

**IMPACT OF SKILLS DEVELOPMENT TRAINING ON  
EMPLOYEE MOTIVATION, PERCEPTIONS OF  
ORGANISATIONAL CLIMATE AND INDIVIDUAL  
PERFORMANCE**

by

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## DECLARATION

I declare that the dissertation titled “**Impact of Skills Development Training on Employee Motivation, perceptions of Organisational Climate and Individual Performance**” submitted by me for the degree Doctor of Business Administration at the University of Kwazulu-Natal, is my independent work. Also that all the sources used or quoted have been indicated and acknowledged by means of complete references, and that this thesis has not been submitted by me for a degree at another faculty/university.



Signed: \_\_\_\_\_

MATSIDISO NEHEMIA NAONG

SEPTEMBER 2009

## **DEDICATION**

This work is dedicated to my parents, my very first teachers from school of life, for their strong values, ethos and conviction in hard work, perseverance, and self-discipline as critical for pursuance of one's dream.

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## **ABSTRACT**

**Topic: The impact of skills development training on employee motivation and job satisfaction and perceptions of organisational climate and individual performance.**

There is a huge skills shortage in South Africa which impacts negatively on its worldwide competitiveness. Since the advent of democracy, the South African government has been faced with the challenge of addressing one of the major legacies of apartheid; namely, the dire skills shortage affecting the majority of the citizens of this country. This legacy of apartheid has a direct correlation with the economic performance of the country. Various intervention strategies to remedy this socio-economic situation were explored, resulting in the birth of various Skills Development Acts, which will have far-reaching consequences for all sectors of the South African economy. Skills transfer is at the centre of all these Acts.

The impact of training on the 'bottom-line' has always been the concern for most business organisations, not only in South Africa, but the world over. However, the focus for most of these business organisations, in terms of strategic human resource development, has arguably, focused mainly on middle management and top management. The most fundamental and underlying hypothesis of this study therefore, is to highlight the difference in production brought by lower-level management of these business organisations as a consequence of training opportunities offered to them. The actual implementation of production targets occurs at this level of management. Thus, it is the researcher's contention that focuses and endeavours to improve productivity through strategic human resource development, need to consider lower-level employees as a critical part of this strategic mission.

The empirical objectives of this thesis were firstly, to validate the four questionnaires used in this study namely, the Motivation/Job Satisfaction Questionnaire (JDI); the Organisational Climate Questionnaire (LSOCQ); the Effectiveness of Training Questionnaire and the Self-rated Performance Questionnaire for employees in selected organisations in South Africa. Secondly, it was to determine the reliability of the above mentioned constructs.

Thirdly, the aim was to determine differences between employee motivation and job satisfaction and organisational climate levels of various demographic groups. Fourthly, it was to assess the relationship between the three variables namely, motivation and job satisfaction, organisational climate and effectiveness of training; and lastly, to determine whether effectiveness of training can predict employee motivation and job satisfaction and perception of organisational climate.

A pre-post longitudinal study, following a form of quasi-experimental research comparable pre-test post-test one group design (Cooper & Schindler, 2000:405; Shaughnessy & Zechmeister, 1997), with a random sample of (N = 604 pre-; and N = 526 post-) of lower level employees in five selected companies across sectors in South Africa was used. All the questionnaires, that is those previously validated namely, the Job Description Index Questionnaire (JDI); Litwin and Stringer's (1968) Organisational Climate Questionnaire (LSOCQ); Self-rated Performance (SELPERF); and the one constructed and validated namely, the Effectiveness of Training Questionnaire (EFFTRA) were based on Kirkpatrick's (1976) framework for the evaluation of a training programme and a demographic questionnaire which were administered.

Descriptive statistics were used to describe the measuring instruments in terms of frequency distribution tables and summary statistics namely the mean and standard deviation. Cronbach's alpha coefficients were used to describe the reliability of the measuring instruments. Exploratory factor analysis with a Varimax rotation was used to determine the validity of the constructs of motivation/job satisfaction, organisational climate and effectiveness of training and Cronbach coefficient alpha was used to establish the reliability of the same constructs. Hypothesis testing was conducted to look for significant differences between constructs across both pre and post sample groups. Pearson correlation coefficients were used to determine the relationship between the measuring instruments. Regression analyses were used to develop possible significant models in line with the objectives of the study.

The results revealed that all constructs used were both valid and reliable, supported by both the literature research and the empirical findings of this study. For example this study provided a significant contribution in that it developed a valid and reliable measuring instrument in the form of the effectiveness of a training questionnaire.

In addition, significant differences within constructs (namely, motivation/job satisfaction and organisational climate) across both pre and post groups were identified specifically in regard to certain demographics namely different organisations, gender, age, home language and race. Also significant differences were found between the levels of both motivation/job satisfaction and organisational climate constructs of employees in terms of skilled/semi-skilled groups and qualification levels in particular. It is also worth noting that, one of the study's most significant findings revealed that those employees that received more training are more motivated and have an increased perception about their organisational climate than those who received less or no training at all. Therefore, the two core variables of this research (namely, motivation/job satisfaction and organisational climate) are both influenced by skilled/semi-skilled groups as well as the amount of training received.

Finally, the results also revealed significant relationships between the constructs of motivation/job satisfaction, organisational climate and effectiveness of training. A few interesting regression models were also developed. The first and second models respectively showed that effectiveness of training was strongly influenced by motivation/job satisfaction and in the case of the second model by organizational climate. A third model also revealed that motivation/job satisfaction could be well modelled by the independent variables of self performance, organizational climate and effectiveness of training and a fourth showed that organizational climate could be well modelled from the independent variables of self performance, motivation/job satisfaction and effectiveness of training.

In conclusion, the significance and limitations of the research are discussed, followed by recommendations for organisations and for future research.

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# **CHAPTER 1:**

## **INTRODUCING THE PROBLEM**

### **1.1 BACKGROUND AND CONCEPTUAL FRAMEWORK**

This chapter presents a broad overview of the study. More specifically, the following areas will be outlined: introduction, background of the problem, motivation for the study, definition of the problem, research objectives, the hypotheses, the proposed value of the research, and an outline of the remaining chapters.

### **1.2 INTRODUCTION**

The quality of an organization is, to a large degree, determined by the quality of people it employs. 'Success for most organizations depends on finding the employees with the skills to successfully perform the tasks required to attain the company's strategic goals' (Robbins & Decenzo, 2001:184). To improve performance, an organization or a manager will have to identify two categories of people. First, those whose motivation is fine, but whose skill or ability needs developing, and second, those whose ability and skill levels are fine but who lack motivation. It is the motivational problem that is likely to be more difficult to deal with. The most comprehensive discussion under employee motivation is dealt with in chapter 2 of this research study.

The assertion "get real and train people to achieve" (Van Hoek, 2002:2) is indicative of not only the past history, but also the challenges faced by the captains of industries in alleviating an alarming skills shortage in their companies and country. Needless to say, that illiteracy does not promote productivity (Cronje, du Toit, Mol, Van Reenen & Motlatla, 1997:442).

In 1995, the average growth in remuneration for South African employees was 15 per cent, with a corresponding productivity increase per annum of 1 per cent. Compared to the G7 countries, where remuneration grew by 7.5 per cent and productivity increased by 2.7 per cent, these figures were highly alarming for an economy that was striving for active participation on global markets (Matlhape & Lessing, 2002:25). The sources of low productivity are not only related to wages, but also include the lack of technical and management skills (Finnermore, 1997:55).

Van Rensburg (2004) contends that business organisations today are striving to become world-class organisations and compete globally (EI Toukhy, 1998; Ensor, 1997; Hough & Neuland, 2001). For an organisation to become a world-class organisation, it needs committed employees (Mayfield & Mayfield, 2002; Roodt, 2004; Rosen, 1992). Organisational commitment is a desirable organisational outcome (Luthans, Baack & Taylor, 1987). This commitment can arguably be derived from and is a consequence of job satisfaction or motivation level and perception of the organisational climate of an individual employee. How can an organisation ensure a high level of employee motivation as well as a favourable perception of the organisational climate that will ultimately ensure a high level of productivity?

The Department of Labour (RSA, n.d) reported that a 1998 study on the training in 15 Organisation for Economic Cooperation and Development (OECD) Member States found that the majority of enterprises believed or acknowledged that staff training results in:

- Productivity improvements
- Greater workforce flexibility
- Savings on material and capital costs
- A more motivated workforce
- Improved quality of the final product or service

Unfortunately, no equivalent study has been undertaken in South Africa. Judging from South Africa's ratings in the World Competitiveness Report – our country has been slow at embracing a real commitment to vocational education and training.

It is suggested in current South African business and organizational literature (for example, Mbigi & Maree (1995), Madi (1993), Lesse (1994), Koopman (1994) and Khoza (1994) that organizations in South Africa will need to change "the way things are done" if they wish to survive amidst the changing local environment and given the reality of international competition.

This is part of the reason that the South African government introduced the Skills Development Act and its sister legislation, the Skills Development Levy Act. The South African government also concedes that the market has failed them, as can be seen from the fact that the demand for skills far outweighs the supply. Too often the response of firms has been to poach scarce skills from others – not to train. As a result the price of scarce skills on the labour market has increased relative to others, but the skills pool has not increased significantly. So the country has a problem that can easily get worse (RSA, n.d). The advent of the Skills Development Act (SDA), (Act No. 97 of 1998) and the Skills Development Levies Act represent the government's response to this crisis.

The Acts aim to increase the level of investment in training and its impact. But too many South African employers see the new Skills Development levy only as a cost. They do not see the benefits. These Skills Development Acts advocated by the Department of Labour, strongly encourage and promote performance through training. This stance is enormously significant for the performance of every individual employee within any organisation. Its long-term implications can have far-reaching consequences for both the organisation and the country, and it can never be over-emphasised.

The implementation of the proposed workplace skills plans and learnerships has allowed this to happen for the first time. The legislation is a 'window of opportunity' that can be used effectively to improve 'competencies, develop tailor-made training programmes' that meet specific company needs and generate a pool of skills essential for the success of the companies. A more comprehensive and detailed discussions of this SDA Act will be covered in chapter 6 of this research study.

### **1.2.1 REFLECTIONS ON THE INTENTIONS OF JOINT INITIATIVE FOR PRIORITY SKILLS ACQUISITION (JIPSA)**

Joint Initiative for Priority Skills Acquisition (Jipsa) is the skills empowerment arm of the Accelerated and Shared Growth Initiative for South Africa (Asgisa), a programme announced by former state President Thabo Mbeki during his State-of-the-Nation Address in Parliament in February 2006. Driven by Deputy President Phumzile Mlambo-Ngcuka, the Asgisa initiative is primarily aimed at accelerating the country's economic growth to 6% (RSA, 2006).

Jipsa in turn, aims to bring together social partners to act on immediate and medium-term skills needs in the economy, particularly high-level and artisan skills. Among the tactics that Jipsa is expected to utilise in turning the tide against the skills shortfall are: special training programmes, luring back skilled South Africans now living abroad and bringing retirees back into the workforce.

### **1.3 STATEMENT OF THE RESEARCH PROBLEM**

For companies to be and remain competitive, they need to ensure that all workers are happy and feel valued as part and parcel of the organisation. Not only middle and top management, but lower-level employees too. Improving productivity requires a high level of skills and competencies to successfully execute the task. What arguably appears to be a common mistake by most business organisations in terms of skills transfer, focus seems to be mainly on middle and senior management levels, with very little emphasis on lower-level management.

These are individuals who are making very low wages and who have little opportunity to significantly increase their pay in either current jobs or through promotions" (Robbins, 1998:225). The amount of difference that can be brought by training on an employee motivation, perceptions of the organizational climate and individual performance, is the focal point of this research study.

Literature reveals that motivational and organizational climate are pertinent factors of work performance. It is the contention of the researcher that investigation of work performance demands that the two variables be factored in. This argument is substantiated by an empirical evidence regarding the existence of the relationship between these independent variables namely (i) employee motivation; (ii) organizational climate and dependant variable namely individual performance. The following are some of such documentary evidence:

- There is evidence to suggest that organizational climate can influence both job performance and employee satisfaction (Lawler, Hall, and Oldham, 1974).
- The theoretical link between climate and performance has been examined by several researchers, some of those relevant to this study being Denison (1990), West et al. (1998) and Burke and Litwin (1992).
- In their research study Yu, Yu & Yen (2006) also report that their paper has given empirical evidence about the contribution of achievement motivation and pay institute perception to the increasing of the results.
- Vroom's expectance theory reveals that actual performance in a job is primarily determined by the effort spent. But it is also affected by the person's ability to do the job and also by individual's perception of what the required task is. So performance is the responsible factor that leads to intrinsic as well as extrinsic rewards.
- Hitt and Morgan (1977) established the relationship between organizational climate and certain organizational practices.

- One particular crucial aspect of sales management that has received little attention from marketing scholars is the **motivation of salesmen and the determinants of sales performance**. In the Marketing and sales management literature, the salesman's motivation to expend effort on the job and his resulting performance usually are viewed as functions of one or several independent variables considered separately (Walker Jr, Churchill Jr and Ford: 1977:156).

Notably, having increasingly recognized the importance of need fulfillment and equity, theories tend to argue that if an organization is run properly, satisfaction will result from good performance because both intrinsic and extrinsic rewards will depend on good performance (performance – reward – satisfaction). Conversely, in a poor run organization this relationship will not hold because the performance – reward contingency is either absent or obscure (Howell & Dipboye, 1982). The relationship between satisfaction and performance is thus moderated by organizational effectiveness and not as a matter of satisfaction causing performance.

