived control, perceived competence, goal internalisation, self-efficacy, self-determination, personal control, meaning, trust, personal development, and motivation. This is very different to the meaning of Black Economic Empowerment in South Africa which focuses on black ownership and this (BEE) interpretation is not the correct understanding of empowerment in the context of this study. Aspects of ownership and control are discussed in the following section.

2.6 OWNERSHIP AND CONTROL

2.6.1 Introduction

This study deals with ownership (and hence control) at worker level and seeks to confirm that there is a difference in the perceptions of empowerment, decision-making participation and financial participation arising from different ownership (and control) structures between selected factories (Kopano and Lawley). Accordingly this section comprises the following sub-sections:

- Understanding Ownership and Control
- Worker-Owned Enterprises and Productivity
- Worker-Owned Enterprises and Finance
- Worker-Owned Enterprises and Employee Attitudes
- Summary

2.6.2 Understanding Ownership and Control

The Collins Concise Dictionary and Thesaurus (1991) defines "control" as to "command, dominate, regulate, direct, check, power to direct, or determine". Synonyms in the thesaurus section include "boss, call the tune, command, conduct, direct, govern, have charge of, hold the purse strings, lead, manage, manipulate, oversee, pilot, reign over, rule, steer, superintend, supervise".

The Concise Oxford Dictionary (1990) includes words such as "the power of directing, command, to dominate, exert control over, means of controlling the policy of a business, etc., esp. by ownership of a majority of the stock".

Collins Concise Dictionary and Thesaurus (1991) refers to ownership as "to emphasise possession, possess", and the Concise Oxford Dictionary (1990) refers to ownership as "belonging to oneself or itself, not another's, have as property, possess".

Corporate ownership and control are two distinct, core features of corporate design. Those that hold legal rights to ownership do not necessarily exercise control over decision-making. Such control depends on a combination of legal structures and

cultural norms that empower or disempower managers, employees and other non-owners to influence corporate decision-making. These structures and norms, in turn, vary widely across nations (ICA Group, 2004). James and Harvey (1999) agree and suggest that when ownership and control functions are separate different managerial rules for investment decisions will be evident. In companies where ownership and control are with one decision-maker, this will not be the case (Fama and Jensen; cited in James and Harvey, 1999). The reason for this is because of the difference in distribution of decision-making and risk-bearing functions. Griffiths and Wall (1997) support this view by adding that profit maximisation is usually based on the fact that the company is owner-controlled. Where sales and growth is the main focus there is usually a separation between ownership and control.

One of the most used alternatives to limited liability stock and private partnership or family ownership is the employee-owned enterprise. In the US, several mechanisms enable employee ownership: employee stock ownership plans (ESOPs), broadly granted stock options, employee stock purchase plans (ESOPPs), and 401(k) plans in which employers match employee deferrals with company stock. In a worker cooperative, the company is fully owned and democratically controlled by employees (ICA Group, 2002).

Currently, there is a trend toward employee ownership and participation in enterprise decision-making, mainly in America and Europe, but also in other parts of the world. Employee-owned companies are often more productive and successful in lowering costs than conventional companies (Gianaris, 1996). Employee ownership and participation can be an attractive system that eliminates some of the disadvantages of extreme capitalism and socialism. Business cycles, related to unemployment and inflation in capitalism, as well as bureaucracy and inefficiency, related to government ownership and control in socialism can be mitigated with employee ownership and participation in modern capitalism. "Employee ownership reduces the bad side effects of growing specialisation, which makes individuals "stupid and nervous" according to Adam Smith, and advances human intellect through participating democracy, as John Stuart Mill and Jean Rousseau believed" (Gianaris, 1996: 127). Hall *et al*. (2001; cited in Gray *et al.,* 2004) argue that equity-share schemes in South Africa could be failing to meet the objectives of redistributing power and resources.

They claim that the power relations in these schemes do not shift because the workers remain minority shareholders and have little say in the decision-making processes.

Garratt (2000) suggests that there is increasing pressure for increased employee ownership of companies. The past few decades have seen multinational corporations exercising undue influence on economies, especially on the weaker nations. When fifty percent of the world's richest organisations (mostly American) are corporations rather than countries, whose values, purpose, vision and policies will they follow? Shareholder activists are now demanding much greater transparency in financial affairs. The South African Government's policy on economic empowerment is in line with Garratt's views. Corobrik shared this view in that the primary objective of the Kopano initiative was factory ownership at worker level (Brickforce staff paper, 1999). Koopman *et al.* (1987) comments on employees having communal ownership over the means of production. Employees have a real voice regarding developing company policy and in the decision-making process. Only once they have this power did Koopman believe that a company would be able to sustain profitability.

Cole (1997) suggests that a work environment must be created so that every employee believes s/he has an impact on the profitability of the company. In order to create this environment the employees need access to information, to skills development, to social interaction, to authority, and to the rewards of success (Cole, 1997). An open environment exists when each employee understands what is necessary for the organisation to be successful; when each employee understands his or her role in achieving the company's objectives; when all employees involve themselves in goal-setting; and when problems are solved and decisions made by those closest to the issues. With this in place employees will adopt an "ownership" mentality.

Blonchek (1999) expands on Cole's view by making reference to five basic beliefs that will build an ownership culture;

- Belief in the leader. Believing in a leader who has the business acumen and talent to succeed will create trust and commitment among employees.

- Belief in the purpose. Employees need to take ownership of the purpose of the company. They want to be part of something that grows and adds value to life in general.
- Belief in the operating model. This refers to the logistical operations of the company – the policies, procedures, processes and structures of the business in an environment of effective communication.
- Belief in empowerment. In order to "take ownership", employees must feel that they are empowered – that they can make decisions in the knowledge that the organisation is behind and supportive of their decisions.
- Belief in reward. If the business is successful then so will they be. Focus on the bottom-line is both for the company as well as for them.

Blonchek (1999) believes that, when these five beliefs are prevalent in a company, the company will "operate on its own".

Participative management, or control over the operational aspects of the business is the philosophy practiced at Kopano Brickworks. Nasser and Nel (Koopman *et al*., 1987) are of the opinion that in order to institutionalise participation as part of the business plan and the way of life of an organisation, it is necessary to establish a personalised system of interaction that will develop a communal ownership over the means of production, and evolve structures that will facilitate self-control in the workplace. Nasser and Nel further went on to investigate participative systems in over a hundred different South African companies, and concluded that, firstly, external culture plays no significant deterrent role. Corporate culture could, however, prevent the successful implementation thereof. Management visibility and direct support is of fundamental importance and there is no short, quick method of implementing participative systems. In order to be successful, one needs to start small and then expand upon the successes. Participation in a group system must be voluntary at lower management and worker level. It is required to include participative objectives in formal managerial and organisational objectives. Workers must be able to implement systems and investigate problems. All success stories from participative schemes must be monitored and reported back on with maximum exposure, and it is required that everyone has a basic understanding of how business

works. This will result in the understanding that the better the company does, the better their quality of life (Nasser and Nel; cited in Koopman *et al*., 1987).

As previously discussed, participation is often feared by management as a means of losing control of the workplace. Is this socialism at the expense of shareholders? One would think not, as previous reference to the many writers on the subject clearly suggest that without it, the company will eventually fail. Koopman *et al.* (1987) mentioned new economic aims for an organisation as being: to allow initiative on the part of the worker in contributing to technical and process improvements, to reinstate distributive justice, to security against destitution and exploitation, and to liberate creative forces for active participation and meaningful contribution.

Gray *et al*. (2004) discuss a study which was undertaken whereby equity-share schemes were proposed as a means of dealing with the slow pace of land and wealth distribution in South African agriculture. The findings suggest that a successful equity-share scheme should achieve a variety of goals, including: the redistribution of wealth, worker empowerment, retention or attainment of quality management, creditworthiness, improved worker productivity and power relations, and the provision for ownership and control to be fully transferred to previously disadvantaged shareholders (Knight *et al*., 2003). Initial studies questioned the success of equity-schemes based on assessments of worker participation, empowerment and institutional arrangements (Gray *et al.,* 2004). Hall *et al.* (2001; cited in Gray *et al.,* 2004) argued that power relations were not improved and that gender equality was not promoted. Karaan (2003; cited in Gray *et al*., 2004) concluded that equity-schemes fail from an institutional economics perspective due to institutional incompleteness, and Mayson (2003; cited in Gray *et al*., 2004) criticised the ability of these schemes to improve tenure security. A study by Knight *et al*. (2003) showed that many of these concerns had been corrected in the more successful projects, especially those with superior financial performance. Knight *et al.* (2003) found positive links between financial performance, sound institutional arrangements, effective worker participation and good management. Based on policy and socio-economic issues raised in previous studies, Gray *et al.* (2004) suggest that comprehensive assessment of equity-share schemes requires consideration of employee empowerment, institutional and financial criteria. Gray *et al.* (2004)

proposed four categories of criteria for monitoring of equity-share schemes: poverty alleviation; empowerment and participation; specific institutional arrangements and governance; and financial performance. Gray *et al.* (2004) focused only on the financial criteria with application of these criteria demonstrated using financial data gathered from four equity-share schemes in the Western Cape in early 2004.

2.6.3 Worker-Owned Enterprises and Productivity

Craig and Pencavel (1995) suggest that there are several reasons why worker co-ops may operate more productively than corporations. Firstly, a co-operative mitigates the agency costs associated with a corporation division between ownership and control. Worker-owners are likely to be better informed than non-worker-owners. Secondly, worker ownership eliminates separation of interests between workers and owners and can result in productivity gains. Thirdly, workers may be able to monitor each other's efforts more effectively than in companies where the monitor is the owner's agent. Fourthly, companies applying a method of remuneration, such as profit sharing, may attract workers whose ability or work effort is unusually high.

Using meta-analytic techniques, Doucouliagos (1995) synthesizes the results of 43 published studies in order to investigate the effects on productivity of various forms of worker participation including: worker participation in decision-making; mandated co-determination; profit sharing; worker ownership (employee stock ownership or individual worker ownership of the firm's assets); and collective ownership of assets (workers' collective ownership of reserves over which they have no individual claim). Doucouliagos (1995) found that co-determination laws are negatively associated with productivity, but profit sharing, worker ownership, and worker participation in decision-making are all positively associated with productivity. All the observed correlations were stronger among labour-managed firms (firms owned and controlled by workers) than among participatory capitalist firms (firms adopting one or more participation schemes involving employees, such as ESOPs or quality circles).

Research studies in America in 1987 suggested a positive link between employee ownership, participation and productivity. The studies indicated that annual rates of productivity growth were up 52 percent higher in firms combining ownership and

participation than they would have been otherwise. Studies conducted by Blair (2000) examined the actual track record of 27 publicly-traded firms that had approximately 20 percent or more of their stock held by employees in 1983, and compared the experience of these firms over time (through the end of 1997) to that of a control sample of 45 firms that were similar in size and participating in similar industries as of 1983. The results suggested that the ownership of a substantial block of shares by employees appeared to be a relatively stable arrangement, with firms less likely to be acquired, privatised, or thrust into bankruptcy. Such firms may also be associated with more stable employment levels. Such firms seem able to achieve this without costs in terms of productivity or financial performance, and may, in fact, enhance their performance (Blair, 2000).

Employee ownership, especially when linked to employee participation, can lead to increased job satisfaction and retention. In their survey on employee ownership studies, Kruse and Blasi (1995) found that while employee attitudes and behaviours, such as job satisfaction and retention, are usually improved or unaffected by employee ownership, it is rare to find worse attitudes or behaviour under employee ownership. The survey also showed that perceived participation in decisions often had a positive effect on employee attitudes, although there was no correlation between ownership and participation. Studies show that employee ownership had a positive or neutral effect on employee productivity and company performance (Kruse and Blasi, 2005).

2.6.4 Worker-Owned Enterprises and Finance

Craig and Pencavel (1995) suggest that there are two explanations why worker co-operatives are unusual in market economies. The first is that they are inherently risky institutions. The workers have committed both their labour and capital to the enterprise, therefore the worker concentrates his wealth into one form, namely the performance of the company. When a worker is employed in a conventional company, he has the option to invest his capital in an asset whose returns are unrelated to movements in his labour income. This spreads the risk. The second reason is associated with the costs of supplying capital. The wealth limitations of workers constrain the amount of capital that can be raised from workers themselves,

so they are obliged to turn to banks and other credit institutions for loans. These institutions are sensitive to risks of opportunistic behaviour when their loans are used to purchase specific capital assets. The lending institution will demand some collateral, or insist that their agents be party to the company's critical decisions. So, for a worker co-op, the former presents the workers with the same credit problems that induced them to turn to banks in the first place, while the latter compromises the principle of workers being the sole owners of their enterprises. In the case of conventional companies, when permitted by law, they often admit to their Board of Directors the representatives of their principal creditors.

2.6.5 Worker-Owned Enterprises and Employee Attitudes

Since the mid-1980's interest has been expressed concerning the possible linkages between employee share ownership, employee attitudes and company performance. This is further prompted by the growth in employee shareholding in numerous industrialised and emerging market economies. Those promoting employee ownership emphasise its effect on employee attitudes. However the UK literature on employee share ownership has provided mixed evidence of attitudinal change (Pendleton *et al.,* 1997). Some studies (Bell and Hanson, 1984; cited in Pendleton *et al.*, 1997) have found extensive attitudinal change amongst employees in companies with share schemes, whereas others (Baddon *et al*., 1989; Dunn, Richardson and Dewe, 1993; cited in Pendleton *et al*., 1997) found few pronounced differences in attitudes to work and the firm, among employee shareholders and others.

Pendleton *et al.* (1997) state that most researchers advocating employee share ownership do so on the basis of a three-part argument concerning the effects of share schemes. The three links are ownership-attitude, attitude-behaviour, and behaviour-performance. Researchers have concentrated on investigating links between two stages with most not investigating the attitude-behaviour link since this is a complex and contested linkage.

This section is concerned with the linkage between ownership and attitudes. The US literature cites three possible connections between ownership and attitudes (Pendleton *et al*., 1997). The first is known as the "intrinsic" model, which simply suggests that

ownership increases employee commitment to, and satisfaction with the company. Secondly, the "instrumental satisfaction" or "indirect effects" model suggests that the degree of attitudinal change is directly proportional to the extent to which ownership allows greater employee participation in decision-making. Finally, the "extrinsic" model suggests that greater attitudinal (positive) change is proportional to financial reward (Klein, 1987; French and Rosenstein, 1984: cited in Pendleton *et al.,* 1997).

The distinguishing feature of most UK industrial relations research into employee ownership thus far, has been an implicit acceptance of Klein's first approach – that ownership will affect employee attitudes. Bell and Hanson (1987) found that nearly 70 per cent of employees believed that share schemes had improved their own attitudes towards their employer, whilst a Policy Studies Institute investigation found about 50 per cent claimed to have a greater sense of partnership as a result of employee share ownership (Fogarty and White, 1988; cited in Pendleton *et al*., 1997).

Another popular approach in UK studies which adopts the intrinsic model, has been to compare the attitudes of employee-owners with financially non-participating employees. The evidence from these studies is mixed (Pendleton *et al*., 1997). Pool and Jenkins (1990; cited in Pendleton *et al*., 1997) state that employee attitudes are affected by employee financial participation, with employee-shareholders having significantly more positive attitudes to the company. By contrast, Baddon *et al*. (1989) found that although participants were more likely to have sympathetic attitudes to management and the company, these differences were found to be minimal with the overall distribution of responses between participants and non-participants similar. Few studies in the UK have attempted longitudinal investigations of employee attitudes, though they are more common in the US. Again the evidence from these studies is both mixed and complex (Pendleton *et al.,* 1997). In a UK study conducted by Pendleton, *et al.* (1997) in four employee-owned bus companies in the early 1990's, the broad hypothesis to be tested was that employee share ownership schemes are associated with increased levels of organisational commitment, general satisfaction with the firm, and changes in work attitudes/behaviour.

Three main conclusions are drawn from the results of this study. The first is that the empirical evidence obtained from the employee-owned companies is supportive of the two-stage model of attitudinal change. The evidence presented shows how a number of features associated with employee share ownership affect a variable measuring "feelings of ownership", and how in turn, this intervening variable impacts upon various "outcome" attitudes such as involvement, integration and commitment. The second conclusion relates to the determinants of feelings of ownership. The results provide support for both the intrinsic and instrumental satisfaction models developed by Klein (1987; cited in Pendleton *et al*., 1997). Participation in decision-making is a key determinant of attitudinal change. More surprising was the support given to the intrinsic perspective, since this contradicts Klein's (1987) and Buchko's (1992) findings (Pendleton *et al.,* 1997). However their measure of intrinsic ownership was the proportion of equity held in total by the employees, and the divergence in results may have been derived from methodological differences. Finally, the results highlight how differences in methods of analysis may lead to differences in interpretation of the results. Uni-variate and bi-variate approaches tend to highlight the limitations of employee equity schemes. By contrast, multivariate methods show more precisely how variables may be related to each other, and whilst the extent of attitudinal change overall may be limited, these methods suggest that share ownership and associated innovations are responsible for attitudinal change. This approach suggests, therefore, that ownership does make a difference (Pendleton *et al.,* 1997).

2.6.6 Summary

The literature strongly supports the notion that, where there are worker-owned enterprises, then the worker-owners will be more productive, share to a greater extent in the financial achievements of the enterprise, and that they will have more positive attitudes than their counterparts who do not share in enterprise ownership. Accordingly the Kopano owner-workers will have these advantages over their Lawley counterparts.

Specific international examples of employee participation, empowerment and ownership are discussed in detail the next section.

2.7 INTERNATIONAL EXAMPLES OF EMPLOYEE PARTICIPATION AND EMPOWERMENT

2.7.1 Introduction

This section introduces selected organisations that have in some way involved their employees in ownership, empowerment, financial participation and/or decision-making participation. The following sub-sections are discussed in sequence:

- An introduction to three selected international organisations
- A comparative analysis of their ownership structures
- A comparative analysis of employee participation
- A comparative analysis of employee empowerment
- The Kaizen philosophy.

2.7.2 An Introduction to Three Selected International Examples

The three organisations introduced are the Mondragon Cooperative Corporation (MCC), Triumph and Semco.

2.7.2.1 Mondragon Cooperative Corporation (MCC)

The Mondragon "Corporacion Cooperativa" (MCC) was founded in the Basque region of Spain by a young priest Don Jose Maria Arizmendiarrieta who arrived in Mondragon in 1941. His initial mission was to provide the Basque workers with stable employment and contribute to the growth of the Basque economy (Clamp, 2000).

The first worker cooperative, called ULGOR which manufactured appliances, was established in 1956 by five of Don Jose Maria's students. Individualistic competition was replaced with a concern for the wellbeing of workers and other humane social values. Finance came from member contributions, and a percentage of profits were reinvested in education and cultural and charitable institutions (Shipp, 1996). The company has grown into a group consisting of about 150 different companies (as at 2002), falling into three sectoral groups, namely: financial, industrial and distribution.

Research and training extends across all three sectors collectively. MCC employs over 34,000 people, with over 23,000 of them in the Basque region.

MCC has federated cooperatives in several sectors including automotive, electronic components, construction, industrial equipment, household goods, engineering, capital goods and machine tools. MCC is Spain's largest manufacturer of refrigerators and machine tools, and the only Spanish research centre invited to be a member of the European R&D consortium. Bank deposits have grown to over US$3 billion, with the social-security fund assets exceeding US$1 billion. In 1990, industrial sales were US$2.6 billion, with 25% of sales in foreign markets (Morris, 1995).

2.7.2.2 Triumph

In 1991, production of Triumph motorcycles was approximately 1,800 bikes per year and they were destined for the UK and German markets. The 1995 production budget was 15,000 bikes for the year (Triumph Tour, Dealernews; 1995). Capacity in 1995 was 65 bikes per day. Triumph employs 320 employees and they are considered to be "assemblers" and not "fitters". All employees are now skilled technicians, and not "old world craftsmen".

The employees practice the Kaizen philosophical approach as borrowed from Triumph's Japanese counterparts. The philosophy is based on the belief that small, incremental, continuous improvements by all employees, every day, will produce sustainable improvements (quality) over the long term.

The organisational structure at Triumph is flat, with only three department heads, all of whom report to John Bloor (English billionaire who resurrected Triumph). All other workers are on an equal footing in terms of seniority.

As well as the philosophy regarding human capital utilisation, Triumph also uses state of the art technology with robotic MIG-welding cells for the motorcycle frames, the latest technology for the painting operation, and a unique plasma nitriding process for

the engine cranks. This places Triumph amongst the best in world class manufacturing operations.

Given the Kaizen philosophy worker participation is prevalent throughout the decision-making process. The flat organisational structure facilitates improved transparency and communication of company information.

2.7.2.3 Semco

Semco is a Sau Paulo (Brazilian) based company, manufacturing, amongst other things, marine pumps, commercial dishwashers, and mixing machines of various varieties. In 1980, at the age of 21, Ricardo Semler took over the company from his father (Fierman, 1995). Semco was a company like most others in Brazil with guards at the gates, and workers were checked when they entered or left the factory. Rules and procedures were in place to the extent that workers were timed when they went to the bathroom. Productivity was low, new contracts were scarce, and the company was headed for financial failure. The company was "mired in regulations, hierarchy and distrust" (Fierman, 1995). At the age of 25 years Semler collapsed on the workshop floor with the doctor citing stress as the cause. Resulting from this event Semler decided to turn the company into a place run on trust and freedom, not fear.

When Semler took over the company, turnover was US$ 10,800 per employee, which was about half the Brazilian industry average. This grew to US$ 135,000 per employee, which represents more than four times the average figure for Semco's competitors (Fierman, 1995).

2.7.3 A Comparative Analysis of their Ownership Participation

MCC has considerable experience of a commitment to a broader social mission of employee ownership and local control (Clamp, 2000). Whyte (1995) states that according to the Mondragon constitution and current practice, a cooperative within the group cannot have more than 10 percent of its workforce as non-owning labour. As the Mondragon cooperatives do not issue stock, control is therefore based on labour and not capital. Internationalisation of the Mondragon cooperatives is a

strategic goal, and has significantly contributed to the ownership advantages by maintaining or increasing market share for MCC. However, the opportunity to share in ownership is limited to Basque workers, with MCC not being prepared to extend this perk to a multinational labour force (Clamp, 2000).

Unlike MCC, employees at both Semco and Triumph are not invited to participate in ownership.

2.7.4 A Comparative Analysis of Employee Participation

Mondragon was founded on the belief that social development is essential to economic development (Ship, 1996). MCC channelled its commitment towards economic and social development via the following instruments:

- The reinvestment of the majority of net profits obtained, with a large portion being allocated to funds of a community nature such as the Central Intercooperative Fund which facilitates the creation of new jobs.
- Community development initiatives such as education in which up to 10% of the co-operatives net surplus is assigned.
- A Social Security policy coherent with the co-operative system, based on solidarity and responsibility.
- Economic and social co-operation with other institutions.

Within the MCC, work is the main factor for transforming nature, society and human beings. A firm commitment to the creation of jobs exists, and labour provided is rewarded accordingly. Therefore, wealth created is in accordance with labour provided, and not the holding of share capital (Morris, 1995).

MCC considers capital as an instrument, unlike labour, which is necessary for business development. Because of this, any contribution by the members to the share capital of the cooperative will accrue at an annual rate of interest consisting of two parts. Firstly, a basic growth rate of 7.5 percent (maximum), then an “inflation-correcting interest rate” which can account for an annual gross rate of 70 percent of the increase in the consumer price index of the previous year. At no time will the sum of both exceed legally established limits, currently (2002) set at 11 percent. This

return is conditional on the particular cooperative having made sufficient profits, and funds being available. Payment is based on solidarity at both internal and external levels, as well as at a corporate level:

- Internal payment frameworks. The Mondragon web- site states that "for many years the difference in payment received by the least qualified worker-member and the top executive of the cooperation was the ratio of 1:3." In recent years, the payment to top executives has increased along with market conditions, but with a reduction of 30% as a commitment to the principle of solidarity.
- External payment: Every attempt is made to ensure that the payment received by the member is very similar to that received by an "outsider" in a similar position, sector and geographic region.
- Corporate level: Annual working hours must be between 97 percent and 103 percent of the corporate reference, and payment between cooperatives must be between 90 percent and 110 percent. Payment at corporate level is a function of labour and solidarity.

The Caja Laboral Popular (Bank) was in place in 1959, and is the economic hub of the system. All member firms have a contract with the bank, which aggregates profits and the cash flow of member co-ops, and channels it for future growth (Morris, 1995).

There are essentially two methods of financial participation, namely advanced payments and cooperative dividends. Advanced payments are received monthly, and are made up of a fixed part, the post of the worker, and a variable part, the professional performance of the member. Cooperative dividends are paid out annually depending on the financial position of the cooperative. This will always be a minimum of 30 percent and a maximum of 70 percent and is added to each individual member's contribution.

With regard to decision-making participation Turnbull (1994) refers to the importance of analysing the structures of the Mondragon cooperatives because, since their inception in the 1950's, over 150 enterprises have been created, but not one has failed in the first five years of operation. Thomas and Logan (cited in Turnbull, 1994)

suggest that the cooperatives are both more efficient and more profitable than capitalistic companies. Various indicators have been used to compare Mondragon with other capitalistic ventures, and it has been concluded that the Mondragon cooperatives are the more efficient of the two systems. A reason for this is that all primary enterprises within the cooperative group have identical structures. The governance structure represents a closed-loop information and control system. Power within Mondragon cooperatives is spread so that it creates additional "cybernetic circuits of information" and control to provide shorter, quicker, more sensitive, and more responsive reaction to changes in operating conditions either within, or from outside the firm (Turnbull, 1994).

Turnbull (1994) states that when there are simple components making up a complex structure, as is the case with MCC, then this is a common feature of all viable worker-owned firms. The Mondragon structure is complex, but it allows much information to be exchanged and processed by each individual. The governing structures of Mondragon are democratically controlled, based on "one man, one vote". All Mondragon cooperatives are self-managed. The worker-owners participate in the oversight, operation, and development of the business. Shipp (1996) suggests that self-management avoids the technical and bureaucratic elitism associated with capitalistic or socialistic economies.

Other aspects of participation include the promotion and development of self-management and the participation of the members in business management. According to the Mondragon web site this requires:

- The development of adequate mechanisms and channels for distribution.
- The transparent communication of information with respect to the performance of the basic management variables of the cooperative.
- The use of methods of consultation and negotiation with the worker-members and their social representatives in those economic, organisational and labour decisions that affect them.
- The systematic application of social and professional training plans.
- The establishment of internal promotion as a basic means of covering positions with greater professional responsibility.

At Semco, Ricardo Semler (1994) suggests that some may think of the Semler philosophy as similar to that of socialism. He suggests that worker involvement does not necessarily mean a loss of the manager's power. What is lost is the blind irrational authoritarianism that characterises many organisations and diminishes productivity. Semler (1994) argues that he has taken the best parts out of different systems in order to structure Semco. The ideals of personal freedom, individualism, and power have been adopted from capitalism. Socialism has influenced the Semco structure by providing controls against greed, and by ensuring that information and power is shared.

At Semco it is believed that a pyramidal structure breeds a large hierarchy, a lack of motivation and worker ignorance (Atkinson, 1990). The structure at Semco consists of three concentric circles. The inner circle contains five people called counsellors, whose job it is to integrate the company activities. The next circle contains eight people called partners, whose job it is to head the company's eight different divisions. Finally, the third circle contains the remaining employees, all of whom fall into one of two categories namely: coordinators or team leaders, and associates who do the research, design, sales and manufacturing work (Atkinson, 1990). Semler (1994) believes that people should not stagnate in their jobs and that they be rotated every two to five years so as to prevent boredom. Roles and titles are not given to an individual. Semler (1994) believes that if you put ten people together, and do not appoint a leader, you can be sure that one will emerge. Groups are formed, but they find their own leaders. This is not considered indicative of a lack of structure, but rather a lack of structure imposed from above (Atkinson, 1990). A flat organisational structure with a minimum of positional titles implies that everyone must know the organisational goals, as well as the goals of the individuals in achieving those goals.

Employees wear what they want, choose their own bosses, work flexi-time, etc. A third of the staff actually set their own salaries, but they also have to re-apply for their jobs every six months. Employees evaluate their bosses once a year. If the grade that the manager scores from the workers is consistently low, he has to step down. When decisions such as company mergers and acquisitions take place, every worker gets a vote. At one stage the company needed to relocate a factory and three new sites were identified. Every worker was bussed to all three sites so that they could make the

choice as to the new location. A democratic management style with open access to company information is adopted. For example, all employees are given access to the company's financial statements and explanations are given when and where required. There are also seven CEO's (Semler being one), and each CEO holds the position for a six-month period. Although Semler is the owner, his vote counts for 'one', like every other employee. The original structure was flattened from six layers to the three layers described earlier.

Semler (1994) believes that a difficult task in the future is for management accountants to design a management accounting system that is suitable for organisations moving towards a participative management system. Semler (1994) maintains that the biggest obstacle to participative management is middle managers who have bad attitudes towards it. The participative management system must move towards a situation where information and performance measurement schemes would involve the self-reporting of non-financial data for self-control in the work situation (Atkinson, 1990).

Bottom line profits at Semco are shared with the workers, with 23 percent being given back to the workers (Atkinson, 1990).

2.7.5 A Comparative Analysis of Employee Empowerment

Semler has a management philosophy that supports the theorist's definitions and interpretations of empowerment. Evidence of worker empowerment was shown when a particular Semco business unit experienced difficult times in the market. Sales were down and inventory was up, as were associated costs such as working capital, warehousing, etc. All necessary cost cutting was done, but the company (unit) was still in trouble. Everyone was invited to contribute to a possible solution, with the two most obvious being a pay cut or a cut in workforce (Semler, 1994). The workers eventually came forward with a proposal. The proposal was for all workers to take a 30 percent pay cut, but based on three conditions. Firstly, that the profit share of the employees would be increased by 15 percent from the current 23 percent (approximately), to just under 39 percent until such time as their salaries were restored to the current levels. Secondly, that management would take a 40 percent

pay cut. Finally, a member of the union committee would co-sign every cheque written in the company name so as to ensure that there was no unnecessary expenditure. This was agreed to. In their efforts to save the company, the workers took more and more of the contract work and by the second month the unit started to cover expenses. After a further four to five months the unit made a small profit in one of the worst economic climates experienced in Brazil (Semler, 1994).

The policies adopted at Semco have empowered the workers in terms of their self esteem, perceived control and competence, goal internalisation, self-efficacy, self-determination, personal control, meaning, trust, personal development and motivation; all congruent with theorists' interpretations of the benefits empowerment can bring to a specific organisation.

2.7.6 The Kaizen Philosophy

Kaizen arguably includes aspects of decision-making participation by the workers, and is therefore relevant in the context of this study. This section briefly introduces the Kaizen philosophy to the reader.

Kaizen is the Japanese meaning for "gradual and orderly, continuous improvement", and is often said to be the success behind the Japanese strength in global markets. It is the elimination of waste in both systems and processes, thus improving operational productivity. Kaizen strives for improved quality, low-cost and on-time delivery, and always contains two elements, notably "improvement/change for the better and ongoing/continuity." In the context of the workplace Kaizen means continuing improvement to both managers and workers alike. Kaizen is implemented by middle and lower management, as well as by the workers. Kaizen will only work in a manufacturing environment with high economies of scale, and over a few years. It requires regularity, organisation, investment and commitment (Syverson, 2001). An important aspect of Kaizen is that it shows employees that participative management can work. The fact that the problems are identified (often at the "coal-face") and immediately dealt with is testament in itself to the benefit of participative management. Kaizen is not quality control, which suggests management lack of trust,

but rather the empowerment of all operators to take ownership of these work situations and make suggestions on the improvement of processes or systems.

Kaizen events (or workshops) are where a particular aspect of the production process is identified and studied for improvement. Those involved normally include all associated with the company, including engineers, management, workers, and even outside consultants. The process is to study the (potential) problem/opportunity, collect data, analyse the data, discuss improvements, and finally make changes. The nature of the Kaizen philosophy is that the job is never done, but is ongoing.

Oakeson (1997) records that, companies employing the Kaizen philosophy in America had a jump in productivity of 6.6 percent in 1995, whereas companies who employed the old method of traditional batching and inventory systems only had an increase in productivity of 3.9 percent.

TBM Consulting Group Inc. based in Durham, North Carolina, surveyed companies worldwide that used Kaizen programmes and found:

- 61 percent experienced increases in market share,
- 63 percent reported reduced lead times,
- 39 percent reduced time necessary for new product launches,
- 24 percent were able to increase product line diversity,
- 63 percent held or decreased product prices.

In the same study it was found that ninety-two percent of companies using Kaizen methods guaranteed the employees no layoffs or downsizing as a result of improved productivity. The surveyed companies reported the following:

- 73 percent reduction in overtime,
- 69 percent increased production/sales,
- 38 percent deployed freed-up employees to other improvement activities in plants,
- 33 percent eliminated temporary employees,
- 13 percent reassigned freed-up employees to new product development activities.

(Oakeson, 1997)

The Kaizen philosophy involves the workers at the coal-face in the decision-making process, with (arguably) increased efficiencies in production and economic viability.

2.7.7 Summary

It is evident that the participation and empowerment philosophies as practiced by MCC, Semco and Triumph (to a lesser extent), are more in line with those of the Kopano factory rather than the Lawley factory. The next section investigates this in greater detail.

2.8 A COMPARATIVE ANALYSIS OF THE VARIOUS ELEMENTS DISCUSSED IN THIS CHAPTER WITH THOSE OF THE LAWLEY AND KOPANO FACTORIES

The change in ownership at Kopano has resulted in a change of control, reward, and arguably (tested by the hypotheses) a difference (between factories) in the workers' sense of empowerment, decision-making participation and financial participation.

The point of departure was a theoretical view of participative schemes, which are clearly divided into two distinct parts (decision-making participation and financial participation). The decision-making path of the workers at the Kopano factory (as a result of different structures and ownership status) is different to that of the workers at the Lawley factory. This section also highlights aspects of motivation and structure, which are considered as the underpinning foundations of participative management. A detailed review of decision-making and financial participation follows. Again the tested hypotheses will determine the difference between the Kopano and Lawley factories relative to the workers perceived sense of decision-making and financial participation.

Following participative schemes was a theoretical view of empowerment and the best way to summarise this view is to highlight pertinent words. These words include delegate, authorise, motivate, exhibit leadership, internal and external commitment,

self-esteem, empathy, perceived control and competence, self-efficacy, self-determination, personal control, meaning, trust; foster personal mastery, support, teams and confidence. The theoretical interpretation on the subject is clear. The results of the hypotheses will determine which factory has a greater sense of empowerment given the theoretical interpretations discussed in this chapter. It is again significant to note that the meaning, understanding and interpretation of the word "empowerment", relevant to this study, does not have the same meaning as Black Economic Empowerment in a South African context.

The literature then highlights aspects of ownership and control. Various schemes are discussed and comment offered as to how this affects worker-owned enterprises in both productivity and financial participation.

This concluded the literature review on participative management, empowerment, ownership and control. What remained was to highlight numerous examples of international employee involvement, which incorporated all, or some, of the above topics. The reason for this was to gain knowledge as to how companies, or societies, addressed the problem of participation at worker level so that comparisons can be drawn against the Kopano initiative. The various topics covered in the literature review all contribute to the hypotheses to be tested in this study.

The ownership differences between the Kopano and the Lawley factory could result in different perceptions between the workers (between factories) relative to their sense of empowerment, financial participation and decision-making.

It is suggested that there will be a greater sense of empowerment at the Kopano factory than at the Lawley factory. This is because there are more similarities between Kopano and the theoretical interpretations of empowerment.

Workers at both Kopano and MCC share ownership participation, but in the case of MCC, the wealth created is in accordance with labour provided and not the holding of share capital, as is the case at Kopano. The Lawley workers do not share in ownership participation. In the case of Semco, Ricardo Semler remains the owner with employees not invited to participate in ownership.

Financial participation differs between Lawley, MCC and Kopano. The Lawley workers receive the least, being their monthly salaries and incentive bonuses based on production output. The MCC members also have this advanced fixed and variable remuneration, but, as owners, they also share in dividend receipt given the cooperative's profitability. The Kopano workers are better off than both Lawley and MCC because they have four sources of income. This includes their monthly salaries, incentive bonuses, dividend receipt and the capital growth on their shares.