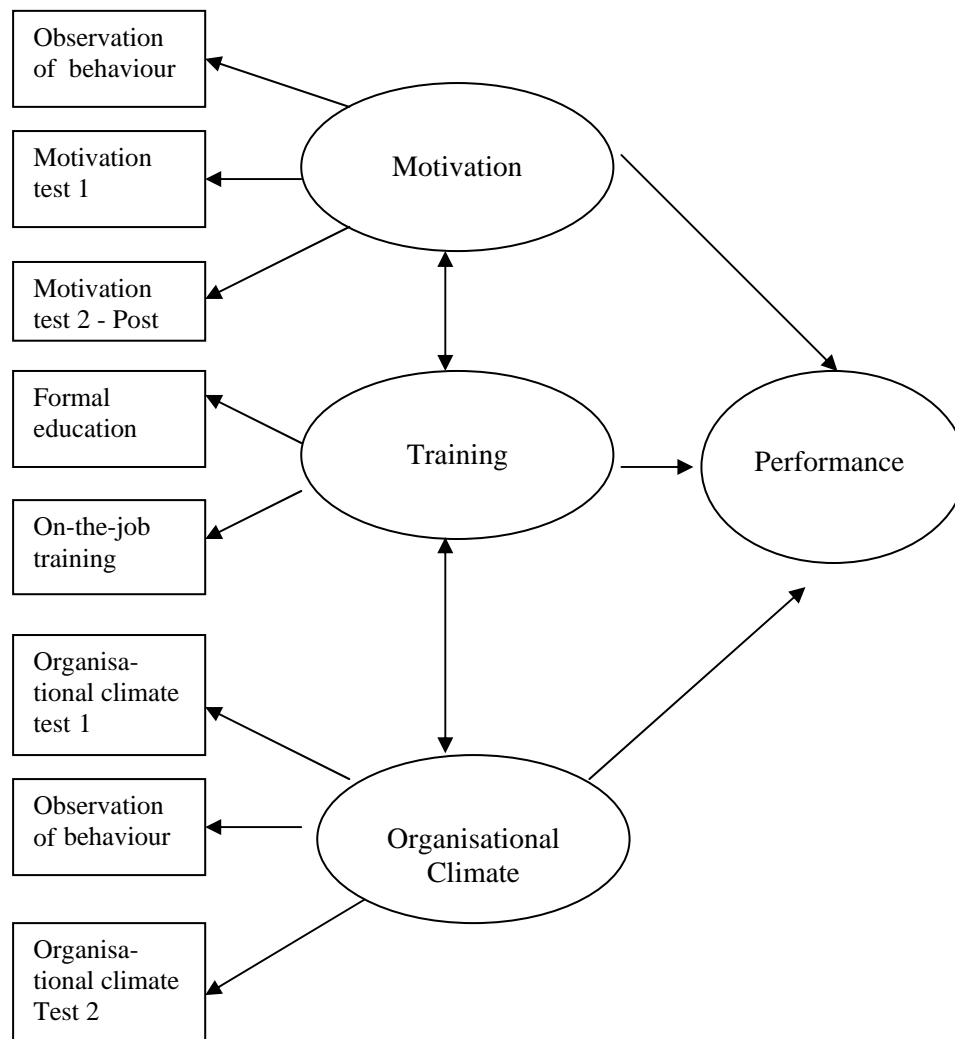
The contention of this study is that, the significance of staff training needs to be viewed as the true investment in human capital which has the potential to guarantee future rewards and sustainable competitive advantage for companies. The underlying hypothesis of this study is that training can enhance the effort and ability of an individual to perform. With the right 'mix', that is, manipulating issues (through skills development intervention) that make people behave in a particular manner (that is, motivational issues), within an enabling environment (that is, the organizational climate), will lead to better outcomes (i.e. performance). Training therefore plays a pivotal role serving as the catalyst in facilitating this process or/and goal.

Figure 1.1 shows a path diagram of employee performance. The latent factors are *training*, *motivation*, *organisational climate* and *performance*, shown within circles (test 1, represents pre-training or before, and test 2, represents afterwards or post-training). The observable or measurable variables are shown within rectangles. Arrows signify influence. Since the latent factors affect the measurable variables (motivation affects the motivation test results, not vice versa), the arrows point from

the construct to the measured variables. The figure also shows an interrelationship between motivation, organisational climate and training.

It is the contention of the researcher that motivation and organisational climate enhance the effectiveness of training and that training reciprocally influences motivation and organisational climate. Each of these independent variables has a potential causal effect on the individual employee's performance. A complex representation of this model would show error variances influencing each of the measurable variables and the dependent factor.

**Figure 1.1: Path Diagram for Employee Performance**



Adapted from Cooper & Schindler (2001:586)

The review of the relevant literature consulted in this research study serve primarily as the foundation for this study, but also justification and support to the fundamental hypothesis of this study.

## **1.4 DEFINITION OF CONSTRUCTS RELEVANT TO THE STUDY**

### **1.4.1 Work motivation**

Work motivation is the concept used to describe the forces acting on, or within an organism, to initiate and direct behaviour in relation to work (Petri, 1991). Work motivation is defined as that which (1) energises human behaviour; (2) directs or channels such behaviour; and (3) maintains or sustains this behaviour (Allscheid & Cellar, 1996; Muchinsky, 1987). Pinder (1998) describes motivation as the set of internal and external forces that initiates work-related behaviour, and that determine its form, direction, intensity, and duration. This conceptualisation points to energetic forces within individuals that influence or drive them to behave in certain ways, and environmental forces that trigger these drives.

### **1.4.2 Organisational climate**

The climate construct was initially developed to help explain meaningful aspects of people's psychological environments (Dickson, Smith, Grojean & Ehrhart, 2001:201). Similarly, West, Smith, Feng, and Lawthom (1998:262), refer to organisational climate as the 'perceptions that organisation members share of fundamental elements of their organisation'. There are several studies that document the importance of organisational climate as a determinant of organisational outcomes. Various features of the work environment have been considered by previous researchers (Schneider, 1990) including the climate for work group cooperation, job challenge and autonomy, leader support, pay performance linkages and performance feedback (Jones & James, 1979; Kopelman, Brief and Guzzo, 1990; Schneider, 1990).

The theoretical link between climate and performance has been examined by several researchers, some of those relevant to this study being Denison (1990), West *et al.* (1998) and Burke and Litwin (1992), where it was claimed that when perception by employees of greater involvement in decision making, information sharing and management support was favourable, then greater corporate effectiveness was also observed; reciprocal influence between climate and performance was also suspected.

In the context of organisational processes climate plays the part of an intervening variable, which affects the results of the operations of the organisation. The climate has this moderating power because it influences organisational processes such as problem solving, decision making, communications, co-ordination, controlling, and psychological processes of learning, creating, motivation, and commitment (Ekvall, 1996:106). The detailed discussion on this topic namely, organisational climate, will be covered in chapter 3 of this study.

### **1.4.3 Training and its effects**

Nearly all employees receive some form of training during their careers. Indeed, individuals rely on training to improve their current skills and to learn new skills (Mathieu, Tannenbaum, and Salas, 1992:828). Training represents an expensive investment organisations make in their human resources and therefore, it is important that organisations evaluate the effectiveness of their training efforts (Cascio, 1989) to maximise the benefits of such training.

Training must become more intimately involved with every developmental aspect of the organisation. The need to prove the value of training in organisational development initiatives has become more critical. The role of training in the learning organisation is highlighted by Greenberg & Baron (1997:92) who argue that training is a systematic approach to incorporating learning in the organisation. Training can be used to prepare employees to meet the challenges and changes in the workplace and to upgrade and refine skills (Struwig & Smith, 2000:114).

Price (1997:334) asserts that because of organisational change, the traditional role of training has become obsolete. Training cannot only be used to improve knowledge and skills. A change in emphasis is required in which training is placed at the centre of strategic human resources programmes. The detailed discussion on training and development and its role in this study are covered in Chapter 5 of this study.

## **1.5 PERFORMANCE MANAGEMENT - PEOPLE PERFORM WITHIN A SYSTEM**

Improving the knowledge, skills, and attitudes of employees was insufficient to improve their on-the-job performance (Fuller & Farrington, 1999:14). Performance is a much more complex issue. As we look at the barriers to performance, it becomes clear that people work within a performance system, with many external factors that affect their performance. Unless all the components of the system are operating correctly, it will be impossible to optimise performance (Fuller & Farrington, 1999).

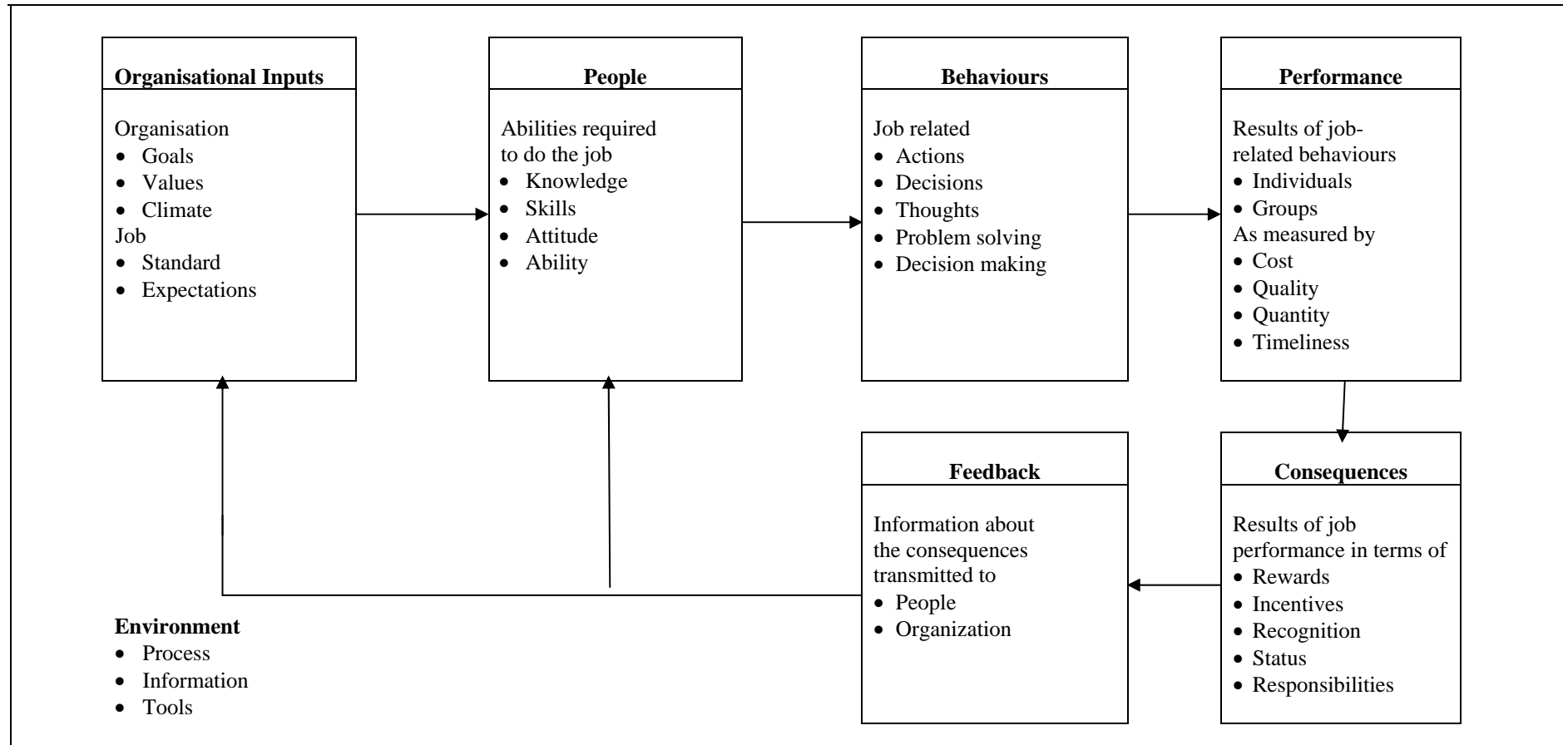
Figure 1.2 illustrates the human performance system. It shows a system where organisational inputs, people, and their behaviours lead to performance, consequences, and feedback, which loops back through the system to the organisation and the people in it, and so on. Moreover, the components of this system exist within an environment that also affects performance. It is therefore, essential to examine each component within the human performance system to understand how it affects performance.

### **1.5.1 Organisational Inputs**

The system begins with organisational inputs (refer to the Organisational Inputs block in Figure 1.2). Every organisation provides inputs to its employees or members. The inputs can be fixed or variable, formal or informal, documented or not documented, but they exist nonetheless. The organisation also has goals, values, and an overall climate that affect the way people operate within it. Most organisations have a culture, or behavioural norm, that identifies how work is to be done within the organisation and how members of the organization are to treat one another. Individuals who fail to

adapt to the prevailing culture are socially punished by the group, choose to leave because they don't fit in, or are fired for failing to demonstrate teamwork (Aronson, 1995).

**Figure 1.2: The Human Performance System**



Source: Based on work by multiple systems thinkers, including Rummler and Brache (1992) as cited in Fuller & Farrington (1999)

In addition, most organisations provide each employee with a written position plan that indicates what their role is within the organisation and what results they are expected to achieve in their job. Ideally, this plan offers a clear picture; but if the position plan is poorly written or out-of-date, the employee could easily end up striving to achieve the wrong performance objectives. Fuller & Farrington (1999:16) report on instances of training programmes where the most valuable outcome for the trainees was simply to gain a focused picture of management's job expectations. The employees knew how to do the tasks they were assigned, but they didn't know that management desired those specific tasks.

If there are performance barriers in this part of the process, employees are typically confused about their role in the organization. With poor inputs, they are forced to guess what the organization wants to achieve. If they guess wrong, they are unpleasantly surprised when they receive poor evaluations (see Feedback block in Figure 1.2) during their yearly performance evaluation or during their job termination exit interviews.

### **1.5.2 People**

Inputs from the organization affect the people the organisation employs (refer to the People block in Figure 1.2). People take the available input and use their existing knowledge, skills, and attitudes, resulting in various behaviours. If the capabilities of the people are inadequate, they may perform their tasks incorrectly, inadequately, or not at all. Like each component in the performance system, the capabilities of the people are a necessary but insufficient element in the process of achieving performance. The error typically made by most organizations is to focus exclusively on the people component of the human performance system and ignore the other components (Fuller & Farrington, 1999:17). This effort produces highly capable people who are struggling to produce results in a suboptimised environment.

This creates high levels of frustration that have been demonstrated to increase attrition. High performers who can secure a position with another organisation that has a less frustrating working environment will frequently do so (Greenberg, 1994).

### **1.5.3 Behaviours and Performance**

On-the-job behaviours are influenced by organisational inputs and result in performance – the desired accomplishment for which the job exists. This performance can be at the individual or group level. Typically, performance is measured in terms of outcomes that are desired and valued by the organisation, for example, reduced product costs, increased quality, or increased productivity. It is important to distinguish between behaviours and performance. Behaviours are measured in terms of specific actions or activities. Performance is measured in terms of outcomes. What makes the organization successful is performance, not behaviour. Organisations that become obsessed with controlling or improving behaviours typically run into difficulty improving both individual and organisational performance. It is quite possible to have employees working within a system, demonstrating desired behaviours, and yet not achieving any desired outcomes (Fuller & Farrington, 1999).

Some organisations use a management philosophy commonly referred to as management by objectives (MBO). This method of managing sets clear performance goals (desired outcomes) and allows the employee to select the best method (within the guidelines of the organisation's culture) to achieve the performance. The focus is not on employee behaviours but on their performance.