Kopano and Semco workers share in the profitability of their respective companies. The amount differs because at Kopano all the profits are shared proportionally between all the owner-workers. At Semco Ricardo Semler receives 77 percent with 23 percent being distributed amongst the workers. This 23 percent is viewed as a dividend given the organisation's profitability, with the workers receiving their salaries on a monthly basis. The Lawley workers do not share in the profitability of the Lawley factory, or in the profitability of the holding company.

Despite different structures there are strong similarities between Kopano and MCC relative to decision-making participation. MCC's governing structures include the general assembly, the governing council and the social council, all of which are democratically elected. These governing structures practice transparency and place strong emphasis on participatory management. This is similar to Kopano, with all worker-owners being exposed to all aspects of the business, and at all levels. One would not expect this democracy, transparency and participatory behaviour at Lawley where the workers are not owners. Semco and Kopano both have flat structures which facilitate a philosophy of involvement, transparency, and an improved dissemination of information and participation in decision-making. Again, this is not evident at Lawley where the workers must work through the hierarchical structure and labour relations policies in place.

Lorenzo (2000) suggests that the Mondragon cooperatives are a gathering of workers who share values beyond the corporate values of efficiency and production. These values include priority of labour over capital, solidarity, equitable distribution of earnings, democratic management, balance between the worker's welfare and the

corporation's profitability, and continuing education. The similarities relative to ownership, financial and decision-making participation between Kopano and MCC seem stronger than those between Lawley and MCC.

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CHAPTER THREE

A COMPARATIVE ANALYSIS BETWEEN THE KOPANO AND LAWLEY FACTORIES

3.1 INTRODUCTION

The comparative analysis is in relation to the technology employed (machinery), the manufacturing processes, human resources and factory ownership. The chapter also defines "operational costs" in the context of the study.

In order to test the hypotheses it is essential that the Kopano factory, where changes in ownership had taken place, is compared with a factory with similar technology. A senior Corobrik engineer (John Anthony; personal communication, October, 2001) suggested the Lawley factory as being the most similar in technology and human resources to that of Kopano. This chapter sets out to demonstrate that the two factories are similar in all respects save ownership.

Lord (1995: 209) makes reference to "accidental access" when selecting the organisation(s) for a study. This refers to instances where the researcher has prior personal contact with senior managers in the organisation. These pre-existing relationships can aid the process of "selling" the research proposal to management. Lord (1995) suggested that this was in contrast to "cold calling" of selected organisations, which has been unsuccessful in cases where the research design was partly exploratory. "This resistance has been perceived to be due to the open-ended

commitment to broad research objectives that such an approach would demand from such firms" (Otley and Berry, 1994; 51: cited in Lord, 1995: 209). The selection of the factories for this study resulted from "accidental access" as described above, in that the researcher is a past employee of Corobrik (Pty) Ltd. The researcher has access to senior management at both the Kopano and Lawley factories and, therefore the study was accepted and authorised at the highest level. However, the suitability of these two factories for the study needed to be assessed, and the methodology employed in achieving this end is explained hereunder.

The methodology employed necessitated that the researcher have a thorough understanding of the theory behind clay brick manufacturing. Armed with this theoretical knowledge, the researcher then visited as many different clay brick manufacturing operations as possible, irrespective of the levels of technology employed, over six years. The technique of observation and interviews was used. The rationale was to understand the differences between the factories, and how technological differences impacted on the production process. These visits were ongoing, as and when opportunity presented itself, and as a result over twenty factories throughout Africa were visited. In each case, either the factory manager or senior engineers were responsible for taking the author through the factories and answering any questions that arose. As this process developed, measurable criteria were identified which included the levels of technology (machinery), labour employed, unit output, etc.

With the theory and knowledge gained by researching over twenty factories, the next step was to investigate both the Kopano and Lawley operations respectively. Following this, the main objective of this chapter, is a comparative analysis between the Kopano and Lawley factories in order to ascertain that they are similar in technology, manufacturing process and human resources. Any identified differences would have to be taken into account and factored out of the comparative equation, failing which the study would not be comparing "like with like".

The second half of this chapter confirms the respective ownership positions of both factories and was achieved via qualitative methods, drawing on the technique of

interviews with senior management from both factories. Finally, an understanding of "operational costs" in the context of the study is presented.

Accordingly the methodology followed the following path:

- Theory of the clay brick manufacturing process
- Clay brick factories visited by the author
- The production process and technology employed at Kopano
- The production process and technology employed at Lawley
- A comparative analysis of the Kopano manufacturing process and technology employed, with that of the Lawley factory
- A comparative analysis of ownership between the Kopano factory and the Lawley factory
- "Operational Costs" defined in the context of the study

3.2 A COMPARATIVE ANALYSIS BETWEEN THE KOPANO FACTORY AND THE LAWLEY FACTORY (TECHNOLOGY EMPLOYED, MANUFACTURING PROCESS AND HUMAN RESOURCES)

3.2.1 Introduction

This section draws direct comparisons between the factories at the various levels of the production process so as to identify similarities and/or differences, beginning with the mining and stockpiling, and ending with despatch.

3.2.2 Mining and Stockpiling

In the case of the Kopano factory, this part of the process is owned by Corobrik and as such, does not fall under the operations of the Kopano factory. The material is mined and stockpiled in accordance with the requirements of the budget, and mixed into the required recipe by Corobrik. This mix is placed in close proximity to the box feeder where the production process begins. The Kopano employees have nothing to do with this. A cost is attached to the material as prepared for the production process, which is charged to Kopano from Corobrik.

At Lawley, the mining and clay preparation is owned by Corobrik. However, despite this, it is outsourced to an independent contractor. Like the Kopano factory, a cost is attached to the clay as prepared and ready for the manufacturing process, also in close proximity to the box feeder.

Given the aforesaid, both factories are in exactly the same situation as far as mining and clay preparation is concerned. Note that the mining and stockpiling does not form part of the study, which only begins at the box feeder. As the study investigates the production process from this point onwards, it would be an unfair financial comparison for this input cost (raw materials) to differ from one factory to another. It must be remembered that the main purpose of this research is to measure the sense of empowerment, decision-making and financial participation of the respective samples. The focus is the employees. In both cases, neither factory has employees involved in the mining and clay preparation; this part of the process does not affect the study and can be ignored.

3.2.3 Material Preparation and Extrusion

The two variables are machinery (technology/capacity) and manpower. In both cases (Kopano and Lawley) the production process is identical, as is the machinery.

The process begins at the box feeder. The machinery in the crushing process is the Jeffery Rolls Crusher, then the INCLA MARK III Grinding Pans, then the Morgenson Sizer Multi-deck vibrating screens, and finally the Steele 90A Extruder. Technology, output (capacity) and manpower (skills) at both factories are identical. However, from a manpower perspective, the number of employees at this stage of the process is 23 at the Kopano factory, and 20 at the Lawley factory. This is not a significant difference given the nature of the research. The differences are insignificant and can be ignored in the context of the study.

3.2.4 Drying

There is a difference in the number of dryers, with Kopano having 15 drying chambers and Lawley having 19 chamber dryers. In the case of Kopano, the chamber capacity is 36,740 bricks with Lawley 36,410 bricks. The Kopano operation has a drying period of approximately three days and the Lawley operation quotes 54 hours drying time. In both cases, the dry heat is drawn off the kiln fire in exactly the same way. This is a very simple process, and there is very little difference between the factories. Loading and discharging the chambers is, in both cases, done by forklift (an operator and an assistant). Any differences are insignificant and can be ignored in the context of the study.

3.2.5 Firing

The Kopano operation has a 30-chamber kiln whereas the Lawley factory has a 50-chamber kiln. This is the only difference. As a result of this the Lawley factory has two fires running at the same time, whereas the Kopano factory has only one fire. From a process perspective they are identical. However, the Lawley factory will have a greater capacity than that of the Kopano factory. Because of the extra chambers, and the two fires, Lawley will require more staff at this stage of the process. Remembering that the employees' perceptions are being measured, this difference is insignificant because the method of measurement in the industry is "cost per 1000 units". So, while the Lawley factory has a higher capacity, once divided by input costs (manpower, fuel, etc.), a "cost per 1000 units" or "cost of production" is derived which should (all things being equal) be comparable. This is a measurement which "levels the playing fields" in the industry, irrespective of the size of the operation. This will not therefore affect the perceptions of the employees at the factories.

Both kilns are TVA (transverse arch) kilns and are coal-fired via stoker pots. Both are set and discharged manually. Both are fired by coal falling into the chamber at the back of the chamber, at a temperature of approximately 1,100 degrees Celsius.

The differences are insignificant and can be ignored in the context of the study.

3.2.6 Sorting

Sorting is identical at both factories. The chambers are manually dehacked and sorted via a sorting belt. Colour, utilities, rejects and waste are the categories which sort the product. They are then packed on pallets of 500 units each and taken to the various bins. In both cases the manpower is the same. They are mainly the sorters, forklift drivers (and assistants), tractor drivers, etc.

The differences are insignificant and can be ignored in the context of the study.

3.2.7 Despatch

Despatch is not relevant in the context of the study.

3.3 IDENTIFYING OWNERSHIP DIFFERENCES BETWEEN THE KOPANO FACTORY AND THE LAWLEY FACTORY

3.3.1 Introduction

This section highlights the difference between the Kopano factory and the Lawley factory relative to ownership. This study stems from the differences in ownership between the two factories, and as such, it is important that these differences are confirmed. This has been achieved by interviewing senior management from both companies.

3.3.2 Ownership of the Kopano Factory

(Source: Senior management from Kopano Brickworks Limited)

The registered name of the company is “KOPANO BRICKWORKS LIMITED”. The make-up of the shareholding is 25% Corobrik (Pty) Ltd, 25% to senior management and two representatives of the Brick and General Workers Union (B&GWU), and 50% to the workers (all levels).

For the purpose of the research it is not necessary to know the percentage splits in more detail. At the date when the factory changed hands, the split was done on a pro-rata basis given the retrenchment liability of the individual workers. So, for example, a senior employee with (say) twenty years service would get a greater shareholding than a junior employee with only one year of service. What is of significance is that the workers, at all levels, are shareholders of KOPANO BRICKWORKS LIMITED, and not simply salaried employees.

Besides the staff (shareholders) receiving their monthly salaries, they also participate financially as follows:

- A performance bonus is in place for different targets reached on a weekly basis.
- Night shift allowance.
- Overtime at "time and a half".
- Public holidays.
- Yearly Christmas bonus.
- Dividends - All employees contribute to the Provident Fund, which represents a percentage of shares in the business, and as such they are eligible for a dividend receipt. (This is calculated on a percentage basis as well as the make-up of the shareholding).
- Capital growth on their portion of shareholding.

3.3.3 Ownership of the Lawley Factory

(Source: Senior Management from Corobrik (Pty) Ltd.)

The Lawley factory is one of many brick manufacturing operations that are wholly owned by Corobrik (Pty) Ltd. Corobrik (Pty) Ltd is a private company with the shareholding split between senior management, a black empowerment company and an international investor. Further details relative to the split are not required for the purpose of this study. The study investigates the ownership of the operational unit called Lawley, and it is sufficient to conclude that this unit is owned solely by Corobrik (Pty) Ltd. The Lawley employees do not participate in ownership.

The Lawley brick manufacturing operation does not have a balance sheet as it is not a legal entity. All the assets of the Lawley factory are held on the Corobrik balance sheet. However, the operating unit does have an income statement so as to measure its own performance. All the employees at Lawley are Corobrik employees, not shareholders. They all have fixed salaries, with performance bonuses payable on reaching certain targets and quality standards. This applies to all unskilled labour and certain categories of skilled staff. The administration staff, artisans and junior supervisory staff are excluded from these incentives. Unskilled employees and artisan staff are paid overtime according to legislated rates. All other skilled employees do not qualify for overtime pay, but do receive a standby allowance for being on call. This allowance is equal to one day's pay for seven consecutive days of standby duty. No worker at the Lawley factory receives a dividend receipt because they are not shareholders.

3.3.4 Summary

The ownership position between the two factories as stated above is such that the hypotheses can be tested. The next section defines what is meant by "operational costs" in the clay brick making industry, and in the context of this study.

3.4 OPERATIONAL COSTS

The study investigates operational costs at both the Kopano and the Lawley factories. This section serves to highlight the meaning of "operational costs" relative to the study. It is (again) significant to highlight that the same persons form the senior management at both factories. The most important person in this regard is the financial director who holds that position (financial director) at both the Lawley and Kopano factories. The significance of this is that the same financial reporting methods are used at both factories. This is further reinforced by the fact that Corobrik undertake the financial reporting on behalf of Kopano for an agreed monthly fee. The significance of this is that exactly the same systems/departments are used for the financial reporting at both Kopano and Lawley factories. Therefore, operational costs

at Kopano mean the same as operational costs at Lawley (H Voorma, personal communication, October 2001).

Hypothesis # 3 seeks to highlight possible differences in operational costs as a result of the different ownership structures. An explanation as to the meaning of operational costs, in the context of this study, follows. Refer to the simplified income statement below:

Turnover	(also known as sales revenue, etc).
Less COS	(Cost of Sales)
Equals GP	(Gross profit, called "net sales" in the brick industry)
Less Expenses	(**Operational Costs**)
Equals NP	(Net profit, called "contribution" in the brick industry).

- **Turnover** refers to the income or revenue derived from the sale of the finished product. Corobrik are responsible for the downstream distribution and sales of the product, and as such, no inventory is reflected in the Kopano financials. However, sales or turnover is irrelevant to the study.

- **COS (Cost of sales).** This would refer to the cost of the product. In Corobrik's case this would represent the transfer cost of product from Kopano to Corobrik. Corobrik would mark-up this cost by a percentage and liquidate the product into the market at a predetermined profit. Once again, this is irrelevant to the study.

- **GP (Gross Profit).** This is the difference between the turnover and the COS, normally referred to as either "margin" or "mark-up". Once again this is not relevant to this study.

- **Expenses (or Operational Costs).** This is the focus of the study. The study compares operational expenses at both the Kopano and the Lawley factories and draws comparisons between the two of them. Expenses are posted to various cost accounts, <u>at both factories</u>, by the Corobrik financial department.

- **NP (Net Profit).** This is referred to in the brick industry as "contribution" and is calculated before interest and tax. NP is the difference between GP and operational expenses. NP is not relevant to the study.

To conclude, the study only investigates operational costs, some of which are highlighted below:

- Raw Materials (clays, royalties, etc.)
- Fuels
- Repairs and maintenance
- Labour (salaries and wages, benefits, etc.)
- Factory overheads (petrol and diesel, power and water, equipment hire, depreciation, packaging, protective clothing, administration fee, yard management fee and "other").

Various aspects of financial management (Correia *et al*., 1993) were investigated in an effort to highlight possible areas where financial management decisions may affect operational costs. The rationale was that there could be a financial decision taken by Kopano (say) that might positively or negatively affect operational costs, which would be different to Lawley, and as such the basis for comparison would not be true. A hypothetical example of this would be depreciation. If Kopano qualified for accelerated depreciation, and Lawley did not, then the operational costs at Kopano would be higher for the same expenditure compared to Lawley. In this hypothetical example one would have to factor out this unfair advantage in order to correctly draw comparisons. Areas of financial management investigated include:

- Capital budgeting
- Working capital
- Credit policy and current asset management
- Capital structure
- Leasing
- Financial engineering
- Financial planning and control

(Correia *et al*., 1993).

It is not a requirement that a summary of Correia *et al.* (1993) relative to the abovementioned aspects of financial management be included in this study. It is sufficient to conclude that the basis for comparison of operational costs at both Kopano and Lawley is such that the "playing fields are level"; the financial management decisions taken are the same at both factories (H Voorma, personal communication, October, 2001). In consultation with Mr Steven Soper (personal communication; February, 2003) the main aspects of operational costs are those as reflected in the financial statements. While the above aspects of finance would affect the cost structure of most companies, in the Lawley scenario, this possibility is removed with these costs forming part of head office expenditure. The costs reflected on the financial statements of the factory are those that are directly related to operations, and are the same at both the Kopano and the Lawley factories.

Both factories have equal disclosure policies. Steyn (2003) stated that corporate governance is relevant when the owners of the equity are not the same as the directors of the company. Steyn (2003) suggests that where this is the case, correct corporate governance is important so that the shareholders do not lose control of the company. While the shareholders differ between factories, senior management (directors) are the same persons.

The King II report of corporate governance deals mainly with disclosure and transparency (Barac and Otter, 2001) and not methods of financial reporting. As per the previous section on financial management, corporate governance at both factories is practiced by the same senior managers, with the same level of disclosure (H Voorma: personal communication, October, 2001).

In the context of this study corporate governance is not relevant.

3.5 SUMMARY

This chapter served numerous purposes. Firstly, it confirmed that the manufacturing processes and technology employed at both factories is similar, and that they can be used for comparative analysis given the hypotheses being tested. Secondly, it

confirms the ownership positions of the factories. Finally, it defines the meaning of "operational costs" in the context of the study.

The next chapter introduces the research design and methodology employed.

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CHAPTER FOUR

THE RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

The main aim of this chapter is to present a detailed review of the research design and methodology used in the study. Verhonick and Seaman (cited in Lord, 1995) define research design as being the plan for the study, providing the overall framework for collecting data. The research is a case study and cross-sectional in nature and investigates various aspects of operational activity at two different factories, at the same time. This section reviews the research design of the study.

4.2 THE RESEARCH OBJECTIVES AND HYPOTHESES

The objectives of this study are to determine similarities and/or differences between workers, between factories, relative to their sense of participation (financial and decision-making) and empowerment. The objectives extend further to determine if there are differences in operational costs between factories. Finally, the study seeks to identify if the difference between the workers sense of participation and empowerment (if any) as well as savings in operational costs (again, if any) are as a result of two significantly different ownership structures (between factories).

Accordingly the following three hypotheses are identified:

Hypothesis # 1

Semi- and unskilled workers who hold proprietary title at the Kopano Factory will have a greater sense of participation (decision-making and financial) than semi- and unskilled workers at the Lawley Factory who do not hold proprietary title.

The rationale for hypothesis # 1 is that the Kopano workers hold proprietary title whereas the Lawley workers do not. This difference in ownership suggests that the Kopano workers will be more directly involved in the daily running of the factory than their Lawley counterparts will be, resulting in a greater sense of decision-making participation. Because of the ownership differences, the Kopano workers share in bottom-line profitability at financial year-end and also benefit from capital growth. The Lawley workers do not. This difference also suggests that the Kopano workers will have a greater sense of financial participation than their Lawley counterparts. Accordingly hypothesis # 1 which tests the workers sense of participation will test against two different dimensions being decision-making participation as well as financial participation.

Hypothesis # 2

Semi- and unskilled workers who hold proprietary title at the Kopano Factory will have a greater sense of empowerment than semi- and unskilled workers at the Lawley Factory who do not hold proprietary title.

The rationale for hypothesis # 2 is identical to hypothesis # 1 with the exception that the workers' sense of empowerment is being measured. Because of the differences in ownership between the factories, the Kopano workers should (arguably) have a greater sense of empowerment than their Lawley counterparts.

Hypothesis # 3

Taking into account the differences in ownership between the two factories, operational costs at the Kopano Factory will be lower than operational costs at the Lawley Factory.

The rationale for hypothesis # 3 is that, because of the different ownership structures, the Kopano workers should arguably be more involved in the daily operations than their Lawley counterparts; they should have a greater sense of "ownership". The Kopano workers have a greater interest (financial participation) than the Lawley workers, and as a result of this they will be more directly involved in keeping waste, and costs down. Hypothesis # 3 therefore suggests that the Kopano operational costs will be lower than those at the Lawley factory.

This section has presented the three hypotheses that are tested. The rationale suggests that the Kopano workers will have a greater sense of decision-making participation, financial participation and empowerment, than the Lawley workers. It further suggests that operational costs at Kopano will be lower than operational costs at Lawley.

Mill's Method of Agreement and/or Difference is used as an analytical tool to assess whether or not the different ownership structures between factories is the reason for the differences in operational costs, perceptions of empowerment, financial participation and decision-making participation, between the two factories. Accordingly Mill's Method of Agreement and Difference is now introduced.

4.3 MILL'S METHOD OF AGREEMENT AND/OR DIFFERENCE

The underlying objectives of this study are to conclude that the workers who hold proprietary title have a greater sense of financial participation, decision-making participation and empowerment than those workers who do not have an equity stake. It further seeks to confirm that those workers who hold proprietary title will act in such a way that there will be cost savings in operations. Mill's method of agreement

and/or difference is used as an analytical tool to provide support for the reason behind these differences (the findings of the hypotheses) as being the different ownership structures between the two factories.

The *method of agreement*, proposed by Mill, states; "When two or more cases of a given phenomenon have one and only one condition in common, then that condition may be regarded as the cause (or effect) of the phenomenon." (Cooper and Schindler, 2001: 148). Mill states that the Method of Agreement is where two or more instances of the phenomenon under investigation have only one circumstance in common. The circumstance in which alone all the instances agree is the cause (or effect) of the given phenomenon (Skorupski, 1989).

Cooper and Schindler (2001) caution as follows in this regard:

> "There appears to be an inherent gap between the language of theory and research which can never be bridged in a completely satisfactory way. One thinks in terms of theoretical language that contains notions such as causes, forces, systems, and readings. The essential element of causation is that A '*produces*' B or A '*forces*' B to occur. But this is an artefact of language, not what happens. Empirically, we can never demonstrate an A-B causality with certainty. This is because we do not "demonstrate" such casual linkages deductively, or use the form or validation of premises that deduction requires for conclusiveness. Unlike deductive syllogisms, empirical conclusions are inferences – inductive conclusions. As such, they are probabilistic statements based on what we observe and measure. But we cannot observe and measure all the processes that may account for the A-B relationship". (2001: 148).

Skorupski (1989) refers to Mill's "methods of elimination" which eliminate from among possible causes all except the real one. The eliminative canons identify causal connections among types of events or states. There are two basic conditions involved in any eliminative reasoning. The first is a pair of assumptions:

(a) that the phenomenon under investigation (P) has a cause (or an effect), and

(b) that some list of the possible causes or effects (A, B, C, D, E, …) can be taken as exhaustive.

The second is a set of observations, which, within the framework provided by assumptions (a) and (b), entail that some particular one of the possible causes or effects, is the actual cause or effect. Mill refers to (a) as the "*causation assumption*" and (b) the "*exhaustiveness assumption*" (Skorupski, 1989).

A fully general theory of the eliminative methods needs to take systematic account of two dimensions of freedom in this framework. The first concerns the causation assumption. The causation assumption varies, depending on whether one takes a "cause" to be a necessary, a sufficient, or a necessary and sufficient condition (Skorupski, 1989). The second concerns the notion of possible causes (or possible effects). Should one assume that the possible causally relevant factors A, B, C, D, E, constitute possible cause (or effects) of the phenomenon only as taken positively, or singly? Or, may the absence of a factor also be a cause or effect of the phenomenon P? Mill questions if the conjunctions, or disjunctions, of possible causes (or effects) can also be possible causes (or effects). Mackie (cited in Skorupski, 1989) suggests that there are eight different ways to answer this question. There are three possible options in the first dimension, and eight possible options in the second. A general theory would study ways of formulating eliminative methods in all these cases, and the relationships between them.

Mill allows that the absence of a condition may be the cause or effect of a phenomenon, and he allows that the cause or effect may be no single one of the conditions which are possibly relevant, nor the absence of any single condition, but an "assemblage" (a conjunction) of conditions, positive and negative. Mill states that there can be more than one sufficient condition for a given type of phenomenon. However, Mill's methods are drawn up without regard to the possibility of a plurality of causes; that is to say, on the assumption that causes are necessary and sufficient conditions (Skorupski, 1989).

Mill's Method of Agreement

No. 1	Descriptive Factors	A	+	B	+	**C**	results in the outcome	**Z**
No. 2	Descriptive Factors	**C**	+	D	+	E	results in the outcome	**Z**
					Therefore	**C**	results in the outcome	**Z**

(Cooper and Schindler, 2001: 149)

Mill's Method of Agreement states, "If we can find Z and only Z in every case where we find C, and no others (A, B, D, and E) are found with Z, then we can conclude that C and Z are causally related." A, B, D and E are unlikely to be causes of Z and are therefore irrelevant variables. It is important to note that one can never accept this supposition with certainty because the number of potential variables is infinite (Cooper and Schindler, 2001: 149). Where there is an absence of C as well as an absence of Z, then there is evidence of a causal relationship between C and Z. This is known as Mill's Method of Difference. Skorupski (1989) refers to Mill's Method of Difference as an instance in which the phenomenon under investigation occurs, and an instance in which it does not occur, having every circumstance in common except one, that one occurring only in the former; the circumstance in which alone the two instances differ is the effect or the cause, or an independent part of the cause, of the phenomenon.

Mill's Method of Difference

No. 1	Descriptive Factors	A	+	B	+	**C**	results in the outcome	**Z**
No. 2	Descriptive Factors	A	+	B	+	**No C**	results in	**No Z**
					Therefore	**C**	results in the outcome	**Z**

Cooper and Schindler (2001: 149) make reference to contemporary writers who describe the way researchers substitute "prediction" with "causation". However, predictions can be considered to reflect cause only when all the relevant information is considered. All the relevant information is not available, and as such the predictions are presumptive.

Causal analysis is when one variable affects, or is responsible for, changes in another variable. "The stricter interpretation of causation, found in experimentation, is that some external factor "produces" a change in the dependent variable." (Cooper and Schindler, 2001: 150). Cooper and Schindler further suggest that in business, the cause-effect relationship is less explicit, and conclude that there are three possible relationships between variables, being symmetrical, reciprocal and asymmetrical.

- A symmetrical relationship is where both variables fluctuate together.
- A reciprocal relationship is where both variables mutually influence or reinforce each other.
- An asymmetrical relationship is where changes in the independent variable are responsible for changes in another (dependent) variable.

Cooper and Schindler (2001) identify independence and dependence on the basis of:

1. The degree to which each variable may be altered. The relatively unaltered variable is the independent variable (IV) (e.g., age, social status, present manufacturing technology).
2. The time order between the variables. The independent variable (IV) precedes the dependent variable.

Cooper and Schindler (2001) state that one can never be certain that variable A causes variable B to occur, or that A leads to B. When testing causal hypotheses the following three areas need to be identified:

1. Co variation between A and B.
    - Do A and B occur together in the way hypothesized?
    - Is there an absence of B when A does not occur?
    - When there is more or less of A, does one also find more or less of B?
2. Time order of events moving in the hypothesized direction.
    - Does A occur before B?
3. No other possible causes of B.
    - Can one determine that C, D or E do not covary with B in a way that suggests possible causal connections?

Besides the above three measurable criteria, inference-making must meet two other requirements. The first is referred to as control. All factors, with the exception of the independent variable, must be held constant, and not confounded with another variable that is not part of the study. Secondly, each person in the study must have an equal chance for exposure to each level of the independent variable. Cooper and Schindler (2001) refer to this as "random assignment" of subjects to groups.

Assuming that the workers who hold proprietary title do have a greater sense of financial participation, decision-making participation and empowerment, and that there are cost savings in operations, can one conclusively state that this is as a direct result of the difference in ownership structures at the two factories? This study makes use of Mill's method of difference to link the results of the findings of the hypotheses to the different equity positions of the workers at both factories. At both factories there are certain variables which are very similar and are considered to have no influence on the differences (as tested by the hypotheses) between the two factories. These variables include:

- The level of technology employed at both factories
- The manufacturing process
- The time period of the study at both factories
- Human resources - profile of the workers (age, education, skills, wages, etc.)
- The same industry (building, and more specifically clay brick manufacture).

Since these variables are similar at both factories, they are unlikely to cause any difference in worker perceptions regarding participation and empowerment. What is hypothesised is that the ownership difference between workers will result in a difference in the workers' sense of financial participation, decision-making participation and empowerment. Using Mill's method of difference, the link between ownership status (the independent variable) and the workers' sense of financial participation, decision-making participation and empowerment, as well as savings in operational costs (the dependent variables), will be either supported, or not supported.

4.4 SELECTING THE RESPONDENT SAMPLES

This section describes the techniques used for selection of the respondent samples.

It is again important to highlight the significance that both factories share common senior management. The managing director of Corobrik (Pty) Ltd is also the chairman of Kopano Brickworks Limited. Both factories share a common financial director. An executive director of Corobrik (Pty) Ltd, who is also the chairman of the clay brick industry, has been instrumental in authenticating all information for this study. Given the approval and involvement of the abovementioned persons, it stands to reason that the authority had filtered down to the factory managers at both factories. At both factories the respective factory managers have facilitated the investigation into the identifying of the similarities in the production process, and the confirming of the shareholding status. They have also facilitated with the requirements for hypothesis # 3, which are an in-depth investigation into the cost of operations. The involvement of the workers at both factories was not required at these stages of the study. The workers were involved in the testing of hypothesis # 1 and hypothesis # 2, and what remained was to identify the respondent samples for the testing of these two hypotheses.

There are two distinctly different sample groups in this study. The first are the workers of the Lawley factory (a total population of 196), and the second are the workers at the Kopano factory (a total population of 206). Given these relatively small numbers, it was discussed with the human resource departments that the questionnaire be given to every worker at both factories. This would eliminate any possibility of bias in the sample selection. Harper (cited in White, 2000) defines bias as allowing a particular influence to have more importance than it really warrants. Using the whole sample frame, rather than a random selection, not only removes any possibility of bias, but it would act more as a census than sample units. Cooper and Schindler (2001) state that a census is preferable to a sample when two conditions are prevalent. The first is when the sample size is relatively small, and secondly, when the elements are very different from each other. In this study the former condition is met but the latter is not. However, the census option, or a dominant sample (relative to the population), would best eliminate any possibility of bias in the study.

In discussions with the human resources department at both factories, one of the possible problems (see limitations) was that the employees would not trust the (real) reason behind the questionnaire. A solution to this was to advise everyone up-front that the filling in of the questionnaire was not compulsory. By stating this, the workers would accept that there was no "hidden agenda" behind the questionnaires. However, what this would do is possibly reduce the numbers of workers who actually fill it in (it would no longer be a census but rather a sample, and possibly a small one at that). In order to obviate this it was decided to put in place a (relatively) large financial reward for all those that filled out the questionnaire. By participating in the questionnaire, the workers would be eligible for a draw with possible financial reward. The human resources department were convinced that this would increase the size of the sample, taking it as close as possible to maximum participation, while at the same time removing any doubt as to a possible "hidden agenda." No identification was required on the questionnaire. The questionnaire was to be filled in by all workers from the first process (input at box feeder), to the sorters (inclusive). It excluded senior management and anyone outside the production process.

Given randon sampling, a table published by Sage Publications, Inc., adapted from Krejcie and Morgan (1970), states the target sample size given a stated population. Accordingly the required sample size for Lawley is 126 respondents and that for the Kopano factory is 130 respondents. These stated samples sizes are based on a 95 percent confidence level and are applicable for both continuous and categorical data (Krejcie and Morgan, 1970). Despite the aforesaid Martin and Bateson (1986) indicate that the more data collected the better, since statistical power is improved by increasing sample size. Gay and Diehl (1992) agree by stating that any sample should be as large as possible. While a census was the optimum response, the reality of this being achieved was unlikely given damaged returned questionnaires, leave or sick absence, etc. Despite the aforesaid the target was the total population and not the random sample size as per Krejcie and Morgan (1970).

A statistical analysis of the demographic profile of the respondent sample(s) was undertaken so as to further confirm the similarities and/or differences between said respondents (between factories). The findings relative to age, monthly rate (salary),

gender and job skills, is reported in the following chapter (presentation and discussion of the results).

4.5 THE MEASURING INSTRUMENTS

4.5.1 Introduction

This section serves to introduce the measuring instruments used in order to evaluate the hypotheses being tested.

4.5.2 Measuring Instruments to Evaluate the Workers' Perceptions of Participation (Decision-Making Participation and Financial Participation) (Hypothesis # 1)

This section describes the measuring instruments that comprised the questionnaires used in this study. Grove and Savich (cited in Lord, 1995) stated that whenever questionnaires are used in research, their precise text, together with their instructions for use, should be published in a journal. They suggest that a failure to do so would deprive the results of the research of virtually their entire value. They also state that any statistical findings arising from the questionnaires, for which the user does not have the appropriate text and instructions, should be rejected, no matter how significant the results may be.

Copies of the instruments used in the surveys are provided in the appendix section of the study.

Data for this study is primary data, defined in Lord (1995: 208) as: "the data that lies closest to the source of the Ultimate Truth underlying the phenomenon", which come from original sources, and are accumulated for the specific assignment. In this study, this primary data comprised the responses to the survey questionnaire by employees at both factories. This aspect of the study was the most sensitive because it required the involvement of the workers at both factories. This posed problems of ethics, with full transparency and disclosure made up front as to the reason for their involvement.

Prior to the workers' involvement discussions were held with the human resources departments, and recognised unions, of both factories. The reason for this was to get their involvement, and input, as to how best to achieve the desired result. Without their consent it would have been impossible to achieve this.

Lord (1995: 221) highlighted that, where the questionnaire was substantially original, issues of validity and reliability are of concern. The reliability (Cronbach Alpha) and validity (Factor Analysis) relative to the measuring instruments used, despite being previously used and checked for reliability and validity by Lord (1995), are again discussed later in this chapter (see Statistical Techniques).

The design is quantitative in nature in that a scale was designed as previously used by Lord (1995) for the testing of perceptions of decision-making and financial participation. The scale is comprised of numerous multi-choice questions. Each question has 5 possible answers, against which a numerical number is assigned, as shown below:

1. Strongly disagree.
2. Disagree.
3. Neither agree nor disagree.
4. Agree.
5. Strongly agree.

The same scale (questionnaire) was used for both the Kopano and the Lawley workers. The results should show whether there is any difference in the perceptions of decision-making and financial participation between the workers at the Kopano factory, versus the workers at the Lawley factory. This would successfully test hypothesis # 1.

The questionnaire (Appendix A) has two sections. The first part, numbered 1 to 6 has questions directly relative to the perceived extent of financial participation (Lord, 1995: 515). The second part, being the questions numbered from 7 to 11, investigates the perceived extent of participation in decision-making (Lord, 1995: 516). Respondents were required to choose from one of five categories, ranging from

"strongly disagree" to "strongly agree". Coldwell (1979), in his study of role conflict and job satisfaction in black industrial workers, further required the respondents to indicate why they had responded in a particular way to each item. Coldwell (1979) suggested that this was to force them to consider their responses carefully, and to reduce the possibility of response-set. This extra requirement was not used in this study, but to avoid response-set a number of items were reverse-scored within the instruments (see appendix H).

Each item was scored in the conventional manner as used by Lord (1995: 243). A value of "1" was assigned to "strongly disagree" responses, a "2" to "disagree", a "3" to "neither agree nor disagree", a "4" to "agree" and a "5" to "strongly agree". However, if items were designed to be reverse-scored, this was done with a "5" being assigned to "strongly disagree", a "4" to "disagree", and so on (Lord, 1995: 243).

The main language of instruction at both factories is English. In discussions with senior human resources management, they were confident that the questionnaire in English (alone) would deliver the required results. Their reasons given are that all instruction at the factory is in English, and conducted in "classroom type" forums. This then also accounts for those that are illiterate, and should there be any misunderstanding as to the instruction then it is discussed at this forum. However, as a precaution, it was decided to translate the questionnaires into the language of second choice at both factories. The procedures adopted for the translation of the questionnaire followed the leads of Alverson (cited in Coldwell, 1979), Coldwell (1979), and Lord (1995). The second "language of choice" identified by factory respondents was Tswana at Kopano, and Venda at Lawley. Translators at both factories were engaged (two in total). The original English questionnaire (Appendix A) was then translated into Tswana for the Kopano factory (Appendix B), and into Venda for the Lawley factory (Appendix E). Once this was done, both the Venda and the Tswana translations were then translated back into English, by a different person (Appendices C and E respectively). The rationale behind this was to check that it had the same meaning with the second English version being checked for reliability and "goodness-of-fit" with the original English version. There were a few minor amendments that had to be made so as to avoid any ambiguity in the translated versions. Once this was verified as being correct, the final questionnaires were drawn

up showing both the English and Tswana language for Kopano (Appendix F), and English and Venda for the Lawley factory (Appendix G). The exercise was conducted with senior management at both factories.

Reinharth and Wahbe (cited in Lord, 1995) suggested that when surveys of this nature are conducted they should include a covering letter from a senior executive of the company. The letter was to explain the purpose of the study, emphasising the confidential nature of the research, and to urge the co-operation of the respondents. After discussion with both factory managers it was decided not to include the letter, but rather to discuss the reasons for the research with the respondents in a classroom type forum. This was done by both factory managers in the normal language of instruction (English), and translated where required. This method was preferred because of the levels of literacy. Each item of the questionnaire was in turn read to the respondents with the meaning thereof clarified if required. The factories provided the interviewers for the research, and these were extensively trained prior to the survey. Bilingual interviewers were selected, who were able to administer the questionnaires in the translated versions, and who also understood the meaning of the original English items. The procedure for training the interviewers was as used by Lord and included the following:

- the nature and purpose of the study was clearly explained. Emphasis was placed on the intended confidentiality of the results, the anonymity of the respondents, and the potential usefulness of the results. Interviewers were then trained in conveying these messages to the employees, thereby encouraging honest and frank responses;
- every item in the questionnaire was discussed, and the interviewers were required to note the English and translated wording. Any queries regarding meaning and interpretation were resolved; and
- the method of scoring was explained, and each interviewer was required to complete a “dummy-run” interview under supervision. The “dummy” completed questionnaires were then checked, with any errors being pointed out to the interviewer (1995: 246).

4.5.3 Measuring Instruments to Evaluate the Workers' Perceptions of Empowerment (Hypothesis # 2)

This hypothesis suggests that the workers at the Kopano factory have a greater perception of empowerment than the workers at the Lawley factory as a result of the differences in ownership between the two factories. The method of extracting this information was identical to hypothesis # 1.

The measuring instrument used to test empowerment was a Modified Empowerment Instrument, previously used by Moodley (2004), which included the Spreitzer scale (1995). Accordingly an introduction to the Spreitzer scale as well as the Modified Empowerment Instrument follows.

4.5.3.1 The Spreitzer Scale

Spreitzer (1995) was one of the first researchers to develop and validate a measure of psychological empowerment for the workplace. Spreitzer considered empowerment as a "motivational construct manifestered in four cognitions: meaning, competence, self-determination and impact" (Spreitzer, 1995). According to her these four dimensions combine to create an overall construct of psychological empowerment and specify a "nearly complete or sufficient set of cognitions" for the understanding of psychological empowerment (Thomas and Velthouse, 1990: cited in Moodley, 2004: 110). Some general assumptions adopted by Spreitzer are that empowerment is not considered an enduring personality trait generalisable across situations but rather a set of cognitions shaped by a work environment. Furthermore, empowerment is not a continuous variable (people can be seen to be more of less empowered, rather than empowered or not empowered). Finally, empowerment is not a global construct generalisable across different life situations and roles but rather specific to the work setting (Moodley, 2004).

A criticism of the Spreitzer scale is that it ignores the influence of extrinsic, non-task facets, for example leadership influence (Menon, 1999: cited in Moodley 2004). It is further suggested that the Spreitzer scale focuses too heavily on the psychological aspects of empowerment and neglects the organisational training and development

perspective. Despite these shortcomings Moodley (2004: 112) selected this scale as a useful instrument for her study as it "dealt with perceptions of the individual employee and because the study also examined the relationships between empowerment perceptions with those of work stress and burnout. The new items included in the scale address some of the concerns raised by Menon (1999), in that they tap into organisational and training and development issues".

4.5.3.2 The Modified Empowerment Instrument (MEI)

The MEI was derived from the Spreitzer Scale both in terms of the definition of empowerment and specific item selection (Moodley, 2004). This study extends further in that it includes specific management practices and principles that are seen as essential to facilitate the empowerment process. Accordingly Moodley (2004) retained the initial 12 items and developed new items that highlighted the particular empowerment issues of black management affirmees and expose specific management principles and practices that would facilitate empowerment in the local population. When developing further items for the MEI, Moodley (2004) considered the constraints and opportunities an organisation presents for individual cognitions and behaviour. Some constraints include racism, tokenism, underutilisation, lack of clear job description, the attitude of senior management, being in permanent training, etc. Further to this, new items were developed to encapsulate particular management principles and practices that facilitate empowerment (Moodley, 2004). Moodley added further items which addressed "high involvement" systems which support the transmission of extensive information, resources and power throughout the organisation to enable employee influence in organisational decision-making. The influence of high-involvement systems on empowerment is both cognitive and motivational (Locke and Schweiger, 1979; cited in Moodley, 2004). Cognitively, high-involvement systems enable employees to better use information and understand how they can influence organisational activities.

The MEI can be viewed as Appendix A. This (MEI) questionnaire (hypothesis # 2) was attached to the abovementioned questionnaire (hypothesis # 1), as questions 12 to 41 (Appendix A).

The administration of questions 12 to 41 (empowerment) was identical to that of questions 1 to 6 (decision-making), and 7 to 11 (financial participation). Questions 1 to 41, encompassing both hypothesis # 1 and hypothesis # 2, form one questionnaire (Appendix A).

4.5.4 Measuring Instruments for the Comparative Analysis of the Operational Costs (Hypothesis # 3)

The testing of hypothesis # 3 is both quantitative and qualitative in nature. It is qualitative because of interviews with senior management at both factories. The interviews focus on the financial aspects of both companies highlighting operational costs. Note that the Corobrik accounts department, under the direction of the financial director Mr Chris Lee, undertakes all the administration of the Kopano operations, financial reporting, etc., for an agreed fee. The significance of this is that this arrangement suggests that financial policy and reporting at both factories is the same.

The second part of this research design is an analysis of the financial statements of both factories for the full accounting period under review. The rationale is that the operating costs of the Kopano factory will be lower than the operating costs of the Lawley factory. The most important measuring criteria in a clay brick factory is the "COP" (cost of production), which is measured "per 1000 units". The COP effectively "levels the playing fields" as a measurement criteria between factories, so one can measure a factory that produces 20 million units per annum with a factory that produces (say) 25 million units per annum. Every factory will, over an accounting period, have a cost of production per 1000 units (COP/1000 units). Every other cost which makes up the full brick (per 1000 units) can be expressed as a percentage to COP. Expenses such as fuel, labour, waste, raw material, etc., all fall into this category. In order to test hypothesis # 3 it would be enough to simply state that the factory that has the lowest COP, is the most cost efficient. However, this study identifies particular costs within the Kopano factory that are lower than the corresponding costs at the Lawley factory. Why is the COP at the Kopano factory lower than the COP at the Lawley factory? Because of the old technology employed the break-even point is relatively high, or rather because fixed expenses form a

relatively high percentage of total costs. This is important, because the results will only be true if both factories produce a similar amount of bricks per accounting period, because the factory that produces a greater amount has an advantage, as it spreads the high fixed portion of costs over a greater variable amount of produced units. The researcher goes back and forth so as to discuss the findings with senior management. This places both the qualitative and quantitative data in a light where the result will be as accurate as possible.

4.5.5 Summary

The measuring instruments used in the study have been introduced. The next section highlights the statistical techniques used to test hypothesis # 1 and hypothesis # 2.

4.6 STATISTICAL TECHNIQUES

4.6.1 Introduction

This section describes the statistical techniques used to analyse the data generated from both factories relative to hypothesis # 1 and hypothesis # 2. The statistical analysis was conducted using the SPSS (version 9) software suite. This statistical software programme is manufactured by SPSS Inc, 444N, Michigan Avenue, Chicago, Illinois, USA. Various descriptive and inferential statistical techniques are used. The descriptive procedures used comprised various tables and graphs and a few summary statistics, namely various measures of central location and dispersion. Pertinent proportions and percentages are also reported on. The following aspects are discussed in sequence:

- Cronbach Alpha
- Factor Analysis
- Frequency Distribution
- Descriptive Statistics
- Independent T-Test
- ANOVA

- Paired Sample T-Test
- Pearson Correlation Coefficient
- Multiple Regression

4.6.2 Cronbach Alpha (as a measure of reliability)

Cronbach Coefficient Alpha is a measure of internal consistency (reliability). It is designed to measure the degree to which instrument items are homogeneous and reflect the same underlying construct(s). The coefficient alpha has a maximum value of one. A low coefficient of internal consistency may be interpreted as meaning that the test is not consistently measuring the same dimension (Lord, 1995: 264). Reliability analysis allows one to study the properties of measurement scales and the items that make them up. The reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationship between individual items in the scale. For example, does the questionnaire measure customer satisfaction in a useful way? Using reliability analysis, one can determine the extent to which the items in the questionnaire are related to each other, and get an overall index of the repeatability or internal consistency of the scale as a whole.

There are various models of reliability analysis. For this study the Alpha (Cronbach) coefficient is used. This is a model of internal consistency, based on the average inter-item correlations. If the Alpha value is greater than 0,6 then the model will prove to be internally consistent.

4.6.3 Factor Analysis (as a measure of validity)

Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlation within a set of observed variables. Factor analysis is often used, as in this application, to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables.

Before the study conducts the factor analysis, it needs to make certain assumptions. These are listed below:

- The study has a large enough sample to yield reliable estimates of the correlations among the variables.
- The statistical inference of the study is improved if the variables are multivariate normal.
- The relationships among the pairs of variables are linear.
- There is an absence of outliers among the cases.
- There is some degree of collinearity among the variables, but not an extreme degree of singularity among the variables.
- There is a large ratio of N/k.

The factor analysis used in this study applies principal component extraction and varimax rotation. Factors with loadings less than an absolute value of 0.5 are discarded from the component matrix. Kaiser-Meyer-Olkin measure of sampling adequacy and Bartlett's test of sphericity are also run.

The empowerment instrument, which includes the strongly validated Spreitzer (1995) scale, has been previously validated by Moodley (2004). Moodley's results are deemed satisfactory with clear factor structures being obtained. The main purpose of undertaking the factor analysis was to ascertain the "goodness of fit" between the original Spreitzer Empowerment Scale and the Modified Empowerment Scale (Moodley, 2004). Moodley identified four factors that explained 55.9% of the variance. The four factors identified were:

- Job Autonomy and Meaning (33.7% variance);
- Self Determination and Support (9.7% variance);
- Self-Efficacy (7.4% variance);
- Impact and Influence (5.1% variance).

A varimax rotation was undertaken on the correlational matrix of the empowerment instrument. Moodley (2004) reports encouraging results with significantly high factor loadings (Range = 0.4 – 0.8). Moodley notes that the factor analysis interpretation only utilised 18 of the 30 items but argues that factor analysis is based on a model and that it is clear from the loadings that the other 12 items did not contribute enough in the explanation of a factor (<0.3). A scree test conducted confirmed that the correct number of factors selected was four (Moodley, 2004).

The scales on both financial participation (Lord, 1995; questions 1 to 6) and decision-making participation (Lord, 1995; questions 7 to 11), despite being previously used and validated by Lord (1995), are not that well recognised, and as such do require further validation. Three different sets of items were subjected to a factor analysis. They were:

- The items making up the financial participation scale (6 variables)
- The items making up the decision-making participation scale (5 variables)
- A combination of the items making up both the financial participation scale and the decision-making participation scale (11 variables)

In all three cases the principle component measure of extraction (using Varimax rotation) was selected because of its treatment of variance in the data (relevant for this study). Further, the number of factors extracted was based on roots criterion whereby only factors with eigen values greater than 1 were removed. Although this technique has met with criticism (Stewart, 1981: 58) it is suitable for an analysis with less than 40 variables (all three cases subjected to the factor analysis in this study had variables numbering 6, 5 and 11 respectively). In the final rotated component matrix, only components with absolute values greater than 0.5 were displayed.

This concludes the statistical tests to be undertaken so as to test hypotheses 1 and 2.

4.6.4 Frequency Distribution

The frequency distribution tests for missing values and checks if the data has been correctly captured. It is a “cleaning” of the data file to check for out-of-range values and logical inconsistencies.

A frequency distribution is a “table that summarises ratio-scaled data (either discrete or continuous) into intervals (classes) each with corresponding frequencies. The class frequencies reflect the number of occurrences of data values that fall within the class limits” (Wegner, 1993).

4.6.5 Descriptive Statistics

Descriptive statistics is when large volumes of data are collected. There is a need then to organise, summarise and extract the essential information contained within this data for decision-making purposes. Its aim is to identify the essential characteristics of a random variable, such as measures of central location and measures of dispersion and distributional properties.

The analysis compares results across both factories as well as within each factory. The data uses total scores to compare the dimensions across factories and mean scores to compare the dimensions within factories.

4.6.6 T-Test's

The Independent T-Test will be used to test if the population mean financial dimension is significantly different across factories. It will further test if the population mean decision-making dimension is significantly different across factories. Finally it will test if the population mean empowerment dimension is significantly different across factories.

The generic methodology for this procedure is highlighted below:

H_0: $\mu_k = \mu_l$

H_1: $\mu_k \neq \mu_l$

$\alpha = 0.05$

Note: α = probability of rejecting H_o when is true (Type 1: error)

The test is two-tailed.

The test statistic is:

$$\text{T Test Statistic} = \frac{\bar{x}_1 - \bar{x}_2 - 0}{\sqrt{s_1^2/n_1 + s_2^2/n_2}}$$

The tabulated values are obtained from T Tables.

Note: The p-value = the probability of H_o being true.

If the p-value is $< \alpha = 0.05$, then reject H_o

The null hypothesis (H_o) states that both population means are equal and that the alternative hypothesis is a two-tailed test stating that both population means are unequal.

4.6.7 ANOVA (Analysis of Variance)

The Anova will be used to test if all three population means per dimension are significantly different within each factory.

The generic methodology for this procedure is highlighted below:

H_0: All three population means are equal.

H_1: At least one of the population means is unequal.

$\alpha = 0.05$

Note: α = probability of rejecting H_o when is true (Type 1: error)

The test is two-tailed.

The test statistic is:

$$\text{F Test Statistic} = \frac{\text{Sum of Squares (Treatments) / Degrees of Freedom for Treatments}}{\text{Sum of Squares (Error) / Degrees of Freedom for Error}}$$

The tabulated values are obtained from F Tables.

Note: The p – value = the probability of H_o being true.

If the p-value is $< \alpha = 0.05$, then reject H_o

The null hypothesis (H_o) states that all population means are equal and that the alternative hypothesis states that at least one of the population means are not equal.

4.6.8 Paired Sample T-Test

The Paired T-Test will be used to test (within the Kopano factory) multiple paired comparisons across all three dimensions (financial participation, decision-making and empowerment) to ascertain where this difference of population means occurs.

The generic methodology for this procedure is highlighted below:

H_0: $\mu_k = \mu_l$

H_1: $\mu_k \neq \mu_l$

$\alpha = 0.05$

Note: α = probability of rejecting H_o when is true (Type 1: error)

The test is two-tailed.

The test statistic is:

$$\text{T Test Statistic} = \frac{\sqrt{(n-1)\Sigma d}}{\sqrt{n\Sigma d^2 - (\Sigma d)^2}}$$

Where d = the difference between the 2 columns.

And n = the number of pairs.

Tabulated values are obtained from the T Tables.

Note: The p – value = the probability of H_o being true.

If the p-value is $< \alpha = 0.05$, then reject H_o

The null hypothesis (H_o) states that both population means are equal and the alternative hypothesis is a two-tailed test stating that both population means are unequal.

4.6.9 Pearson Correlation Coefficient

Pearson Correlation Coefficient is calculated here. This is appropriate due to the continuous nature of the random variables under study. This parametric test calculates the relationship between all three dimensions within each factory. It calculates both the correlation coefficient, and performs a hypothesis test to check if

the correlation coefficient is significantly different from zero (i.e.: that there is no relationship). For the above test the population correlation coefficient is identified by ρ and the sample correlation coefficient is identified by γ.

The hypothesis test takes the following structure:

H_o: $\rho = 0$

H_1: $\rho \neq 0$

$\alpha = 0.05$

Note: α = probability of rejecting H_o when is true (Type 1: error)

We calculate our test statistic:

If the p-value is $< \alpha = 0.05$ we reject H_o

The null hypothesis (H_o) states that there is no such association (zero correlation), or that the significance of the correlation is so small that it can be accounted for by chance.

4.6.10 Multiple Regression

Multiple linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable. For example, one can try to predict an employees' perception of empowerment (the dependant variable) from independent variables such as decision-making and financial participation.

4.7 ETHICAL CONSIDERATIONS AND LIMITATIONS TO THE STUDY

4.7.1 Ethical Considerations

As the research is a case study of two known companies ethical considerations are of utmost importance. Leedy states that the principles of ethical propriety should be resolved into simple considerations of:

> "fairness, honesty, openness of intent, disclosure of methods, the ends for which the research is executed, a respect for the integrity of the individual, the obligation of the researcher to guarantee unequivocally individual privacy, and an informed willingness on the part of the subject to participate voluntarily in the research activity" (1993: 128).

Cooper and Schindler (2001: 114) refer to the goal of ethics in business research being to ensure that "no one is harmed or suffers adverse consequences from research activities". Cooper and Schindler (2001) further conclude that the researcher should follow three main guidelines, these being to:

1. Explain the study benefits
2. Explain respondents' rights and protection
3. Obtain informed consent

The method of data collection for the testing of the hypotheses is a questionnaire. This is identified as an area of possible concern under "limitations". The reason for this is that the possibility existed that the questionnaire would not be answered honestly because of a possible concern as to the "real" reason behind the study. Thus, the ethical aspect of confidentiality was of extreme importance. The explanation of the study benefits, workers' rights, protection, anonymity, and their informed consent was of utmost importance in order to extract meaningful data from the questionnaire. The workers were treated with the utmost sensitivity. Discussions to this end took place with senior management, as well as the recognised trade union, prior to the questionnaire being filled in by the respondents. All respondents were informed prior to the questionnaire being filled in that the questionnaire was for research purposes only.

The third hypothesis was an analysis of operational costs at both factories. The ethical considerations here were not of great concern as they were dealt with at senior management (board) level. While the same issues were handled, there were no feelings of insecurity given their seniority and understanding of the study.

From inception to completion, this document was continually emailed back and forth between Corobrik (main board executive director) and the researcher for

authentication purposes. Nothing went to print without Corobrik's prior approval. One is reminded at this stage that the Managing Director of Corobrik is also the Chairman of Kopano, and that both companies share the same Financial Director. The relevance of this is that data, as collected, is authenticated by (the same) top management from both companies.

4.7.2 Limitations of the Study

Prior to the presentation and discussion of the results this chapter closes with a discussion on possible limitations to the study. Cooper and Schindler (2001) state that ignoring, or not mentioning possible limitations to a research study is not only unprofessional but could also be construed as unethical. The limitations identified with this research project are highlighted below.

4.7.2.1 Level of Technology / Factory Similarities

Factories operational in South Africa span over one hundred years of technology. This study is meaningful only if the factories being compared are of similar (or the same) technology (machinery). This in turn decides the manufacturing process. This research is specific not only to the industry, but also only to the Kopano and Lawley factories. The findings may not be true for any other factory. In order for this study to proceed, it was firstly necessary that the two factories were identified as being of the same (or similar) technology, and as such were comparable. This was successfully confirmed (see Chapter Three) resulting in the continuation of the study. There is a possible limitation because, of the approximately fifteen Corobrik factories currently operational, only one factory (Lawley) exists, that is of close enough technology to that of the Kopano factory.

4.7.2.2 Levels of Literacy

The technology employed at both the factories is labour intensive in nature. However, while the number of workers employed is relatively high (approximately 200 per factory), the level of education is very low, being graded as "level A" on the Patterson grading system (being the lowest level). Furthermore, some of the workers

at both factories are illiterate (exact numbers unknown). This posed an obvious problem when completing the questionnaires.

4.7.2.3 Honest Disclosure by Employees

A sample selection of employees from both factories and at all levels within the organisation was required to complete the questionnaire. There are two distinct different types of employees. The Kopano factory employees hold legal title (proprietary title) and as such are both owners and workers alike. The Lawley factory employees are contracted employees with no equity stake. In the context of South Africa's political past, it is likely that the employees (especially from the Lawley factory) will be apprehensive about being totally honest in their answers for fear of and lack of trust in the explanation of the "real" reason behind the questionnaires. The research design and ethical standards employed took cognisance of this in an attempt to remove this possible fear.

4.7.2.4 Production Output at Kopano versus Lawley

A possible limitation identified whilst investigating the levels of technology employed at both factories was that there are certain measurement criteria within the clay brick industry, such as cost of production (COP), man-hours per 1000 units, etc., that are very specific to the industry. These are some of the criteria against which the efficiencies, or contribution of different factories, are measured. Given the fact that the two factories being measured are of (relatively) old technology, they both employ a large complement of manual labour (unlike a more modern factory which is automated, thus reducing manpower). As a result of this it stands to reason that fixed costs, expressed as a percentage of total costs, are relatively high (at Kopano and Lawley), or that the break-even point is much higher than that of an automated factory. This is as a direct result of higher input (labour) costs. Because of this, the higher the unit (quantity) output, the smaller the fixed costs (as a percentage) become to total costs. Basically, the more units the factory produces, the smaller effect fixed costs will have on measurement criteria such as COP, which is the main tool of measurement at production level (S. Soper; personal communication, October, 2001).

Besides identifying variable criteria such as technology employed, labour demographics, etc., the "Production Quantity Output" for the period of the research will highlight questions relevant to comparability. The reason behind this is that it is theoretically possible, but highly unlikely, that two different factories would manufacture the same number of units for a given period, as there are too many input variables for equal output to be a reality. This is a possible limitation with regard to hypothesis # 3.

It must be noted that, should the unit output at the Kopano factory be lower than that of the Lawley Factory (thus driving the COP per 1000 units up) then this will further strengthen support for hypothesis # 3. The rationale is that despite a smaller quantity output, if the cost of production (COP), man-hours per 1000 units, etc., is still lower than the same measurement criteria at the Lawley factory, then it will not only support hypothesis # 3, but it will strongly reinforce the balance of probability. Should this not be the case, then it still does not disprove the hypothesis but it will be a weaker balance of probabilities.

The clay brick industry has computer software that allows the managers to investigate a "what if" case scenario. Factory managers can analyse the effect on measurement criteria (such as COP), should they produce (say) 40 million units per annum, or 50 million units per annum, and so on. The software identifies and divorces fixed and variable costs, and presents a hypothetical situation given a predetermined (hypothetical) quantity output. Based on the aforesaid, even if the output numbers between the two factories are not the same (which is the case in reality) then the computer will create an accurate "what if" situation given equal output. In the case of this study the Kopano output is lower than that of Lawley. While these actual numbers will be analysed, it is deemed "unfair" in the context of the study given the measurement criteria of COP and the influence quantity output numbers have on COP. Accordingly, the numbers will be hypothetically projected forward so as to present a "what if" situation whereby Kopano and Lawley have equal output. It is to be noted that this is not a simple pro-rata mathematical calculation. Each and every variable making up the income statement is analysed, with some of these aspects being a simple pro-rata calculation (such as raw materials, fuels, repairs and maintenance, labour, etc.). However, other aspects may differ because increased

output may not necessarily affect these aspects to the same extent or in some cases at all. An example of this is factory overheads whereby aspects such as equipment hire (as an example) would not necessarily increase proportionately, if at all (if there was a bull-dozer on site then the costs would be the same irrespective of output because the bull-dozer is charged by the hour). The same might apply to other input costs (manpower in some instances, protective clothing, yard management fees, etc.) and the evaluator (factory manager) has the ability to manually override each input which might be very specific to that particular factory's (unique) situation.

Other measurement criteria such as COP and man-hours are a function of input costs and quantity output. The forward extrapolated numbers used in this study were obtained from the Corobrik accounts department, Head Office, in Durban (refer: Executive Director Mr H. O. Voorma).

This is a possible limitation because utopia would be the comparison of actual numbers rather that actual with hypothetical. However, according to Soper (personal communication, October, 2001), the projected numbers are a very real and accurate forward extrapolation of what they would have been had they produced that unit output in reality. As such, a comparison between the two, in the context of this study, can be considered as "level playing fields". The researcher considers all possibilities, and will conclude as to the strength of the balance of probabilities relative to hypothesis # 3.

4.8 SUMMARY

This chapter outlined the major components of the research design, including the procedures through which the measuring instruments were designed, the respondent samples selected, and the statistical techniques employed to manipulate the data. The chapter closed with an introduction to and discussion of ethical considerations and limitations to the study. The next chapter is a presentation, analysis and discussion of the research findings.

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CHAPTER FIVE

PRESENTATION AND ANALYSIS OF THE RESEARCH FINDINGS

5.1 INTRODUCTION

This chapter serves to present and analyse the research findings. Before any credibility can be assigned to the statistical analysis, one needs to firstly ascertain if the actual sample response rate is in accordance with the methodology as explained in section 4.4 and that said samples are comparable from a demographic profile perspective. Once this has been ascertained the study then seeks to confirm that the measuring instruments were both reliable and had validity. Only then would there be credibility assigned to the results of the statistical analysis, the next point of presentation and analysis. The cost of operations between factories is then analysed. Finally, using the methodological framework afforded by Mill's Method of Difference, the study finally presents a relationship between the research findings and the different ownership structures between factories.

5.2 RESPONDENT SAMPLE RESPONSE RATE AND DEMOGRAPHIC PROFILE

5.2.1 Respondent Sample Response Rate

The previous chapter introduced the methodology employed relative to the target response sample (see section 4.4). The target response sample was to be as large as possible, and as close as possible to a census.

The actual sample response from the Lawley factory was 158 (out of a total population of 196), and the sample response from the Kopano factory was 200 (out of a total population of 206 workers). In the case of Lawley this represents a sample size of 80.6 percent, with the Kopano factory recording a sample size of 97 percent (nearly a census). Reasons given for not attaining a 100 percent return rate from both factories include absenteeism (sick and normal leave), and damaged return questionnaires.

5.2.2 A Statistical Analysis of the Demographic Profile of the Respondent Samples

A statistical analysis was done so as to further confirm the similarities between respondent samples between factories. Descriptive Statistics were used to determine age, monthly rate, gender and job skills. Independent T-Tests were undertaken for age and monthly rate, and Chi Square Tests were used for gender and job skills. The findings are discussed under the following sub-sections:

- Age
- Monthly Rate (salary)
- Gender
- Job Skills

5.2.2.1 Age

Descriptive Statistics and Independent T-Tests were used to determine the similarities relative to age.

Table 5-1 Descriptive Statistics (Age)

Descriptive Statistics

FACTORY		N	Minimum	Maximum	Mean	Std. Deviation
Kopano	AGE	200	20.00	65.00	37.3550	10.04857
	Valid N (listwise)	200				
Lawley	AGE	158	22.00	62.00	39.6266	9.38048
	Valid N (listwise)	158				

Table 5-2 Independent T-Test (Age)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
AGE	Equal variances assumed	1.952	.163	2.187	356	.029	2.2716	1.03879	.22864	4.31452
	Equal variances not assumed			2.204	346.208	.028	2.2716	1.03043	.24489	4.29828

The Levene's Test concludes that both variances are not significantly different. The correct p–value for interpretive purposes is therefore when equal variances are assumed. Since the p value = 0.029 < 0.05 = significance level H_0, that there is no difference between the two respondent samples relative to age, is rejected, and conclude that sufficient evidence exists to suggest that the population mean age at Kopano is significantly different to the population mean age at Lawley at a 5% significance level. Statistically the mean age at Kopano is significantly different to the mean age at Lawley. The mean difference between the factories is 2.27 years (the mean at Kopano is 37.35 years and the mean at Lawley is 39.62 years). While this does not (statistically) support the argument that the workers are comparable (from an age perspective), this argument is discounted in reality. The reason for this is that the minimum age of the workers is 20 years old and the maximum age is 65 years old. Given this range, in reality a mean (statistical) difference of 2.27 years is insignificant in the context of the study.

5.2.2.2 Monthly Rate

Descriptive Statistics and Independent T-Tests were used to determine the similarities relative to monthly rate.

Table 5-3 Descriptive Statistics (Monthly Rate)

Descriptive Statistics

FACTORY		N	Minimum	Maximum	Mean	Std. Deviation
Kopano	MONTHLY RATE	200	1480.00	4070.00	2145.3718	618.51411
	Valid N (listwise)	200				
Lawley	MONTHLY RATE	158	2253.51	4341.37	2897.9966	265.72689
	Valid N (listwise)	158				

Table 5-4 Independent T-Test (Monthly Rate)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
MONTHLY RATE	Equal variances assumed	349.311	.000	14.286	356	.000	752.6248	52.68285	649.01607	856.23352
	Equal variances not assumed			15.494	283.253	.000	752.6248	48.57677	657.00753	848.24206

The Levene's Test concludes that both variances are significantly different. The correct p–value for interpretive purposes is therefore when equal variances are not assumed. Since the p value = 0.000 < 0.05 = significance level H_0, that there is no difference between the two respondent samples relative to monthly rate, is rejected, and conclude that sufficient evidence exists to suggest that the population mean monthly rate at Kopano is significantly different to the population mean monthly rate at Lawley at a 5% significance level.

The Kopano factory has a mean monthly rate of R2145-37 and the Lawley factory has a mean monthly rate of R2897-99. Statistically this is significantly different. One would assume that the workers with the lower rate (Kopano) would have a lesser sense of financial participation (being a tested hypothesis) than the workers who have a higher rate (Lawley). One is reminded that the Kopano workers also share

financially in dividend receipt and capital growth (as a result of their proprietary title) whereas their Lawley counterparts do not. Should the statistical findings relative to hypothesis # 1 conclude that the Kopano workers have a greater sense of financial participation than the Lawley workers, then the statistical findings relative to monthly rate (significantly different) will actually strengthen the study. This would not have been the case if the "significantly different" findings showed Kopano as having the higher rate of the two.

5.2.2.3 Gender

Descriptive Statistics and Chi Square Tests were used to determine the similarities relative to gender.

Table 5-5 Descriptive Statistics (Gender)

FACTORY * GENDER Crosstabulation

			GENDER		
			Female	Male	Total
FACTORY	1.00	Count	0	158	158
		Expected Count	7.9	150.1	158.0
	2.00	Count	18	182	200
		Expected Count	10.1	189.9	200.0
Total		Count	18	340	358
		Expected Count	18.0	340.0	358.0

Table 5-6 Chi-Square Tests (Gender)

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	14.973[b]	1	.000		
Continuity Correction[a]	13.147	1	.000		
Likelihood Ratio	21.710	1	.000		
Fisher's Exact Test				.000	.000
N of Valid Cases	358				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.94.

As the p value (Yates's Continuity Correction), which equals 0.000 is less than 0.05 which equals the significance level chosen, H_0, that there is no difference between the

two respondent samples relative to gender, is rejected, and conclude that there is sufficient evidence to suggest that the two variables chosen are dependent (have a relationship). Lawley factory had a respondent sample of 158 persons, all of whom were male. Kopano factory had a respondent sample of 200 persons, of which 18 (9%) were female. However, in reality and given the industry, this is irrelevant, because these functions can be performed by both males and females. What are significant are the job functions and not the gender. Accordingly this gender difference is insignificant in the context of the study.

5.2.2.4 Job Skills

Descriptive Statistics and Chi Square Tests were used to determine the similarities relative to job skills.

Table 5-7 Descriptive Statistics (Job Skills)

Next page….

JOB TITLE / SKILLS

FACTORY			Frequency	Percent	Valid Percent	Cumulative Percent
.	Valid		95	100.0	100.0	100.0
1.00	Valid	Ash Remover	3	1.9	1.9	1.9
		Ash Remover / Palletiser	8	5.1	5.1	7.0
		Belt Cleaner	1	.6	.6	7.6
		Bricklayer Asst.	1	.6	.6	8.2
		Cleaner	3	1.9	1.9	10.1
		Coal Handler	7	4.4	4.4	14.6
		Coal Hopper Attendant	2	1.3	1.3	15.8
		Crusher Operator	1	.6	.6	16.5
		Extruder Operator	2	1.3	1.3	17.7
		Factory Driver	1	.6	.6	18.4
		Forklift Driver	9	5.7	5.7	24.1
		Forklift Driver / Setting	2	1.3	1.3	25.3
		Forklift Driver / Sorter	3	1.9	1.9	27.2
		General Cleaner	1	.6	.6	27.8
		Handyman Boilermaker	1	.6	.6	28.5
		Handyman Bricklayer	1	.6	.6	29.1
		Handyman Electrician	1	.6	.6	29.7
		Handyman Fitter	1	.6	.6	30.4
		Mixer Asst.	1	.6	.6	31.0
		Mixer Attendant	1	.6	.6	31.6
		Offsetter	24	15.2	15.2	46.8
		Packaging Operator	1	.6	.6	47.5
		Pan Operator	2	1.3	1.3	48.7
		Production Trainee	1	.6	.6	49.4
		Repairhand Bricklayer	3	1.9	1.9	51.3
		Repairhand Fitting	1	.6	.6	51.9
		Screen Attendant	2	1.3	1.3	53.2
		Sorter	55	34.8	34.8	88.0
		Stoker Pot Filler / Fireman	7	4.4	4.4	92.4
		Supervisor	7	4.4	4.4	96.8
		Supervisor Burning	1	.6	.6	97.5
		Supervisor Shift	1	.6	.6	98.1
		Tractor Driver	3	1.9	1.9	100.0
		Total	158	100.0	100.0	
2.00	Valid	Ash Remover	5	2.5	2.5	6.0
		Cleaner	3	1.5	1.5	13.0
		Crusher Operator	2	1.0	1.0	14.5
		Extruder Operator	2	1.0	1.0	21.0
		Forklift Driver	16	8.0	8.0	31.0
		Handyman Fitter	3	1.5	1.5	33.0
		Offsetter	36	18.0	18.0	58.5
		Pan Operator	4	2.0	2.0	61.5
		Sorter	33	16.5	16.5	90.0
		Supervisor	4	2.0	2.0	92.0
		Tractor Driver	4	2.0	2.0	96.0
		Artisan Asst.	5	2.5	2.5	2.5
		Artisan Fitter	2	1.0	1.0	3.5
		Bin Attendant	7	3.5	3.5	9.5
		Charge Hand	4	2.0	2.0	11.5
		Coal Leveller	1	.5	.5	13.5
		De-Hacker	9	4.5	4.5	19.0
		Door Sealer	1	.5	.5	19.5
		Electrical Asst.	1	.5	.5	20.0
		Forklift Assistant	4	2.0	2.0	23.0
		Handyman	1	.5	.5	31.5
		Lasher	2	1.0	1.0	34.0
		Leave Cover	11	5.5	5.5	39.5
		Lines Attendant	2	1.0	1.0	40.5
		Painter	1	.5	.5	59.0
		Pallet Handler	1	.5	.5	59.5
		Qed. Checker	2	1.0	1.0	62.5
		Qed. Controller	1	.5	.5	63.0
		RSA Fitting	1	.5	.5	63.5
		S/Potfiller	11	5.5	5.5	69.0
		Setter	9	4.5	4.5	73.5
		Supervisor Reliever	1	.5	.5	92.5
		T/Driver	1	.5	.5	93.0
		Tennant Driver	2	1.0	1.0	94.0
		W/Operator	1	.5	.5	96.5
		Winch Operator	6	3.0	3.0	99.5
		Yard Checker	1	.5	.5	100.0
		Total	200	100.0	100.0	

Table 5-8 Chi Square Tests (Job Skills)

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	146.409[a]	58	.000
Likelihood Ratio	197.102	58	.000
N of Valid Cases	358		

a. 107 cells (90.7%) have expected count less than 5. The minimum expected count is .44.

As the p value (Pearsons Chi Square) equals 0.000 (less than 0.05), which equals the significance level chosen, $H_{0,}$ that there is no difference between the two respondent samples relative to job skills, is rejected, and conclude that there is sufficient evidence to suggest that the two variables chosen are dependent (have a relationship). The validity of this test must be questioned, as there are too many categories with observed frequencies less than five, in many cases these frequencies are as low as one, or even zero. The validity of the statistical findings must be put into question as there are numerous categories with observed frequencies less than five; in many cases as low as one. The reason for this is that the respective factories name the same job function by different titles, and as such, the basis for statistical comparison is severely discounted. Another reason for the statistical findings to be rendered useless is that the basis for comparison is not on the total population, but rather only a sample thereof; for this test to be correctly performed, the titles per job function need to be the same, and the total population needs to be measured. This is not the case. Attention is again drawn to the job functions (not titles) that are identical. The skills required for identical job functions are the same at both factories. This test has no validity and is irrelevant in the context of the study.

This section tabled the response rate at both factories which satisfies the minimum required rate, as well as a presentation on the demographic profile of the respondent samples and concludes that the respondent samples, despite the statistical results, are the same in the context of this study. Prior to presenting the results of the statistical analysis one first needs to check the measuring instruments for validity and reliability, this being the subject of the next section.