### **1.5.4 Consequences**

Job performance has associated specific consequences (refer to the Consequences block in Figure 1.2). If the consequences reinforce the desired performance, then it is likely to continue. If the consequences punish the expected performance, then it is likely to be extinguished over time. Skinner demonstrated this simple relationship in his experiments. When looking at causes for the performance problems of individuals

or groups, we frequently find that incorrect consequences are the performance barrier (Fuller & Farrington, 1999:18).

The consequences of performance should be aligned with the organizational inputs. When they are out of alignment, people are forced to choose between *what they are told to do* and *what actually gets rewarded* within the organisation. When this occurs, most members of the organisation are smart enough to give the appearance of following the organizational inputs, while spending most of their time doing what gets rewarded. This has long-term impact on the credibility of the management team within the organisation. If management says to do “A” and rewards people for doing “B,” employees rapidly learn to disregard what management tells them (Fuller & Farrington, 1999).

### **1.5.5 Feedback**

Once the consequences are established, they need to be fed back to the people and the organisation (refer to the Feedback block in Figure 1.2). A system that does not provide feedback is an open loop, one in which the results are likely to be unpredictable. When provided with regular feedback on their performance and the consequences of their performance, people will modify their own behaviour to optimize the performance and the associated consequences. Without frequent, accurate feedback, people are far less likely to improve their performance over time (Fuller & Farrington, 1999:19).

Feedback needs to be coupled with performance. A young child who does something wrong in the morning and is punished that night after his parents returns from work is not going to associate the punishment with the earlier wrongdoing. It is much the same with performers in an organisation. If the feedback on their performance is not given until a month later (say, during the department’s regular update meeting) or (worse) a year later (say, during a yearly performance review), the opportunity for reinforcing desired performance is greatly diminished, if not entirely lost (Fuller & Farrington, 1999). Intelligent use of feedback alone can improve the performance of an entire organisation.

### **1.5.6 Environment**

The last component of the human performance system is the environment (refer to the lower left of Figure 1.2). Environmental factors include processes, information, and tools, all of which can have a significant impact on performance. If people are given poor information and inadequate tools, how can they be expected to achieve optimal performance? Environmental flaws can seriously impede performance even if the organisational inputs, people abilities, behaviours, consequences, and feedback are of the highest quality (Fuller & Farrington, 1999:20).

The processes that people work within must enable top performance, not provide barriers to performance. Members of an organisation who are “tied up in red tape” will not achieve breakthrough performance. If you put a great performer in a bad process, it is the process that will win, not the person. Imagine a situation in which people are trained in high-speed manufacturing practices, then placed in a manufacturing process where they have to wait around for part to arrive (Fuller & Farrington, 1999).

### **1.5.7 Whole-System Solutions**

If people are to achieve top-level performance, all the components of their human performance system must be optimised. With each barrier in the system, their performance decreases. As Figure 1.2 illustrates, the human performance system has many parts. That is why training, all by itself, is an insufficient approach to improving performance. While training can have a positive impact on the people component of the human performance system, training cannot fix performance barriers in the areas of organisational inputs, consequences, feedback, or the environment. We need to create performance improvement solutions that can address each of the broken elements of the performance system (Fuller & Farrington, 1999:21).

## **1.6 MOTIVATION OF THE STUDY**

It stands to reason that “illiteracy does not promote productivity”, (Cronje *et al.*, 1997:442). The critical role a skilled and knowledgeable workforce can play in securing competitive advantages in both local and international markets can never be over-emphasised. For a very long time "organisations in South Africa have neglected to invest in their employees to equip them with the necessary skills for the challenges of our modern, globally competitive world" (Swanepoel, 2000:493). According to a report by SPA Consultants (1994), industry invests, on average, 0,5 - 1,0 % of its payroll in education and training. The Minister of Labour asserts that "we are part of a global economy and need to increase skills within the country to improve productivity and the competitiveness of South Africa's industry, business, commerce and service" (Sunday Times, 17 March 2002).

The main issue however, is how managers can ensure that training received by subordinates makes a necessary impact on the bottom-line, i.e. productivity. Schultz (1990:145) maintains that "leaders must supply people with skills training, education and improvement methods needed to make decisions and solve problems - in real time." Managers must have the ability and desire to work with people as coaches in order to improve their performance. This study attempts to highlight the invaluable contribution training can make towards ensuring an effective and efficient individual performance, resulting from improved motivation and perceptions of the organisational climate.

## **1.7 AIMS AND OBJECTIVES OF THE STUDY**

Relating to the research problem, the broad and primary aim of the research study is to investigate the impact of skills development training on employee motivation/job satisfaction, perceptions of the organisational climate, and individual performance.

The research study also aims to ultimately develop a model for companies that will best indicate how training can aid the process of improving lower-level employees'

performance at work, increase their motivation levels and perceptions of the organisational climate, and ultimately increase and improve their production capacity.

At the secondary level, the objectives are to:

- 1) Determine the overall change in the dependent variables, namely “employee motivation/job satisfaction” and “organisational climate” across both pre- and post-groups.
- 2) Determine the overall change in the dependent variables, namely “employee motivation/job satisfaction” and “organisational climate” across both pre- and post-groups by each of the following demographics, namely company, gender, race, age, home language, marital status, job title, qualifications, training received in past 18 months, number of times of such training, work experience in same job and work experience in same company.
- 3) Determine and if possible model the relationships between the variables “effectiveness of training”, “self-performance”, “motivation/job satisfaction” and “organisational climate”.

## **1.8 LIST OF HYPOTHESES**

The fundamental hypothesis is that training can enhance the effort and ability of an individual to perform. If effort is to lead to good performance, the individual must have the requisite ability to perform. This choice is based on the assumption that seeks to examine the ‘trainees perception that doing well in a program [sic] would lead to better job performance and consequently to or desirable valued outcomes’.

This approach is particularly useful because it permits the integration of both individual and situational variables as they relate to trainees’ perceptions of various valence-instrumentality-expectancy components (Farr & Middlebrooks, 1990). A detailed justification for the choice of ‘expectancy theory’ is covered under 2.3.4.1 in the following chapter. This research study therefore, is anchored by the following thirteen hypotheses:

**Hypothesis 1:**

*Hypothesis 1 concerns associations between pre and post test scores on the employee motivation/job satisfaction measuring instrument.*

H1: Scores on “employee motivation/job satisfaction” differ significantly across pre- and post test groups.

H<sub>1o</sub>: There is no significant difference between scores on “employee motivation/job satisfaction” in pre- and post test groups.

**Hypothesis 2:**

*Hypothesis 2 incorporates ten sub-hypotheses concerning associations between demographic variables and pre and post test scores on the “employee motivation/job satisfaction” measuring instruments.*

H2: Demographic variables significantly affect pre and post test scores on the “employee motivation/job satisfaction” measuring instrument.

H<sub>2o</sub>: Demographic variables do not significantly affect pre and post test scores on the “employee motivation/job satisfaction” measuring instrument.

**Hypothesis 3:**

*Hypothesis 3 concerns associations between pre- and post test scores on the organisational climate measuring instrument.*

H3: Scores on perceptions of organisational climate measuring instrument differ significantly in pre- and post- treatment groups.

H<sub>3o</sub>: There are no significant differences in scores of organisational climate measuring instrument across pre- and post- groups.

**Hypothesis 4:**

*Hypothesis 4 incorporates ten sub-hypotheses concerning associations between demographic variables and group pre- and post scores on the organisational climate measuring instrument.*

H4: Demographic variables significantly affect pre- and post test scores on the organisational climate measuring instrument.

H4<sub>0</sub>: Demographic variables do not significantly affect pre- and post test scores on the organisational climate measuring instrument.

**Hypothesis 5:**

*Hypothesis 5 concerns associations between frequency of training and group pre- and post tests scores on the “employee motivation/job satisfaction” measuring instruments.*

H5: Scores on the “employee motivation/job satisfaction” measuring instrument do significantly differ across various categories of frequency of training.

H5<sub>0</sub>: Scores on the “employee motivation/job satisfaction” measuring instrument do not significantly differ across various categories of frequency of training.

**Hypothesis 6:**

*Hypothesis 6 concerns associations between frequency of training and group pre- and post tests scores on the organisational climate measuring instrument.*

H6: Scores on the “organizational climate” measuring instrument do differ significantly across various categories of frequency of training.

H6<sub>0</sub>: Scores on the “organizational climate” measuring instrument do not significantly differ across various categories of frequency of training.

**Hypothesis 7:**

*Hypothesis 7 concerns associations between frequency of training and group pre- and post tests scores on the effectiveness of training measuring instrument.*

H7: Scores on the “effectiveness of training” measuring instrument do differ significantly across various categories of frequency of training.

H7<sub>0</sub>: Scores on the “effectiveness of training” measuring instrument do not differ significantly across various categories of frequency of training

**Hypothesis 8:**

*Hypothesis 8 concerns associations between frequency of training and group pre- and post test scores on the self-rated performance measuring instrument.*

H8: Scores on the “self-rated performance” measuring instrument do differ significantly across various categories of frequency of training.

H8<sub>0</sub>: Scores on the “self-rated performance” measuring instrument do not differ significantly across various categories of frequency of training.

**Hypothesis 9:**

*Hypothesis 9 concerns associations between effectiveness of training measuring instrument scores and “employee motivation/job satisfaction” measuring instruments.*

H9: Effectiveness of training scores significantly correlate with scores on the “employee motivation/job satisfaction” measuring instrument.

H9<sub>0</sub>: Effectiveness of training scores do not significantly correlate with scores on the “employee motivation/job satisfaction” measuring instrument.

**Hypothesis 10:**

*Hypothesis 10 concerns associations between effectiveness of training measuring instrument scores and “organizational climate” measuring instruments.*

H10: Effectiveness of training scores significantly correlate with scores on the “organizational climate” measuring instrument.

H10<sub>o</sub>: Effectiveness of training scores do not significantly correlate with scores on the “organizational climate” measuring instrument.

**Hypothesis 11:**

*Hypothesis 11 concerns associations between effectiveness of training measuring instrument scores and “self-rated performance” measuring instruments.*

H11: Effectiveness of training scores significantly correlate with scores on the “self-rated performance” measuring instrument.

H11<sub>o</sub>: Effectiveness of training scores do not significantly correlate with scores on the “self-rated performance” measuring instrument.

**Hypothesis 12:**

*Hypothesis 12 concerns associations between effectiveness of training, organizational climate and self-rated performance scores combined and the employee motivation/job satisfaction measuring instrument.*

H12: Aggregated scores on effectiveness of training, perceptions of organisational climate, and self-rated performance measuring instruments, significantly correlate with scores on the employee motivation measuring instrument.

H12<sub>o</sub>: Aggregated scores on effectiveness of training, perceptions of organisational climate, and self-rated performance measuring instruments do not significantly correlate with scores on the employee motivation measuring instrument.

**Hypothesis 13:**

***Hypothesis 13 concerns associations between effectiveness of training, employee motivation/job satisfaction and self-rated performance measuring instruments combined and the organisational climate measuring instrument.***

H13: Aggregated scores on effectiveness of training, employee motivation/job satisfaction and 'self-rated performance measuring instruments significantly correlate with scores on the perceptions of organisational climate measuring instrument.

H13<sub>o</sub>: Aggregated scores on effectiveness of training, employee motivation/job satisfaction, and self-rated performance measuring instruments, do not significantly correlate with scores on the perceptions of organisational climate measuring instrument.

Each hypothesis correlates to the aspects that relate to the topic, and the basis of crafting and conducting these hypotheses is premised on the fact that amongst the most common factors determining individual performance, more often than not work motivation and the perception of organizational climate features prominently. So, improving the knowledge, skills, and attitudes of employees was insufficient to improve their on-the-job performance (Fuller & Farrington, 1999:14). Performance is a much more complex issue, and requires that the two independent variables being explicitly factored into the equation.

To test these hypotheses, Pearson's product-moment correlation coefficient, "r" will be used. Such correlations would reveal both the magnitude and direction (i.e positive or negative) of relationships between the variables of interest (Emory and Cooper, 1991:583).

## **1.9 THE SIGNIFICANCE OF THE STUDY**

The aim of the study is to ensure that facilitative measures are put in place to enable companies to capacitate their workforce through skills development training programmes. Such a study could:

- Contribute to the body of knowledge by developing a model that can indicate not only the correlation between training and performance/productivity, but also the impact of training on employee motivation and perceptions of organisational climate;
- Help companies to better skill, monitor and encourage a sustainable improved performance from lower-level employees;
- Highlight the significance of aligning skills development training, especially that of lower-level workers, with business objectives, i.e. linking learning to bottom-line performance; and
- Contribute towards rebuilding the economy (when companies raise performance and productivity standards through skills development).

## **1.10 THE RESEARCH METHODOLOGY**

Methodology refers to a carefully considered way of approaching a problem so that one can understand it better (Sayer, 1992:12).

### **1.10.1 The research design**

A survey design is used to reach the research objectives. The specific design is in the form of quasi-experimental research comparable to pre-test post-test one group design (Cooper & Schindler, 2000:405; Shaughnessy & Zechmeister, 1997). Information collected is used to describe the population at that time and is appropriate for studying

various groups at different stages of development. This design can also be used to assess interrelationships among variables within a population. According to Shaughnessy & Zechmeister (1997), this design is ideally suited to descriptive and predictive functions associated with correlational research.

Research design refers to the plan and structure of the investigation used to obtain evidence to answer research questions. The design describes the procedures for conducting the study including when, from whom, and under what conditions data is obtained. The purpose of research design is to provide the most valid and accurate answers possible to research questions (McMillan & Schumacher, 1993:31-32).

### **1.10.2 Population and sampling size**

The study population can be defined as a stratified random sample of employees at five (5) selected organisations in South Africa. The sample consisted of lower-level employees from the following organisations: A bus transport company; a financial institution; a bakery company; a chicken breeding company; and a truck body building company. All of these companies are located in the Free State Province and Northern Cape. The targeted sample size is ( $n = 800+$ ), spread among the five companies.

### **1.10.3 Measuring instruments and data collection**

Four questionnaires are used in the empirical study, namely, the Job Description Index (JDI); Litwin and Stringer's Organisational Climate Questionnaire (LSOCQ); Self-rated performance (SELPERF); Effectiveness of Training Questionnaire (EFFTRA).

A self-completion questionnaire will be administered to these lower-level workers, namely semi-skilled and skilled employees of the five participating companies by the researcher and his team of assistants who will also be involved in documentary reviews and conducting interviews as well as providing help to respondents.