5.3 RELIABILITY AND VALIDITY OF THE MEASURING INSTRUMENTS

5.3.1 Cronbach Alpha (as a measure of reliability)

If the Alpha value is greater than 0,6 then the model will prove to be internally consistent. The Alpha values obtained, as is depicted in the three tables below, are 0.7904 for the financial scale, 0.81 for the decision-making scale and 0.85 for the empowerment scale. Accordingly all three scales prove to be strongly internally consistent.

Table 5-9 Cronbach Alpha Reliability Analysis: Financial Scale

```
R E L I A B I L I T Y   A N A L Y S I S -  S C A L E   (A L P H A)

  1.     V4               More I Earn
  2.     V5               Financial Rewards
  3.     V6               Poor Perf Gets Me Fired
  4.     V7               Imp Perf Leads To More Money
  5.     V8               Bonus is an Incentivises
  6.     V3               More I Produce
                            Mean        Std Dev       Cases
  1.     V4               4.1195          .9305       343.0
  2.     V5               4.0292         1.0341       343.0
  3.     V6               1.8105          .8354       343.0
  4.     V7               4.1778          .9147       343.0
  5.     V8               3.9738         1.0412       343.0
  6.     V3               4.3003          .8238       343.0

Item-total Statistics

               Scale          Scale      Corrected
               Mean         Variance       Item-            Alpha
             if Item        if Item       Total           if Item
             Deleted        Deleted    Correlation        Deleted

V3           20.4898        11.9875        .4670           .7751
V4           20.6706        10.8239        .5946           .7457
V5           20.7609        10.3637        .5853           .7479
NV6          20.6006        12.3283        .3927           .7902
V7           20.6122        10.8989        .5952           .7459
V8           20.8163        10.1504        .6173           .7391

Reliability Coefficients
N of Cases =    343.0                  N of Items = 6
Alpha =    .7904
```

Alpha = .7904

The Alpha value equals 0.7904 > 0.6, therefore the financial scale proves to be strongly internally consistent.

Table 5-10 Cronbach Alpha Reliability Analysis: Decision-Making Scale

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

1.	V9	I Have a Big Say
2.	V10	My Superior listens to my Thoughts
3.	V11	I Help in Preparing Work Targets
4.	V12	Superiors asked me special Things
5.	V13	My Superior Listens to my Problems

		Mean	Std Dev	Cases
1.	V9	4.0058	.9181	345.0
2.	V10	3.8870	1.0038	345.0
3.	V11	4.0203	.9068	345.0
4.	V12	3.5768	1.1741	345.0
5.	V13	3.8870	1.0379	345.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
V9	15.3710	10.4608	.5250	.7871
V10	15.4899	9.5820	.6166	.7599
V11	15.3565	10.1778	.5914	.7692
V12	15.8000	8.5384	.6565	.7477
V13	15.4899	9.6343	.5758	.7727

Reliability Coefficients

N of Cases = 345.0 N of Items = 5

Alpha = .8055

The Alpha value equals 0.81 > 0.6, therefore the decision scale proves to be strongly internally consistent.

Table 5-11 Cronbach Alpha Reliability Analysis: Empowerment Scale

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
V14	110.5645	149.6512	.5472	.8381
V15	110.6258	147.8531	.5858	.8365
V16	110.6903	148.1886	.5085	.8377
V17	110.8194	144.9899	.6019	.8345
V18	111.1968	146.1003	.4094	.8397
V19	110.9516	145.0818	.5680	.8352
V20	110.7548	145.6484	.6005	.8349
V21	110.5581	148.3510	.6155	.8365
V22	110.8452	148.7591	.4197	.8396
V23	110.8903	147.6384	.4798	.8380
V24	111.3065	149.6372	.2780	.8444
V25	110.9645	144.6945	.5415	.8355
V26	112.6355	171.7081	-.4680	.8691
V27	112.0548	156.1491	.0296	.8548
V28	112.0774	160.5053	-.1026	.8601
V29	110.9645	147.5554	.4751	.8381
V30	110.7548	147.1371	.5969	.8359
V31	110.8355	145.4712	.6272	.8344
V32	110.9516	146.2727	.4926	.8372
V33	112.1226	150.3344	.2130	.8477
V34	112.1968	150.4951	.2263	.8467
V35	112.3387	156.7425	.0147	.8549
V36	110.7290	147.3826	.5867	.8362
V37	110.7581	145.4202	.6593	.8339
V38	110.7290	147.6351	.5690	.8365
V39	111.9355	153.5816	.1157	.8511
V40	110.8871	143.6862	.6498	.8329
V41	110.9839	144.1583	.5730	.8346
V42	110.9194	147.0388	.4898	.8376
V43	110.5839	147.9395	.6302	.8361

Reliability Coefficients

N of Cases = 310.0 N of Items = 30

Alpha = .8457

The Alpha value equals 0.85 > 0.6, therefore the empowerment scale proves to be strongly internally consistent.

All three scales in this study are internally consistent.

5.3.2 Factor Analysis (as a measure of validity)

The Keizer-Meyer-Olikin (KMO) Measure of Sampling Adequacy for the respective three cases is deemed appropriate, and is summarized in Table 5-12

Table 5-12 Summary of the Keizer-Meyer-Olikin Measure of Sampling Adequacy for the Scales subjected to a Factor Analysis

Scale Description	Number of Items	Keizer-Meyer-Olikin Measure of Sampling Adequacy
Financial Participation Scale	6	**0.792**
Decision-Making Scale	5	**0.830**
Financial Participation & Decision-Making Scales	11	**0.894**

(See Appendix J)

As can be seen from the results above, the KMO Measure of Sampling Adequacy (which indicates the proportion of variance in the variables which is common variance, i.e., which might be caused by underlying factors) is in all cases larger than 0.5, which implies that the chances of getting a factorable solution is good.

In addition to using KMO, Bartlett's test of sphericity for each scale description is run, as can be seen in appendix O. In all cases the p value is less than 0.05 and the null hypothesis that the intercorrelation matrix comes from a population in which the variables are noncollinear (i.e., an identity matrix) can be rejected.

Using the extraction method of Principal Component Analysis, the factors extracted are shown in Table 5-13

Table 5-13 Summary of the Factors Extracted (% of Variance)

Scale Description	Number of Factors Extracted	% of Variance
Financial Participation Scale	1	**49.023 %**
Decision-Making Scale	1	**56.443 %**
Financial Participation and Decision-Making Scales	2	**53.629 %**

(See Appendix J)

- This means that in the financial participation scale the first and only factor explains 49.023% of the common variance shared by the 6 items making up this scale.
- In the decision-making scale the first and only factor in this case explains 56.443% of the common variance shared by the 5 items making up this scale.
- With both scales combined (financial and decision-making) the two factors here explain away 53.629% of the common variance shared by the 11 items.

General Comments (See appendix J)

- The financial participation scale showed no negative values. The items with the highest factor loadings all have a bearing on financial empowerment issues as is expected, and therefore the confirmatory nature of this test with regard to this construct is proven to be true.
- The decision-making scale also showed no negative values. The items with the highest factor loadings all have a bearing on decision-making empowerment issues as expected, and therefore the confirmatory nature of this test with regard to this construct is also proven to be true.
- The combined financial participation and decision-making scales show that the items making up each factor are grouped as expected into the predefined dimensions barring the statement on "I have a big say in the setting of my work targets", which has been grouped with the financial items rather than the decision-making items. Respondents may have mistakenly misinterpreted the phrase "work targets" to mean "financial work targets". This seems to be a plausible explanation.

The above results are further validated by the intercorrelation matrix of these items (see appendix J). Spearman's Rank Order Correlation coefficient was used as all items are ordinal in nature. Note that although correlations are also higher with items from both factors they are generally higher within items from one factor.

Relative to reliability and validity of the measuring instruments the results are satisfactory, with acceptable levels of reliability and clear factor structures being obtained.

5.4 THE RESULTS OF THE STATISTICAL ANALYSES

5.4.1 Introduction

This section presents the statistical results of the study relevant to hypothesis # 1 and hypothesis # 2. The following sub-sections are presented in sequence:

- Frequency Distribution
- Descriptive Statistics by Item
- Descriptive Statistics by Dimension
- Independent T-Test
- ANOVA (Incorporating the Paired Sample T-Test (within Kopano))
- Correlation
- Multiple Regression

5.4.2 Frequency Distribution

There is a minimum of 4, and a maximum of 11 missing values per variable.

5.4.3 Descriptive Statistics by Item

This section serves to highlight which item (question), in each dimension, has had more influence on the overall outcome. The three dimensions (financial, decision-making and empowerment) are dealt with in sequence. Because the sample size between factories differs, the frequencies are expressed as percentages for comparative purposes. However, prior to each figure, the frequency distribution relative to that question is shown.

The financial dimension has 6 items, and the decision-making dimension has 5 items. Accordingly all 11 questions are analysed under their respective headings. However, the empowerment dimension has a total of 30 items and it is not necessary to analyse all 30 items. It is deemed sufficient to analyse only the “Top 5” and “Bottom 5” so as to identify any trend(s). An explanation as to how the “Top and Bottom 5” are determined is explained under the relevant section.

Note that due to space constraints, commentary relevant to each question is reserved until the end of that particular dimension (so as to present two questions per page).

5.4.3.1 Financial Dimension (Questions 1 to 6)

Figure 5-1 **Q1** - The harder I work, the more I produce

KOPANO FREQUENCY		LAWLEY FREQUENCY
102	**5** - Strongly Agree	57
85	**4** – Agree	82
6	**3** - Unsure	8
3	**2** – Disagree	3
1	**1** – Strongly Disagree	7
197	TOTAL	157

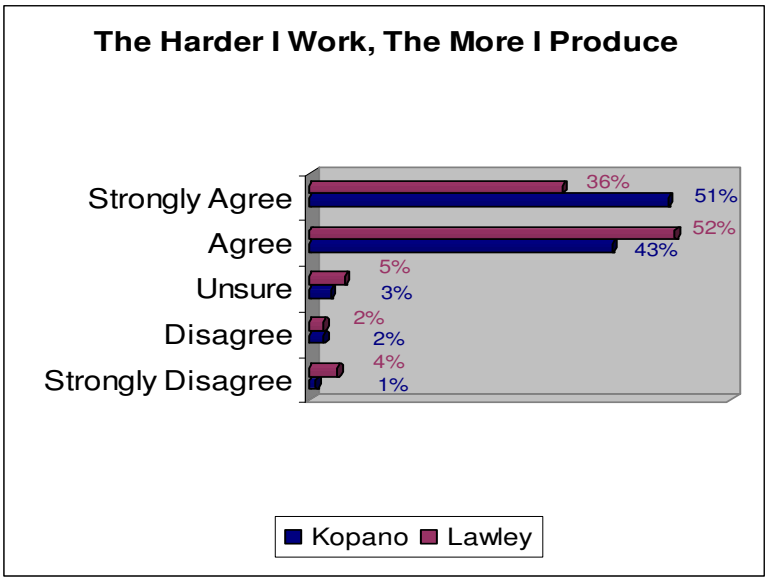

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Figure 5-2 **Q2** – The harder I work, the more I will earn

KOPANO FREQUENCY		LAWLEY FREQUENCY
103	**5** - Strongly Agree	29
79	**4** – Agree	88
7	**3** - Unsure	12
8	**2** – Disagree	21
1	**1** – Strongly Disagree	4
198	TOTAL	154

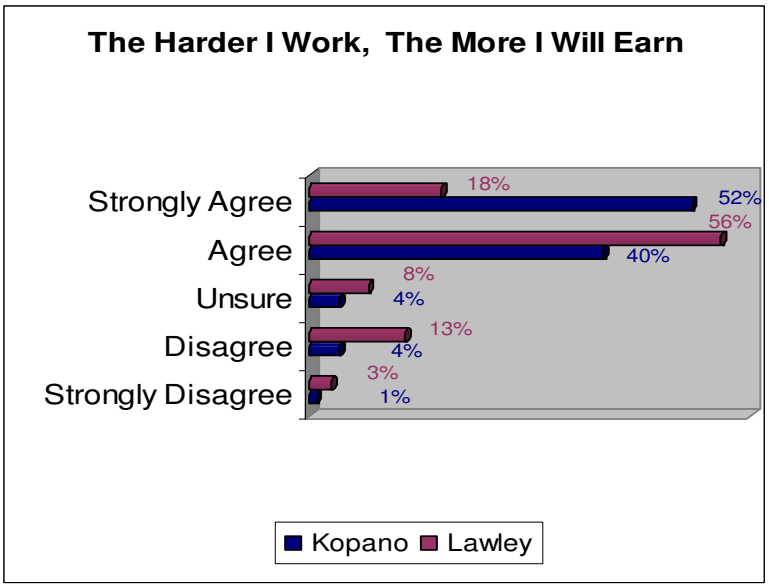


Figure 5-3 **Q3** – There are financial rewards for working harder in this company

KOPANO FREQUENCY		LAWLEY FREQUENCY
94	**5** - Strongly Agree	27
85	**4** – Agree	88
8	**3** - Unsure	6
6	**2** – Disagree	25
2	**1** – Strongly Disagree	10
195	TOTAL	156

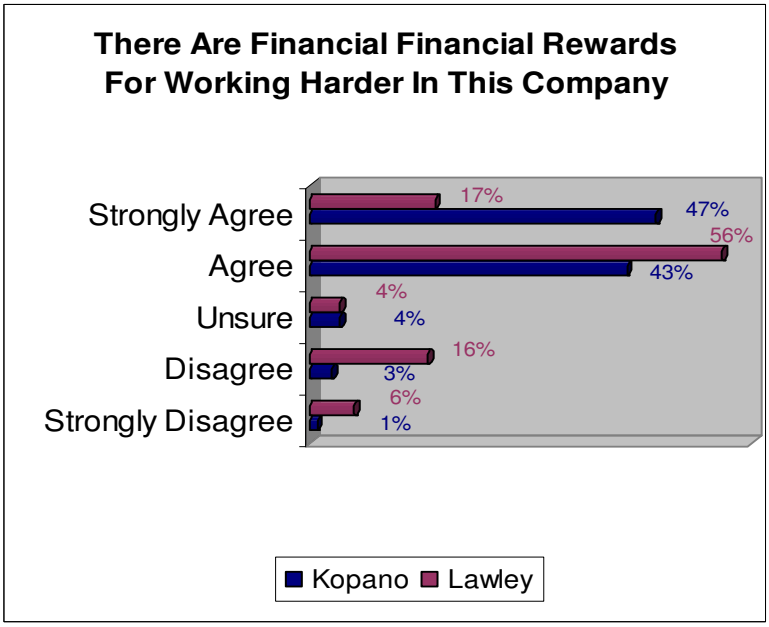


Figure 5-4 **Q4** – Poor job performance may get me fired

KOPANO FREQUENCY		LAWLEY FREQUENCY
1	**5** - Strongly Agree	4
5	**4** – Agree	12
4	**3** - Unsure	11
92	**2** – Disagree	92
96	**1** – Strongly Disagree	34
198	TOTAL	153

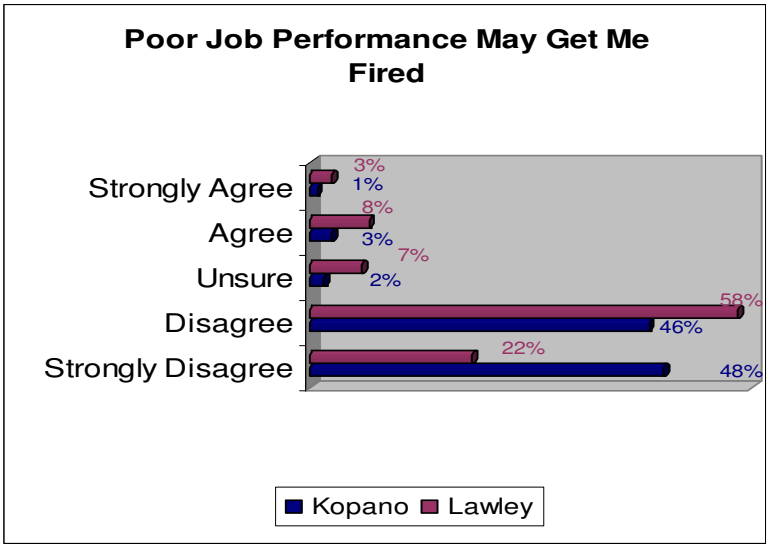


Figure 5-5 **Q5** – Improving my performance will lead to me making more money

KOPANO FREQUENCY		LAWLEY FREQUENCY
99	**5** - Strongly Agree	40
88	**4** – Agree	85
3	**3** - Unsure	7
6	**2** – Disagree	18
1	**1** – Strongly Disagree	6
197	TOTAL	156

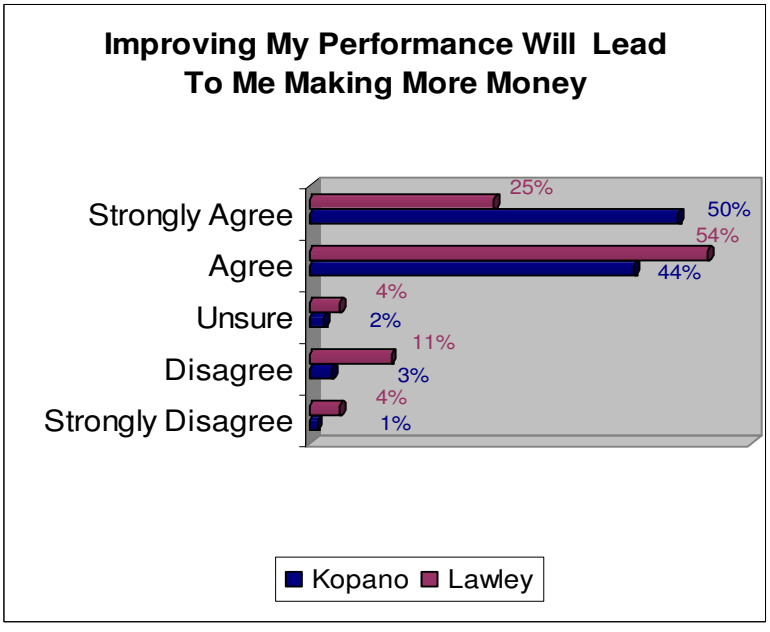
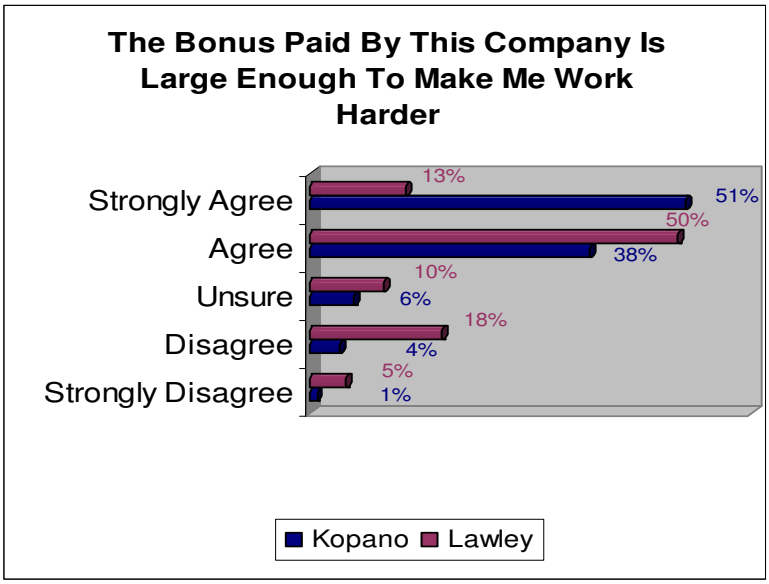


Figure 5-6 **Q6** – The bonus paid by this company is large enough to make me work harder

KOPANO FREQUENCY		LAWLEY FREQUENCY
101	**5** - Strongly Agree	21
76	**4** – Agree	79
12	**3** - Unsure	16
8	**2** – Disagree	29
1	**1** – Strongly Disagree	8
198	TOTAL	153



This concludes the presentation of the six questions making up the financial dimension. The following trends are identified:

- Under the response of "Strongly Agree", Kopano score higher on all six questions, without exception, and with the possible exception of question No. 1 this difference is material.
- Under the response of "Agree", Lawley score higher on all six questions, without exception. However, the difference is not material. The reason for this is because most of Kopano's positive responses were so strong that they scored in the higher category of "Strongly Agree".
- Given the two comments above, it makes sense to add together all responses of "Strongly Agree" and "Agree" because they represent the majority of responses. These responses, expressed as percentages, are shown below:

Q1.	Kopano (94%)	Lawley (88%)
Q2.	Kopano (92%)	Lawley (74%)
Q3.	Kopano (90%)	Lawley (73%)
Q4.	Kopano (94%)	Lawley (80%)
Q5.	Kopano (94%)	Lawley (79%)
Q6.	Kopano (89%)	Lawley (63%)

Again, without exception, Kopano score higher than Lawley. No other visible patterns are apparent.

Following the analysis of questions within the financial dimension are the five questions within the decision-making dimension.

5.4.3.2 Decision-Making Dimension (Questions 7 to 11)

Figure 5-7 **Q7** – I have a big say in the setting of my work targets

KOPANO FREQUENCY		LAWLEY FREQUENCY
78	**5** - Strongly Agree	28
104	**4** – Agree	83
9	**3** - Unsure	18
6	**2** – Disagree	22
0	**1** – Strongly Disagree	6
197	TOTAL	157

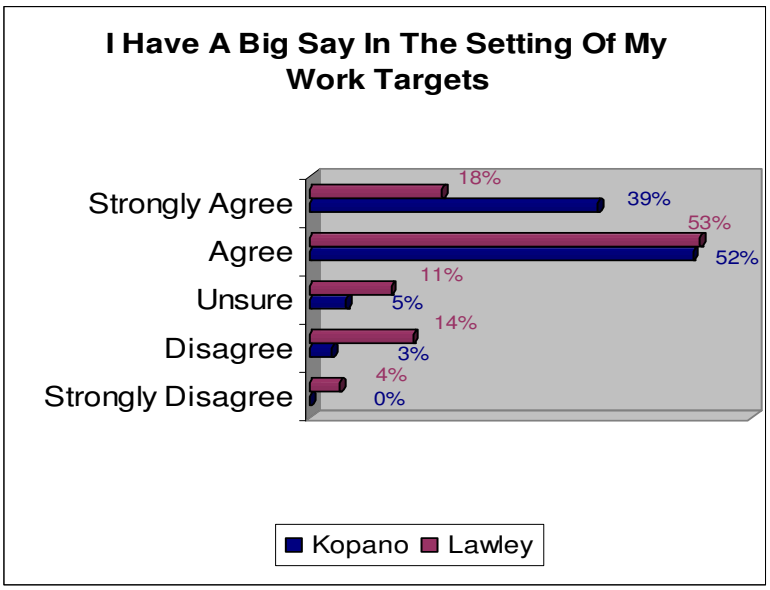


Figure 5-8 **Q8** – My superior often asks me for my thoughts about work targets

KOPANO FREQUENCY		LAWLEY FREQUENCY
75	**5** - Strongly Agree	18
96	**4** – Agree	93
6	**3** - Unsure	12
19	**2** – Disagree	25
2	**1** – Strongly Disagree	6
198	TOTAL	154

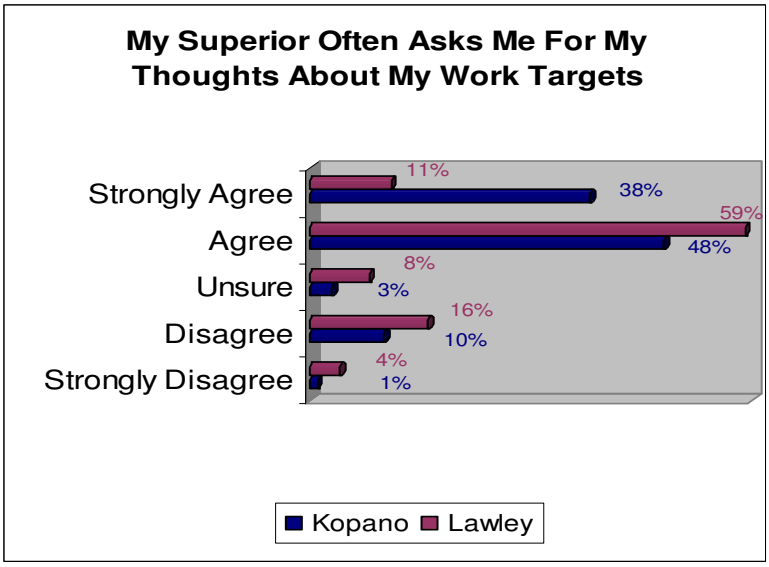


Figure 5-9 **Q9** – I have helped in preparing the work targets for my job

KOPANO FREQUENCY		LAWLEY FREQUENCY
74	**5** - Strongly Agree	25
102	**4** – Agree	102
5	**3** - Unsure	7
15	**2** – Disagree	17
1	**1** – Strongly Disagree	5
197	TOTAL	156

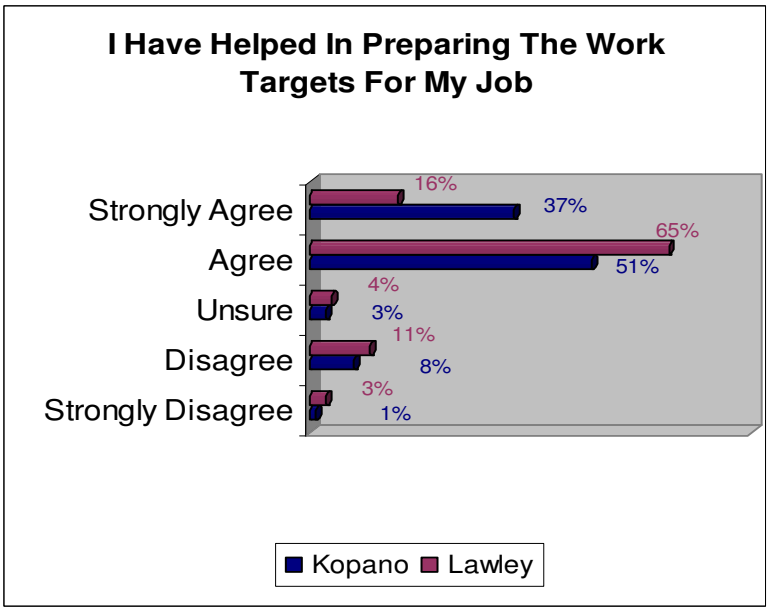


Figure 5-10 **Q10** – Superiors have asked me about any special things I wanted when setting my work targets

KOPANO FREQUENCY		LAWLEY FREQUENCY
61	**5** - Strongly Agree	14
86	**4** – Agree	74
10	**3** - Unsure	13
33	**2** – Disagree	44
7	**1** – Strongly Disagree	8
197	TOTAL	153

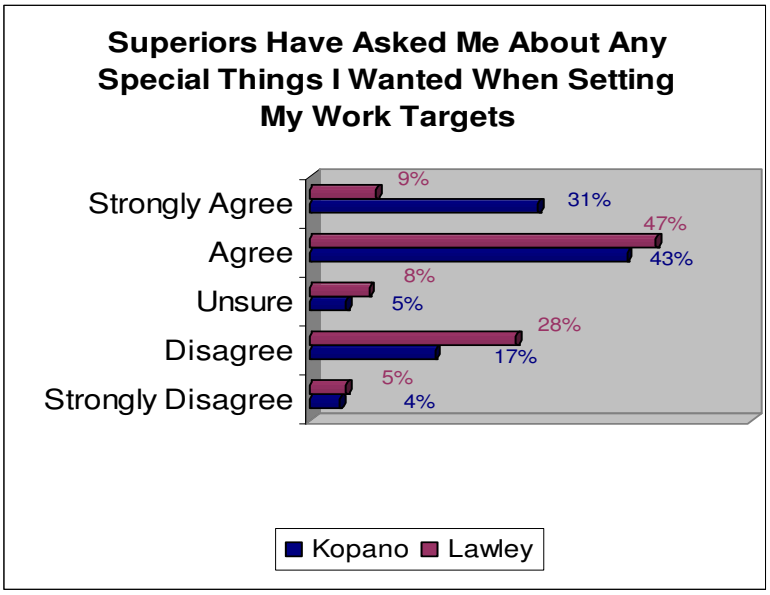
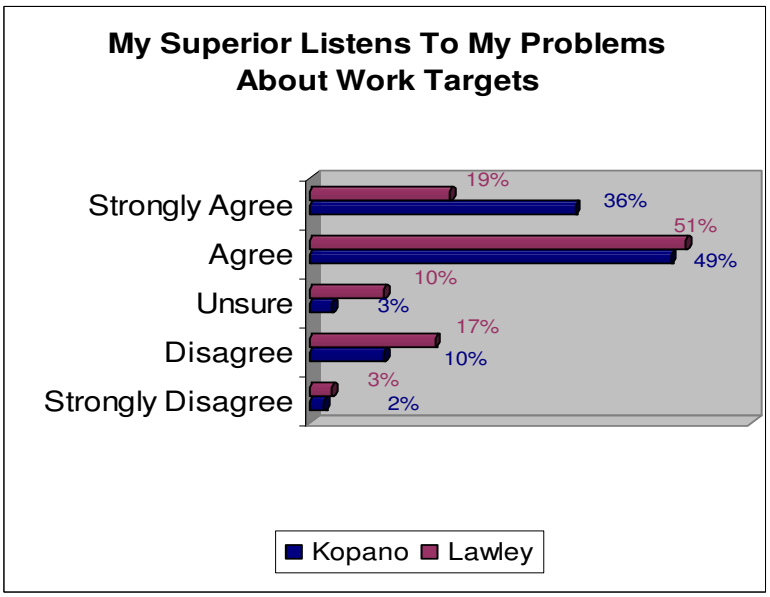


Figure 5-11 **Q11** – My superior listens to my problems about work targets

KOPANO FREQUENCY		LAWLEY FREQUENCY
72	**5** - Strongly Agree	30
97	**4** – Agree	80
5	**3** - Unsure	16
19	**2** – Disagree	26
4	**1** – Strongly Disagree	5
197	TOTAL	157



This concludes the presentation of the five questions making up the decision-making dimension. The following trends are identified:

- Under the response of "Strongly Agree", Kopano score higher on all five questions, without exception. These differences are material.
- Under the response of "Agree", Lawley score higher on all five questions, without exception. However, the difference is not material. The reason for this is because most of Kopano's positive responses were so strong that they scored in the higher category of "Strongly Agree".
- Given the two comments above, it again makes sense to add together all responses of "Strongly Agree" and "Agree" because they represent the majority of responses. These responses, expressed as percentages, are shown below:

  Q7. Kopano (91%) Lawley (71%)
  Q8. Kopano (86%) Lawley (70%)
  Q9. Kopano (88%) Lawley (81%)
  Q10. Kopano (74%) Lawley (56%)
  Q11. Kopano (85%) Lawley (70%)

- Again, a similar pattern emerges, with Kopano scoring higher on every question. Question No.10 shows a weaker response from both factories, which clearly demonstrates that superiors from both factories do not ask the majority of the workers for their input relative to work targets.
- The patterns emerging are very similar to that of the financial dimension. A small but noticeable difference is with questions 10 and 11, where there is a greater spread of responses. Workers disagree as to their involvement in the setting of work targets. This is evident across both factories.

Following the analysis of questions within the decision-making dimension is a similar analysis of responses from selected questions within the empowerment dimension.

5.4.3.3 Empowerment Dimension

There are 30 questions in the empowerment dimension. Only selected questions will be presented, with the methodology of selection explained below.

The totals below are derived by adding up the sum of all respondents per item, for both factories, and then calculating the difference of the totals by factory. These are then ranked from the greatest difference down to the smallest difference. For the purpose of this analysis only the five questions with the biggest difference, and the five questions with the smallest difference, will be presented. The results are displayed below (with those questions to be presented highlighted):

QUESTION #	**KOPANO** Totals	**LAWLEY** Totals	**DIFFERENCE** Kopano less Lawley
Q38	**863.00**	**559.00**	**304.00**
Q15	**865.00**	**595.00**	**270.00**
Q34	**870.00**	**605.00**	**265.00**
Q40	**838.00**	**574.00**	**264.00**
Q17	**829.00**	**566.00**	**263.00**
Q18	871.00	609.00	262.00
Q20	846.00	584.00	262.00
Q14	880.00	623.00	257.00
Q25	635.00	378.00	257.00
Q39	830.00	575.00	255.00
Q12	893.00	643.00	250.00
Q29	851.00	604.00	247.00
Q41	891.00	647.00	244.00
Q13	881.00	638.00	243.00
Q16	780.00	542.00	238.00
Q23	823.00	587.00	236.00
Q28	859.00	623.00	236.00
Q36	861.00	627.00	234.00
Q35	851.00	618.00	233.00
Q30	816.00	585.00	231.00
Q21	827.00	598.00	229.00
Q19	886.00	658.00	228.00
Q22	736.00	540.00	196.00
Q31	585.00	391.00	194.00
Q27	798.00	607.00	191.00
Q32	**570.00**	**391.00**	**179.00**
Q37	**623.00**	**454.00**	**169.00**
Q33	**520.00**	**397.00**	**123.00**
Q26	**563.00**	**450.00**	**113.00**
Q24	**425.00**	**394.00**	**31.00**

It is significant to note that Kopano score higher on all thirty questions, without exception. The first five questions to be presented are those with the biggest difference between totals, followed by the bottom ranked five.

Figure 5-12 **Q38** – Senior management wants me to succeed in my current position

KOPANO FREQUENCY		LAWLEY FREQUENCY
92	**5** - Strongly Agree	24
91	**4** – Agree	90
8	**3** - Unsure	10
7	**2** – Disagree	22
1	**1** – Strongly Disagree	5
199	TOTAL	151

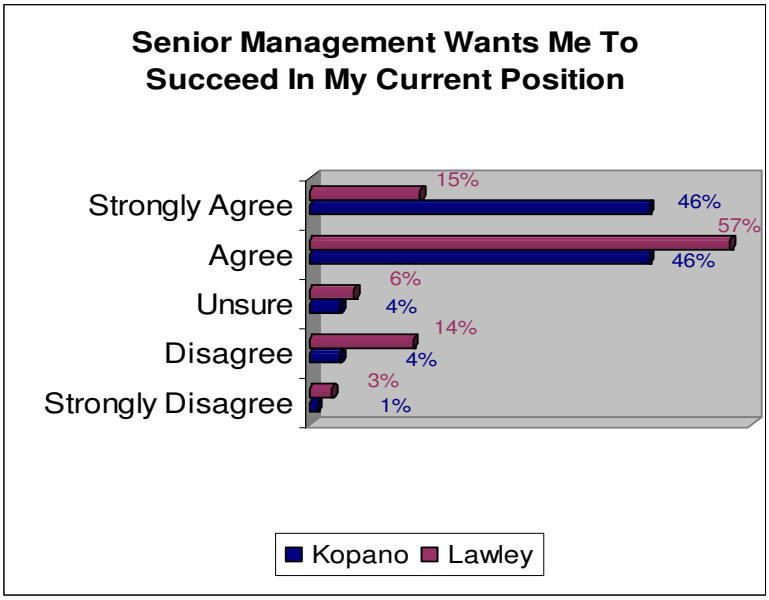


Figure 5-13 **Q15** – My impact on what happens in my team is large

KOPANO FREQUENCY		LAWLEY FREQUENCY
89	**5** - Strongly Agree	37
99	**4** – Agree	83
5	**3** - Unsure	10
4	**2** – Disagree	22
1	**1** – Strongly Disagree	4
198	TOTAL	156

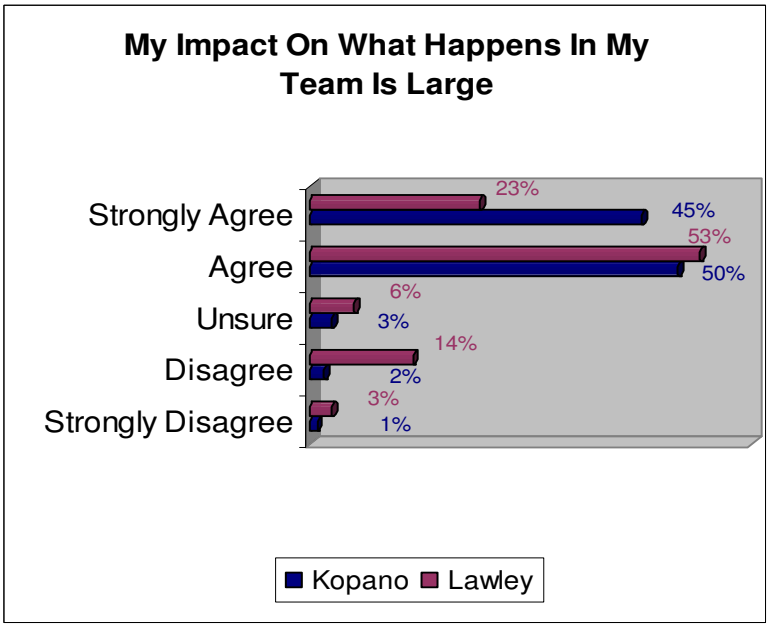


Figure 5-14 **Q34** – Important responsibilities are part of my daily activities

KOPANO FREQUENCY		LAWLEY FREQUENCY
92	**5** - Strongly Agree	41
98	**4** – Agree	87
2	**3** - Unsure	7
6	**2** – Disagree	14
0	**1** – Strongly Disagree	3
198	TOTAL	152

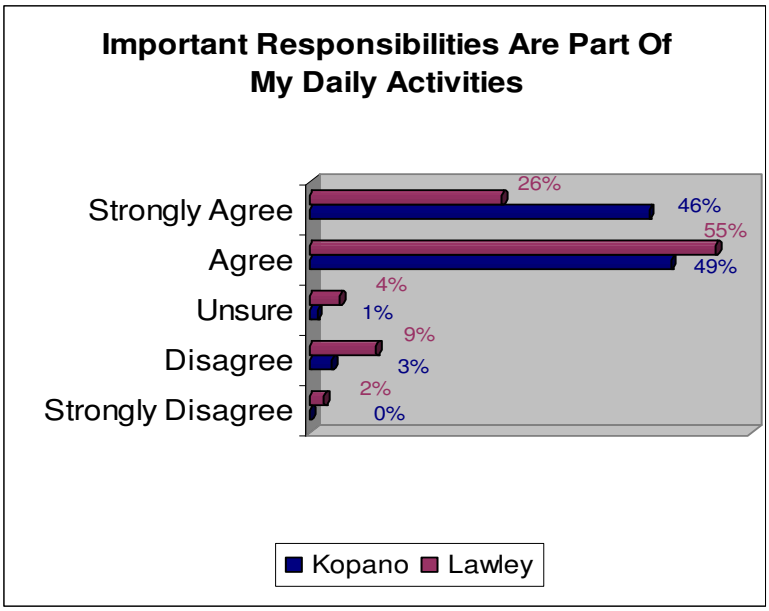


Figure 5-15 **Q40** – I trust my work colleagues

KOPANO FREQUENCY		LAWLEY FREQUENCY
85	**5** - Strongly Agree	31
88	**4** – Agree	84
14	**3** - Unsure	14
8	**2** – Disagree	20
3	**1** – Strongly Disagree	1
198	TOTAL	150

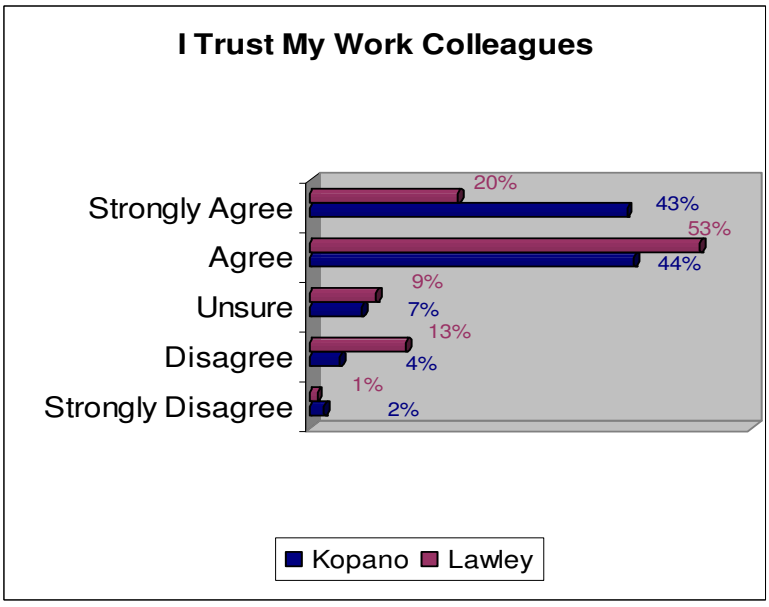


Figure 5-16 **Q17** – I have significant influence over what happens in my team

KOPANO FREQUENCY		LAWLEY FREQUENCY
78	**5** - Strongly Agree	25
101	**4** – Agree	86
7	**3** - Unsure	11
6	**2** – Disagree	30
2	**1** – Strongly Disagree	4
194	TOTAL	156

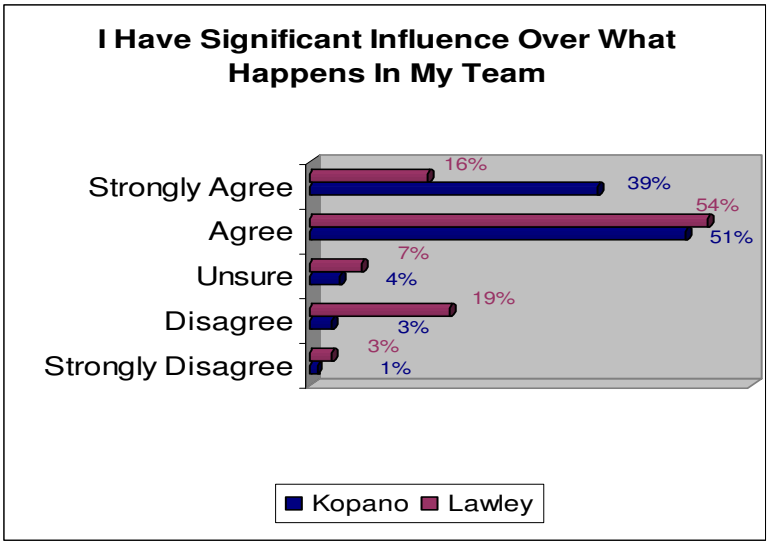


Figure 5-17 **Q32** – I have an important position but no real power in this company

KOPANO FREQUENCY		LAWLEY FREQUENCY
30	**5** - Strongly Agree	2
44	**4** – Agree	37
23	**3** - Unsure	28
75	**2** – Disagree	65
25	**1** – Strongly Disagree	19
197	TOTAL	151

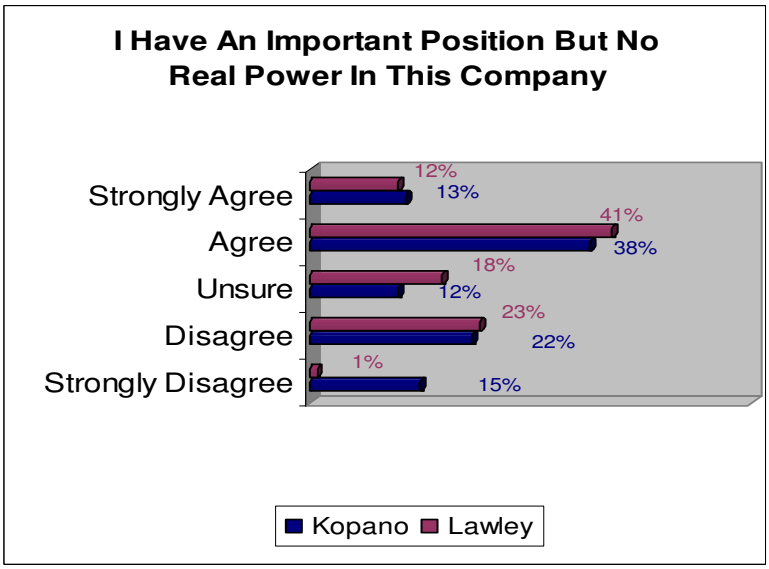


Figure 5-18 **Q37** – I am allowed to make errors in my job without being seen as incompetent

KOPANO FREQUENCY		LAWLEY FREQUENCY
31	**5** - Strongly Agree	21
61	**4** – Agree	46
20	**3** - Unsure	10
78	**2** – Disagree	58
8	**1** – Strongly Disagree	19
198	TOTAL	154

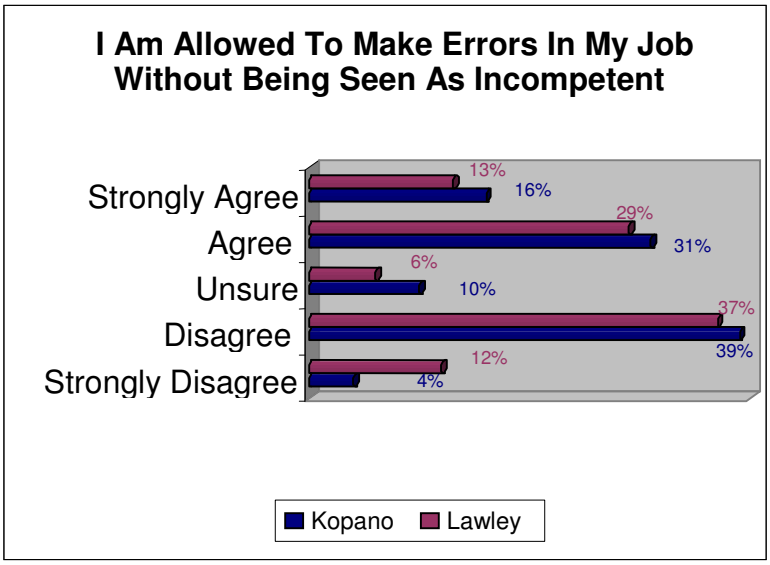


Figure 5-19 **Q33** – I feel constant pressure to prove my worth

KOPANO FREQUENCY		LAWLEY FREQUENCY
19	**5** - Strongly Agree	4
53	**4** – Agree	44
4	**3** - Unsure	12
80	**2** – Disagree	72
41	**1** – Strongly Disagree	21
197	TOTAL	153

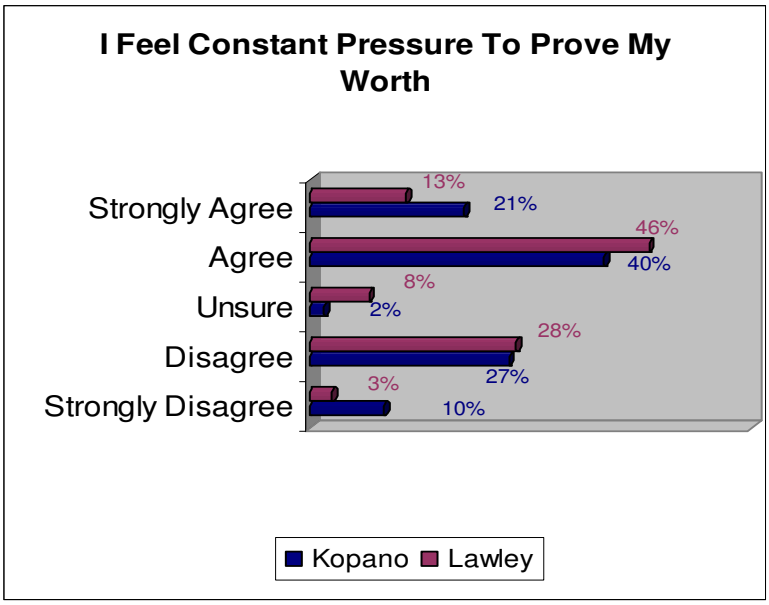


Figure 5-20 **Q26** – I do not have a clear job description

KOPANO FREQUENCY		LAWLEY FREQUENCY
25	**5** - Strongly Agree	12
67	**4** – Agree	56
6	**3** - Unsure	10
54	**2** – Disagree	63
44	**1** – Strongly Disagree	10
196	TOTAL	151

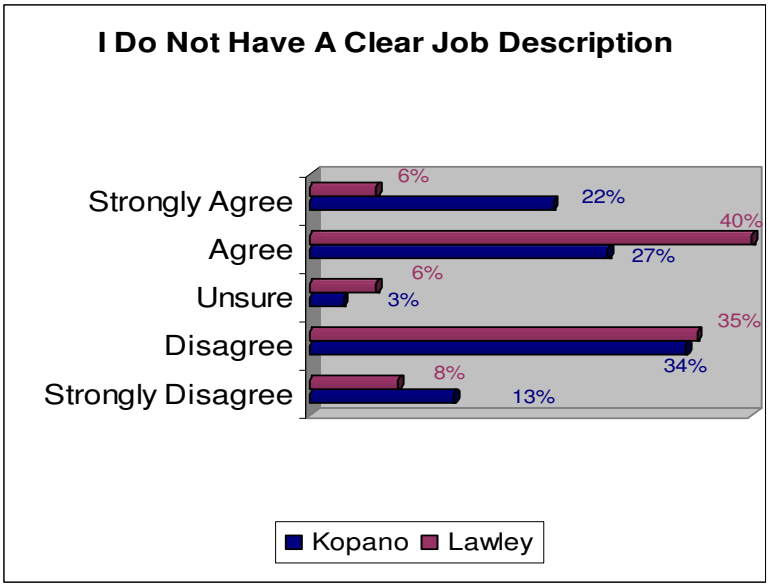
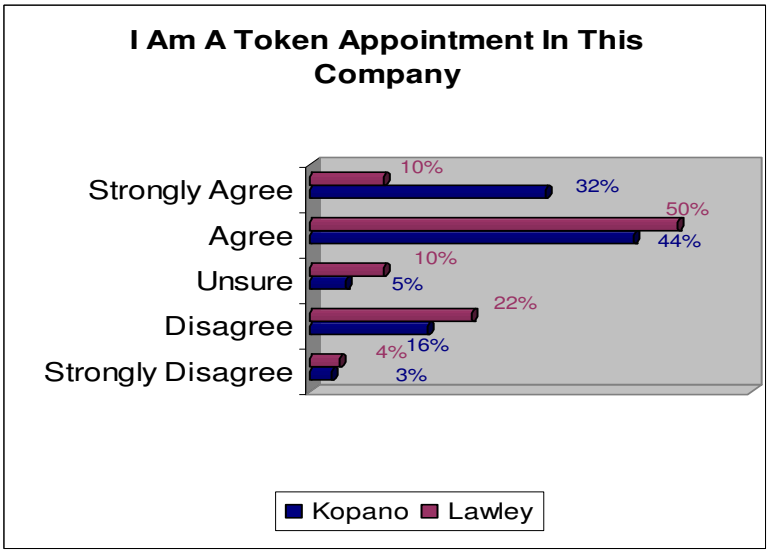


Figure 5-21 **Q 24** – I am a token appointment in this company

KOPANO FREQUENCY		LAWLEY FREQUENCY
6	**5** - Strongly Agree	7
32	**4** – Agree	35
9	**3** - Unsure	15
88	**2** – Disagree	79
64	**1** – Strongly Disagree	16
199	TOTAL	152



This concludes the presentation of the ten selected questions within the empowerment dimension. The following trends are identified:

- Under the response of "Strongly Agree", Kopano score higher on all ten questions, without exception. In most cases this difference is material.
- Under the response of "Agree", Lawley score higher on nine out of the ten questions. However, the difference is not material in all ten cases. Again, most of Kopano's positive responses were so strong that they scored in the higher category of "Strongly Agree".
- Given the two comments above, it again makes sense to add together all responses of "Strongly Agree" and "Agree" because they represent the majority of responses. These responses, expressed as percentages, are shown below:

Q38.	Kopano (92%)	Lawley (72%)
Q15.	Kopano (90%)	Lawley (76%)
Q34.	Kopano (95%)	Lawley (81%)
Q40.	Kopano (87%)	Lawley (73%)
Q17.	Kopano (90%)	Lawley (70%)
Q32.	Kopano (51%)	Lawley (53%)
Q37.	Kopano (47%)	Lawley (42%)
Q33.	Kopano (61%)	Lawley (59%)
Q26.	Kopano (49%)	Lawley (46%)
Q24.	Kopano (76%)	Lawley (60%)

Kopano scores higher on every question except question number 32. However, given the negative nature of this question (I have an important position but no real power in this company), the results relative to this question support the hypothesis testing for perceptions of empowerment.

- The last five questions (32 to 24) show a broader spread of responses (as would be expected because they have the lowest difference in the selection process). Adding all the responses from these questions ("Unsure", "Disagree" and "Strongly Disagree"), realizes the following comparisons:

Q32.	Kopano (49%)	Lawley (42%)
Q37.	Kopano (53%)	Lawley (55%)

Q33. Kopano (39%) Lawley (39%)
Q26. Kopano (50%) Lawley (49%)
Q24. Kopano (24%) Lawley (36%)

No clear pattern emerges. These percentages represent three responses (Unsure", "Disagree" and "Strongly Disagree"), with all of them (except one) falling below 50%. This suggests that the remaining two responses ("Agree" and "Strongly Agree") attracted the majority of the responses from both factories.

Following descriptive statistics by item are the descriptive statistics by dimension.

5.4.4 Descriptive Statistics by Dimension

This section presents an overview of the general descriptive statistics obtained from the data collection survey. The following are dealt with in sequence:

- Overall Respondent Total Means Output (Both factories)
- Overall Respondent Total Means Output (Kopano factory)
- Overall Respondent Total Means Output (Lawley factory).

5.4.4.1 Overall Respondent Total Means Output (Both factories)

Note that in all cases (both factories together, then the Kopano factory, and finally the Lawley factory), both the "Minimum and Maximum Scores on the Measuring Instruments", as well as the "Minimum and Maximum Aggregated Scores on the Measuring Instruments" were calculated. However, for this study, only the latter is presented.

Table 5-14 Minimum and Maximum Aggregated Scores on the Measuring Instruments (Both Factories)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Empowerment Total	310	84.00	145.00	114.9871	12.60220
Financial Total	343	13.00	30.00	24.7901	3.91536
Decision Total	345	6.00	25.00	19.3768	3.79757
Valid N (listwise)	302				

Table 5-14 indicates that the aggregate mean score for the respondents on the empowerment-measuring instrument (for both factories) is 114.9871 (ranges from 84.00 to 145.00 on 30 items). The corresponding score on the financial measuring instrument is 24.7901 (ranges from 13.00 to 30.00 on 6 items), and the decision-making instrument is 19.3768 (ranges from 6.00 to 25.00 on 5 items).

5.4.4.2 Overall Respondent Total Means Output (Kopano factory)

Table 5-15 Minimum and Maximum Aggregated Scores on the Measuring Instruments (Kopano Factory)

Descriptive Statistics[a]

	N	Minimum	Maximum	Mean	Std. Deviation
Empowerment Total	179	86.00	145.00	119.2179	12.27414
Financial Total	192	13.00	30.00	26.3958	3.35657
Decision Total	192	9.00	25.00	20.5156	3.74162
Valid N (listwise)	173				

a. Factory = Kopano

Table 5-15 indicates that the aggregate mean score for the respondents on the empowerment-measuring instrument (for Kopano) is 119.2179 (ranges from 86.00 to 145.00 on 30 items). The corresponding score on the financial measuring instrument is 26.3958 (ranges from 13.00 to 30.00 on 6 items), and the decision-making instrument is 20.5156 (ranges from 9.00 to 25.00 on 5 items).

5.4.4.3 Overall Respondent Total Means Output (Lawley factory)

Table 5-16 Minimum and Maximum Aggregated Scores on the Measuring Instruments (Lawley Factory)

Descriptive Statistics[a]

	N	Minimum	Maximum	Mean	Std. Deviation
Empowerment Total	131	84.00	133.00	109.2061	10.62487
Financial Total	151	14.00	30.00	22.7483	3.62072
Decision Total	153	6.00	25.00	17.9477	3.36935
Valid N (listwise)	129				

a. Factory = Lawley

Table 5-16 indicates that the aggregate mean score for the respondents on the empowerment-measuring instrument (for Lawley) is 109.2061 (ranges from 84.00 to 133.00 on 30 items). The corresponding score on the financial measuring instrument is 22.7483 (ranges from 14.00 to 30.00 on 6 items), and the decision-making instrument is 17.9477 (ranges from 6.00 to 25.00 on 5 items).

The overall respondent total means output, between factories, reflects the Kopano workers as scoring higher on all three dimensions:

- Empowerment: Kopano at 119.2179 versus Lawley at 109.2061
- Decision-Making: Kopano at 20.5156 versus Lawley at 17.9477
- Financial Participation: Kopano at 26.395 versus Lawley at 22.7483

Following from the above, and based on the sample data, the findings suggest that:

- The Kopano workers have a greater sense of empowerment than their Lawley counterparts.
- The Kopano workers have a greater sense of decision-making participation than their Lawley counterparts.
- The Kopano workers have a greater sense of financial participation than their Lawley counterparts.

However, the above trends are not necessarily significant and this is tested for via the Independent T-Test below.

5.4.5 Independent T-Test

The Independent T-Test checks if all three dimensions are significantly different across factories. The T-Test conducted is the differences in the respondent's aggregate mean scores between the Lawley and Kopano factories. All three dimensions making up hypothesis # 1 (financial participation and decision-making participation) and hypothesis # 2 (empowerment) are tested in sequence.

(Note that "1" denotes the Lawley factory and "2" denotes the Kopano factory)

5.4.5.1 T-Test: Financial Dimension

Table 5-17 Descriptive Aggregated Statistics (Financial Dimension) from both factories

Group Statistics

	OFACTORY	N	Mean	Std. Deviation	Std. Error Mean
Financial Total	1.00	151	22.7483	3.62072	.29465
	2.00	192	26.3958	3.35657	.24224

Table 5-18 Independent T-Test (Financial Dimension) across both factories

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Financial Total	Equal variances assumed	1.081	.299	-9.649	341	.000	-3.6475	.37800	-4.39100	-2.90398
	Equal variances not assumed			-9.562	310.055	.000	-3.6475	.38144	-4.39803	-2.89695

("Fin Tot" denotes Financial Total)

Note that Levene's Test concludes that both variances are significantly different. The correct p–value for interpretive purposes is therefore when equal variances are not assumed. Since our p value = 0.000 < 0.05 = significance level H_0, that there is no difference in the financial dimension, is rejected, and conclude that there exists sufficient evidence to suggest that the Population Mean Financial Dimension at Kopano is significantly different to the Population Mean Financial Dimension at Lawley at a 5% significance level.

5.4.5.2 T-Test: Decision-Making Dimension

Table 5-19 Descriptive Aggregated Statistics (Decision-Making Dimension) from both factories

Group Statistics

	OFACTORY	N	Mean	Std. Deviation	Std. Error Mean
Decision Total	1.00	153	17.9477	3.36935	.27240
	2.00	192	20.5156	3.74162	.27003

Table 5-20 Independent T-Test (Decision-Making Dimension) across both factories

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
DEC TOT	Equal variances assumed	.661	.417	-6.616	343	.000	-2.5679	.38812	-3.33131	-1.80451
	Equal variances not assumed			-6.695	337.869	.000	-2.5679	.38356	-3.32237	-1.81346

("DEC TOT" denotes Decision-Making Total)

Note that Levene's Test concludes that both variances are not significantly different. The correct p–value for interpretive purposes is therefore when equal variances are assumed. Since our p value = 0.000 < 0.05 = significance level H_0, that there is no difference in the decision-making dimension, is rejected, and conclude that there exists sufficient evidence to suggest that the Population Mean Decision-Making Dimension at Kopano is significantly different to the Population Mean Decision-Making Dimension at Lawley at a 5% significance level.

5.4.5.3 T-Test: Empowerment Dimension

Table 5-21 Descriptive Aggregated Statistics (Empowerment Dimension) from both factories

Group Statistics

	OFACTORY	N	Mean	Std. Deviation	Std. Error Mean
Empowerment Total	1.00	131	109.2061	10.62487	.92830
	2.00	179	119.2179	12.27414	.91741

Table 5-22 Independent T-Test (Empowerment Dimension) across both factories

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
EMP TO	Equal variance assumed	6.495	.011	-7.502	308	.000	-10.0118	1.33452	12.63770	-7.38584
	Equal variance not assumed			-7.671	299.377	.000	-10.0118	1.30514	12.58018	-7.44336

("EMP TO" denotes Empowerment Total)

Note that Levene's Test concludes that both variances are significantly different. The correct p–value for interpretive purposes is therefore when equal variances are not assumed. Since our p value = 0.000 < 0.05 = significance H_0, that there is no difference in the empowerment dimension, is rejected, and conclude that there exists sufficient evidence to suggest that the Population Mean Empowerment Dimension at Kopano is significantly different to the Population Mean Empowerment Dimension at Lawley at a 5% significance level.

5.4.6 ANOVA (Incorporating the Paired Sample T-Test (within Kopano))

Although not directly relevant to the hypotheses and directives of the study, and although the items making up each dimension are ordinal in nature, additional to the other findings it was of interest to the researcher to pursue possible magnitudinal differences across the three dimensions within each factory. It is understood that

arithmetic means may not be ideal in this scenario, however across the full construct, and to enable magnitudinal comparisons across all three constructs within each factory, an ANOVA test was done, simply to satisfy curiosity.

5.4.7 Correlation Analysis

This correlation analysis calculates the relationship between all three dimensions within both factories. It calculates both the correlation coefficient and performs a hypothesis test to check if the correlation coefficient is significantly different from zero (i.e., that there is no relationship).

5.4.7.1 Descriptive Statistics: Overall Correlation Matrix across Both Factories

Table 5-23 Overall Descriptive Statistics: All dimensions

Descriptive Statistics

	Mean	Std. Deviation	N
FINANCIAL	24.7901	3.91536	343
DECISION	19.3768	3.79757	345
EMPOWER	114.9871	12.60220	310

Table 5-24 Overall Correlation Matrix of Aggregated Totals

Correlations

		FINANCIAL	DECISION	EMPOWER
FINANCIAL	Pearson Correlation	1	.664**	.650**
	Sig. (2-tailed)	.	.000	.000
	N	343	339	305
DECISION	Pearson Correlation	.664**	1	.666**
	Sig. (2-tailed)	.000	.	.000
	N	339	345	305
EMPOWER	Pearson Correlation	.650**	.666**	1
	Sig. (2-tailed)	.000	.000	.
	N	305	305	310

**. Correlation is significant at the 0.01 level (2-tailed).

5.4.7.2 Descriptive Statistics: Overall Correlation Matrix by Factory

Table 5-25 Descriptive Statistics by Factory: All Dimensions

Descriptive Statistics

Factory		Mean	Std. Deviation	N
Kopano	FINANCIAL	26.3958	3.35657	192
	DECISION	20.5156	3.74162	192
	EMPOWER	119.2179	12.27414	179
Lawley	FINANCIAL	22.7483	3.62072	151
	DECISION	17.9477	3.36935	153
	EMPOWER	109.2061	10.62487	131

5.4.7.3 Correlation Analysis

Table 5-26 Analysis of Correlations between Factories

Correlations

Factory			FINANCIAL	DECISION	EMPOWER
Kopano	FINANCIAL	Pearson Correlation	1	.692**	.696**
		Sig. (2-tailed)	.	.000	.000
		N	192	189	175
	DECISION	Pearson Correlation	.692**	1	.689**
		Sig. (2-tailed)	.000	.	.000
		N	189	192	175
	EMPOWER	Pearson Correlation	.696**	.689**	1
		Sig. (2-tailed)	.000	.000	.
		N	175	175	179
Lawley	FINANCIAL	Pearson Correlation	1	.504**	.397**
		Sig. (2-tailed)	.	.000	.000
		N	151	150	130
	DECISION	Pearson Correlation	.504**	1	.472**
		Sig. (2-tailed)	.000	.	.000
		N	150	153	130
	EMPOWER	Pearson Correlation	.397**	.472**	1
		Sig. (2-tailed)	.000	.000	.
		N	130	130	131

**. Correlation is significant at the 0.01 level (2-tailed).

From the above results all three dimensions within each factory are significantly positively correlated to each other, which can be seen from all the p values which, in all three cases within each factory are equal to 0.000, which is less than 0.05. Note that at this stage it is simply observed that correlation does not necessarily imply

causation; however this will be further investigated later. It should also be noted that the correlation analysis that is being used here is appropriate for linear relationships between all variables concerned; this particular assumption is tested for in the regression modelling stage later on via plotting, and is not found to be an unrealistic assumption.

In addition it should be noted that the correlations in all cases in the Kopano factory are stronger than the correlations in the Lawley factory.

<u>At Kopano:</u>

Financial and Empowerment = 0.696

Financial and Decision = 0.692

Decision and Empowerment = 0.689

<u>At Lawley:</u>

Financial and Empowerment = 0.397

Financial and Decision = 0.504

Decision and Empowerment = 0.472

This implies for all variables that changes (variability) in one variable are more closely related to changes (variability) in another variable at Kopano rather than at Lawley. In all models, however, these correlations are positive, meaning in all cases increases in one variable imply increases in the other variable.

The correlation findings suggest that it would be useful to conduct multiple regression analyses to ascertain the relative predictive strength of perceptions of financial and decision-making participation on feelings of empowerment between the two factories.

5.4.8 Multiple Regression

Multiple linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable (empowerment). Using an “enter” multiple regression technique, the best

solution was obtained in terms of R square, significance of T and significance of F. The following four relationships are tested:

- Financial (independent variable) is positively associated with empowerment (dependent variable) at the Kopano factory;
- Decision-Making (independent variable) is positively associated with empowerment (dependent variable) at the Kopano factory;
- Financial (independent variable) is positively associated with empowerment (dependent variable) at the Lawley factory;
- Decision-Making (independent variable) is positively associated with empowerment (dependent variable) at the Lawley factory.

Table 5-27 Model Summary Statistics by Factory

Model Summary

Factory	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Kopano	1	.755[a]	.570	.565	7.96285
Lawley	1	.509[a]	.259	.247	9.27009

a. Predictors: (Constant), DECISION, FINANCIAL

As can be seen from both models, above R^2 for Kopano is 57.0% of the variability of the dependent variable (namely empowerment). Therefore 57.0% of the variability in empowerment can be explained from a unique combination of the independent variables, however, in the case of Lawley, R^2 is much lower at 25.9% of the variability, therefore a lot more unexplained variability from the unique combination of the independent variables exists in empowerment at the Lawley factory. R is the correlation coefficient between the observed value of the dependent variable and the predicted value based on the regression model, and in the case of Kopano, R = 0.755 and at Lawley, R = 0.509. On this basis therefore, the model at Kopano predicts the dependent variable better than the model at Lawley.

Table 5-28 Analysis of Variance Statistics by Factory

ANOVA[b]

Factory	Model		Sum of Squares	df	Mean Square	F	Sig.
Kopano	1	Regression	14285.830	2	7142.915	112.652	.000[a]
		Residual	10779.176	170	63.407		
		Total	25065.006	172			
Lawley	1	Regression	3785.743	2	1892.872	22.027	.000[a]
		Residual	10827.745	126	85.934		
		Total	14613.488	128			

a. Predictors: (Constant), DECISION, FINANCIAL

b. Dependent Variable: EMPOWER

Analysis of variance in the Kopano model indicated that F = 112.652, p = 0,000 and this therefore indicated that the null hypothesis, which specified that the equation's coefficients are equal to zero can be rejected, and that the alternate hypothesis which stated the equation's coefficients are not equal to zero, can be accepted.

Analysis of variance in the Lawley model indicated that F = 22.027, p = 0,000 and this therefore indicated that the null hypothesis, which specified that the equation's coefficients are equal to zero can be rejected, and that the alternate hypothesis which stated the equation's coefficients are not equal to zero, can be accepted.

In another interpretation, what this means is that in both models the study is able to reject the null hypothesis that there is no linear relationship between the dependent variable and in this case the two independent variables. At least one of the regression coefficients in both models is not 0 and R^2 in both models is also not 0.

Table 5-29 Coefficients Statistics by Factory

Coefficients[a]

			Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Factory	Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Kopano	1	(Constant)	51.765	4.848		10.677	.000		
		FINANCIAL	1.503	.245	.419	6.127	.000	.541	1.848
		DECISION	1.337	.225	.405	5.931	.000	.541	1.848
Lawley	1	(Constant)	75.160	5.439		13.820	.000		
		FINANCIAL	.565	.258	.197	2.189	.030	.730	1.370
		DECISION	1.189	.282	.378	4.214	.000	.730	1.370

a. Dependent Variable: EMPOWER

The mathematical linear regression models are:

Kopano: Y = 51.765 + 1.503 (Financial Total) + 1.337 (Decision Total)
Lawley: Y = 75.160 + 0.565 (Financial Total) + 1.189 (Decision Total)

Note that the regressors in the Kopano model are all significant according to the T-Test and the regressors in the Lawley model. This implies that changes in the level of the financial dimension at Lawley do not generate significant changes in the level of the empowerment dimension within Lawley, and that this partial correlation coefficient between these two variables is not significantly different to zero.

In Table 5-29, the constant value in both models is significant, indicating that, without the other variables in the equation, the estimated expected value for empowerment in the Kopano model is 51.77 (S.E. = 4.85) and in the Lawley model is 75.16 (S.E = 5.44).

However, once the other variables are introduced in Kopano, increasing the score of the financial dimension by one point will increase the corresponding score in empowerment by 1.503 (First Regressor), and increasing the score of the decision dimension by one point will increase the corresponding score in empowerment by 1.337 (Second Regressor).

The same applies to Lawley; increasing the score of the financial dimension by one point will increase the corresponding score in empowerment by 0.565 (First Regressor), and increasing the score of the decision dimension by one point will increase the corresponding score in empowerment by 1.189 (Second Regressor). In both factories the dimensions have a significant affect in increasing the level of empowerment.

Also there do not seem to be any muticollinearity problems as all tolerance levels are greater than 0.1 (Norusis, 1999: 468).

The assumption of normally distributed residuals was investigated using a histogram of residuals, a normal probability plot and the scores appeared to fall roughly in a

straight line. In addition, the Kolmogrov-Smirnov test statistic was applied and no significant non-normality of residuals was found. Visual checks were made on the residuals plotted against the predicted variable, and each of the independent variables. Also, scatterplots with each independent variable in the current equation indicated a reasonable degree of linearity in each case. These diagnostics were applied on both models yielding the same conclusions.

The regression analysis suggests that the Kopano model is a better model for predicting empowerment.

There do not seem to be any significant patterns of assumption violation from any of the three diagrams per model. The interesting point to take out of this diagnosis is that Kopano has a better predictive model than Lawley.

5.4.9 Summary

The tests as shown in this section are sufficient to successfully support hypothesis # 1 and hypothesis # 2. The next section presents the results pertinent to hypothesis # 3.

5.5 ANALYSIS OF COST OF OPERATIONS
(Hypothesis # 3)

5.5.1 Introduction

This section compares the operational costs between factories. The financial year identified for the comparison is 2001 because this is the second full financial year of operations for the Kopano factory. Given the context within which the transformation took place, it is hypothesised that any "teething problems" experienced by the new shareholders of Kopano immediately after the transformation would, two years after transformation, be resolved. A second full year of financial statements (2002) could not also be used for comparative purposes, because the shareholding at the Kopano factory changed from what it was during 2001.

The financial period under review at both factories was the same so as to exclude any external factor(s) such as changing demand situations in the industry or the market. This effectively levelled the playing fields so that the comparative analysis was fair, which would not have been the case had they been conducted at different times. However, in reality this has proven to be very difficult to do, because the two factories have different financial year-ends. It was, however, possible to extract from the different companies' financial records, the results of the Kopano factory from 01 January 2001 until 31 December 2001, being twelve months, or a full financial year. Lawley factory is different in that the financial period available runs from 01 June 2001 until 30 June 2002 (effectively six months later and also representing thirteen months, not twelve months). The building industry is in a slow sector growth according to the Boston Consulting Group matrix (Certo *et al.*, 1990), and because of this, the difference of six months would not make a difference when comparing the financial results of the two companies. (Six months in the building industry does not make a difference because when market conditions change (such as a change in interest rates for example), then it takes at least six months for these changes to filter down into demand changes).

What was done, via simple mathematical calculation was to *pro-rata* the results of Lawley, from thirteen to twelve months, for comparative purposes. While the actual results of the Kopano factory are presented for analyses, the forward extrapolated hypothetical numbers, given equal output, are a more correct reflection of operational efficiencies.

The research only compares the actual results from both factories and not budgeted or forecasted results, as this is of no specific significance to the study. Note that Sales Revenue and Average Selling Price (ASP), while reflected on the income statements, are of no significance in the context of this study which analyses only operational costs. The results of both factories follow.