#### **1.10.4 Data presentation and analysis**

Presentation of the collected data is done using both inferential and descriptive statistics, with the help of the computer software package, Statistical Package for the Social Sciences (SPSS, 2003) program. This program is used to carry out the statistical analysis. Cronbach alpha coefficients ( $\alpha$ ) and inter-item correlations coefficients are used to determine the internal consistency (reliability) of the measuring instruments and descriptive statistics are used to analyse data. Pearson correlations are used to assess the extent to which one variable is related to another.

#### **1.11 SCOPE AND LIMITATIONS OF THE STUDY**

The study is limited to the impact of skills development training on the motivation level, perceptions of the organizational climate and individual performance of workers doing **automatic** (i.e semi-skilled) and **routine** (i.e skilled workers and supervisory management) work only as defined by Paterson's Job grading system. The delimitation to these category of workers is necessitated by the fact that such workers "do not necessarily take cognisance of performance management in their daily routine jobs" (Williams 2001:27) unlike other workers in the higher echelon of management hierarchy. Therefore, the findings/conclusions of this study could be deemed relevant and applicable to workers in the lower-level management of companies covered in this research are concerned, and to a limited extent, related companies found within these sectors.

#### **1.12 SUMMARY AND CONCLUSION**

This chapter has presented an orientation/background to the problem under investigation and outlined the background and preliminary review of the literature in order to contextualize the problem and to provide a point of departure. Aims and objectives have been specified and key concepts used in the study operationalised. A preliminary description of the research methodology and the research design will serve to elucidate the objectives of the research, the research design issues involved and a description of the research sample. Moreover, the procedure followed in executing the

research, the research instrument (data collection methods) and the quantitative statistical analyses utilised are described. The population and sampling, data collection techniques and the scope and limitation of the study are clearly encapsulated in this research proposal. It is essential therefore to embark on the literature review to unpack pertinent issues related to the research.

The next chapter focuses on the literature review, with specific emphasis on various motivational theories and their relationship to work performance.

### **1.13 STRUCTURE OF THE DISSERTATION**

The content of the rest of the thesis has the following structure:

**Chapter 2: Overview of the literature** is devoted to a comprehensive review of the literature related to the study, including the theoretical framework that has informed the study as well as expanding and further elucidating of key concepts - **Review of Motivational Theories**: concept of motivation together with its underlying theories and empirical findings.

**Chapter 3: Literature review continued** - Review of Organizational climate theory and empirical findings.

**Chapter 4: Research design and Methodology** – a detailed description of the methodology used in the study is given. The research design is specified, methods of data collection are described and data analysis procedures are outlined. A detailed description of the population of the study and the sampling procedures are given.

**Chapter 5: Reliability and validity of the measuring instruments** – a detailed description of the measuring instruments used in this study is given, and their reliability and validity analysed.

**Chapter 6: Training and development** – the chapter investigates the interaction between training and change on employee motivation, perception of the organisational climate and individual performance.

**Chapter 7: Analysis and interpretation of research findings;** the data obtained by means of the self-completion questionnaire is presented and discussed according to certain key topics and themes.

**Chapter 8: Synthesis, conclusions and recommendations are found in this chapter.** A set of recommendations are made for the improvement of the career development of the lower level employees. These are based on the findings of the empirical investigation. Suggestions for further research on individual performance are made and the limitations of the study are outlined.

## **CHAPTER 2:**

# **OVERVIEW OF MOTIVATIONAL THEORIES**

### **2.1 INTRODUCTION**

The previous chapter outlined the context and the aims of the study. This chapter deals with work motivation and how it manifests itself. A whole range of motivational theories are explored in detail.

Interest in work motivation peaked in the 1970s and early 1980s, with the last 15 years seeing little empirical or theoretical research on work motivation (Ambrose & Kulik, 1999). Over the years, numerous theories have been proposed, attempting to capture the various sources of motivation energising individual behaviour. These theories all propose a set of motivational sources, differing in respect to the degree to which they theorise a dominant source of motivation (De Klerk, 2001: 83).

Porter (1968), as well as Steers and Porter (1979), describe the basic building blocks of a generalised model of most theories of work motivation as: (1) needs or expectations; (2) behaviour modifications; (3) goals; and (4) some form of feedback. Motivation theories posit that individuals possess a multitude of needs, desires and expectations. The emergence of such a need, desire, or expectation generally creates a state of disequilibrium within individuals which they will try to reduce (Steers & Porter, 1979). Information feeds back to the individuals concerning the impact of their behaviour. Such cues may lead them to modify their present behaviour or may reassure them that their present course of action is correct.

### **2.2 MOTIVATION IN PERSPECTIVE**

According to Cronje *et al.* (2006:222), in the workplace motivation is what makes people work. Similarly, motivation may be defined as the reason people want to work (Invancevich, 1998). It is the internal drive that encourages people to achieve a particular goal (Robbins, 1998). Cronje *et al.* (2006) further argue that to be successful

in any organisation, employees and managers should understand what causes different motivational levels, because the achievement of both personal and organisational goals is important. Table 2.1 reflects how the perceptions of management relate to the policies formulated, and how these in turn, impact on the expectations workers should meet.

It is against this background that Cronje, Du Toit, Marais & Motlatla (2006:222) argue that without a well-trained and motivated workforce, organisations cannot be successful. Getting the best out of employees has become a daunting task for organizations today as most ponder on the measures of ensuring improved performance from employees. Coldwell (1997:25) reports that earlier research has shown that ability (Tosi, Rizzo & Carroll, 1994) and motivation (Herzberg, Mausner & Snyderman, 1959) are both important independent variables in the explanation of individual work performance. The focus of this chapter, therefore, is to explore the relative salience of one variable, namely (individual) motivation, in predicting the performance of lower level, i.e. skilled and semi-skilled employees found within some South African companies.

It is vital, therefore, to strike a balance between management needs or expectations and those of employees. George and Jones (2002:186) indicate that management, on the one hand, wants workers to be motivated in order to contribute inputs (effort, specific job behaviours, skills, knowledge, time, and experience) because inputs influence job performance and, ultimately, organisational performance. On the other hand, workers are concerned with obtaining outcomes from the organization, namely extrinsic outcomes (for example, pay and job security) and intrinsic outcomes (for example, a feeling of accomplishment from doing a good job or the pleasure of doing interesting work). These key concerns of management and workers are at the heart of motivation.

**Table 2.1**  
**General Patterns of Managerial Approaches to Motivation**

<b>Traditional model</b>	<b>Human relations model</b>	<b>Human resources model</b>
<p><b>Assumptions</b></p> <ol style="list-style-type: none"> <li>1. Work is inherently distasteful to most people.</li> <li>2. What they do is less important than what they earn for doing it.</li> <li>3. Few want or can handle work, which requires creativity, self-direction or self-control.</li> </ol>	<p><b>Assumptions</b></p> <ol style="list-style-type: none"> <li>1. People want to feel useful and important.</li> <li>2. People desire to belong and to be recognised as individuals.</li> <li>3. These needs are more important than money in motivating people to work.</li> </ol>	<p><b>Assumptions</b></p> <ol style="list-style-type: none"> <li>1. Work is not inherently distasteful. People want to contribute to meaningful goals which they have helped to establish.</li> <li>2. Most people can exercise far more creative, and responsible self-direction and self-control than their present jobs demand.</li> </ol>
<p><b>Policies</b></p> <ol style="list-style-type: none"> <li>1. The manager's basic task is to closely supervise and control subordinates.</li> <li>2. He or she must establish detailed work routines and procedures, and enforce these firmly, but fairly.</li> </ol>	<p><b>Policies</b></p> <ol style="list-style-type: none"> <li>1. The manager's basic task is to make each worker feel useful and important.</li> <li>2. He or she should keep subordinates informed and listen to his or her plans.</li> <li>3. The manager should allow subordinates to exercise some self-direction and self-control in routine matters.</li> </ol>	<p><b>Policies</b></p> <ol style="list-style-type: none"> <li>1. The manager's basic task is to make use of 'untapped' human resources.</li> <li>2. He or she should create an environment in which all members may contribute to the best of their abilities.</li> <li>3. He or she should encourage full participation in important matters, continually broadening subordinate self-direction and control.</li> </ol>
<p><b>Expectations</b></p> <ol style="list-style-type: none"> <li>1. People can tolerate work if the pay is decent and the boss is fair.</li> <li>2. If tasks are simple enough and people are closely controlled, they will produce up to standard.</li> </ol>	<p><b>Expectations</b></p> <ol style="list-style-type: none"> <li>1. Sharing information with subordinates and involving them in routine decisions will satisfy their basic needs to belong and to feel important.</li> <li>2. Satisfying these needs will improve morale and reduce resistance to formal authority – subordinates will 'willingly co-operate'.</li> </ol>	<p><b>Expectations</b></p> <ol style="list-style-type: none"> <li>1. Expanding subordinate influence, self-direction, and self-control will lead to direct improvements in operating efficiency.</li> <li>2. Work satisfaction may improve as a 'by-product' of subordinates making full use of their resources.</li> </ol>

Adapted from Steers and Porter (1987:16)

Various categories of motivation have been advanced to explain work motivation. The four theories that the researcher describes in this chapter are mainly complementary perspectives. Because each theory addresses different questions about motivation in organizations, the various theories do not necessarily compete with one another. These theories include the content theories (for example, Maslow's need hierarchy, Herzberg's two factor theory and McClelland's achievement theory), the process theories (for example, Vroom's expectancy theory, Porter and Lawler's expectancy theory and Adam's equity theory) and reinforcement theory based on the Thorndike principle of the law of effect. The latter principle simply refers to the fact that people tend to repeat behaviour that has a pleasant result.

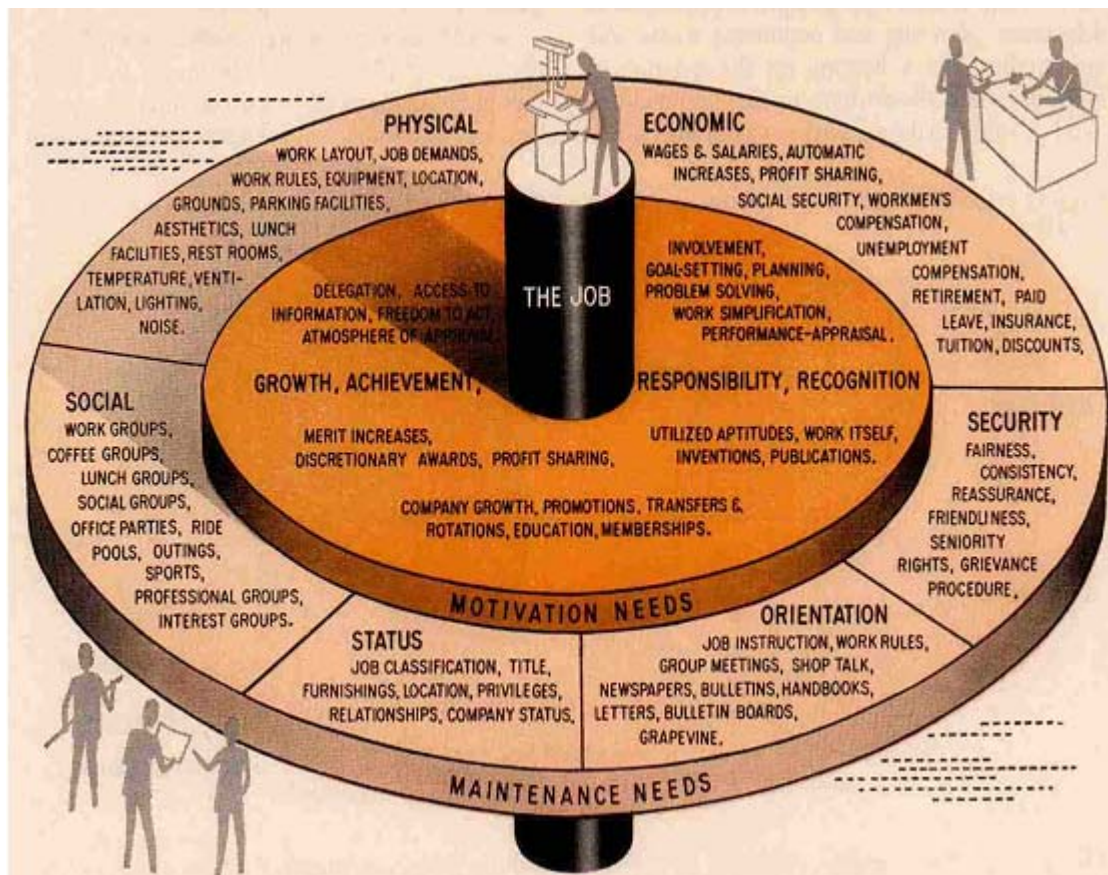
Arnolds and Boshoff (2000:216) maintain that content theories, also called the need theories by Landy (1985:317), have received more attention in research studies than the other motivational theories (Stahl, 1986:39), because they have been seen as among "the most enduring ways to understand motivation" (Aram & Piraino, 1978:79).

The underlying basis of need theories is that employees are motivated to increase their job performance by their individual striving to satisfy certain needs. Understanding what the needs are and how they are satisfied will enhance insight into work-related behaviours that increase job performance (Stein & Hollowitz, 1992:20). Figure 2.1 indicates many of these work-related needs.

Figure 2.1 below identifies generic employee needs – maintenance and motivational; a general and summative review of an employee's motivational aspects – both intrinsic and extrinsic.

Figure 2.1

## Employee needs – maintenance and motivational



Source: Adapted from Myers (1964: 86)

Similarly, Van Dyk (1998:258) provides a threefold classification for motivation which is the embodiment of people's needs and expectations at work. The drives or stimulants for injecting a particular behaviour pattern are identified as:

- **Economic rewards** – pay, fringe benefits, pension rights, material goods and security (an instrumental orientation to work and being concerned with '*other things*').
- **Intrinsic satisfaction** – derived from the nature of the work itself, interest in the job and personal growth and development (a personal orientation to work and concerned with '*oneself*').

- **Social relationships** – friendships, group work and the desire for affiliation, status and dependency (a relational orientation to work and being concerned with ‘*other people*’).

Both assertions by Myers (1991) and Van Dyk (1998) set a good foundation and an appropriate point of departure for the discussion in this chapter. What work-related variables determine job satisfaction?’ (Robbins, 1998:152). The response to this question will explain why a particular employee functions at a certain level. Furthermore, Mol (1990: 42) indicates that employees function at one of the following three basic levels, namely:

- Minimum level – doing less than is required;
- Expected level – doing just what is required; and
- Maximum level – doing more than is required.