5.5.2 Operational Costs for Both Factories

The operational costs for both factories are presented in table 5-30

Table 5-30 Operational Costs (Kopano and Lawley Factories)

(Source: Corobrik accounts department, Head Office, Durban. Refer Executive Director Mr H. O. Voorma).

	KOPANO Actual (R 000's)	**KOPANO** Hypothetical (R 000's)	**LAWLEY** (13 months) (R 000's)	**LAWLEY** (12 months) (R 000's)
Sales Revenue	16,863	24,423	48,176	44,470
Raw Materials	2,375	3,439	2,733	2,522
Clay	1,250	1,810	1,557	1,437
Royalties	107	155	7	6
Other	1,018	1,474	1,169	1,079
Fuels	642	930	1,119	1,033
Repairs and Maintenance	1,346	1,949	2,627	2,424
Labour Costs	5,650	8,183	12,927	11,932
Salaries and Benefits	1,323	1,916	1,672	1,543
Wages and Benefits	4,327	6,267	11,255	10,389
Factory Overheads	3,554	4,793	6,228	5,748
Petrol & Diesel	268	388	437	403
Power & Water	1,151	1,597	1,394	1,287
Equipment Hire	579	694	2,134	1,970
Depreciation	162	235	188	173
Packaging	100	145	50	46
Protective Clothing	113	164	335	309
Administration Fee	506	551	0	0
Yard Management Fee	(392)	(451)	0	0
Other	1,067	1,470	1,690	1,560
Cost of Production (COP)	13,567	19,294	25,634	23,659
Product at Stock Value	0	0	21,900	20,215
Net Cost Recovery	(13,567)	(19,294)	(3,734)	(3,444)
Other Items				
Stock Differences	0	0	11	10
WIP Movement	0	0	71	66

Transport Revenue	0	0	9,957	9,191
Transport Cost	0	0	(9,635)	(8,894)
P/L Fixed Assets	0	0	19	18
Retrenchment	0	0	0	0
Stock Revaluation	0	0	93	86
Factory Contribution	3,296	5,129	22,542	20,811
Sales Quantities BE's (000's)	36,963	67,000	83,345	76,934
Production Quantities BE's	36,963	67,000	72,804	67,203
Average Selling Price (ASP)	456-21	364-25	578-03	578-03
Cost of Production (COP) per 1000 units				
Total	367-04 100%	287-97	381-37 100%	352-03
Raw Materials	64-25 17.5%	50-39	40-65 10.66%	37-54
Fuels	17-37 4.73%	13-62	16-67 4.37%	15-37
Maintenance	36-41 9.92%	28-57	39-09 10.25%	36-08
Labour	152-86 41.65%	119-94	192-36 50.44%	177-56
Overheads	96-15 26.20%	75-45	92-60 24.28%	85-48
Yields (%)	%	%	%	%
Waste	4.3	4.4	5.8	5.8
Face	59.3	58.2	70.6	70.6
Variations	7.9	7.8	8.1	8.1
Unique	0.0	0.0	0.0	0.0
Utilities	16.3	16.9	5.5	5.5
Rejects	12.2	12.7	10.0	10.0
NonFace	0.0	0.0	0.0	0.0
Total Man-hours	307,606	438,228	542,002	500,310
Normal Hours	283,212	410,175	512,530	473,105
Overtime Hours	24,394	28,053	29,472	27,205
Man-hours / 1000 BE's	8.32	6.54	7.44	7.44

This concludes the financial breakdown for both factories. The next section highlights the comparative measurement criteria used in the industry against which Lawley and Kopano are analysed.

5.5.3 Comparative Measurement Criteria between the Kopano factory and the Lawley factory

The measurement criteria shown in Table 5-31 are the main tools of comparison between factories in the clay brick manufacturing industry. It is against these

measurement criteria that factory managers are measured and financially rewarded (S. Soper: personal communication, October 2002). Note that the actual figures (Kopano) are as per actual production output, and the "forward extrapolated" figures are the hypothetical figures had Kopano manufactured equal output to that of Lawley.

Table 5-31 Main Measurement Criteria in the Industry

MEASUREMENT CRITERIA	**LAWLEY**	**KOPANO**	**KOPANO**
	Actual	Actual	Forward Extrapolated
Production Output	67,000,000	36,963,000	67,000,000
Cost of Production (COP)	23,659,000	13,567,000	19,294,000
COP per 1000 units	352-03	367-04	287-97
Total Man Hours	542,002	307,606	438,228
Man Hours per 1000 units	7.44	8.32	6.54
Waste (%)	5.80	4.30	4.40
Rejects (%)	10.0	12.20	12.70
Variations (%)	8.10	7.90	7.80

Discussion on above measurement criteria (between factories)

- Sales Revenue is shown for both factories despite the fact that these figures are not relevant to the study. However, as a point of interest, the reason behind the selling price of product being so much higher at Lawley is because Corobrik purchase the product from Kopano, at agreed rates, and then apply a mark-up to sell into the market. Accordingly the selling price to the market (not between factories) is similar. The study focuses only on the operational activities and not upstream or downstream activities (such as sales).

- Next to production quantities, the most important measurement tool is the Cost of Production (COP). This is directly proportional to the production quantities and as such, the Kopano factory should be at a significant disadvantage because of lower output. However, despite Kopano manufacturing a much lower number of units, their COP is not far off that of Lawley. Lawley's COP is R352-03 whereas Kopano's COP is R367-04. This is very supportive of the argument that the Kopano workers are more aware of operational costs; the different output between

factories is large (67 million versus the lower output of Kopano of 37 million). Given such a big difference, and being aware that fixed costs become more insignificant as production output increases (per 1000 units), one could argue that the COP at Kopano is only slightly higher than that of Lawley; this despite such a big difference in output. This clearly supports the argument that the Kopano workers are more aware of operational costs. One could hypothesise that if the output was equal, then the COP at Kopano would be much lower. As table 6-18 clearly indicates, once the Kopano figures have been extrapolated forward to represent equal output, the COP at Kopano drops significantly to R 287-97. This clearly indicates a much lower COP for Kopano given equal output, and strongly supports hypothesis # 3.

- The actual total man-hours at Kopano (307,606) are lower than that of Lawley (500,310) because of the difference in output units.

- Despite a significantly smaller output quantity, Kopano has an actual man-hours figure per 1000 units of 8.32 which is higher than Lawley which is 7.44 man hours per 1000 units. This is understandable given the different output numbers and one cannot draw any meaningful conclusions from this.

- Actual waste at Kopano (4.3%) is lower than Lawley (5.8%). This supports hypothesis # 3.

- Actual "rejects" at Kopano (12.2%) are higher than at Lawley (10.0%). This does not support hypothesis # 3. However, this could possibly be attributed to the extra drive for increased production at Kopano leading to a greater proportion of rejects (this is suggested by the lower man-hours per 1000 units produced at Kopano).

- Actual "variations" at Kopano (7.9%) are lower than Lawley (8.1%), thus supporting hypothesis # 3.

The above analysis supports hypothesis # 3 despite smaller output at the Kopano factory. The following analysis makes comparison after forward extrapolation of the output quantities at Kopano.

- Both factories have equal output of 67 million units.

- Factory overheads - In Rand terms the Kopano factory overheads are R955,000 lower than the Lawley factory given equal output. This is substantial in the context of the study and strongly supports hypothesis # 3.

- The COP at Kopano is over R 4,365 million lower that the COP at Lawley. This equates to the costs at Kopano being as much as 18 percent lower than those at Lawley. This is a significant saving in costs given the context of this study. The workers at Kopano are far more cost aware than their Lawley counterparts (Peter du Trevou; personal communication, August, 2003). This strongly supports hypothesis # 3.

- Given the previous point relative to production costs, it stands to reason that, because of equal production quantities, the COP per 1000 units will be considerably lower for Kopano. This is highlighted with the COP at Kopano being R64-06 per 1000 units lower than those at Lawley. The COP is regarded in the industry as the single most important measurement criteria, because from the COP a margin is applied and a selling price determined. Obviously the lower the COP then the lower the selling price into the market (more competitive), or the higher the profit margin. This strongly supports hypothesis # 3.

- Man-hours per 1000 units at Kopano (6.54 man-hours per 1000 units), are also significantly lower than that of Lawley (7.44 man-hours per 1000 units). Given that the production units are very labour intensive, this measurement tool has a direct impact on the COP, thus supporting hypothesis # 3.

- Percentage waste at Kopano (4.4%) is considerable lower than that of Lawley (5.8%), thus supporting hypothesis # 3.

- Reject products at Kopano (12.7%) are higher than those at Lawley (10.0%), which does not support the argument. However, this could be attributed to the

extra drive for increased production at the Kopano factory (as supported by the lower man-hours per 1000 units).

- Percentage variations at Kopano (7.8%) are lower than those of Lawley (8.1%). (A variation is when the finished product comes out of the kiln with a slightly different colour to what it should be. This suggests that there were variations in temperature control, which has an effect on the colour of the product. While perfect in every other aspect it cannot be sold as a first grade product, as the colour will not be matched again in the future). This statistic supports hypothesis # 3.

This section successfully demonstrates that the operational costs at Kopano factory are lower than the operational costs at the Lawley factory, given equal output.

Many of the measurement criteria still support hypothesis # 3 despite unequal (lower) output at Kopano. Despite the forward extrapolated hypothetical comparison at Kopano, the actual figures are a basis for comparison and strongly support hypothesis # 3. This is evident given the main measurement criteria of COP (cost of production), which is significantly lower at the Kopano factory after forward extrapolation, and not far off the Lawley COP given much lower output.

5.6 A CAUSAL INFERENCE ANALYSIS OF THE FINDINGS USING MILL'S METHOD OF DIFFERENCE

The main difference between the two factories is that the workers at the Kopano factory have ownership, or proprietary title, whereas the workers at the Lawley factory do not have proprietary title. It is suggested that this is the reason for the results obtained in the testing of the hypotheses, but this is not proven. In order to better analyse the differences more formally and come to a plausible conclusion, it was decided to use the methodological framework afforded by Mill's Method of Difference.

The following variables relative to the Kopano and Lawley factories have been tested (for comparison) and deemed as comparable (similar to such an extent that they will have no cause or effect on the outcome (phenomenon). They are:

- The level of technology employed at both factories. The results confirm that the technology employed is identical in the context of this study (see Chapter Three).
- The profile of the respondent samples. While the results of the statistical analysis state that the samples relative to age, monthly rate and job description are significantly different, this is not the case in practical terms, as such differences are not likely to engender meaningful practical distinguishing features between factories. It was concluded that the respondent samples are similar enough for comparison, and that the differences are not significant in the context of this study.
- The industry. The factories operate in the same industry (building, and more specifically the clay brick manufacturing industry) and as such, will be subjected to the same market forces.
- Time. The analysis between factories was done during the same financial year. As such, there are no time differences that could influence the outcome.

In the context of the study the above factors are similar, if not identical, in every instance at the Kopano and Lawley factories. The only main structural difference was one of ownership between the two factories, and it is suggested that it was this difference that caused the differences in employee perceptions regarding participation and empowerment, as well as the differences in operating costs between the factories. Accordingly, the only main differences between the two factories, which are deemed as significant as identified by the study results, are:

- That the Kopano workers have a significantly stronger perception of financial participation than the Lawley workers.
- That the Kopano workers have a significantly stronger perception of decision-making participation than the Lawley workers.
- That the Kopano workers have a significantly stronger perception of empowerment than the Lawley workers.
- That there are greater cost savings in operations at Kopano than at Lawley.
- The different ownership positions between factories.

Mill's Method of Difference

Kopano Descriptive Factors A + B + C **+** D **+ E** results in the outcome **F**

Lawley Descriptive Factors A + B + C + D + **No E** results in **No F**

Therefore **E** results in the outcome **F**

Where:

A: The technological similarities between factories.

B: The profile of the respondent samples.

C: The same industry (external forces).

D: Time – the study was conducted across factories during the same financial year.

E: Ownership at worker level (Kopano factory). Therefore "No E" means "No ownership" at worker level (Lawley factory).

F: Study results reflecting a greater sense of empowerment, financial participation, decision-making, and a reduction in cost savings (Kopano). "No F" denotes the opposite; a lesser perception of empowerment, financial participation and decision-making participation, and greater operational costs.

Therefore, according to Mill's Method of Difference, where there is an absence of "E" (Ownership), you will not get the outcome "F" (Study results; stronger perceptions). Where the workers do not hold proprietary title, there will be lesser perceptions of empowerment, financial participation and decision-making participation, and greater operational costs.

Cooper and Schindler (2001) agree with Skorupski (1989) by stating that one can never be certain that the dependent variable causes the independent variable to occur (or that the different ownership positions are absolutely the reason behind the different results obtained by the testing of the hypotheses). It is suggested that when testing causal hypotheses the following three areas need to be identified:

- Test for co-variation between the dependent (A) and independent (B) variables. Do A and B occur together in the way hypothesised? In the context of this study it is hypothesised that they do. Is there an absence of B when A does not occur? While this has not been tested, it is a realistic hypothesis that

if the ownership structures were the same then the different results would not have been obtained (or at least not to such a significant extent). When there is more or less of A, does one also find more or less of B? This is not relevant in the context of this study. Either the workers are owners or they are not owners.

- Check the time order of events moving in the hypothesised direction (does A occur before B?). In this study the ownership changes definitely occurred prior to the results obtained.

From the above, and using Mill's Method of Difference, it can be concluded that the different ownership positions between factories is likely to be the reason for the Kopano workers' greater sense of financial participation, decision-making participation and empowerment, as well as the savings in operational costs.

According to Cooper and Schindler (2001) and Skorupski (1989), there are some weaknesses in Mill's general picture of deduction. This presents the possibility of future research in order to conclusively link company ownership at worker level with worker perceptions and increased productivity (see next section).

5.7 SUMMARY

This chapter has effectively presented and analysed the findings relative to the hypotheses. The following chapter is the discussion of the findings.

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CHAPTER SIX

DISCUSSION OF THE FINDINGS, RECOMMENDATIONS AND CONCLUSION

6.1 INTRODUCTION

Chapter Five reported the findings, with sufficient interpretation to clarify their meaning. This chapter aims, as its main objective, to interpret the results in the light of previous research. This is done in the context of the theoretical commentaries and empirical research reports from the literature.

6.2 DISCUSSION OF THE RESULTS IN RELATION TO HYPOTHESIS # 1 (DECISION-MAKING PARTICIPATION)

Hypothesis # 1 states that the Kopano workers who hold proprietary title will have a greater sense of decision-making participation than the Lawley workers who do not hold proprietary title.

An initial analysis, by item (question) was conducted, with Kopano scoring higher than Lawley on all items without exception (section 5.4.3). The results indicate that

Kopano workers have a greater sense of decision-making participation than the Lawley workers (section 5.4.4). These results were deemed significant given the Independent t-test results (section 5.4.5), with the null hypothesis being rejected and the alternate hypothesis accepted. This indicates that the Population Mean Decision-Making Dimension at Kopano is significantly different to the Population Mean Decision-Making Dimension at Lawley at a 5% significance level (section 5.4.5). Models using Decision-Making as a dependant variable were not run, as the objective was to incorporate this construct as an independent variable in the development of a model to predict empowerment (section 5.4.8).

The results obtained relative to decision-making participation strongly support the hypothesis.

Lord (1995: 13) defines participation as: "The sharing by all employees of an organisation in both decision-making relating to their work, and in the financial performance of the firm." Given these definitions, along with the results of this study, Kopano are more involved in decision-making participation processes than their Lawley counterparts.

Whetton *et al*. (1997) suggest that in an industry which is unpredictable and changing (as is the case with the building industry in South Africa (Koopman *et al*., 1987)), workers need to be empowered with less centralised decision-making, less top-down direction and less autocratic leadership, which in turn will lead to increased performance. The effects of decision-making participation include improved industrial relations, better quality of decision-making, and improved financial and operational performance (Lord, 1995). The findings support these views with the Kopano workers having a greater sense of (decentralised) decision-making, as well as the resultant (improved) effect on operational costs (section 5.5.3).

This view is further supported by Fullam and Lando (1998) and Juhl and Kristensen (1997) who indicate that empowerment is the decentralisation of power, and define empowerment as the context to an organisational environment that supports staff access to power, enabling them to be innovative and creative.

Kelly and Kelly (1990) found a strong relationship between the introduction of decision-making participation schemes and improved workers' attitudes, with Patchen (cited in Lord, 1995) adding that such participation resulted in increased feelings of integration in the organisation. Accordingly, the Kopano employees must have improved attitudes and a greater feeling of integration than their Lawley counterparts. This participation in decision-making leads to greater fulfilment of employees' psychological needs, thus providing enhanced job satisfaction (Locke and Schweiger, 1979).

The "Fordistic" model (Lewchuk and Robertson, 1997) limits individuals in the decision-making process. Various arguments suggest that this process must be reversed and use must be made of worker knowledge of the production process, which in turn will enhance the role of individuals in the workplace. This proposed approach to work organisation is increasingly seen as the key to employment and productivity gains. The Kopano model is not "Fordistic", but is rather one where the workers are empowered to make decisions at shopfloor level and, as such, supports the propositions of Lewchuk and Robertson (1997). The statistical analysis clearly identifies the Kopano workers as having a stronger sense of decision-making than the Lawley workers, and this is consistent with Lewchuk and Robertson (1997) who state that this "new" model will enhance the role of the individual.

Ashmos *et al.* (2002) suggest that various researchers believe participation in decision-making is a motivational tool for improving performance, although empirical results have yet to strongly support the assertion, particularly at the individual and group level. The Kopano workers have a strong involvement in decision-making at all levels and the financial measurement criteria show Kopano to be more cost efficient than Lawley (section 5.5.3). James and Harvey (1999) draw comparisons between companies where ownership and control functions are separated, and suggest that where ownership and control are "one" (as is the case at Kopano), then there exists a greater distribution of decision-making and risk-bearing functions. Koopman *et al.* (1987) state that where employees have communal ownership over the means of production (as is the case at Kopano), then the workers will have a "real voice" with regard to developing policy and the decision-making process. He further states that if the workers share in the decision-making process,

then this will have a direct bearing on the results and profitability of the company (as is the case at Kopano; see section 5.3.3). Cole (1997) refers to the work environment as being a major contributor to a successful company. She states that problems must be solved, and decisions made by those closest to the issues and that this will then give the employees an "ownership mentality". Nasser and Nel (cited in Koopman *et al.,* 1987), talk of 'participation' and the need to develop a communal ownership over the means of production (Kopano). Structures must be developed that will facilitate self-control (decision-making) in the workplace. Contrary to the findings at Kopano, in a survey conducted by Pendleton *et al*. (1998), it was suggested by nearly 70 percent of respondents who were involved in ownership schemes, that they did not have a greater say in decision-making. It was also stated that most employee shareholders did not have a strong sense of ownership. This view is not supported at Kopano.

A major component of the "new social contract" between employers and employees is workplace reforms that increase worker participation in decision-making within firms (Mizrahi and Shlomo, 2002). They suggest that worker participation in decision-making at the shopfloor level is relatively common in modern companies, but suggest that such participatory decision-making at a higher strategic level is rare. Mizrahi and Shlomo (2002) cite the European style work councils as an example of participation in strategic decision-making. Despite Kopano's stronger sense of decision-making participation, it could be argued that the Kopano model supports the proposition of Mizrahi and Shlomo (2002). While the Kopano workers are involved in the day-to-day operational activities of the production process, one questions how powerful their voice is at strategic level. Strategic decisions at Kopano are still made by senior management who then "sell" the strategic decisions made to the owner-workers. This is a realistic argument because of the literacy rates and low skills of the owner-workers in strategic planning. Strategic decision-making skills are arguably held by senior educated managers, and not by unskilled employees (such as the owner-worker sweeper at Kopano, for example).

Schurman and Eaton (1996) present a framework for analysing and assessing the extent to which the employment relationship in a given enterprise, industry, or economy may be characterised as democratic. Reference is made to "shared

sovereignty" as one of the components. Shared sovereignty means the formal right to co-determine not only the outcome of decisions, but also the nature of the decision and problems that need to be addressed. Co-determination means bilateral or multilateral power sharing and does not translate into unilateral decision-making by any stakeholder, including employees. The second component is participation, and Schurman and Eaton (1996) refer to earlier studies that clearly show that direct participation by each individual in the governance of the company is economically efficient. This is consistent with the findings at the Kopano factory. Responsible decision-making requires that employees have access to managerial level knowledge and information about the company, as well as to opportunities to learn new skills that will enable them to interpret and use this information (evident at Kopano but not at Lawley).

The Kopano workers have a stronger sense of decision-making participation than their Lawley counterparts. Empirical examples cited that support the reasons behind this include Semco where the workers are involved in the decision-making process. Like the Semco workers, the Kopano owner-workers have adopted an "ownership" attitude. The workers at Semco got together to discuss factory locations, etc., and the workers at Kopano get together to discuss particular opportunities that arise, where they have to work in extra time at a reduction in pay, etc., so as to secure a particular order. This decision-making culture is not evident at Lawley.

It could be argued that, because of the decision-making culture at Kopano, the workers have adopted a Kaizen philosophy to their work; they have the power to make changes, at the coalface, on an on-going basis.

The Kopano workers share a similar philosophy to that of co-determination, which states that management and labour consider themselves as partners with joint decision-making power (McMurdy, 1999). Co-determination is the sharing of power at both the shop floor and the boardroom level, and is considered an extension of collective bargaining (Reese, 1991). This philosophy is evident at Kopano, but not at Lawley. Reese (1991) suggests that if the technology employed at the factory is very complex, then the possibility that co-determination will prosper is low. At Kopano the technology is not complex, and as such, co-determination and joint decision-

making is very likely to succeed. Likewise, Reese (1991) suggests that the larger the company the more difficult it is to implement co-determination. The Kopano factory is small and as such co-determination is more likely to succeed (this is not the case at Lawley). With reference to Reese's "continuum of co-determination" the Kopano workers and management share in the decision-making process, thus co-determination is evident as decisions are reached jointly. Again this is not evident at Lawley.

Participatory management (joint decision-making) at the Mondragon Cooperative Corporation is similar to that of co-determination, and activities at Kopano, in that there is the use of methods of consultation and negotiation with the worker-members and their social representatives in the economic, organisational and labour decisions that affect them. Again this is not evident to such an extent at Lawley.

Despite the empirical examples cited in this study, one is again reminded that no examples were found that replicate the ownership structure of Kopano. Reference here is made to a small company (Kopano) in a developing economy, where all the workers irrespective of age, gender, education, skills, etc., hold proprietary title. The Kopano example is unique in this regard. The findings on the "decision-making" aspect of this study are strongly supported. However, what remained to be determined is if this strong sense of decision-making participation at the Kopano factory exists as a result of the workers' ownership status. Mill's Method of Difference was used as an analytical tool in this regard and it is concluded that the different ownership structures between factories is likely to be the main reason for the Kopano workers' greater sense of decision-making participation (see section 5.6).

The next section also discusses hypothesis # 1, but with regard to financial participation.

6.3 DISCUSSION OF THE RESULTS IN RELATION TO HYPOTHESIS # 1 (FINANCIAL PARTICIPATION)

Hypothesis # 1 states that the Kopano workers who hold proprietary title will have a greater sense of financial participation than the Lawley workers who do not hold proprietary title.

An initial analysis, by item (question) was conducted, with Kopano scoring higher than Lawley on all items without exception (section 5.4.3). The results indicate that Kopano workers have a greater sense of financial participation than the Lawley workers (section 5.4.4). These results are deemed significant given the Independent t-test results (section 5.4.5), with the null hypothesis being rejected and the alternate hypothesis accepted. This indicates that the Population Mean Financial Dimension at Kopano is significantly different to the Population Mean Financial Dimension at Lawley at a 5% significance level (section 5.4.5). Models using Financial Participation as a dependant variable were not run, as the objective was to incorporate this construct as an independent variable in the development of a model to predict empowerment (section 5.4.8).

The results obtained relative to financial participation strongly support the hypothesis.

Financial participation is another "partial" form of employee involvement (Lord, 1995). Bendix's (1989) definition of participation excludes any reference to financial participation, whereas Lord proposed the following definition which included financial participation: "The sharing by all employees of an organisation in both the decision-making relating to their work, and in the financial performance of the firm" (1995: 13). The findings of this study are that the workers at Kopano have a greater perception of financial participation than their Lawley counterparts, thus supporting Lord's definition of "integrated participation".

A significant difference between Kopano and Lawley is what Hegewisch (1991) refers to as the "pay package". In the case of Kopano this "financial remuneration" comes in four different forms. There is the monthly salary, production targets, annual

dividend payment and share capital growth (the latter two as a result of their ownership status). In the case of Lawley the latter two are absent.

Many of the examples cited in the literature (Lord, 1995; Beardwell and Holden, 1994; Hanson and Hanson, 1989; and La Mantia *et al*., 1990) refer to the relationship between company performance and worker financial participation, i.e. performance-reward schemes. This is evident at Lawley with the workers receiving additional financial reward for targets met (being the second form of remuneration after monthly wages/salary). However, while Kopano also have this performance-reward relationship, their financial participation extends beyond this, as discussed above.

Garratt (2000) suggests that financial remuneration must be linked to both individual performance, as well as total corporate performance at all levels. This is consistent with reality at the Kopano factory, as the workers (owners) share in capital growth and dividend distribution, a situation which is not true for the Lawley workers.

Garratt (2000) further suggests that most companies link reward to output volumes (as is the case at Lawley) rather than profitability and/or productivity (as is the case at Kopano). Koopman *et al*. (1987) refer to the fact that the reward system and culture of an organisation are closely linked and dependent on each other. The success of participative schemes comes from a company having a performance-based (task) culture. The Lawley workers are remunerated according to performance, but they do not share in the profitability of the company, as is the case at Kopano.

This argument is continued with Blonchek (1999) who states that the worker will have an ownership culture if s/he has a belief in reward. If the business is successful then so will s/he be and, as such, focus is on bottom-line profitability (as is the case at Kopano).

Koopman *et al*. (1987) further suggest that workers feel that they get increases as a result of good work done by their representative trade union (as is the case at Lawley), and not as a result of harder work (as is the case at Kopano). COSATU suggest that there should be transparency as far as the company's books are concerned, and once this is achieved only then can workers demand their "fair share"

of the wealth that they have helped create. This argument goes back to the different ownership positions of the two factories. COSATU's argument is discounted in the case of Kopano because all workers have access to the financial statements and share in the wealth created. However, as far as Lawley is concerned, labour and business are still on "opposite sides", so in the case of Lawley, COSATU do have an argument.

Correia (1993) suggest that a dividend payment can increase the value of a company if it does not result in a fall in growth expectations given smaller retained income. This is an argument that does not affect the Lawley workers as they are not shareholders. It is however, a point of discussion with the Kopano workers who share in both capital growth and dividend distribution. It is proposed that this is a strong contributor to the reason why the Kopano workers have a greater sense of financial participation than the Lawley workers. Miller and Modigliani (cited in Correira, 1993) disagree, suggesting that dividend policy has no effect on the value of the shares of a company.

Phillips (1999) refers to employee share ownership plans (ESOP's) that can facilitate ownership by workers, of a portion of a company. Phillips suggests that ESOP's (ownership) can boost productivity and profitability. Participating employees "act like owners because they are owners", and therefore share in the wealth of the company (as is the case with Kopano but not Lawley). Stock (1999) reports that total shareholder return for companies that have ESOP's was an average of 7 percent higher than companies that did not have an ESOP plan. Stretch (2002) suggests that smaller companies are not as active in the issue of ownership, or profit sharing. This is not the case at the Kopano factory, which can be classified as a small to medium company with about 200 workers, all of whom share in ownership. Stretch (2002) further suggests that smaller companies have problems in selling shares as a result of an employee trust not being established to buy the shares. This is the reality at the Kopano factory, and is a weakness as identified by the managing director of Corobrik (personal communication; P. du Trevou, 2003). Renton (1994) states that a positive aspect of share ownership includes the incentive to increase productivity and profitability, as well as providing another form of savings for retirement (a reality at Kopano but not at Lawley). Renton (1994) argues that ownership schemes are

prevalent in the financial and services sectors but not in manufacturing. Kopano is in the manufacturing sector.

Bernstein (cited in Schurman and Eaton, 1996) argues that the sustainable workplace democracy requires that employees receive on a regular basis, in addition to their usual wage, a portion of the surplus value created by their work, and that this economic return must belong to them by right, and not through the discretion of someone outside their control, and that the return should be made to the entire group, managers included, rather than to individuals on a competitive basis.

Again this proposition is a reality at Kopano because of the worker-ownership status. This is not the case at Lawley where the workers may be offered incentive bonuses, but at the discretion of senior management/owners.

The Mondragon Cooperative Corporations of Spain channels its commitment towards economic and social development (Turnbull, 1994). Net profits are reinvested for projects of a community nature and for the creation of new jobs. Up to 10% of the net surplus of the cooperative is assigned to education. The Mondragon Cooperatives believe in a dual method of payment with the workers receiving both their fixed monthly salaries as well as periodic dividends. Co-operative dividends are paid out annually depending on the financial position of the cooperative. This will always be a minimum of 30% and a maximum of 70%, and is added to each individual member's contribution. Lawley workers do not receive dividends. Kopano workers do receive dividends, but the method of allocation (of dividends) is proportional to the workers' respective shareholding. Accordingly, a Kopano worker with a greater shareholding will receive a proportionally larger dividend than a worker with a smaller shareholding.

The workers at Semco also benefit from bottom-line profitability with 23% of profits being shared by the workers. Again this is similar to the Kopano workers as they receive dividends, but unlike the Kopano workers, the Semco employees do not benefit from capital growth, as they are not owners. However, the Semco workers and the Kopano workers share a similar philosophy in adapting financial remuneration according to external market forces (something not prevalent at

Lawley). An example from Semco is when a particular unit was in financial difficulty. All the workers got together and came up with an entrepreneurial solution which included cuts in pay, in a concerted effort to save the unit. In the case of Kopano, the workers have got together and discussed overtime rates in order to secure large specific orders, often being paid "normal time" rather than "Sunday time". Basically they both practiced marginal costing given market forces, something that is not practiced by the Lawley workers.

The findings relative to the hypothesis on financial participation are strongly supported. It was suggested that this is a direct result of the different ownership structures of the factories and using Mill's Method of Difference it was concluded that the different ownership positions between factories is the likely reason for the Kopano workers' greater sense of financial participation.

The next section discusses the findings relative to the workers' sense of empowerment.

6.4 DISCUSSION OF THE RESULTS IN RELATION TO HYPOTHESIS # 2 (EMPOWERMENT)

Hypothesis # 2 suggests that the workers at the Kopano factory who hold proprietary title will have a greater sense of empowerment that the workers at the Lawley factory who do not hold proprietary title.

An initial analysis, by item (question), was conducted, with Kopano scoring higher than Lawley on all items without exception (section 5.4.3). The results indicate that Kopano factory workers have a greater sense of empowerment than the Lawley workers (section 5.4.4). These results were deemed significant given the Independent t-test results (section 5.4.5), with the null hypothesis being rejected and the alternate hypothesis accepted. This indicates that the Population Mean Empowerment Dimension at Kopano is significantly different to the Population Mean Empowerment Dimension at Lawley at a 5% significance level (section 5.4.5).

A model was built to predict the sense of empowerment of the workers at both the Kopano and Lawley factories. Multiple Regression techniques were used, results were obtained and presented (section 5.4.8). At the Kopano factory the model not only proved to be significant (t-test results: section 5.4.5), but measured 57% of the variability in empowerment. In addition, the constant term, as well as the coefficients included in the model, were significantly different from zero. There were no violations of any of the assumptions used in building this model. At the Lawley factory the model also proved to be significant (t-test results: section 5.4.5), and measured 25.9% of the variability in empowerment (R Square results). Likewise, the constant term as well as the coefficients included in the model were significantly different from zero. There were no violations of any of the assumptions used in building this model. The Kopano model therefore has strong predictive power to predict the sense of empowerment of a worker, whereas the Lawley model is not as strong. These models (especially Kopano), enable management, from time to time, to score workers' sense of financial and decision-making participation, and use the results to predict a sense of empowerment condition. Note that these are models, and as such, could be constantly improved upon by the addition of extra constructs, a path suggested for future research.

The results obtained relative to empowerment strongly support the hypothesis.

Siegall *et al.* (2000) agree that there are many different interpretations or meanings of empowerment. This is consistent with the empirical examples that differ from a South African context to the international examples cited. Early "empowerment" examples in the South African context focused only on equity ownership. Later examples extended to include "the masses", with the focus shifting more "downstream", with initiatives such as employment equity, skills development, outsourced procurement, etc. The various international examples are discussed later in this section. These examples also differ considerably from the theoretical interpretations of empowerment.

The Kopano workers have a greater sense of empowerment than their Lawley counterparts because of their ownership status. This is consistent with the theoretical propositions of a number of commentators (e.g. Whetton *et al*., 1997; Fullam and

Lando, 1998; Menon, 2001; Paul *et al*., 2000; Juhl and Kristensen, 1997; Argyris, 1999; Menon, 2001; Spreitzer, 1996; Thomas and Velthouse, 1990; Quin and Spreitzer, 1997; Kanter, 1983; and Scriven, 1997). In understanding the theoretical interpretations, one must again be reminded of key words that summarise the commentators' understanding and interpretation of "empowerment". These words include self-esteem, perceived control, perceived competence, goal internalisation, self-efficacy, self-determination, personal control, meaning, trust, personal development, and motivation. Given the Kopano workers' ownership status, it seems reasonable that they will have a greater sense of empowerment than the Lawley workers, and this is strongly supported by the study results (see section 5.4.3 and 5.4.4.3).

Listed below are some examples that are both consistent and inconsistent with the study results relating to empowerment:

- Fullam and Lando (1998) suggest that empowerment entails the "decentralising of power". This is consistent with the findings because the Kopano owner-workers, by virtue of their ownership status, have decision-making power at all levels within the organisation. This is not the case at Lawley where decisions are made by the shareholders and senior management, but not by the workers.
- Barker (cited in Fullam and Lando, 1998) defines empowerment as "the context to an organisational environment that support(s) staff access to power, enabling them to be innovative and creative". Again by virtue of their ownership status, the Kopano workers have the power to be innovative and creative, whereas their Lawley counterparts do not have this latitude (the Lawley employees are limited in their freedom to be innovative and creative). The study results strongly support the fact that the Kopano workers have a greater sense of empowerment (given Barker's definition).
- Menon (2001) suggests that empowerment is the granting of power and decision-making authority. The study results strongly support this view, with the Kopano workers having a significantly stronger perception of empowerment and decision-making (authority) than their Lawley counterparts (see sections 5.4.3 and 5.4.4);
- The motivational approach (to empowerment) is where empowerment is conceptualised as psychological enabling. Dawson (1998) adds that enabling

people means creating opportunities wherein people can realise their higher-level motivators (achievement, recognition, advancement, personal and professional growth, and increasing levels of responsibility), and take ownership and operate in a team that improves all processes. Lord (1995) adds that motivation forms the theoretical foundation underpinning participation strategies and the study results strongly support this, with the Kopano workers having a greater sense of empowerment than their Lawley counterparts. Lord further defines participation strategies as encompassing both financial participation and decision-making participation, both of which are strongly supported in this study.

- Wellins (cited by Paul *et al*., 2000) defines empowerment as a process of passing authority and responsibility to individuals at lower levels in the organisational hierarchy, a view supported by Kreitner and Kinicki (cited in Fullam and Lando, 1998) and Juhl and Kristensen (1997). Based on the study results the Kopano workers clearly have both greater authority and responsibility than their Lawley counterparts, particularly at the lower levels in the hierarchy.
- Argyris (Harvard Business Review, 1999) links participation very closely to empowerment. If management want employees to become empowered then they must practice participatory management philosophies. This is consistent with the findings, because the Kopano workers participate in the operational activities of the process to a greater extent than the Lawley workers, again, as a direct result of their ownership status. An example of this would be the monthly financial statements that the Kopano workers have access to, as well as the availability of an explanation and discussion of them. This does not happen at the Lawley factory. Argyris further suggests that in order for there to be empowerment in an organisation, it must be "throughout" and not just restricted to certain individuals, as is the case at Kopano, but not Lawley.
- White (cited in Whetton, *et al*., 1997) states that being empowered does not mean that one can totally control one's life, but it does mean that one can influence the outcomes of many activities one may be confronted with. While the Kopano workers have a greater perception of empowerment, and arguably have a greater say in determining their outcome, there will always be outside forces (such as the market) that they have absolutely no control over. However, unlike the Lawley workers, and according to White's interpretation, the Kopano workers are more empowered to be proactive in meeting these external forces.

- Employees at the lower levels must have the "right mix" of information (processes, quality, customer feedback, events, etc.), knowledge, power (to act and make decisions), rewards (tied to business results and growth in capability and contribution), to work autonomously or independently of management control, and direction. This is effectively what empowerment is (Paul *et al.,* 2000). This is consistent with the study's findings because the Kopano workers have greater access to information than the Lawley workers. The Kopano workers also have financial rewards that are tied to company performance such as capital growth and dividend distribution, which is not the case at Lawley. This view is supported by Whetton *et al*. (1997), who state that the empowered individual requires the removal of constraints, controls, boundaries, etc. Work is facilitated by the provision of trust, providing resources, stimulation, motivation and steering.
- Kanter (1983) states that when managers feed information down to employees, then they (the employees) will have a greater sense of empowerment. The Kopano workers definitely have greater access to information than the Lawley workers do. This is supported by Spreitzer (1992) and is consistent with the findings.

Previous international examples cited in the literature reveal no example that is similar to the Kopano empowerment initiative. Specific reference is made here to the fact that Kopano is in a developing economy where ownership status is extended to every worker in the company, irrespective of education or position. However, there were many examples that had aspects that are similar, as is highlighted below.

The Mondragon Cooperative Corporation (MCC) is similar, in that a higher priority was placed on labour (over capital). The MCC focus was social upliftment via education, training, a sharing of the profits, and a total commitment to the development of the social environment. MCC has democratic management and a balance between the workers' welfare and company profits. This is consistent with the Kopano owner-workers who also participate in the oversight, operation, and development of the business. While the Kopano workers are all shareholders, the MCC workers must hold at least 90 percent of the shareholding. Other similarities with Kopano are that the MCC serves an oppressed ethnic minority. MCC also

avoids control by a technical or managerial elite, and promotes democratic control of its governing structures. Social development is an essential goal for economic development. Shipp (1996) suggests that the Mondragon methods are a positive response from an oppressed people to their social and economic upliftment.

Ricardo Semler (1993), the owner of the Brazilian company Semco, believed in total transparency. While ownership of Semco remained with Semler (unlike Kopano), Semler believed that the workers must take control of the company. The workers made the rules and shared in the profit of the company. This is consistent with theoretical propositions of a number of commentators (Reese, 1991 and Correia, 1993) and is also consistent with Kopano, but not Lawley.

Ship (1996) refers to the Mondragon example as being successful, based on their past history of economic oppression and minority status. Many of the elements that account for Mondragon's success have been proposed and implemented by African-American leaders in the twentieth century.

Co-determination adopts the philosophy of management and labour as partners with joint decision-making power (McMurdy, 1999). This joint decision-making philosophy is evident at Kopano, but not at Lawley. However, co-determination is a philosophy where management and labour are not one and the same. In the case of Kopano, management is also labour, much like a cooperative.

The many South African examples cited concerning "empowerment" are not consistent with the Kopano initiative, nor the theoretical propositions of the authors, but refer mainly to "ownership" of the company. The many examples cited refer to "Black Economic Empowerment" where a portion of the company is sold to a black "elite", and not to the total staff complement. One must question how the employees (black or white) benefit from this "empowerment" transaction. In the context of this study the word "empowerment" in the South African context, should arguably be substituted by the words "black ownership". This wording will reflect a more correct understanding of the situation in reality. There are a few examples cited which are labelled "broad based black economic empowerment". This is an extension of BEE where the financial benefits filter down to the employees as a whole. However, while

this is a step in the right direction, this is profit sharing and not equity ownership and, as such, is still not consistent with the Kopano initiative.

The results strongly support the hypothesis relating to empowerment. Again, Mill's Method of Difference is used as an analytical tool to successfully link these results with the ownership status of the Kopano workers (see section 5.6). This concludes the discussion of empowerment. The next section discusses the findings relating to operational costs.

6.5 DISCUSSION OF THE RESULTS IN RELATION TO HYPOTHESIS # 3 (PRODUCTIVITY AND COST SAVINGS)

Hypothesis # 3 suggests that the operational costs at the Kopano factory will be lower than the operational costs at the Lawley factory (as a direct result of the different ownership structures and employee perceptions of participation and empowerment). This hypothesis is supported (see section 5.5.3).

In the context of the study, efficiencies in productivity will result in operational cost savings (see section 5.5). Craig and Pencavel (1995) state that there are productivity gains from relating workers' pay to their output or to company profits, rather than to time input. Doucouliagos (1995) synthesised the results of 43 published studies and found that profit sharing, worker ownership, and worker participation in decision-making were all positively associated with productivity. All the observed correlations were stronger among labour-managed firms than among capitalist firms. For the purpose of this study, one can relate productivity gains to either increased output or cost savings, or both. The Kopano workers have a direct relationship with bottom line productivity, namely dividend distribution. The Lawley workers do not share in a distribution of this nature. This difference supports the propositions of Craig and Pencavel (1995). They further suggest that worker-owners (Kopano) are likely to be better informed than non-worker-owners (Lawley), also resulting in increased productivity. Again this is a reality at Kopano. Craig and Pencavel (1995) also suggest that worker-ownership eliminates the separation of interests between workers and owners which can result in productivity gains. This position is shared by

Doucouliagos (1995) who states that profit sharing and worker ownership is positively associated with productivity. While the Lawley workers may have some form of profit sharing in place, it falls far short of the benefits associated with equity ownership (capital gains and dividend distribution) and as such, the Kopano workers are more aggressively motivated to increase profits by lowering costs (see section 5.5).

Craig and Pencavel (1995) state that there will be productivity gains if workers have a greater sense of decision-making participation. The Kopano workers do have a greater sense of decision-making than their Lawley counterparts, (see sections 5.4.3 and 5.4.4) and as such, this is consistent with the findings in that there are cost savings at Kopano.

Employee share option plans (ESOPs), a form of company ownership, boost productivity and profitability (Phillips, 1999; Pendleton and Brewster, 2001). This is consistent with the findings in that the Kopano workers (owners) have an increase in productivity, or a lowering of operational costs (see section 5.5). What is not consistent with Phillip's findings is that ESOPs are traditionally offered to selected "white collar" employees and not in the manufacturing sector (an exception to this rule is Anglo American who focused ESOPs on black workers). In the case of Kopano, the equity offering was in the manufacturing sector and to all employees (white and blue collar), and at all levels in the organisation.

This concludes the section on operational costs. Hypothesis # 1 and hypothesis # 2 found that the Kopano workers have a greater sense of decision-making participation, financial participation and empowerment than the Lawley workers. Hypothesis # 3 determined that there are greater cost savings at the Kopano factory. In all cases Mill's Method of Difference determined that these results are as a direct result of the different ownership structures between factories (see section 5.6).

6.6 RECOMMENDATIONS AND CONCLUSION

The link between the ownership positions, between factories, and the results of the hypotheses was made using the analytical tool of Mill's Method of Difference. Given the stated weaknesses associated with Mill's methods of deduction, this link should be researched further. However, it seems plausible that ownership of a company, at all levels within said company, would create greater awareness regarding waste, operational costs, etc.

Future research could extend to other industries (and companies) in order to test whether the findings have generality across other companies and industries.

The empowerment examples cited in a South African context refer not to the theoretical propositions of numerous commentators, but rather to "black ownership by a few elite". The examples cited refer to empowerment, but really mean ownership. The subject of empowerment (ownership) by the previously disadvantaged communities of South Africa is "wide open" from a research perspective. Accordingly empowerment (given the South African definition meaning "ownership") is a relatively new topic, and many different research projects on the topic can still be realised.

The findings of this study indicate that company ownership (partial or total) by the workers, results in greater perception of financial participation, decision-making participation and empowerment. This in turn results in greater productivity (cost savings) and therefore greater profits (for both the company and the individual).

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APPENDIX A

ORIGINAL ENGLISH QUESTIONNAIRE

Instructions:

A) Do not write your name on the questionnaire.
B) The purpose of this questionnaire is for research only. The questionnaires will be destroyed once the research is completed.
C) Please indicate your response to each statement by making a cross (X) over that block which most accurately reflects your views. Your response to each statement should be an honest reflection of your personal feelings or opinion.
D) This is not a test.
E) There are no right or wrong answers.
F) Strongly Disagree.
G) Disagree.
H) Neither Agree nor Disagree.
I) Agree.
J) Strongly Agree

A to J	denotes Instructions (above).	
Questions 1 to 6.	Perceived extent of financial participation.	(Lord, J., (1995). Pg 515)
Questions 7 to 11.	Perceived extent of decision making.	(Lord, J., (1995). Pg 516)
Questions 12 to 41.	Perceived extent of empowerment.	(Moodley, 2004).

Q1. The harder I work, the more I produce.
Q2. The harder I work, the more I will earn.
Q3. There are financial rewards for working harder in this company.
Q4. Poor job performance may get me fired.
Q5. Improving my performance will lead to me making more money.
Q6. The bonus paid by this company is large enough to make me work harder.

Q7. I have a big say in the setting of my work targets.
Q8. My superior often asks me for my thoughts about my work targets.
Q9. I have helped in preparing the work targets for my job.
Q10. Superiors have asked me about any special things I wanted to have including when my work targets were being decided.
Q11. My supervisor listens to my problems about work targets.

Q12. I am confident in my abilities to do my job.
Q13. I am self assured about my capability to do my job.
Q14. I have mastered the skills necessary for my job.
Q15. My impact on what happens in my team is large.
Q16. I have a lot of control over what happens in my team.
Q17. I have significant influence over what happens in my team.
Q18. The work I do is meaningful.
Q19. The work I do is important to me.

Q20. My job activities are personally meaningful to me.
Q21. I have significant autonomy in determining how to do my job.
Q22. I can decide on my own how to go about doing my work.
Q23. I have considerable opportunity for freedom in how I do my job.
Q24. I am a token appointment in this company.
Q25. I am underutilized by the company.
Q26. I do not have a clear job description.
Q27. I have access to the resources to do my job well.
Q28. I have the support of my immediate supervisor to do my job well.
Q29. I am inspired by the goals of the company.
Q30. The working environment is largely positive.
Q31. I am over qualified for my present position.
Q32. I have an important position but no real power in this company.
Q33. I feel constant pressure to prove my worth.
Q34. Important responsibilities are part of my daily activities.
Q35. I understand the strategies and goals of the company.
Q36. I have the support I need from my subordinates to do my job well.
Q37. I am allowed to make errors in my job without being seen as incompetent.
Q38. Senior management wants me to succeed in my current position.
Q39. I have the opportunity to advance in this company.
Q40. I trust my work colleagues.
Q41. I am proud to be part of this organisation.

End of Appendix A

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APPENDIX B

Original Questionnaire (Appendix A) translated into Tswana
(***Kopano***).

A) Se ka wa kwala leina la gago mo le naneong la diputso.
B) Maikaelelo a lenaneo la dipotso ke ditlhotlhomiso fela. Mme morago ga ditlhotlhomiso go fedisiwe lenaneo.
C) Ka kopa supa karabo ka letshwao la (X) mo masakaneng go supa maikakanyo a gago. Mme karabo tsotlhe disupe maikutlo a gago kgotsa ditsitsinyo tsa gago.
D) Se, ga se tlhatlhobo.
E) Ga go na dikarabo tse di fosagetseng kgotsa tse di siameng.
F) Ganetsa thata fela.
G) Ganela
H) O ka ganela kgotsa wa dumela.
I) Dumela!
J) Dumela thata fela.

Q1. Go dira ka thata, o oketsa kuno.
Q2. Go dira ka thata, o oketsa letseno.
Q3. Go dira ka thata go na le tuelo ya madi mo femeng.
Q4. Tiro e e bokoa e ka fedisa mmereko wa me.
Q5. Go tlhatlhosa maemo a tiro go oketsa letseno.
Q6. Go duela ga feme bonuse go rotloetsa go dira ga me ka thata.
Q7. Ke na le seabe mo thulaganyong ya tiro le dipalopalo tse di tlhokegang.
Q8. Baeteledipele ba na le go mpotsa ka kitso ya me mabapi le dipalopalo mo tirong.
Q9. Ke thusitse ka dipakanyo tsa go rulaganya dipalopalo tsa tiro ya me.
Q10. Baeteledipele ba mpoditse gore a go na le sengwe se ke se tlhokang sa botlhokwa go tsenyelediwa mo dipalong fa go diriwa tshwetso.
Q11. Moeteledipele wa me wa nthetsa ka mathata mabapi le dipalo palo tsa tiro.
Q12. Ke na le tshepo le maikemisetso go dira tiro ya me.
Q13. Ke na le tumelo ka matlhagatlhaga a go dira tiro ya me.
Q14. Ke nale kitso ya go itse tiro ya me.
Q15. Go itse ka nako tsotlhe ka se se diragalang mo setlhopeng sa me go botlhokwa mo go nna.
Q16. Ke na le taolo e ntsi ka se se diragalang mo setlhopeng sa me.
Q17. Ke na le tlhotlheletso e botlhokwa ka se se diragalang mo setlhopeng sa me.
Q18. Tiro e ke e dirang ya itshupa.
Q19. Tiro e ke e dirang e botlhokwa.
Q20. Ditiro tsa me di na le bokao mo go nna.
Q21. Ke dira tshwetso ya go dira tiro ya me.
Q22. Ke dira tshwetso ka se ke ratang go se dira mo tirong.
Q23. Ke na le tshono e ntsi gore tiro ker dire jang.
Q24. Feme e nneile maemo.
Q25. Feme ga e ntirise sentle.

Q26. Ga kena lenaneo itshupo la tiro e ke e dirang.
Q27. Ke na le tetla ya go e dirisa.
Q28. Ke na thotloetso ya (modiri ka nna) e bong moeteledipele go dira tiro ya me sentle.
Q29. Ke ratile dipholo tsa feme.
Q30. Maemo a ke dirang mo tlase ga one a retibetse.
Q31. Dithuto tsa me di ko godimo ga tiro e kee dirang.
Q32. Ke na le maemo a botlhokwa mme ga ke na matla mo femeng.
Q33. Kgatelelo e ntsi go itshupa mo tirong.
Q34. Maikarabelo a a botlhokwa ke nngwe ya tsatsi le letsatsi ya maikemisetso.
Q35. Ke tlhaloganya metheo ya tiro le dipholo tsa feme ya me.
Q36. Ke na le thotloetso e ke e tlhokang go tswa go badiri ka nna go dira tiro ya me.
Q37. Ke dumeletswe go dira phoso mo tirong ya me e se fa ke sa kgone go dira tiro.
Q38. Baetedipele ba bagolo ba rata go mpona ke atlega mo maemo a ke dirang a tiro.
Q39. Ke na le tshono ya go tlhatlhogela kwa godimu mo femeng.
Q40. Ke tshepa badiri ka nna.
Q41. Ke motlotlo go nna leloko la mokgatlo o.

End of Appendix B

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APPENDIX C

Above Questionnaire (Appendix B) translated from Tswana back into English (*Kopano*)

No changes have been made to both grammar and/or spelling.

A) Do not write your name on the question paper.
B) The aim of the programme is for testing purposes only, and the question paper will be destroyed after completing the test.
C) Please mark your answers with an (X) in the brackets answers must be clearly understood.
D) This is not a test.
E) There is neither wrong nor correct answers.
F) Strongly disagree.
G) Disagree.
H) Either agree or disagree.
I) Agree.
J) Strongly agree.

Q1. Working hard increases profits.
Q2. Hard work increases the income.
Q3. Hard work brings financial benefits in the factory.
Q4. Poor performance can cause one to loose a job.
Q5. To work harded could increase the income.
Q6. Performance bonus benefits will increase my work performance.
Q7. I am responsible for my work performance standards and production budgets.
Q8. Management enquired about my feelings I have on production budgets.
Q9. I have assisted with preparation for my production budgets.
Q10. Management requested me to make additional and important contributions to budget decisions.
Q11. My manager listens to my problems concerning the production budget.
Q12. I have confidence and commitment to do my work.
Q13. I believe that I apply enough performance on my work.
Q14. I had enough training to be able to do my work.
Q15. It is always important to me to know what is happening in my team.
Q16. I have a lot of control over everything which take place in my team.
Q17. I have an important influence on what is happening in my team.
Q18. My work is remarkable.
Q19. My work is very important.
Q20. My job activities are meaningful to me.
Q21. I have made a decision to do my work.
Q22. I made a decision of what I like to do at work.
Q23. I have an opportunity to choose how my work is supposed to be done.
Q24. I am a small position in the factory.
Q25. I am not fully utilized at the factory.
Q26. I do not have a job description.
Q27. I am allowed to use it.

Q28. I get support from other employees, being my manager who assists me to do my work properly.
Q29. I am happy about the achievements.
Q30. I am working under suitable conditions.
Q31. I am highly qualified for the work I am doing.
Q32. I am occupying a responsible position but I have no powers at the factory.
Q33. I am experiencing a lot of pressure at work.
Q34. Responsibility is important in the objectives of everyday.
Q35. I understand the work procedures and reports of the factory.
Q36. I need support from my co-employees to be able to achieve my duties.
Q37. I am allowed to make mistakes without that being regarded as inadility to do better.
Q38. Senior managers wish to see me succeeding in my current position.
Q39. I have a lot of opportunity to move to higher positions in the factory.
Q40. I have the confidence in my co-workers.
Q41. I am proud to be a member of the organisation.

End of Appendix C

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APPENDIX D

Original Questionnaire (Appendix A) translated into Venda
(***Lawley***)

A) Vha songo nwala dzina lavho kha hedzi mbudziso.
B) Vhuthogwa ha mbudziso hedzi ndi uita thodulusiso fhedzi, nga murahu ha thoduluso zwido latwa.
C) Talusani phindulo yonu nga murahu ha tshitatamende tshinwo no tshinwo nga u ita (X) tshifhambano. Phindulo yanu I fanela u vha ya ngoho futhi I tovhedze vhudipfi hanu kana vhudi fari hanu.
D) Hoyu asi mulingo.
E) Ahuna phindulo ine yavha yone kana ine ya si vhe yone.
F) Ndi hana nga maanda anga othe.
G) Ndi a hana.
H) Ni nga tenda kana nda hana.
I) Ndi a tenda.
J) Ndi tenda nga nungo dzothe.

Q1. Musi nditshi shuma nga maanda, ndi a dveledza zwinzhi.
Q2. Musi ndo shumesa ndi a vhuyelwa.
Q3. Huna mbuyelo ine ndai wana musi ndo shumesa. Khaphanini.
Q4. Mushumo une usivhe wa vhudi uita uri ndi pandeliwe.
Q5. U bveledza mushumo wa vhudi zwiita uri ndiwane tshelede nnzhi.
Q6. Tshelede - nyenqedzo ine ya badelwa nga khaphani ndi nnzhi lune iita uri ndi shumesa.
Q7. Ndina ku shumela kunzhi kune nda teya u dzula ndi tshi ku ita kha kushumele kwanga.
Q8. Muranga phanda wanga ua mmbudzisa vhudipfi hanga nga ha mu shumo wanga.
Q9. Ndi di thusa nga kudzudzanyele kwa mushumo wanga wa duvha.
Q10. Muranga phanda wanga o mbudzisa nga kuitele kune ndafuna kutshi itwa khathihi na kushumele kwanga kwa duvha kwo tendelwaho.
Q11. Murunga phanda wanga o nwala zwothe zwi ita zwadina nga mu shumo wanga wa, du, vha.
Q12. Ndi na lutendo lwa uri ndishuma nga ndila yone kha mushumo wanga.
Q13. Ndi pfa ndo tsiraledzea nga kushumele kune nda shuma ngakwo mushu mo wanga.
Q14. Ndi na vhukoni vhunzhi nga maanda kha mushumo wanga.
Q15. Ulonga hanga tshanga khazwine zwa khou itea kha thimu yanga ndi zwi hulwane.
Q16. Ndi na vhudifhinduleli vhunzhi ha zwine zwa itea kha thimu yanga.
Q17. Ndi na thuthuwedzo ngaha zwine zwakhou itea kha thimu yanga.
Q18. Mushumo une nda u ita ndi wavhudisa.
Q19. Mushumo une nda u ita ndiwa vhuthogwa kha nne.
Q20. Mushumo-ndaluko ndi wa vhuthogwa kho nne.
Q21. Ndi na vhukoni ho teaho uita mushumo wanga.
Q22. Ndi tou nanga uri ndi ito mini ngaha mushumo wanga.
Q23. Ndi shuma ndo vhafholowa mushymani wanga.
Q24. Nne ndi touvha tsumbo yo nangiwaho ya heyi kha nphani.

Q25. Ndo dzhiiwa nga khampani u bveletlza mushumo.
Q26. Thitouvha na ndila yo kunaho ya kushumele kwanga.
Q27. Ndi na ndugelo yo u thusa u ita mushumo wanga.
Q28. Ndi na thuso yo the itodeaho kha muranga phanda u ita mushumo wanga.
Q29. Ndi tutu wedzwa nga ku vhetshelwe kwa khanphani.
Q30. Zwi shumiswa zwa hafna fhethu zwo hula nga ndi la khulwane ya vhudi.
Q31. Ndo funzea u fhira mushumo une nda khou shuma wone.
Q32. Ndi shuma kha pozishini ya vhudi, fhedzi a I tovha na maanda kha khaphani.
Q33. Zwinyitela mutsiko uri ndi sumbedze uri huna zwinwe zwine nda zwi kona.
Q34. Vhuthogwa na vhu difhinduleli ndi zwinwe zwine nda zwiita kha mushumo wanga.
Q35. Ndi pfesesa ku shumele na ndivho ya khaphani.
Q36. Ndi wana thuso yo fhelelaho kha vha shumisani na nne u ita mushumo wanga zwavhudi.
Q37. Ndi a tendelwa u ita vhukhakhi hu songo lavhelelwa zwauyi ndi na vhukoni naa.
Q38. Vharanga phanda vhanga vhahulwane vha toda ndi tshi bvela phanda kha vhuimo, vhune ndavha khaho zwino.
Q39. Ndina ndila yavhudi ya u bvela phanda kha khamphan.
Q40. Ndi themba mushumo wa khonani yanga.
Q41. Ndi a di khoda uvha munwe wa heyi mbekanya mu shumo.

End of Appendix D

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APPENDIX E

Above questionnaire (Appendix D) translated from Venda back into English (*Lawley*)

No changes have been made to both grammar and/or spelling.

A) Do not write your name on this questions.
B) The main aim of this questions is to make research, and thereafter they will be destroyed.
C) Explain your answer after each and every statement marking (X) next to it. Your answer must be correct, following your behaviour and your feelings.
D) This is not a test.
E) There is no correct or incorrect answers.
F) I strongly disagree.
G) I disagree.
H) I can agree or disagree.
I) I agree.
J) I agree by all powers.

Q1. When I work hard, I produce more.
Q2. When I work hard, I get reward.
Q3. There is a reward I get after working harder for the company.
Q4. The work which is not good will lead to dismissal.
Q5. To work on all efforts will make me earn more money.
Q6. Increased money which paid by the company its more in such a way that I work harder.
Q7. I have got many say that I must organise in my work.
Q8. My supervisor asks about my feelings on how much I must work.
Q9. I help to organise my working job for the day.
Q10. My supervisor asks me on how I like my job to be done, how I should work and how I feel about it.
Q11. My supervisor writes anything wrong about my work for the day.
Q12. I believe that I do the right thing in my job.
Q13. I feel secured in the way that I work.
Q14. I have got more experience in my work.
Q15. To participate in what is happening in my team is great.
Q16. I have lots of control over my friends in the team.
Q17. I got influence in what is happening in my team.
Q18. I am doing the good job.
Q19. The work which I am doing is for more experience to me.
Q20. The work which I am doing is in my heart.
Q21. I have got more experience to do my job.
Q22. I choose what to do first in my job.
Q23. I can do my work as I feel in this company.
Q24. I am an example chosen from this company.
Q25. I am not used enough at the factory.
Q26. I have got a very good way to do my job.
Q27. I have got rights to help to do my job.
Q28. I have got rights for help from leadership to do my job.
Q29. I have courage about how the company is organised.

Q30. The equipment in this company is big in such a way that it is good.
Q31. I am educated more than the work I am doing.
Q32. I am in a good position in the company, but I have got no say in the company.
Q33. What gives me pressure that I can't show that there is something that I can do better.
Q34. The importance and responsibility is something that I do in my work.
Q35. I know and understand the need and good for the company.
Q36. I get good support from my co-workers and I do good job from them.
Q37. My mistakes are acceptable even though they don't check my experience.
Q38. My superiors encourage me to get more promoted from the position I am in now.
Q39. I have got the right way to develop in the company.
Q40. I trust the work that my friends do.
Q41. I am proud to be one of this company.

End of Appendix E

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APPENDIX F

FINAL QUESTIONNAIRE FOR *Kopano*

Instructions:

English.
Tswana

- DO NOT write your name on the questionnaire.
  Se ka wa kwala leina la gago mo le naneong la diputso.

- The purpose of this questionnaire is for research only. The questionnaires will be destroyed once the research is completed.
  Maikaelelo a lenaneo la dipotso ke ditlhotlhomiso fela. Mme morago ga ditlhotlhomiso go fedisiwe lenaneo.

- Please indicate your response to each statement by making a cross (X) over that block which most accurately reflects your views. Your response to each statement should be an honest reflection of your personal feelings or opinion.
  Ka kopa supa karabo ka letshwao la (X) mo masakaneng go supa maikakanyo a gago. Mme karabo tsotlhe disupe maikutlo a gago kgotsa ditsitsinyo tsa gago.

- This is not a test.
  Se, ga se tlhatlhobo.

- There are no right or wrong answers.
  Ga go na dikarabo tse di fosagetseng kgotsa tse di siameng.

Question # 1: The harder I work, the more I produce.
Go dira ka thata, o oketsa kuno.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 2: The harder I work, the more I will earn.
Go dira ka thata, o oketsa letseno.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 3: There are financial rewards for working harder in this company.
Go dira ka thata go na le tuelo ya madi mo femeng.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 4: Poor job performance may get me fired.
Tiro e e bokoa e ka fedisa mmereko wa me.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 5: Improving my performance will lead to me making more money.
Go tlhatlhosa maemo a tiro go oketsa letseno.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 6.: The bonus paid by this company is large enough to make me work harder.
Go duela ga feme bonuse go rotloetsa go dira ga dira ga me ka thata.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 7: I have a big say in the setting of my work targets.
Ke na le seabe mo thulaganyong ya tiro le dipalopalo tse di tlhokegang.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 8: My superior often asks me for my thoughts about my work targets.
Baeteledipele ba na le go mpotsa ka kitso ya me mabapi le dipalopalo mo tirong.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 9: I have helped in preparing the work targets for my job.
Ke thusitse ka dipakanyo tsa go rulaganya dipalopalo tsa tiro ya me.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 10: Superiors have asked me about any special things I wanted to have included when my work targets were being decided.
Baeteledipele ba mpoditse gore a go na le sengwe se ke se tlhokang sa botlhokwa go tsenyelediwa mo dipalong fa go diriwa tshwetso.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 11: My supervisor listens to my problems about work targets.
Moeteledipele wa me wa nthetsa ka mathata mabapi le dipalo palo tsa tiro.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 12: I am confident in my ability to do my job.
Ke na le tshepo le maikemisetso go dira tiro ya me.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 13. I am self assured about my capability to do my job.
Ke na le tumelo ka matlhagatlhaga a go dira tiro ya me.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 14. I have mastered the skills necessary for my job.
Ke nale kitso ya go itse tiro ya me.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 15. My impact on what happens in my team is large.
Go itse ka nako tsotlhe ka se se diragalang mo sethopeng sa me go botlhokwa mo go nna.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 16. I have a lot of control over what happens in my team.
Ke na le taolo e ntsi ka se se diragalang mo setlhopeng sa me.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 17. I have significant influence over what happens in my team.
Ke na le tlhotlheletso e botlhokwa ka se se diragalang mo setlhopeng sa me.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 18. The work I do is meaningful.
Tiro e ke e dirang ya itshupa.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 19. The work I do is important to me.
Tiro e ke e dirang e botlhokwa.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 20. My job activities are personally meaningful to me.
Ditiro tsa me di na le bokao mo go nna.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 21. I have significant autonomy in determining how to do my job.
Ke dira tshwetso ya go dira tiro ya me.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 22. I can decide on my own how to go about doing my work.
Ke dira tshwetso ka se ke ratang go se dira mo tirong.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 23. I have considerable opportunity for freedom in how I do my job.
Ke na le tshono e ntsi gore tiro ker dire jang.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 24. I am a token appointment in this company.
Feme e nneile maemo.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 25. I am underutilized by the company.
Feme ga e ntirise sentle.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 26. I do not have a clear job description.
Ga kena lenaneo itshupo la tiro e ke e dirang.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 27. I have access to the resources to do my job well.
Ke na le tetla ya go e dirisa

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 28. I have the support of my immediate supervisor to do my job well.
Ke na thotloetso ya (modiri ka nna) e bong moeteledipele go dira tiro ya me sentle.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 29. I am inspired by the goals of the company.
Ke ratile dipholo tsa feme.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 30 . The working environment is largely positive.
Maemo a ke dirang mo tlase ga one a retibetse.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 31. I am over-qualified for my present position.
Dithuto tsa me di ko godimo ga tiro e kee dirang.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 32. I have an important position but no real power in this company.
Ke na le maemo a botlhokwa mme ga ke na matla mo femeng.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 33. I feel constant pressure to prove my worth.
Kgatelelo e ntsi go itshupa mo tirong.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 34. Important responsibilities are part of my daily activities.
Maikarabelo a a botlhokwa ke nngwe ya tsatsi le letsatsi ya maikemisetso.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 35. I understand the strategies and goals of the company.
Ke tlhaloganya metheo ya tiro le dipholo tsa feme ya me.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 36. I have the support I need from my subordinates to do my job well.
Ke na le thotloetso e ke e tlhokang go tswa go badiri ka nna go dira tiro ya me.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 37. I am allowed to make errors in my job without being seen as incompetent.
Ke dumeletswe go dira phoso mo tirong ya me e se fa ke sa kgone go dira tiro.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 38. Senior management wants me to succeed in my current position.
Baetedipela ba bagolo ba rata go mpona ke atlega mo maemo a ke dirang a tiro.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 39. I have the opportunity to advance in this company.
Ke na le tshono ya go tlhatlhogela kwa godimu mo femeng.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 40. I trust my work colleagues.
Ke tshepa badiri ka nna.

Ganetsa thata fela	Ganela	O ka ganela kgotsa wa dumela	Dumela	Dumela thata fela

Question # 41. I am proud to be part of this organisation.
Ke motlotlo go nna leloko la mokgatlo o.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

End of Appendix F

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APPENDIX G

FINAL QUESTIONNAIRE FOR ***Lawley***

Instructions:

English.
Venda

- DO NOT write your name on the questionnaire.
  Vha songo nwala dzina lavho kha hedzi mbudziso.

- The purpose of this questionnaire is for research only. The questionnaires will be destroyed once the research is completed.
  Vhuthogwa ha mbudziso hedzi ndi uita thodulusiso fhedzi, nga murahu ha thoduluso zwido latwa.

- Please indicate your response to each statement by making a cross (X) over that block which most accurately reflects your views. Your response to each statement should be an honest reflection of your personal feelings or opinion.
  Talusani phindulo yonu nga murahu ha tshitatamende tshinwo no tshinwo nga u ita (X) tshifhambano. Phindulo yanu I fanela u vha ya ngoho futhi I tovhedze vhudipfi hanu kana vhudi fari hanu.

- This is not a test.
  Hoyu asi mulingo.

- There are no right or wrong answers.
  Ahuna phindulo ine yavha yone kana ine ya si vhe yone.

Question # 1: The harder I work, the more I produce.
Musi nditshi shuma nga maanda, ndi a dveledza zwinzhi.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 2: The harder I work, the more I will earn.
Musi ndo shumesa ndi a vhuyelwa.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 3: There are financial rewards for working harder in this company.
Huna mbuyelo ine ndai wana musi ndo shumesa. Khaphanini.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 4: Poor job performance may get me fired.
Mushumo une usivhe wa vhudi uita uri ndi pandeliwe.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 5: Improving my performance will lead to me making more money.
U bveledza mushumo wa vhudi zwiita uri ndiwane tshelede nnzhi.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 6.: The bonus paid by this company is large enough to make me work harder.
Tshelede – nyenqedzo ine ya badelwa nga khaphani ndi nnzhi lune iita uri ndi shumesa.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 7: I have a big say in the setting of my work targets.
Ndina ku shumela kunzhi kune nda teya u dzula ndi tshi ku ita kha kushumele kwanga.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 8: My superior often asks me for my thoughts about my work targets.
Muranga phanda wanga ua mmbudzisa vhudipfi hanga nga ha mu shumo wanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 9: I have helped in preparing the work targets for my job.
Ndi di thusa nga kudzudzanyele kwa mushumo wanga wa duvha.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 10: Superiors have asked me about any special things I wanted to have included when my work targets were being decided.
Muranga phanda wanga o mbudzisa nga kuitele kune ndafuna kutshi itwa khathihi na kushumele kwanga kwa duvha kwo tendelwaho.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 11: My supervisor listens to my problems about work targets.
Murunga phanda wanga o nwala zwothe zwi ita zwadina nga mu shumo wanga wa, du, vha.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 12: I am confident in my abilities to do my job.
Ndi na lutendo lwa uri ndishuma nga ndila yone kha mushumo wanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 13. I am self assured about my capability to do my job.
Ndi pfa ndo tsiraledzea nga kushumele kune nda shuma ngakwo mushu mo wanga.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 14. I have mastered the skills necessary for my job.
Ndi na vhukoni vhunzhi nga maanda kha mushumo wanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 15. My impact on what happens in my team is large.
Ulonga hanga tshanga khazwine zwa khou itea kha thimu yanga ndi zwi hulwane.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 16. I have a lot of control over what happens in my team.
Ndi na vhudifhinduleli vhunzhi ha zwine zwa itea kha thimu yanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 17. I have significant influence over what happens in my team.
Ndi na thuthuwedzo ngaha zwine zwakhou itea kha thimu yanga.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 18. The work I do is meaningful.
Mushumo une nda u ita ndi wavhudisa.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 19. The work I do is important to me.
Mushumo une nda u ita ndiwa vhuthogwa kha nne.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 20. My job activities are personally meaningful to me.
Mushumo-ndaluko ndi wa vhuthogwa kho nne.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 21. I have significant autonomy in determining how to do my job.
Ndi na vhukoni ho teaho uita mushumo wanga.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 22. I can decide on my own how to go about doing my work.
Ndi tou nanga uri ndi ito mini ngaha mushumo wanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 23. I have considerable opportunity for freedom in how I do my job.
Ndi shuma ndo vhafholowa mushymani wanga.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 24. I am a token appointment in this company.
Nne ndi touvha tsumbo yo nangiwaho ya heyi kha nphani.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 25. I am underutilized by the company.
Ndo dzhiiwa nga khampani u bveletlza mushumo.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 26. I do not have a clear job description.
Thitouvha na ndila yo kunaho ya kushumele kwanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 27. I have access to the resources to do my job well.
Ndi na ndugelo yo u thusa u ita mushumo wanga.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 28. I have the support of my immediate supervisor to do my job well.
Ndi na thuso yo the itodeaho kha muranga phanda u ita mushumo wanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 29. I am inspired by the goals of the company.
Ndi tutu wedzwa nga ku vhetshelwe kwa khanphani.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 30 . The working environment is largely positive.
Zwi shumiswa zwa hafna fhethu zwo hula nga ndi la khulwane ya vhudi.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 31. I am over qualified for my present position.
Ndo funzea u fhira mushumo une nda khou shuma wone.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 32. I have an important position but no real power in this company.
Ndi shuma kha pozishini ya vhudi, fhedzi a I tovha na maanda kha khaphani.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 33. I feel constant pressure to prove my worth.
Zwinyitela mutsiko uri ndi sumbedze uri huna zwinwe zwine nda zwi kona.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 34. Important responsibilities are part of my daily activities.
Vhuthogwa na vhu difhinduleli ndi zwinwe zwine nda zwiita kha mushumo wanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 35. I understand the strategies and goals of the company.
Ndi pfesesa ku shumele na ndivho ya khaphani.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 36. I have the support I need from my subordinates to do my job well.
Ndi wana thuso yo fhelelaho kha vha shumisani na nne u ita mushumo wanga zwavhudi.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 37. I am allowed to make errors in my job without being seen as incompetent.
Ndi a tendelwa u ita vhukhakhi hu songo lavhelelwa zwauyi ndi na vhukoni naa.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 38. Senior management wants me to succeed in my current position.
Vharanga phanda vhanga vhahulwane vha toda ndi tshi bvela phanda kha vhuimo, vhune ndavha khaho zwino.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 39. I have the opportunity to advance in this company.
Ndina ndila yavhudi ya u bvela phanda kha khamphan.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

Question # 40. I trust my work colleagues.
Ndi themba mushumo wa khonani yanga.