Undoubtedly, management will always want every employee in the organisation to perform at his or her maximum level, i.e. doing more than is required. Prior to reviewing various motivational theories and their implications for managers and organisations, it is vital to cast the focus on “the important factors conducive to job satisfaction” (Robbins, 1998:152).

**Mentally challenging work** – employees tend to prefer jobs that give them the opportunity to use their skills and abilities and which offer a variety of tasks, freedom, and feedback on how well they are doing. These characteristics make work mentally challenging. Jobs that have too little challenge create boredom, but too much challenge creates frustration and feelings of failure. Under conditions of moderate challenge, most employees will experience pleasure and satisfaction.

**Equitable rewards** – employees want pay systems and promotions policies that they perceive as being just, unambiguous, and in line with their expectations. When pay is seen as fair based on job demands, an individual's skills level, and community pay standards, satisfaction is likely to result. Robbins (1998) acknowledges that not everyone seeks money.

Many people willingly accept less money to work in a preferred location or in less demanding jobs or to have greater discretion in the work they do and in the hours they work. The key of linking pay to satisfaction is not the absolute amount one is paid; rather, it is the **perception of fairness**. Similarly, employees seek fair promotion policies and practices. Promotions provide opportunities for personal growth, more responsibilities, and increased social status. Individuals who perceive that promotion decisions are made in a fair and just manner, are more likely to experience satisfaction.

**Supportive working conditions** – employees are concerned with their working environment for both personal comfort and for doing a good job. Studies demonstrate that employees prefer physical surroundings that are not dangerous or uncomfortable. Temperature, light, noise, and other environmental factors should not be at either extreme; for example, having too much heat or too little light. Additionally, most employees prefer working fairly close to home, in clean and relatively modern facilities, and with adequate tools and equipment.

**Support the colleagues** – people derive more satisfaction from work than merely money or tangible achievements. For most employees, work also fills the need for social interaction. Not surprisingly, therefore, having friendly and supportive co-workers leads to increased job satisfaction. The behaviour of one's boss also is a major determinant of satisfaction. Studies generally find that employee satisfaction is increased when the immediate supervisor is understanding and friendly, offers praise for good performance, listens to employees' opinions, and shows a personal interest in them.

**Importance of good personality – job fit** – one of Holland's (1959; 1962; 1966) personality-job fit theory's conclusions is that high agreement between an employee's personality and occupation results in a more satisfied individual. His logic is essentially that people with personality types congruent with their chosen vocations should find that they have the right talents and abilities to meet the demands of their jobs. Thus, they are more likely to be successful in their jobs and, because of this success, experience a greater probability of achieving great satisfaction from their work.

**It is in the genes** – as much as 30 percent of an individual's satisfaction can be explained by heredity. Analysis of satisfaction data for a selected sample of individuals over a 50-year period found that individual results were consistently stable over time, even when these people changed the employer for whom they worked, as well as their occupation. This and other research suggests that a significant portion of some people's satisfaction is genetically determined. This implies that an individual's disposition toward life – positive or negative – is established by his or her genetic makeup, holds over time, and carries over into his or her disposition towards work.

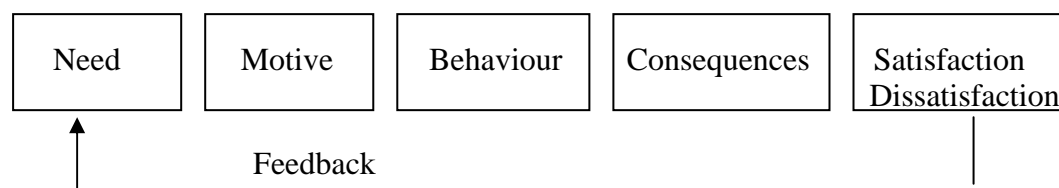
Given this evidence, it may well be that at least for some employees, there is not much managers can do to influence employee satisfaction. Manipulating job characteristics, working conditions, rewards, and the job fit may have little effect. Robbins (1998:152) suggests that managers should focus attention on employee selection: if you want satisfied workers, make sure you screen out the negative, maladjusted, trouble-making fault-finders who derive little satisfaction in anything about their jobs. This study however, views this position as tantamount to misconception, and a turnaround can be assured through continued staff development or training.

Many Human Resource managers have theories regarding the motivation of employees' performance. Some believe that only one motivational theory is enough to develop productive employees. Others claim that no technique works because employees are either born achievers or loafers. Obviously, it is quite difficult, if not impossible, to develop a single, generally accepted theory of motivation for people in the workplace and an attempt to search for one would prove to be a vain quest. In fact,

no single theory will address all motivational problems; however, something can be learned from each theory.

Motivation as the force that energises behaviour, gives direction and underlies the tendency to persist, even in the face of one or more obstacles (Grobler *et al.*, 2002:105). Figure 2.2 below depicts the process of motivation.

**Figure 2.2**  
**The motivation process**



Adapted from Smit and Cronje, 2<sup>nd</sup> Edition (1997:306)

The interdependent elements of this motivational process are described below, as follows:

### **Need**

A psychological or physiological imbalance may give rise to a need. A physiological need could arise through a lack of food or water. An example of a psychological need is the need to belong to a group or to form friendships.

### **Motive**

An individual's needs motivate him/her to take action which he/she believes will satisfy his/her needs.

### **Behaviour**

An individual's need may lead to specific behaviour. A hungry person might buy food; a lonely person might join a sports club.

**Consequences**

The consequences of the behaviour may be positive or negative. A hungry person who eats something will be satisfied; the lonely person could make friends at a sports club.

**Satisfaction/dissatisfaction**

The consequence of the behaviour could lead to satisfaction or dissatisfaction. After eating a meal and satisfying his/her hunger, a person might feel contented. By making friends, the lonely person may satisfy his/her need to have contact with other people.

**Feedback**

Satisfaction is usually short-lived. For this reason, the motivation process has a feedback loop.

Motivators are, to a large extent, specific to the individual. It is vital therefore, that attempts to meet the employee's important needs, or basic requirements for working productively, are made. As the workforce becomes more diverse, recognising the individuality of needs becomes quite a challenge. Undoubtedly, a great deal of time spent talking to employees and observing their behaviour is required.

**2.3 CATEGORIES OF MOTIVATIONAL THEORIES**

The focus of this section is on the inferences that explain (individual) motivation. Useful theories of work motivation should explain those circumstances in which motivators are applied to employees, as well as those cases in which employees appear to be self-motivated. Table 2.2 depicts main theories of motivation.

**Table 2.2**  
**Main theories of motivation**

Theory	Sources of motivation	Main theorists
<b>Need theories</b>	People have different needs and desires, which cause individuals to pursue certain courses of action in an effort to regain internal equilibrium	Maslow (1954), Herzberg, Mausner and Snyder (1959), McClelland (1961), Alderfer (1972)
<b>Equity theory</b>	Drive to reduce feelings of tension caused by perceived inequity. How hard a person is willing to work is a function of a perceptual comparison of efforts and rewards with the efforts and rewards of others.	Adams (1963)
<b>Expectancy theory</b>	Relationship among desired outcomes, performance-reward and effort-variables. People are seen to choose deliberately how hard to work, based on the gains they expect to receive from their efforts.	Vroom (1964)
<b>Reinforcement theory</b>	Schedule of reinforcement used to reward people for their performance. Behaviour is a function of its consequences.	Mainly based on the contributions of B.F. Skinner.
<b>Goal-setting theory</b>	Behaviour is directed by setting specific target objectives and pursuing of these goals.	Locke (1968), Locke and Latham (1990)
<b>Intrinsic motivation theory</b>	Feelings of competence and self-control are subjective rewards that come from performing tasks well and from enjoyment.	Lawler (1969), Deci (1975), Deci and Ryan (1985)
<b>Self-concept theory</b>	People are motivated to enhance their self-esteem, self-worth and self-consistency.	Carlisle and Manning (1994)

Adapted from De Klerk (2001:84)

De Klerk's (2001:83) Table 2.2 summarises the eight main theories of work motivation as described in Organisational Behaviour literature, and states that the table was constructed through an analysis of the writings of the main theorists, as well as by authors such as Lawler (1969), Steers and Porter (1979); Naylor, Pritchard and Ilgen (1980); Leonard, Beauvais and Scholl (1995a, 1995b); Muchinsky (1987); Carlisle and Manning (1994); Pinder (1984, 1998); Carver (1997); Van Eerde and Thierry (1996); Stajkovic and Luthans (1997); Luthans and Stajkovic (1999); and Ambrose and Kulik (1999). As mentioned earlier, these models differ with respect to the degree to which they theorise a dominant source of motivation.

### 2.3.1 THE NEED-HIERARCHY THEORY

The Need-Hierarchy theory also known as the Need-Gratification theory was formulated by Maslow (1943). Maslow's theory postulates that any individual is primarily, although not exclusively, motivated by any one of five 'basic' needs, which together form a pyramidal hierarchy (see Table 2.3). The most dominant of all the needs is the physiological need, (i.e. the need for food, shelter, clothing, etc.). These needs relate primarily to the individual's basic survival. Deprivation in aspects comprising the physiological need cause individual behaviour to be motivated to achieve satisfaction.

**Table 2.3**  
**Maslow's Hierarchy of Needs**

NEED LEVEL	DESCRIPTION	Examples of how needs are met or satisfied in an organization	
<b>Highest-Level Needs</b>			
↑	Self-actualisation needs	The need to realise one's full potential as a human being	By using one's skills and abilities to the fullest and striving to achieve all that one can in a job.
	Esteem needs	The need to feel good about oneself and one's capabilities, to be respected by others, and to receive recognition and appreciation	By receiving promotions at work and by being recognised for accomplishments in the job
	Belongingness needs	Needs for social interaction, friendship, affection, and love	By having good relations with co-workers and supervisors, being a member of a cohesive work group, and participating in social functions such as company picnics and holiday parties.
	Safety needs	Needs for security, stability, and a safe environment	By receiving job security, adequate medical benefits, and safe working conditions
	Physiological needs	Basic needs for things such as food, water, and shelter that must be met in order for an individual to survive	By receiving a minimum level of pay that enables a worker to buy food and clothing and have adequate housing
<b>Lowest-Level Needs</b>			

Adapted from George and Jones (2002:190)

Once the basic physiological needs have been satisfied, the need for safety and security emerges as the prepotent motivator of an individual's behaviour. This includes the need for safety and security on both a physical and interpersonal level. The third need, that of love and belongingness, would become important once the need for safety and security is satisfied. This need is the last of the five 'basic' needs which relies exclusively on external agents for its fulfilment.

The fourth need in the hierarchy is one of self-esteem. This need can be satisfied either by the actions of others or by the individual concerned. At this point, Maslow differentiates between Deficiency needs (D-needs) and Being needs (B-needs). The latter relates to self-esteem and self-actualisation – these are the B-needs which have the potential of promoting psychological health and growth within the individual. The self-actualisation need is relatively abstract in that it implies that an individual, when motivated by this need, must both do and be what he/she wants. Complete satisfaction and fulfilment of the self-actualisation need is difficult, if not impossible.

An individual who is motivated by the need for self-actualisation, can be regarded as being psychologically healthy and the productivity of such an individual would be enhanced both qualitatively, as well as quantitatively (Moodley, 1987:35). A satisfied need ceases to serve as a predominant motivator of behaviour and thus, the next need in the hierarchy serves as the prepotent motivator. Just as it is possible to ascend the hierarchy of needs, it is also possible that individuals could regress down the need hierarchy if any previously satisfied need were to be deprived subsequently.

Maslow's theory can serve as a useful purpose to motivate and guide behaviour within organizations. Since unsatisfied or active needs produce tensions within an individual, the need hierarchy can serve as an organisational system to produce need-satisfying activities. However, the theory itself is not a specific theory of work motivation but rather, a theory which lends itself to the design of incentive systems by management (Locke, 1976).

If opportunities for need-satisfying behaviours are not present, then the tensions within the individual may lead to frustration. This may reveal itself in a number of forms of defensive behaviours such as withdrawal; that is, behaviour typical of a dissatisfied worker. The task of management then, is not only to identify employees in terms of their level of active needs so as to provide opportunities, activities, and situations which enable and encourage active need satisfaction, but also to identify appropriate training programmes for these employees so that this goal is accomplished.

Whilst this approach has enjoyed wide application to the study of human behaviour in organizations, particularly in the study of job satisfaction, there is little empirical evidence to support the model. This is largely due to:

1. Difficulty in interpreting what Maslow meant by his various needs.  
This lack of an explicit understanding has led to some researchers having to re-label needs; for example, 'safety' becomes 'security', 'belongingness' becomes 'affiliation' (Kendall, 1977).
2. Difficulty in measuring momentary fluctuations in an individual's need-state with psychological measuring devices, such as the questionnaire.

It has been suggested that the most appropriate method used to test Maslow's theory is that which involves longitudinal studies, since the theory itself is "dynamic, stating the causal relationships in terms of changes in satisfaction causing changes in importance" (Wanous & Zwany, 1977). Moodley (1987:37) suggests two longitudinal studies (Hall & Nougaim, 1968; Lawler & Suttle, 1972); however, these studies have shown no support for the dynamics of this theory. While the former authors found no evidence to show that increasing satisfaction of a need results in the decreased strength of the need itself or an increased strength of the next higher need, the latter discounted the view that the needs of managers in organisations are arranged in a multi-level hierarchy.

Other studies dealing with managers have revealed the need for self-actualisation and autonomy as being more important than lower level needs (Clark & McCabe, 1972; Porter, 1962, 1963). These needs, however, were also consistently found to be lacking in fulfilment (Haire, Ghiselli & Porter, 1966; Porter, 1962; Rhinehart *et al.*, 1969). Moreover, studies which attempted to factorise items designed to measure Maslow's need categories indicated that these items did not cluster into proposed categories (Payne, 1970; Waters & Roach, 1973). These results reinforce Clarke and McNab's (1972) findings that the order of esteem, social and security needs were in fact in reverse to Maslow's proposed order.

In his findings, Lord (1995) inferred that the application of Maslow's theory to industry in terms of its utility value is also highly questionable. In an investigation with a sample drawn from a gold mine, Barling (1977) found the theory lacking in providing "additional information in terms of the prediction and control of behaviour in organisations". As a general theory of human behaviour, however, Maslow's theory seems to remain justified (Cummings & El Salni, 1968; Hill, 1974; Whaba & Bridwell, 1976). However, empirical support for the theory as one relating to work motivation remains inconclusive. Although Maslow posits that work performance of self-actualising individuals would be enhanced both qualitatively and quantitatively, he was careful to state that in his studies of self-actualised people, problems with the actual sample reduced his effort to "a bad or poor inadequate experiment."

Porter (1962; 1963) found that the vertical position within management had an important effect on the degree of perceived need satisfaction. In other words, the higher the level of management, the greater the importance attached to the higher needs of autonomy and self-actualisation. Porter (1962:383) explains: "The increasing dissatisfaction of lower levels of management represents the increasing difference between what is expected and what is obtained." Similarly, Centers and Bugental (1966) have shown that at higher occupational levels, intrinsic job components (for example, opportunity for self-expression, interest value of work, etc.) were more valued, whereas at lower occupational levels, the more basic needs of pay, security, etc., were more valued.

Friedlander (1965:15), however, argues that values are the primary function of one's occupational culture, rather than of the level one has achieved within one's occupational culture. He expands this point as follows: "as a worker is promoted to increasingly higher levels, the importance he places on various factors in his environment remains fairly static. These values have evidently been formed and solidified by norms of an earlier cultural group to which he belonged and the worker brings this value system with him as he is promoted."

Friedlander (1965) discounts Maslow's theory as being not universally applicable since significant and meaningful deviations occur when the occupational group of which the worker is a member, are taken into account. Alderfer (1969) attempted to reformulate Maslow's theory by proposing a theory based upon three related needs in the organisational setting, namely, existence, relatedness, and growth (E.R.G. theory).

Existence needs include all the various forms of material and physiological desires; for example, hunger and thirst represent deficiencies in existence needs; and so do pay, fringe benefits and the physical working conditions. Relatedness needs include all the needs which involve relationships with other people; for example, family members, superiors, co-workers, subordinates, friends and enemies. One of the basic characteristics of this type of need is that their satisfaction depends on a process of sharing and mutuality.

Growth needs include all the needs which involve a person making creative or productive efforts to improve him/herself and his/her environment. Satisfaction of growth needs comes from a person engaging in problems which require him/her to utilise his/her capacities fully and these may include requiring him/her to develop additional capacities (Alderfer, 1969; 1972).

Most studies attempting to test Maslow's theory were fraught with unfavourable outcomes. Does this point to an inherent weakness in the theory itself or a failure on the part of researchers to explicitly simulate the theory under conditions of testing? Maslow elucidates: "Gratification Theory is obviously a special, limited or partial theory not capable of independent existence or validity. It may achieve such validity only when structured with, at least, (1) frustration theory, (2) theory of neurosis, (3) theory of psychological health, (4) theory of value and (5) theory of discipline, etc." (1954: 108).

The Need-Hierarchy theory can therefore be regarded more as a conceptual model than a predictive theory and as such, it is most productively employed as a diagnostic and interpretive, rather than as a predictive tool (Steven, 1976).

The next section of the study focuses on the Two-factor theory of motivation.

### **2.3.2 THE TWO-FACTOR THEORY**

Advocated by Herzberg, Mausner, and Snyderman (1959), the Two-Factor theory was the most controversial theory of the sixties and seventies and still continues to be a contentious issue.

Herzberg's (1959) views on worker motivation have provoked a considerable storm. After an investigation into worker motivation using a sample of 200 accountants and engineers, Herzberg *et al.* (1959) concluded that job satisfaction and job dissatisfaction were caused by qualitatively different job factors. Factors leading to positive attitudes toward the job were listed as achievement, recognition, the work itself, responsibility, and advancement. These factors were also called content factors and were regarded as sources of satisfaction. Since these factors were related to periods of superior performance and effort, they were labelled "motivators".

Those factors leading to negative job attitudes were: company policy and administration; interpersonal relations (supervision); technical supervision; and working conditions. These factors were referred to as sources of job dissatisfaction and were associated with the individual's relationship to the context or environment in which he/she does his/her work. Since they neither motivated the individual to perform in any superior way, nor led to satisfaction, these factors were "dissatisfiers" or hygiene factors.

The essence of the Two-Factor theory is that job satisfaction consists of two separate dimensions; the first dimension is related to job satisfaction and the second, to job dissatisfaction. These dimensions are not opposite ends of the same continuum, but instead, represent two distinct continua. Factors within the first dimension are effective in motivating the individual to superior performance and effort, whilst factors within the second dimension do not. The method used by Herzberg *et al.* (1959:20) to collect data was referred to as the "critical incident approach". Subjects were first requested to recall a time when they felt exceptionally good about their jobs. A typical instruction was as follows: "Think about a time in the past when you felt especially good or bad about your job. It may have been on this job or any other. Can you think of such a high or low point in your feelings about your job? Please tell me about it."

Further questions were asked to determine the reasons for: the feelings of satisfaction, and whether such feelings affected performance; their personal relationships; and their well-being. Finally, the sequence of events that served to restore workers' attitudes to normal was elicited. Following this interview was a second interview wherein subjects were asked to describe incidents in which their feelings about their job were exceptionally negative – cases in which their negative feelings were related to some event in the job. From the stories describing good or bad job experiences, major themes such as "responsibility", "salary", "achievements", etc., were extracted, after which the incidents in each story were assigned to one category or another. Thus, categories were created from the data themselves and not in terms of pre-determined notions. The findings of Herzberg *et al.* (1959) led to a massive inquiry into the general validity of the Two-Factor theory and its relevance to motivation in industry.

Moodley (1987:45) reports that House and Wigdor (1967) published an extensive review of significant research publication on the Two-Factor theory which spanned the period 1959 to 1967. After a review of 31 such studies they concluded that:

- (1) A given factor can cause job satisfaction for one person and job dissatisfaction for another, and vice versa;
- (2) A given factor can cause job satisfaction and dissatisfaction in the same sample;
- (3) Intrinsic job factors are more important to both satisfying and dissatisfying job events; and
- (4) The Two-Factor theory is an over-simplification of the relationship between motivation and satisfaction, and the sources of job satisfaction and dissatisfaction.

In addition to these conclusions, House and Wigdor (1967) conducted a secondary analysis of the data presented by Herzberg (1966). Their findings revealed that achievement and recognition were more frequently identified as dissatisfiers than factors such as working conditions and relations with their superiors. King (1970) argues that the main reason underlying the controversy regarding the Two-Factor theory stems from a lack of an explicit statement of the theory by its proponents. To substantiate his argument he presented five different versions of the Two-Factor theory from Herzberg's writings (King, 1970:19-23). Two of these five versions, he concluded, were not supported by empirical studies, whilst another two were not tested in studies where defensive bias was eliminated. Empirical support for the remaining version was contaminated by experimenter-coding bias.

Following King's (1970) suggestion for further research into the five versions of the theory, more tests were conducted by Waters and Roach (1971) who used separate scales for satisfaction and dissatisfaction. Their results were consistent with King, as well as the previous findings of Hulin and Smith (1967); Hulin and Waters (1971); and Waters and Waters (1972). Moreover, the Waters and Roach (1971) study confirmed that the Two-Factor theory is not supported when tested with data obtained by methods other than the critical incident or respondent-coded procedure.

The method in which Herzberg classified his critical incidents has been criticised as being “illogical” and “inconsistent” (Schneider & Locke, 1971). These authors argue that the basic flaw underlying such inconsistencies was confusion between two different levels of analysis; namely, the event (what happened) and the agent (who made it happen). Herzberg’s system, it is claimed, classifies the reported incidents sometimes according to the event and at other times according to the agent, but not consistently according to either. A typical procedure adopted by Herzberg occurred when a worker was praised or criticised; this incident was classified as “recognition”, but when he/she was given credit or when credit was withheld from work done, the incident was classified as “supervision”.

With respect to the agents, the findings of Schneider and Locke (1971) and Locke (1973) show a consistent trend in the direction of the respondents being given credit for satisfying events relatively more often than dissatisfying events. These results point to the possibility of a defensive bias. Vroom (1964) proposed that ego-defensiveness processes may have caused respondents to relate their satisfaction to job-content factors and their dissatisfaction to job-context factors. Some evidence of this was presented by Wall (1973) who found that those dispositionally higher in ego-defensiveness conformed more closely to the Two-Factor theory.

In the South African situation, Backer (1973), a strong advocate of the Herzberg theory, criticises researchers for having a “lack of knowledge” of the theory and “its underlying hypothesis.” He attributes conflicting results to a lack of consideration for the bi-dimensionality of satisfaction/dissatisfaction when testing the theory. In his study, using a sample of 1726 Black and White workers ranging from the unskilled to the skilled, to management level, he obtained results that closely approximated the Two-factor theory. His results showed that job satisfaction related largely to “true motivators” in 80 percent of the White managers; 59 percent of the White skilled workers; and 67 percent of the Black skilled workers. The satisfaction of the Black unskilled workers was related largely to hygiene factors (79% of the sample). He found dissatisfaction on all job levels to be caused largely by hygiene factors.

The findings, with regard to Black unskilled workers, is explained in terms of those workers not receiving the opportunities necessary for the development of skills, knowledge, appropriate training, and responsibility, so that they may be promoted to higher job levels. They thus lack the importance having their good work recognised, and are therefore content with seeking satisfaction from hygiene factors. In the same vein, Harris and Locke (1974) found that white-collar workers derive satisfaction (and dissatisfaction) from ‘motivator’ events and blue-collar workers from ‘hygienes’.

The following section looks at another motivational theory, namely Adams’ Equity theory.

### 2.3.3 ADAMS’ EQUITY THEORY

Like expectancy theory, equity theory is a popular theory of motivation and has received extensive research attention. Additionally, as in the case of expectancy theory, although there have been some non-supportive results, by and large the research evidence supports the main ideas of equity theory. Adams (1965) suggests that an employee continuously assesses the “equity” of the relationship between his or her ‘inputs’ and ‘outcomes’, in comparison with the same relationship for some other individual or group. ‘Inputs’ in this context includes the employee’s work, experience, effort, education and training. ‘Outcomes’ include supervisory treatment, fringe benefits, status symbols, but most importantly (Mowday, 1991), the employee’s pay.

The equity comparison in a work situation can be described as:

Personal rewards		Others’ rewards
-----	<equity comparison>	-----
Personal contributions		Others’ contributions

It is obvious that Adams’s (1965) equity theory proposes that individual employees weight their own ‘inputs’ and ‘outcomes’ in accordance with their relative importance, and that these weights are summed to arrive at total ‘inputs’ and ‘outcomes’ for each

person. Furthermore, the same employees are proposed to similarly weight the perceived ‘inputs’ and ‘outcomes’ of their colleagues (Lord, 1995:51).

“Equity”, exists when the ratio of one individual’s ‘outcomes’ to his or her ‘inputs’ is equal to the same ratio for another individual’s ‘outcomes’ and ‘inputs’ (as perceived by the first employee), according to this motivational theory. ‘Inequity’ occurs when these two ratios are unequal, and is predicted (Mowday, 1991) to lead to various dysfunctional behaviours on the part of the employee perceiving the ‘inequity’. These actions, according to Mowday (1991:115), could lead to a reduced productivity level for hourly-paid employees who perceive that they are underpaid, but may also lead to an increased level of production for piece-rate-paid employees with similar feelings of ‘equity’.

Lord (1995:51) reports that Adams (1965) predicted six possible courses of action to resolve employees’ ‘feelings of inequity’. These were the altering of their inputs (e.g. less effort by the employees); the altering of their outcomes (e.g. higher pay from the employer); cognitive distortion by the employee of the inputs or outcomes; resignation by the employee – usually a last resort (Mowday, 1991:114); changing the actual inputs or outcomes of the ‘other individual’ in the equity comparison; and finally, changing the ‘other individual’ of the comparison (i.e. switching the comparison to another colleague).

### **2.3.3.1 Equity Theory in action**

A considerable body of research, testing the predictions of Adams’s (1965) theory exists in the literature, with most of these studies providing support for the theory. Adams and Rosenbaum (1962) found that hourly-paid workers who perceived that they were overpaid produced significantly higher output, while piece-rate workers with similar perceptions produced less quantity. Arrowood (1961) replicated these findings in an experimental study of interviewers, and found a higher rate of productivity amongst ‘overpaid’ subjects. Wiener (1970) also found support for Adams’s (1965) equity theory in a word-manipulation experiment. He found that ‘outcome-overpayment’ subjects in the experiment produced significantly more than other subjects. These studies concur with Adams’s (1965) theory that people are less

comfortable when they are under-rewarded (perceived negative inequity) than when they are over-rewarded (perceived positive inequity).

Some researchers have failed to support Adams's (1965) theory; however, Anderson and Shelly (1970), in a study of the productivity of proofreaders, found no significant differences in the levels of output of 'overpaid' individuals.

Valenzi and Andrews (1971) studied productivity levels and output quality amongst hourly-paid clerical workers. They identified no significant differences in these outcome variables between overpaid and underpaid individuals, but did however find moderate support for Adams's (1965) proposals of potential actions to resolve situations of perceived inequity, in that 27 percent of the underpaid subjects quit their jobs. Mowday (1991: 120) commented that such research findings provided a degree of support for Adams's (1965) equity theory. He noted, however, that support was strongest for predictions about perceived underpayment inequity. Empirical studies into the effects of perceived overpayment inequity have tended to identify difference in productivity and satisfaction in the predicted directions, but seldom at statistically significant levels.

The next section of the research study concentrates on the Expectancy theory of motivation.