Ndi hana nga maanda anga othe	Ndi a hana	Ni nga tenda kana nda hana	Ndi a tenda	Ndi tenda nga nungo dzothe

Question # 41. I am proud to be part of this organisation.
Ndi a di khoda uvha munwe wa heyi mbekanya mu shumo.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

End of Appendix G

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APPENDIX H

STATISTICAL ANALYSIS: Positive & Negative Orientated Questions

Questions 1 to 6.	Perceived extent of financial participation.	(Lord, J., (1995). Pg 515)
Questions 7 to 11.	Perceived extent of decision making.	(Lord, J., (1995). Pg 516)
Questions 12 to 41.	Perceived extent of empowerment.	(Moodley, 2004).

Positive	Q1.	The harder I work, the more I produce.
Positive	Q2.	The harder I work, the more I will earn.
Positive	Q3.	There are financial rewards for working harder in this company.
Positive	Q4.	Poor job performance may get me fired.
Positive	Q5.	Improving my performance will lead to me making more money.
Positive	Q6.	The bonus paid by this company is large enough to make me work harder.
Positive	Q7.	I have a big say in the setting of my work targets.
Positive	Q8.	My superior often asks me for my thoughts about my work targets.
Positive	Q9.	I have helped in preparing the work targets for my job.
Positive	Q10.	Superiors have asked me about any special things I wanted to have included when my work targets were being decided.
Positive	Q11.	My supervisor listens to my problems about work targets.
Positive	Q12.	I am confident in my abilities to do my job.
Positive	Q13.	I am self assured about my capability to do my job.
Positive	Q14.	I have mastered the skills necessary for my job.
Positive	Q15.	My impact on what happens in my team is large.
Positive	Q16.	I have a lot of control over what happens in my team.
Positive	Q17.	I have significant influence over what happens in my team.
Positive	Q18.	The work I do is meaningful.
Positive	Q19.	The work I do is important to me.
Positive	Q20.	My job activities are personally meaningful to me.
Positive	Q21.	I have significant autonomy in determining how to do my job.
Positive	Q22.	I can decide on my own how to go about doing my work.
Positive	Q23.	I have considerable opportunity for freedom in how I do my job.
Negative	Q24.	I am a token appointment in this company.
Negative	Q25.	I am underutilized by the company.
Negative	Q26.	I do not have a clear job description.
Positive	Q27.	I have access to the resources to do my job well.
Positive	Q28.	I have the support of my immediate supervisor to do my job well.
Positive	Q29.	I am inspired by the goals of the company.
Positive	Q30.	The working environment is largely positive.
Negative	Q31.	I am over qualified for my present position.
Negative	Q32.	I have an important position but no real power in this company.
Negative	Q33.	I feel constant pressure to prove my worth.

Positive	Q34.	Important responsibilities are part of my daily activities.
Positive	Q35.	I understand the strategies and goals of the company.
Positive	Q36.	I have the support I need from my subordinates to do my job well.
Positive	Q37.	I am allowed to make errors in my job without being seen as incompetent.
Positive	Q38.	Senior management wants me to succeed in my current position.
Positive	Q39.	I have the opportunity to advance in this company.
Positive	Q40.	I trust my work colleagues.
Positive	Q41.	I am proud to be part of this organisation.

End of Appendix H

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APPENDIX I

DEMOGRAPHIC PROFILE OF THE RESPONDENT SAMPLES

LAWLEY

(Sample - 158 respondents)
(Source: Corobrik Lawley Human Resources Department)

	Factory	Co. No.	Skills / Position	Salary (R)	Age	
1	Lawley	0050678	Belt Cleaner	3085.72	57	M
2	Lawley	0050849	General Cleaner	2550.80	55	M
3	Lawley	0052124	Production Trainee	2253.51	22	M
4	Lawley	0050760	Coal Handler	2864.68	53	M
5	Lawley	0050804	Coal Handler	2858.05	61	M
6	Lawley	0052045	Cleaner	2575.12	35	M
7	Lawley	0052052	Coal Handler	2482.28	28	M
8	Lawley	0052053	Coal Handler	2482.28	42	M
9	Lawley	0052070	Coal Handler	2488.91	39	M
10	Lawley	0052108	Cleaner	2572.91	43	M
11	Lawley	0052109	Coal Handler	2480.07	28	M
12	Lawley	0052110	Cleaner	2572.91	47	M
13	Lawley	0052113	Coal Handler	2572.91	31	M
14	Lawley	0050112	Stoker Pot Filler / Fireman	2698.90	38	M
15	Lawley	0050139	Stoker Pot Filler / Fireman	2778.47	55	M
16	Lawley	0050241	Stoker Pot Filler / Fireman	2734.26	55	M
17	Lawley	0050434	Stoker Pot Filler / Fireman	2789.52	62	M
18	Lawley	0050462	Stoker Pot Filler / Fireman	2650.27	55	M
19	Lawley	0050747	Stoker Pot Filler / Fireman	2683.43	36	M
20	Lawley	0051059	Screen Attendant	2758.58	39	M
21	Lawley	0051063	Screen Attendant	2847.00	53	M
22	Lawley	0051117	Stoker Pot Filler / Fireman	2608.27	30	M
23	Lawley	0050562	Coal Hopper Attendant	2970.78	43	M
24	Lawley	0050790	Coal Hopper Attendant	2853.63	47	M
25	Lawley	0050671	Ash Remover / Palletiser	2780.68	45	M
26	Lawley	0050673	Sorter	2782.89	43	M
27	Lawley	0050680	Sorter	2780.68	36	M
28	Lawley	0050704	Ash Remover / Palletiser	3205.08	54	M
29	Lawley	0050720	Ash Remover / Palletiser	2778.47	44	M
30	Lawley	0050753	Sorter	2778.47	40	M
31	Lawley	0050758	Ash Remover	2864.68	49	M
32	Lawley	0050779	Ash Remover	2866.89	38	M
33	Lawley	0050783	Ash Remover	2866.89	38	M
34	Lawley	0050812	Ash Remover / Palletiser	2776.26	57	M
35	Lawley	0050813	Sorter	2862.47	41	M
36	Lawley	0050823	Sorter	2853.63	46	M
37	Lawley	0050844	Offsetter	2860.26	46	M
38	Lawley	0050866	Sorter	2827.10	40	M
39	Lawley	0050917	Sorter	2844.78	53	M
40	Lawley	0050923	Sorter	2771.84	36	M
41	Lawley	0050996	Sorter	2847.00	56	M
42	Lawley	0051000	Sorter	2844.78	40	M
43	Lawley	0051026	Ash Remover / Palletiser	2847.00	36	M
44	Lawley	0051047	Offsetter	2895.62	41	M
45	Lawley	0051053	Offsetter	2847.00	48	M
46	Lawley	0051054	Offsetter	2840.36	40	M
47	Lawley	0051071	Sorter	2758.58	44	M
48	Lawley	0051072	Offsetter	2847.00	34	M

49	Lawley	0051074	Offsetter	2847.00	37	M
50	Lawley	0051078	Sorter	2842.57	52	M
51	Lawley	0051083	Offsetter	2844.78	35	M
52	Lawley	0051084	Offsetter	2807.21	29	M
53	Lawley	0051086	Sorter	2847.00	40	M
54	Lawley	0051089	Sorter	2758.58	39	M
55	Lawley	0051091	Sorter	2758.58	35	M
56	Lawley	0051094	Sorter	2769.63	34	M
57	Lawley	0051095	Sorter	2847.00	33	M
58	Lawley	0051096	Offsetter	2891.20	41	M
59	Lawley	0051097	Sorter	2838.15	36	M
60	Lawley	0051098	Offsetter	2809.42	33	M
61	Lawley	0051100	Sorter	2809.42	38	M
62	Lawley	0051101	Sorter	2809.42	31	M
63	Lawley	0051103	Offsetter	2847.00	41	M
64	Lawley	0051104	Sorter	2847.00	35	M
65	Lawley	0051106	Sorter	2847.00	48	M
66	Lawley	0051110	Ash Remover / Palletiser	2809.42	35	M
67	Lawley	0051112	Sorter	2756.37	30	M
68	Lawley	0051114	Sorter	2847.00	34	M
69	Lawley	0051116	Ash Remover / Palletiser	2847.00	40	M
70	Lawley	0051119	Sorter	2754.16	48	M
71	Lawley	0051128	Sorter	2877.94	27	M
72	Lawley	0051132	Sorter	2847.00	42	M
73	Lawley	0051133	Sorter	3012.78	30	M
74	Lawley	0051134	Ash Remover / Palletiser	2847.00	32	M
75	Lawley	0051136	Sorter	2847.00	41	M
76	Lawley	0051142	Sorter	2842.57	43	M
77	Lawley	0051143	Sorter	2842.57	31	M
78	Lawley	0051144	Offsetter	2842.57	30	M
79	Lawley	0051151	Sorter	2754.16	32	M
80	Lawley	0051155	Sorter	2924.36	54	M
81	Lawley	0051175	Offsetter	2747.53	29	M
82	Lawley	0051176	Sorter	2824.89	33	M
83	Lawley	0051178	Sorter	2840.36	49	M
84	Lawley	0051181	Offsetter	2840.36	29	M
85	Lawley	0051182	Sorter	2740.90	29	M
86	Lawley	0051183	Offsetter	2758.58	31	M
87	Lawley	0051184	Offsetter	2840.36	41	M
88	Lawley	0052046	Sorter	2833.73	31	M
89	Lawley	0052048	Offsetter	2738.69	30	M
90	Lawley	0052049	Sorter	2738.69	29	M
91	Lawley	0052050	Sorter	2833.73	27	M
92	Lawley	0052051	Offsetter	2738.69	29	M
93	Lawley	0052054	Sorter	2738.69	40	M
94	Lawley	0052067	Sorter	2738.69	30	M
95	Lawley	0052068	Sorter	2738.69	27	M
96	Lawley	0052074	Offsetter	2738.69	29	M
97	Lawley	0052096	Offsetter	2736.48	24	M
98	Lawley	0052097	Offsetter	2736.48	36	M
99	Lawley	0052098	Sorter	2831.52	27	M
100	Lawley	0052099	Sorter	2831.52	29	M
101	Lawley	0052101	Offsetter	2831.52	26	M
102	Lawley	0052102	Sorter	2831.52	26	M
103	Lawley	0052103	Sorter	2736.48	23	M
104	Lawley	0052104	Offsetter	2831.52	35	M
105	Lawley	0052105	Sorter	2831.52	32	M
106	Lawley	0052106	Sorter	2736.48	26	M
107	Lawley	0052107	Sorter	2736.48	32	M
108	Lawley	0052111	Sorter	2831.52	32	M

109	Lawley	0052112	Offsetter	2736.48	30	M
110	Lawley	0052125	Sorter	2821.15	28	M
111	Lawley	0052127	Sorter	2730.57	26	M
112	Lawley	0052128	Sorter	2821.15	24	M
113	Lawley	0052129	Sorter	2730.57	24	M
114	Lawley	0050467	Packaging Operator	2632.91	61	M
115	Lawley	0050495	Crusher Operator	2986.25	42	M
116	Lawley	0050759	Repairhand Bricklayer	2769.43	41	M
117	Lawley	0051070	Mixer Asst.	2953.09	36	M
118	Lawley	0051187	Bricklayer Asst.	2685.56	43	M
119	Lawley	0050338	Pan Operator	3081.30	47	M
120	Lawley	0050877	Pan Operator	2972.99	32	M
121	Lawley	0050070	Tractor Driver	3085.72	46	M
122	Lawley	0050124	Repairhand Fitting	2788.93	52	M
123	Lawley	0050641	Tractor Driver	3085.72	36	M
124	Lawley	0050762	Sorter	2986.25	51	M
125	Lawley	0051137	Tractor Driver	3056.98	31	M
126	Lawley	0051147	Repairhand Bricklayer	2771.38	40	M
127	Lawley	0051177	Mixer Attendant	3052.56	29	M
128	Lawley	0052094	Repairhand Bricklayer	2663.50	41	M
129	Lawley	0051141	Factory Driver	2933.25	41	M
130	Lawley	0050019	Forklift Driver / Sorter	2958.61	52	M
131	Lawley	0050062	Forklift Driver / Sorter	3291.29	47	M
132	Lawley	0050073	Forklift Driver	3061.97	60	M
133	Lawley	0050164	Forklift Driver / Setting	3282.44	43	M
134	Lawley	0050455	Forklift Driver	3202.87	40	M
135	Lawley	0050497	Forklift Driver / Sorter	3258.13	38	M
136	Lawley	0050515	Forklift Driver	3379.70	46	M
137	Lawley	0050534	Forklift Driver / Setting	3289.08	50	M
138	Lawley	0050625	Forklift Driver	3291.29	50	M
139	Lawley	0050636	Forklift Driver	3280.23	36	M
140	Lawley	0050723	Forklift Driver	3182.98	42	M
141	Lawley	0050756	Forklift Driver	2886.44	52	M
142	Lawley	0051061	Extruder Operator	3165.29	38	M
143	Lawley	0051073	Extruder Operator	3253.71	35	M
144	Lawley	0051075	Forklift Driver	3255.92	39	M
145	Lawley	0051077	Forklift Driver	3255.92	51	M
146	Lawley	0050190	Supervisor Burning	3799.68	40	M
147	Lawley	0050308	Handyman Electrician	3173.14	41	M
148	Lawley	0050440	Supervisor Shift	4341.37	61	M
149	Lawley	0050586	Supervisor	3888.09	52	M
150	Lawley	0050648	Handyman Fitter	3161.44	48	M
151	Lawley	0050649	Supervisor	3081.47	38	M
152	Lawley	0050656	Supervisor	3503.48	43	M
153	Lawley	0050670	Supervisor	3505.69	40	M
154	Lawley	0050706	Supervisor	3450.43	55	M
155	Lawley	0050808	Supervisor	3496.85	38	M
156	Lawley	0051148	Handyman Boilermaker	3143.88	51	M
157	Lawley	0050752	Supervisor	3488.01	43	M
158	Lawley	0050821	Handyman Bricklayer	3159.49	45	M

End of Lawley

KOPANO

(Sample – 200 respondents)
(Source: Kopano Human Resources Department)

	Factory	Co. No.	Skills / Position	Salary (R)	Age	
1	Kopano	60680	Handyman Fitter	3048.00	65	M
2	Kopano	60539	RSA Fitting	2898.00	63	M
3	Kopano	60914	Handyman Fitter	4070.00	46	M
4	Kopano	62165	Handyman Fitter	2730.00	33	M
5	Kopano	60409	Artisan Asst.	2678.00	57	M
6	Kopano	61090	Artisan Fitter	1480.00	25	M
7	Kopano	60021	Electrical Asst.	3026.00	44	M
8	Kopano	60431	Artisan Asst.	2312.00	53	M
9	Kopano	60765	Artisan Fitter	2316.00	53	M
10	Kopano	60480	Handyman	2886.00	44	M
11	Kopano	60110	Artisan Asst.	2318.00	51	M
12	Kopano	60082	Artisan Asst.	2326.00	50	M
13	Kopano	60985	Painter	2854.00	44	M
14	Kopano	60023	Artisan Asst.	2496.00	53	M
15	Kopano	60427	T/Driver	2640.00	48	M
16	Kopano	60054	Charge Hand	3293.00	45	M
17	Kopano	60317	S/Potfiller	2581.00	42	M
18	Kopano	60788	S/Potfiller	2903.94	43	M
19	Kopano	60017	Winch Operator	2944.00	39	M
20	Kopano	62550	Charge Hand	2736.00	32	M
21	Kopano	62183	S/Potfiller	2528.00	37	M
22	Kopano	60425	Winch Operator	2813.00	57	M
23	Kopano	60926	Charge Hand	3001.00	42	M
24	Kopano	60773	Supervisor Reliever	3034.00	41	M
25	Kopano	60545	S/Potfiller	2641.00	40	M
26	Kopano	60429	S/Potfiller	2565.81	40	M
27	Kopano	60943	W/Operator	2811.00	55	M
28	Kopano	62503	Charge Hand	2917.00	32	M
29	Kopano	60307	Winch Operator	2813.00	45	M
30	Kopano	60009	S/Potfiller	2559.00	41	M
31	Kopano	60968	S/Potfiller	2579.00	48	M
32	Kopano	60034	Yard Checker	2434.00	28	M
33	Kopano	60157	Bin Attendant	2508.00	43	M
34	Kopano	60674	Forklift Driver	2932.00	52	M
35	Kopano	62986	Bin Attendant	1480.00	50	M
36	Kopano	62993	Bin Attendant	1480.00	24	M
37	Kopano	62992	Bin Attendant	1480.00	22	M
38	Kopano	62994	Forklift Driver	1680.00	49	M
39	Kopano	62991	Bin Attendant	1480.00	26	M
40	Kopano	62990	Forklift Driver	1680.00	46	M
41	Kopano	60986	Supervisor	2953.00	39	M
42	Kopano	60176	Winch Operator	2813.00	40	M
43	Kopano	62843	Lasher	2524.00	30	M
44	Kopano	60865	Tennant Driver	2524.00	38	M
45	Kopano	62851	Extruder Operator	2524.00	29	M
46	Kopano	60011	Forklift Driver	2539.00	42	M
47	Kopano	62220	Offsetter	2530.00	34	M
48	Kopano	63004	Offsetter	1480.00	24	M
49	Kopano	62012	Tennant Driver	2528.00	31	M
50	Kopano	62862	Offsetter	2369.00	23	M
51	Kopano	62907	Offsetter	1480.00	41	M
52	Kopano	62894	Offsetter	1480.00	25	M
53	Kopano	62974	Offsetter	1480.00	34	F
54	Kopano	62964	Offsetter	1480.00	32	M

55	Kopano	62410	Offsetter	2535.00	42	M
56	Kopano	62965	Offsetter	1480.00	34	M
57	Kopano	60995	Offsetter	2581.00	42	M
58	Kopano	63000	Offsetter	1680.00	30	M
59	Kopano	62997	Offsetter	1480.00	29	F
60	Kopano	62995	Offsetter	1480.00	34	F
61	Kopano	62963	Offsetter	1480.00	25	F
62	Kopano	60772	Winch Operator	2572.00	38	M
63	Kopano	62961	Leave Cover	1480.00	29	M
64	Kopano	60131	Pan Operator	2820.00	57	M
65	Kopano	60947	Pan Operator	2760.00	54	M
66	Kopano	60569	Crusher Operator	2763.00	46	M
67	Kopano	60115	Bin Attendant	2975.00	50	M
68	Kopano	60732	Qed. Controller	3160.00	41	M
69	Kopano	62009	Qed. Checker	2546.00	39	M
70	Kopano	62888	Qed. Checker	1480.00	27	F
71	Kopano	60445	Supervisor	3503.00	44	M
72	Kopano	60185	Winch Operator	2588.00	45	M
73	Kopano	62198	Offsetter	1480.00	26	M
74	Kopano	62967	Offsetter	1480.00	23	M
75	Kopano	62972	Lasher	1480.00	43	M
76	Kopano	62861	Extruder Operator	2524.00	24	M
77	Kopano	63001	Forklift Driver	1680.00	27	M
78	Kopano	62959	Forklift Driver	1480.00	41	M
79	Kopano	62934	Tractor Driver	1680.00	52	M
80	Kopano	62936	Tractor Driver	1680.00	48	M
81	Kopano	62979	Offsetter	1480.00	27	M
82	Kopano	63003	Offsetter	1480.00	42	M
83	Kopano	62987	Offsetter	1680.00	36	M
84	Kopano	62966	Offsetter	1480.00	24	M
85	Kopano	62989	Offsetter	1480.00	34	M
86	Kopano	62970	Offsetter	1480.00	22	M
87	Kopano	62909	Offsetter	1480.00	25	M
88	Kopano	62921	Offsetter	1480.00	36	M
89	Kopano	62919	Offsetter	1480.00	24	M
90	Kopano	62192	Offsetter	1480.00	29	M
91	Kopano	62988	Offsetter	1480.00	25	M
92	Kopano	61101	Offsetter	1480.00	25	F
93	Kopano	60991	Crusher Operator	2546.00	41	M
94	Kopano	62901	Bin Attendant	1680.00	28	M
95	Kopano	60137	Pan Operator	2546.00	49	M
96	Kopano	60800	Pan Operator	2583.00	44	M
97	Kopano	60831	Supervisor	3154.00	42	M
98	Kopano	60012	Sorter	2597.00	40	M
99	Kopano	60077	Sorter	2568.00	44	M
100	Kopano	62015	Sorter	2528.00	44	M
101	Kopano	62181	Sorter	2544.00	33	M
102	Kopano	62400	Sorter	2568.00	38	M
103	Kopano	62853	Sorter	2524.00	40	M
104	Kopano	60147	Sorter	2530.00	43	M
105	Kopano	60421	Sorter	2617.00	42	M
106	Kopano	62240	Sorter	2548.00	37	M
107	Kopano	60438	Sorter	2564.00	42	M
108	Kopano	62832	Sorter	2524.00	43	M
109	Kopano	60211	Sorter	2555.00	40	M
110	Kopano	60443	Sorter	2577.00	41	M
111	Kopano	62848	Sorter	2524.00	34	M
112	Kopano	62902	Leave Cover	1480.00	33	M
113	Kopano	62516	Sorter	2577.00	42	M
114	Kopano	62953	Leave Cover	1480.00	33	F

115	Kopano	62949	Leave Cover	1480.00	23	M
116	Kopano	62955	Leave Cover	1480.00	41	M
117	Kopano	60952	Sorter	2575.00	43	M
118	Kopano	62401	Sorter	2535.00	27	M
119	Kopano	62011	Sorter	2546.00	27	M
120	Kopano	62162	De-Hacker	2546.00	35	M
121	Kopano	62241	De-Hacker	2528.00	33	M
122	Kopano	62892	Leave Cover	1480.00	33	F
123	Kopano	60168	De-Hacker	2606.00	51	M
124	Kopano	62855	De-Hacker	1480.00	27	M
125	Kopano	62013	De-Hacker	2727.00	40	M
126	Kopano	62960	Leave Cover	1480.00	33	M
127	Kopano	62956	Sorter	1480.00	28	M
128	Kopano	62971	De-Hacker	1480.00	28	M
129	Kopano	62152	De-Hacker	2530.00	29	M
130	Kopano	62180	De-Hacker	2530.00	30	M
131	Kopano	62245	De-Hacker	2528.00	40	M
132	Kopano	60517	Door Sealer	2435.00	43	M
133	Kopano	60911	Forklift Driver	2975.00	46	M
134	Kopano	60019	Forklift Assistant	2844.00	44	M
135	Kopano	60476	Forklift Assistant	2402.00	39	M
136	Kopano	60764	Ash Remover	2957.00	41	M
137	Kopano	60590	Forklift Driver	2970.00	47	M
138	Kopano	60725	Ash Remover	2601.00	51	M
139	Kopano	62847	Ash Remover	2524.00	29	M
140	Kopano	60625	Ash Remover	2568.00	51	M
141	Kopano	60478	Ash Remover	2557.00	35	M
142	Kopano	60541	Forklift Assistant	2966.00	54	M
143	Kopano	60172	Forklift Driver	2957.00	50	M
144	Kopano	60983	Tractor Driver	2738.00	43	M
145	Kopano	60233	Tractor Driver	2780.00	48	M
146	Kopano	60314	Forklift Assistant	3103.00	40	M
147	Kopano	60010	Pallet Handler	2632.00	40	M
148	Kopano	62179	Forklift Driver	2862.00	36	M
149	Kopano	63018	Supervisor	2400.00	46	F
150	Kopano	63029	Setter	1480.00	22	M
151	Kopano	63028	Setter	1480.00	23	M
152	Kopano	63014	Setter	1480.00	37	F
153	Kopano	63022	Setter	1480.00	32	F
154	Kopano	63013	Setter	1480.00	53	F
155	Kopano	62939	Setter	1480.00	21	M
156	Kopano	62938	Setter	1480.00	43	F
157	Kopano	63012	Setter	1480.00	29	M
158	Kopano	61098	Setter	1480.00	27	F
159	Kopano	63015	Offsetter	1480.00	53	F
160	Kopano	63011	Offsetter	1480.00	35	F
161	Kopano	61136	Offsetter	1480.00	21	F
162	Kopano	63031	Offsetter	1480.00	23	M
163	Kopano	61099	Coal Leveller	1480.00	23	M
164	Kopano	61105	Cleaner	1480.00	23	M
165	Kopano	62948	Cleaner	1480.00	22	M
166	Kopano	62899	Cleaner	2834.00	56	M
167	Kopano	62973	Forklift Driver	1680.00	37	M
168	Kopano	61104	Forklift Driver	2276.00	54	M
169	Kopano	63032	Lines Attendant	1680.00	33	M
170	Kopano	61095	Lines Attendant	1480.00	29	M
171	Kopano	61089	Sorter	1480.00	39	M
172	Kopano	61034	Sorter	1480.00	23	M
173	Kopano	61137	Sorter	1480.00	25	F
174	Kopano	61096	Sorter	1480.00	27	M

175	Kopano	62932	Sorter	1480.00	36	M
176	Kopano	62925	Sorter	1480.00	23	M
177	Kopano	61121	Sorter	1480.00	37	M
178	Kopano	63034	Sorter	1480.00	22	M
179	Kopano	61102	Sorter	1480.00	26	M
180	Kopano	63033	Sorter	1480.00	23	M
181	Kopano	64013	Sorter	1480.00	38	M
182	Kopano	64017	Sorter	1480.00	25	M
183	Kopano	64121	Sorter	1480.00	24	M
184	Kopano	64333	Sorter	1480.00	24	M
185	Kopano	64112	Offsetter	1480.00	51	M
186	Kopano	64316	Offsetter	1480.00	34	M
187	Kopano	64369	Offsetter	1480.00	20	M
188	Kopano	64222	Offsetter	1480.00	24	M
189	Kopano	64556	Forklift Driver	1680.00	38	M
190	Kopano	64557	Forklift Driver	2276.00	53	M
191	Kopano	64345	S/Potfiller	2641.00	38	M
192	Kopano	64346	S/Potfiller	2565.81	42	M
193	Kopano	64347	Forklift Driver	1680.00	38	M
194	Kopano	64349	Forklift Driver	2276.00	53	M
195	Kopano	64256	S/Potfiller	2641.00	39	M
196	Kopano	64327	S/Potfiller	2565.81	41	M
197	Kopano	64856	Leave Cover	1480.00	25	M
198	Kopano	64857	Leave Cover	1480.00	27	M
199	Kopano	64858	Leave Cover	1480.00	38	M
200	Kopano	64859	Leave Cover	1480.00	49	M

End of Kopano

End of Appendix I

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APPENDIX J

FACTOR ANALYSIS (as a measure of validity)

The empowerment scale (Moodley, 2004; questions 12 to 41) is previously validated. The scales on both financial participation (Lord; questions 1 to 6) and decision-making (Lord; questions 7 to 11) are not well recognised and as such do require further validation.

Financial

The items making up the financial scale were initially subjected to a factor analysis which was deemed appropriate, as the Keizer-Meyer-Olikin measure of sampling adequacy score of 0,792 was obtained. The principle component measure of extraction (using Varimax rotation) was selected because of its treatment of variance in the data (relevant for this study). Furthermore, the number of factors extracted was based on roots criterion whereby only factors with eigen values greater than 1 were removed. Although this technique has met with criticism (Stewart, 1981: 58) it is suitable for an analysis with less than 40 variables (in this case only 6 variables are used). In the finally rotated component matrix, only components with absolute values greater then 0.5 were displayed. The results are reflected in the tables below:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.792
Bartlett's Test of Sphericity	Approx. Chi-Square	555.943
	df	15
	Sig.	.000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.941	49.023	49.023	2.941	49.023	49.023
2	.905	15.081	64.104			
3	.773	12.892	76.996			
4	.555	9.245	86.241			
5	.432	7.201	93.442			
6	.394	6.558	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The Harder I Work, The More I Produce	.628
The Harder I work, The More I Will Earn	.749
There Are Financial Financial Rewards For Working Harder In This Company	.743
Poor Job Performance May Get Me Fired	.542
Improving My Performance Will Lead To Me Making More Money	.749
The Bonus Paid By This Company Is Large Enough To Make Me Work Harder	.762

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

In the final analysis only one factor was extracted which is what was expected and the variance explained by this factor accounted for 49.023%.

Decision-Making

The items making up the decision-making scale were initially subjected to a factor analysis which was deemed appropriate as the Keizer-Meyer-Olikin measure of sampling adequacy score of 0,830 was obtained. The principle component measure of extraction (using Varimax rotation) was selected because of its treatment of variance

in the data (relevant to this study). Furthermore, the number of factors extracted was based on roots criterion whereby only factors with eigen values greater than 1 were removed. Although this technique has met with criticism (Stewart, 1981: 58) it is suitable for an analysis with less than 40 variables (in this case only 5 variables are used). In the finally rotated component matrix, only components with absolute values greater then 0.5 were displayed.

The results are reflected in the tables below:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.830
Bartlett's Test of Sphericity	Approx. Chi-Square	496.063
	df	10
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.822	56.443	56.443	2.822	56.443	56.443
2	.674	13.489	69.932			
3	.555	11.091	81.023			
4	.533	10.658	91.682			
5	.416	8.318	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
I Have A Big Say In The Setting Of My Work Targets	.694
My Superior Often Asks Me For My Thoughts About My Work Targets	.769
I Have Helped In Preparing The Work Targets For My Job	.750
Superiors Have Asked Me About Any Special Things I Wanted When Setting My Work Targets	.804
My Superior Listens To My Problems About Work Targets	.736

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

In the final analysis only one factor was extracted which is what was expected and the variance explained by this factor accounted for 56.443%.

Financial Participation and Decision-Making (Combined)

The items making up the financial participation and decision-making scales combined were subjected to a factor analysis which was deemed appropriate as the Keizer-Meyer-Olikin measure of sampling adequacy score of 0,894 was obtained. The principle component measure of extraction (using Varimax rotation) was selected because of its treatment of variance in the data (relevant to this study). Furthermore, the number of factors extracted was based on roots criterion whereby only factors with eigen values greater than 1 were removed. Although this technique has met with criticism (Stewart, 1981: 58) it is suitable for an analysis with less than 40 variables (in this case only 11 variables are used). In the finally rotated component matrix, only components with absolute values greater then 0.5 were displayed. The results are reflected in the tables below:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	1274.706
	df	55
	Sig.	.000

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.794	43.578	43.578	4.794	43.578	43.578	3.019	27.444	27.444
2	1.106	10.051	53.629	1.106	10.051	53.629	2.880	26.185	53.629
3	.885	8.047	61.676						
4	.799	7.263	68.939						
5	.620	5.640	74.579						
6	.578	5.255	79.834						
7	.555	5.043	84.877						
8	.474	4.308	89.185						
9	.432	3.932	93.117						
10	.391	3.550	96.667						
11	.367	3.333	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix [a]

	Component	
	1	2
I Have A Big Say In The Setting Of My Work Targets		.514
My Superior Often Asks Me For My Thoughts About My Work Targets	.725	
I Have Helped In Preparing The Work Targets For My Job	.631	
Superiors Have Asked Me About Any Special Things I Wanted When Setting My Work Targets	.773	
My Superior Listens To My Problems About Work Targets	.783	
The Harder I Work, The More I Produce		.783
The Harder I work, The More I Will Earn		.642
There Are Financial Financial Rewards For Working Harder In This Company		.544
Poor Job Performance May Get Me Fired		.582
Improving My Performance Will Lead To Me Making More Money		.607
The Bonus Paid By This Company Is Large Enough To Make Me Work Harder		.603

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

In the final analysis only two factors were extracted which is what was expected, and the variance explained by both these factors accounted for 53.63%. It is also positive to note that the items making up each factor are grouped, as expected, into the predefined dimensions barring the statement, "I have a big say in the setting of my work targets" which has been grouped with the financial items rather than the decision-making items. Respondents may have mistakenly misinterpreted the phrase "work targets" to mean "financial work targets". This seems to be a plausible explanation.

Speramans Rank Order Correlation Coefficients

Correlations

			The Harder I Work, The More I Produce	The Harder I work, The More I Will Earn	There Are Financial Financial Rewards For Working Harder In This Company	Poor Job Performance May Get Me Fired	Improving My Performance Will Lead To Me Making More Money	The Bonus Paid By This Company Is Large Enough To Make Me Work Harder	I Have A Big Say In The Setting Of My Work Targets	My Superior Often Asks Me For My Thoughts About My Work Targets	I Have Helped In Preparing The Work Targets For My Job	Superiors Have Asked Me About Any Special Things I Wanted When Setting My Work Targets	My Superior Listens To My Problems About Work Targets
Spearman's rho	The Harder I Work, The More I Produce	Correlation Coefficient	1.000	.543**	.435**	.477**	.503**	.469**	.388**	.351**	.394**	.323**	.277**
		Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	354	350	350	349	351	349	352	350	351	348	353
	The Harder I work, The More I Will Earn	Correlation Coefficient	.543**	1.000	.541**	.419**	.555**	.525**	.461**	.451**	.446**	.426**	.431**
		Sig. (2-tailed)	.000	.	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	350	352	348	350	350	350	350	351	350	348	351
	There Are Financial Financial Rewards For Working Harder In This Company	Correlation Coefficient	.435**	.541**	1.000	.404**	.577**	.594**	.493**	.486**	.502**	.422**	.417**
		Sig. (2-tailed)	.000	.000	.	.000	.000	.000	.000	.000	.000	.000	.000
		N	350	348	351	347	350	347	350	348	350	346	350
	Poor Job Performance May Get Me Fired	Correlation Coefficient	.477**	.419**	.404**	1.000	.397**	.537**	.495**	.431**	.438**	.383**	.369**
		Sig. (2-tailed)	.000	.000	.000	.	.000	.000	.000	.000	.000	.000	.000
		N	349	350	347	351	349	350	349	351	349	348	350
	Improving My Performance Will Lead To Me Making More Money	Correlation Coefficient	.503**	.555**	.577**	.397**	1.000	.549**	.518**	.494**	.527**	.424**	.422**
		Sig. (2-tailed)	.000	.000	.000	.000	.	.000	.000	.000	.000	.000	.000
		N	351	350	350	349	353	349	353	350	352	348	351
	The Bonus Paid By The Company Is Large Enough To Make Me Work Harder	Correlation Coefficient	.469**	.525**	.594**	.537**	.549**	1.000	.566**	.503**	.563**	.506**	.391**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.	.000	.000	.000	.000	.000
		N	349	350	347	350	349	351	349	351	349	348	350
	I Have A Big Say In The Setting Of My Work Targets	Correlation Coefficient	.388**	.461**	.493**	.495**	.518**	.566**	1.000	.511**	.543**	.494**	.498**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.	.000	.000	.000	.000
		N	352	350	350	349	353	349	354	350	352	348	352
	My Superior Often Asks Me For My Thoughts About My Work Targets	Correlation Coefficient	.351**	.451**	.486**	.431**	.494**	.503**	.511**	1.000	.560**	.587**	.527**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.	.000	.000	.000
		N	350	351	348	351	350	351	350	352	350	349	351
	I Have Helped In Preparing The Work Targets For My Job	Correlation Coefficient	.394**	.446**	.502**	.438**	.527**	.563**	.543**	.560**	1.000	.585**	.478**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.	.000	.000
		N	351	350	350	349	352	349	352	350	353	348	351
	Superiors Have Asked Me About Any Special Things I Wanted When Setting My Work Targets	Correlation Coefficient	.323**	.426**	.422**	.383**	.424**	.506**	.494**	.587**	.585**	1.000	.538**
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.	.000
		N	348	348	346	348	348	348	348	349	348	350	348
	My Superior Listens To My Problems About Work Targets	Correlation Coefficient	.277**	.431**	.417**	.369**	.422**	.391**	.498**	.527**	.478**	.538**	1.000
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
		N	353	351	350	350	351	350	352	351	351	348	354

**. Correlation is significant at the 0.01 level (2-tailed).

Empowerment

The items making up the empowerment scale have been previously validated by Moodley (2004) and as such need not be re-validated.

End of Appendix J

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End of study