#### **2.3.4 EXPECTANCY THEORY**

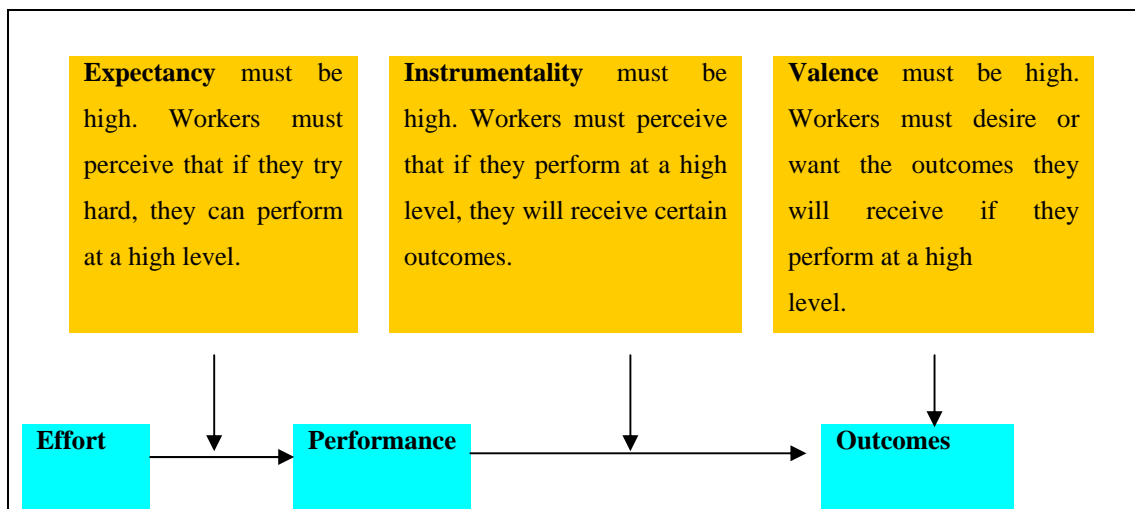
This theory is normally referred to as Instrumentality theory or Path Goal theory, and is regarded as one of the major process theories. Expectancy theory attempts to identify relationships among variables in a dynamic state as they affect individual behaviour. Human beings have thoughts and intentions which influence their behaviour. Expectancy theory takes account of this phenomenon by focusing on the relationships among these human inputs and the inputs themselves. For the same reason, Expectancy theory is also viewed as a cognitive theory of motivation. Individuals are treated as thinking, reasoning beings who have beliefs and anticipations concerning future events in their lives. Individual's expectations play a leading role in

Expectancy theory, thus making it the most comprehensive cognitive process theory to date (Lord, 1995).

The major statement of Expectancy theory of work motivation was proposed by Vroom (1964). He advocated that human behaviour is, to a considerable extent, a function of the interactive processes between the characteristics of the individual (for example, personality traits, attitudes, needs, etc.) and his or her perceived environment (for example, job or task requirements, or organisational climate). He proposed that the effort a person exhibits in his job is a function of two expectancy components, namely:

- (1) **Expectancy**, or the belief that effort will pay off in performance (E – P); and
- (2) **Instrumentality**, or the belief that performance will be instrumental in attaining a given outcome; for example, money or a sense of accomplishment (P – O).

**Figure 2.3**  
**Expectancy Theory**



Adapted from George and Jones (2002:197)

He also introduced a third evaluative component called **Valence** which is a positive or negative weight that a person attaches to an anticipated outcome, or more specifically, the degree of desirability of an outcome for an individual (see Figure 2.3).

Campbell and Pritchard (1976) define 'valence' as the "perceived positive or negative value ascribed by the individual to the possible outcomes of action on the job." Howell and Dipboye (1982) warn, however, that 'valence' is not the same as value, although they are closely related. They cite an example wherein a person contemplates promotion as having a high positive valence but once promoted, may find that its value to him/her was less than expected. Vroom (1964:185) himself was careful to distinguish between valence and value.

The basic components of Vroom's (1964) model are Expectancy, Instrumentality, and Valence, hence the term V.I.E. theory. An individual's motivational force to perform (effort) as determined by Vroom's (1964) Expectancy model then, would be derived by multiplying his (E – P) expectancy times his (P – O) outcome valence. Vroom (1964:152) writes: "The force on a person to exert a given amount of effort in performance of his job is a monotonically increasing function of the algebraic sum of products of the valence of different levels of performance and his expectancies that this amount of effort will be followed by their attainment."

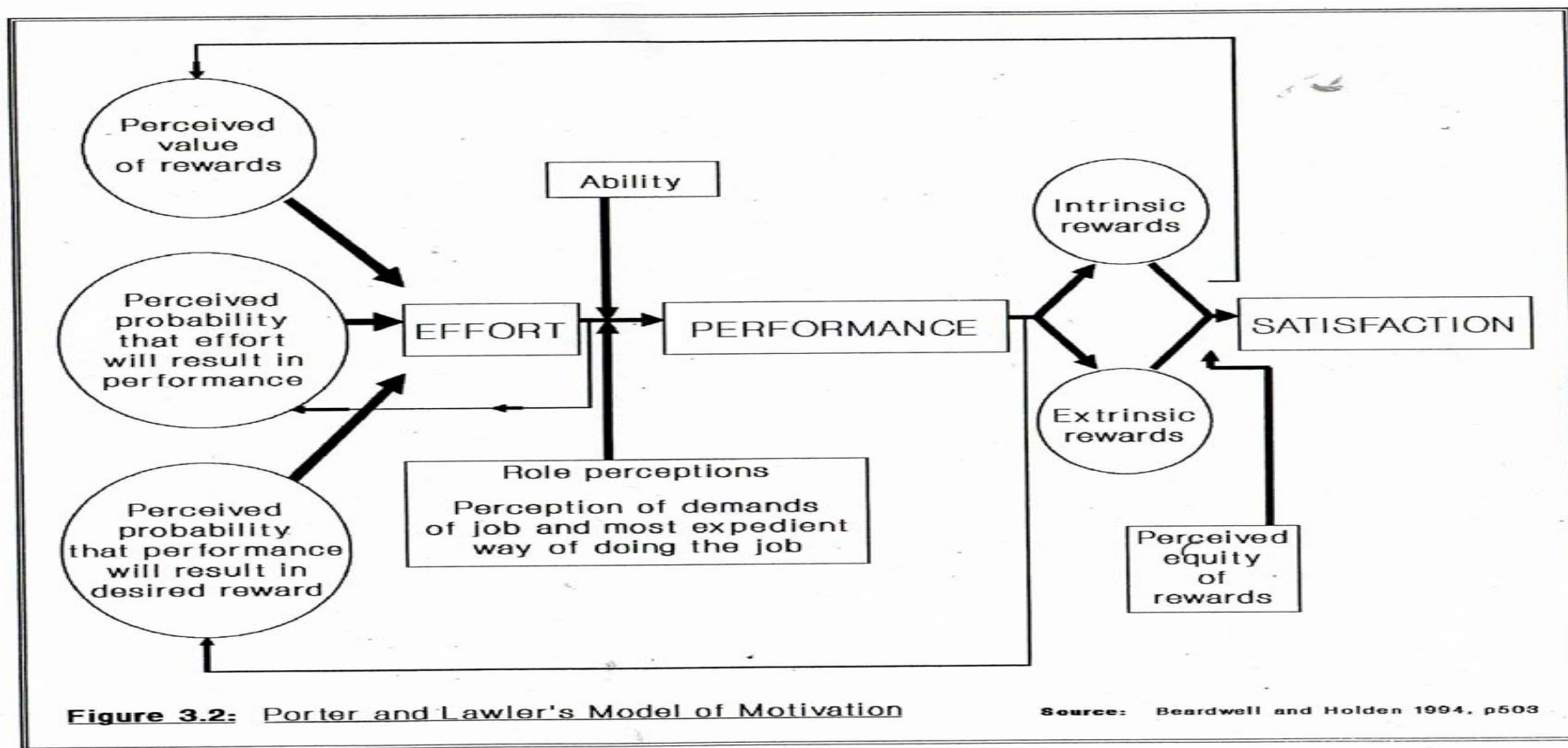
Drawing from the basic assumptions underlying Vroom's (1964) model, a number of expectancy-type models have evolved over the years (notably, Graen, 1969; Lawler, 1971; Lawler & Porter, 1967; Porter & Lawler, 1968). The exact form of these models varies due more to differences in terminology than to conceptual disagreements. In the initial formulations of Vroom's (1964) model, major emphasis was focused on the sources of expectancy and valence components. Subsequent versions of the theory (Lawler & Suttle, 1973) have elaborated on the model's prediction of performance, as well as the determinants of expectancy and valence (see Figure 2.4 below).

The model in Figure 2.3 shows that besides the fundamental process terms, E – P, P – O, and V, there are other factors which are presumed to influence these fundamental processes (for example, self-esteem) or presumed consequences of these fundamental processes (for example, effort). The lines and arrows denote the path and direction of influence.

Effort therefore, is seen to result from expectancy (E – P), instrumentality (P – O), and (V). The resulting level of effort determines to an extent the actual level of performance. Performance, however, depends on the person's ability and the strategy he/she chooses for carrying out his/her job (problem-solving approach). The effects of ability, effort and strategy on performance are also seen to multiply. Finally, performance may produce rewards. The extent to which performance produces rewards, is largely dependent upon organisational policy and management effectiveness.

Porter and Lawler's (1968) model of motivation, Figure 2.4, expounds 'satisfaction' as one key component in this performance-rewards equation. The model is a representation of proposed relationships between employees' perceptions and the intrinsic and extrinsic rewards as potential motivators, as well as containing a number of 'feedback loops', thus making it non-recursive in nature.

Figure 2.4  
Model prediction of performance



Adapted from Lord (1995:54)

Expectancy theory thus revolves around the central cognitions of an individual which initiate action and which finally end in a reward sequence. Cognitions are, however, controlled by important factors such as feedback from past experience and stable personality characteristics. Additionally, feedback from either performance or performance-reward contingency can operate on cognitive processes directly (as in loop b), indirectly (as in loop a) or both. It must be noted, however, that the original intention of Expectancy theory was to illustrate motivational aspects and as such, does not include an explicit representation of satisfaction.

Proponents of the same theory (notably Orpen, 1980) have shown satisfaction as flowing directly from rewards, but influenced somewhat by equity of rewards. Having increasingly recognised the importance of need fulfilment and equity, theories tend to argue that if an organisation is run properly, satisfaction will result from good performance because both intrinsic and extrinsic rewards will depend on good performance (performance – reward – satisfaction). In a poorly run organisation this relationship will not hold because the performance – reward contingency is either absent or obscure (Howell & Dipboye, 1982). The relationship between satisfaction and performance is thus moderated by organisational effectiveness and not as a matter of satisfaction causing performance.

During the past 15 years the Expectancy theory has received a great deal of empirical attention since the dynamism of the theory has made it a leading theoretical perspective on motivation. In spite of a myriad of studies concerning the theory however, ambiguity still surrounds several of its basic tenets. Existing evidence is inconsistent with respect to the form of the expectancy model and the relationship of the scores that it yields to effort and behavioural criteria (Fusilier, Ganster & Middlemist, 1984). Studies focusing on the Expectancy theory are thus distinguished according to two parameters; namely, the research setting in which the study was done, and the way in which the dependent variable has been operationalised (Campbell & Pritchard, 1976).

Moodley (1986:56) states that the popularity of the Expectancy theory grew during the late 1960s and early 1970s but so too did criticism of its implicit assumptions, theoretical propositions, and its practical usefulness as a predictive tool (see Behling & Starke, 1973; Campbell & Pritchard, 1976; Mitchell, 1974). Following the reviews of House, Shapiro and Wahba (1974), Locke (1975), Mitchell (1974), and Pinder (1977), which summarised a number of problems, many researchers contend that the theory's complexity is beyond the operations used to test it (Lawler & Suttle, 1973).

In conclusion, it must be said that the Expectancy theory has become the most dynamic and complex theory of human motivation. The dynamism of the theory is captured in the words of Lawler and Suttle (1973:502): "At this point it seems that the theory has become so complex that it has exceeded the measures which exist to test it." Despite the numerous problems surrounding the theory, its real strength lies in its capacity to present a comprehensive account of the cognitive processes of an individual. As such, it provides a useful framework within which all factors concerning job satisfaction and performance hinge.

The theory itself is not devoid of practical merit as it also provides a "useful framework for examining the various factors that influence incentive systems" (Howell & Dipboye, 1982:276). The greatest value of the theory, however, may be in its ability to demonstrate that it is not one, but many interacting factors that combine to determine a person's motivation and attitude towards his/her work.

Leonard, Beauvais and Scholl (1995) studied the sources of motivation as they have been reflected in themes from the various theories of motivation and research studies over the years (as summarised in Table 2.3). They conclude that all the motivational theories add up to five basic sources of motivation as described in their sources of motivation model, Table 2.4 on page 54.

**Table 2.4**  
**Sources of motivation model**

<b>Sources of motivation</b>	<b>Description</b>
<b>Intrinsic Process</b>	Individuals primarily motivated by the intrinsic process will engage in activities which offer subjective rewards, especially if they can be considered as fun. Feedback will not serve to motivate continued performance.
<b>Instrumentality</b>	Instrumentality rewards are a motivating source when individuals believe their behaviour will lead to certain outcomes such as pay, praise, etc. Reinforcement, expectancy and equity theories are models of motivation based on exchange relationships.
<b>Self-concept: External</b>	The individual is primarily other-directed, and attempts to meet the expectations of others by behaving in ways that will elicit social feedback consistent with self-perceptions. The individual strives to earn the acceptance and status of reference group members.
<b>Self-concept: Internal</b>	Internal standards become the basis for the ideal self. The individual tends to use fixed standards of self-measurement as he/she attempts to achieve higher levels of competency. The motivating force for individuals who are inner-driven and motivated by their self-concept is task feedback.
<b>Goal Identification</b>	Behaviour is motivated by goal internalisation when the individual adopts attitudes and behaviours because their content is congruent with their value system. The individual believes in the cause, and as such, is willing to work towards the goals of an organisation supporting this cause.

Adapted from Leonard *et al.*, (1995)

The various theories of motivation attempt to capture some of these types of sources of motivation affecting organisational members. However, it appears that the proponents of different theories seem to be more obsessed with distinguishing the theory from the others, than they are with showing how an organisation can develop a motivating and satisfying total work system (Lawler, 1980). Katzell and Thompson (1990) conclude that although much has been learned about work motivation, there is still a long way to

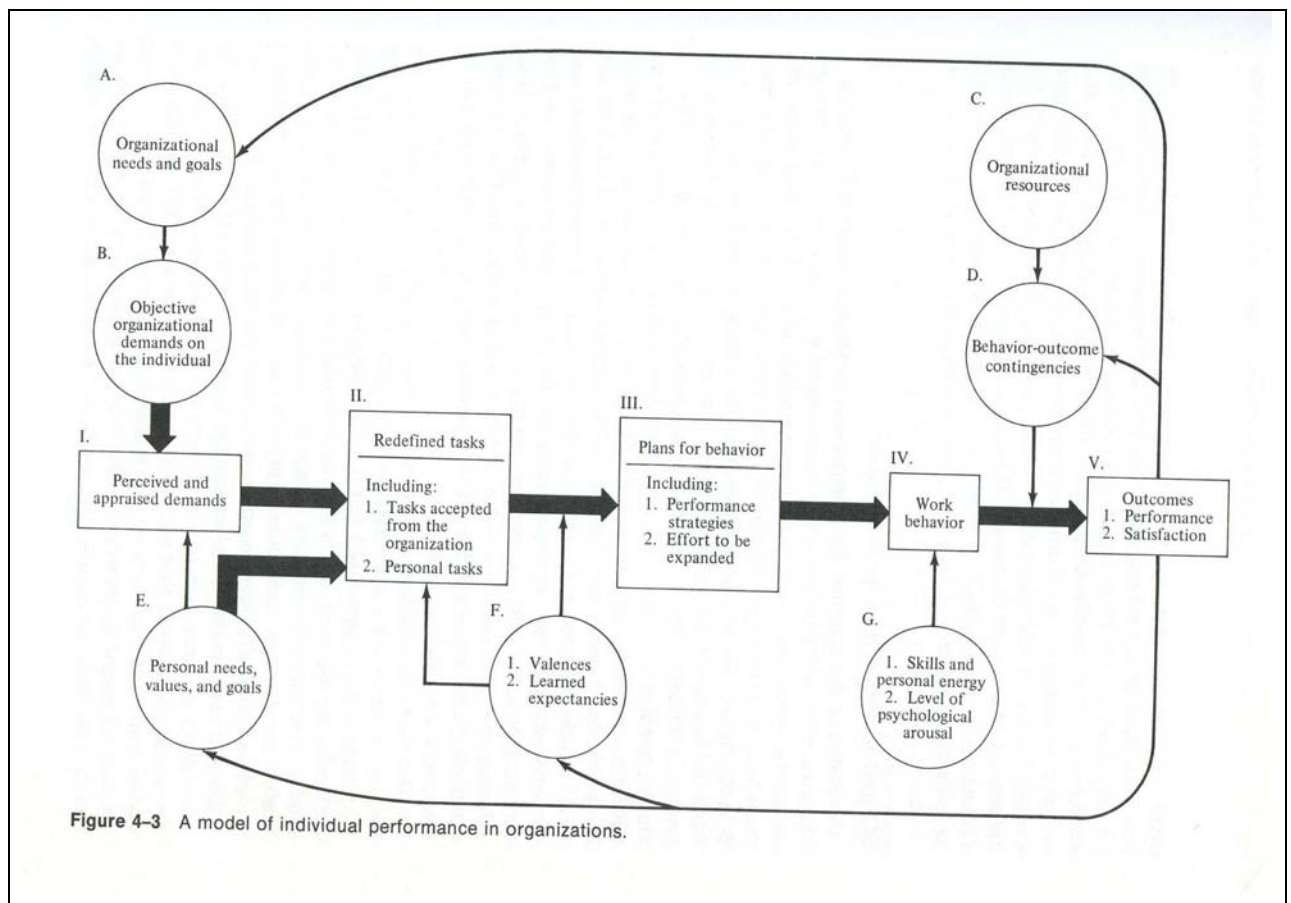
go to advancing the understanding of its ingredients and in perfecting techniques for applying that understanding.

### 2.3.4.1 Justification of the core hypothesis through the Expectancy theory

Vroom's (1964) Expectancy theory is used to measure employee work motivation and performance in this study. The reason for selecting this measurement of work motivation is mainly postulated under a 'valence-instrumentality-expectancy framework'. When an employee starts work at an organisation, he/she has certain expectations of his/her role there (Porter, Lawler & Hackman, 1987).

**Figure 2.5**

### A model of individual performance in organisations



Source: Adapted from Porter *et al.* (1975:121)

Porter *et al.*, (1987) went further to provide a useful model of individual performance in organisations (Figure. 2.5) where they show that an individual's performance in an organisation is based on factors such as personality and skills, expectations and valences, as well as in the form of personal needs, values and goals. For example, an individual may expect a certain salary, an enriching job and a safe work environment, while on the other hand, when hiring an employee, an organisation has certain expectations too. Management requires an individual to fulfil a certain role within the organisation and expects a person who is able and willing to do the designated job and work the required hours. These expectations are known formally as a psychological contract (Whittington-Jones, 2005:24).

The researcher developed a model that maintains that with the necessary and relevant skills development training (i.e. positive valence) the individual will be motivated to increase his/her performance (i.e. effort), only if this ensures/affords (i.e. instrumentality) him/her the rewards (i.e. expectancy) that goes with increased performance as a result of skills development. The emphasis is on effort (E – P) and performance relationship, i.e. by improving the relationship between effort and performance through training, employee motivation and the perception of organisational climate is likely to improve reciprocally.

The fundamental hypothesis is that training can enhance the effort and ability of an individual to perform. If effort is to lead to good performance, the individual should have the requisite ability to perform. This choice is based on the assumption that seeks to examine the 'trainee's perception that doing well in a program would lead to better job performance and consequently to desirable and valued outcomes'. This approach is particularly useful because it permits the integration of both individual and situational variables as they relate to a trainee's perceptions of various valence-instrumentality-expectancy components (Farr & Middlebrooks, 1990).

Several recent training effectiveness studies have been conducted within the general framework of valence-instrumentality-expectancy theory (Vroom, 1964). Noe (1986) submits that trainees will be more motivated to perform well in training if they perceive that (1) intensive effort will lead to a high performance in training; (2) high

performance in training will lead to high job performance; and (3) high job performance is instrumental in obtaining the desired outcomes and avoiding undesirable ones. It also follows that trainees will be motivated to do well if they perceive that performance in training will help them obtain outcomes not directly tied to their current positions, such as career development opportunities (Mathieu *et al.*, 1992:829).

Previous research has found support for the influence of several individual variables on valence-instrumentality-expectancy cognitions. For example, Lawler and Suttle (1973) obtained significant correlations between individual role perceptions and ability measures and various valence-instrumentality-expectancy components and composites. James, Hartman, Stebbins and Jones (1977) found support for the influence of several dimensions of psychological climate on instrumentality and valence ratings and, to a lesser degree, expectancy ratings. In a simulated organisational study, Jorgenson, Dunnette, and Pritchard (1973) found a significant correlation between manipulated effort-outcome probabilities and subjects' instrumentality ratings. Pritchard, DeLeo, and Von Bergen (1976) manipulated behaviour-reward contingencies in a series of field experiments. Their findings illustrated significant effects for the manipulations on instrumentality and valence ratings, but not on expectancy ratings. In short, many investigations have obtained significant correlations between individual and situational variables and valence-instrumentality-expectancy cognitions in a variety of settings.

## **2.4 INTEGRATED MOTIVATIONAL THEORIES**

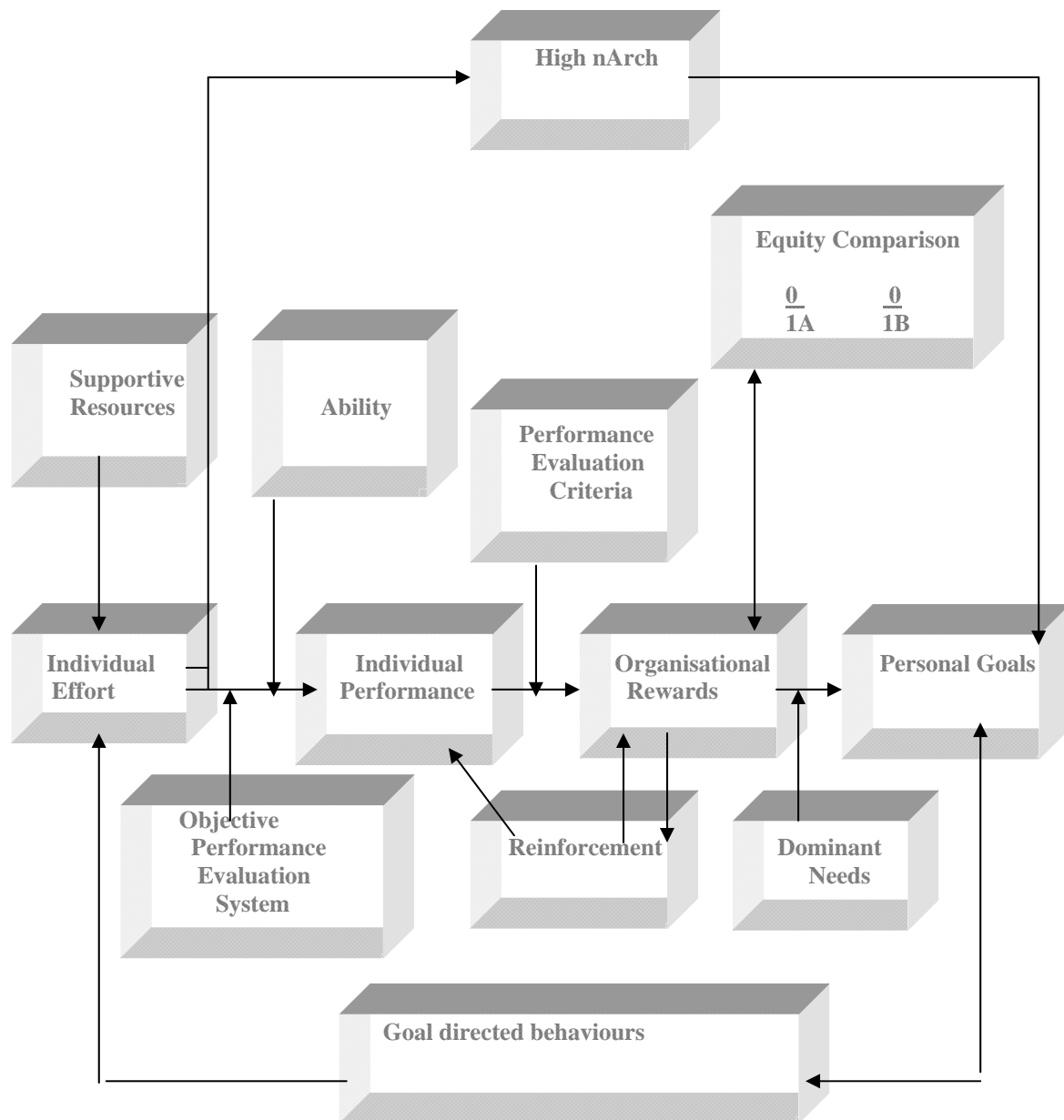
According to Smit and De J Cronje (1999) motivational theories can create the impression that there is one best theory for a specific situation. However, this is not the rationale behind these theories. Motivational theories deliberately complement one another and each motivational theory is used at a different stage of the motivation process. Robbins (1996) presents a model that integrates much of what is known about motivation.

As viewed in Figure 2.6, Robbins opines that an individual should begin by recognising that opportunities can aid or hinder individual effort, while individual effort is also influenced by goals which direct behaviour. The underlying assertion of

this study is that an employee will exert a high level of effort, if a strong relationship is perceived between:

- Effort and performance;
- Performance and rewards; and
- Rewards and satisfaction of personal goals.

**Figure 2.6: Integrating Contemporary Theories of Motivation**



Adapted from Robbins (1996:406)

For effort to lead to good performance, the individual should have the necessary ability to perform (refer to the Expectancy theory, i.e. 2.4 above) and the performance appraisal system that measures the individual's performance, which should be perceived as fair and objective. The performance-reward relationship will be strong if the individual perceives it as performance that is rewarded. Motivation will be high if the reward an employee receives for performance satisfies the dominant needs consistent with the employee's goals (Sall & Knight, 1988).

The following section looks at various categories of workers.

## **2.5 MOTIVATION FOR VARIOUS CATEGORIES OF WORKERS**

Because various groups provide specific challenges in terms of motivation, this study intends focusing on one of these particular groups. A brief reflection on various groups will shed invaluable light on the following question (Robbins, 1998:222): What are the unique problems faced by management in trying to motivate professional (highly-skilled) employees, contingent (temporary) workers, the diverse workforce, low-skilled service workers, and people doing highly repetitive tasks (i.e. semi-skilled and unskilled categories – the focus of this study)?.

### **2.5.1 Motivating Professionals**

In contrast to a generation ago, the typical management employee today is more likely to be a highly trained professional with a university degree, than a blue-collar factory worker. These professionals receive a great deal of intrinsic satisfaction from their work and tend to be well paid. Professionals are very different from non-professionals in that they have a strong and long-term commitment to their field of expertise. Their loyalty is more often to their profession than to their employer. To keep up with current trends in their fields, they need to regularly update their knowledge; their commitment to their profession means they rarely define their workweek in terms of 8 to 5 and five days a week.

Money and promotions typically are low on their priority list, because they tend to be paid well and they enjoy what they do. Job challenge tends to be ranked high and they like to tackle problems and find solutions. Their chief reward in their job is their work itself. They value support and want others to think that what they do is important. Although this may be true for all employees, because professionals tend to be more focused on their work as their central life interest, non-professionals typically have other interests outside work that can compensate for needs not met in the job.

Robbins (1995:223) provides some guidelines for motivating professionals. He suggests that they be provided with ongoing challenging projects; a sense of autonomy to follow their interests and allowing them to structure their work in ways they find productive. Professionals should be rewarded with educational opportunities such as training, workshops, and attending conferences that allow them to be currently informed in their field. Moreover, they should be rewarded with recognition; an interest should be taken in them and various other actions by management should demonstrate to them their value to the company. Another alternative would be to create career paths for them, allowing them to earn more money and status, without assuming managerial responsibilities.

### **2.5.2 Motivating Contingent Workers**

The effects of downsizing are naturally the elimination of permanent jobs in favour of part-time, contract and other forms of temporary work. Contingent employees do not have the security or stability that permanent employees enjoy and as such, they do not identify with the organisation or display the commitment that permanent employees do.

Temporary workers are usually provided with little or no health care, pensions, or similar benefits. There is no simple solution to motivating temporary employees. For that small set of 'temps' who prefer the freedom of their temporary status – some students, working mothers and senior citizens – the lack of stability may not be an issue.

The strongest motivating factor is the opportunity for permanent status. In those cases where permanent employees are selected from a pool of temporaries, temporaries will often work hard in the hope of becoming permanent. A less obvious answer is the opportunity for training as the ability of a temporary employee to find a new job, is largely dependent on his or her skills.

If the employee sees that the job he or she is doing can help develop saleable skills, then motivation is increased. From the equity standpoint, one should also consider the repercussions of mixing permanent and temporary workers where pay differences are obvious and significant. When temps work alongside permanent employees who earn more with added benefits, for doing the same job, the performance of temps is likely to suffer. Separating such employees or converting all employees to a variable-pay or skill-based plan might help lessen this problem.

### **2.5.3 Motivating a Diversified Workforce**

It needs to be said that not everyone is motivated by money and not everyone wants a challenging job. The needs of women, singles, immigrants, the physically disabled, senior citizens, and others from diverse groups are not the same as a middle-class male with three dependents. Employees who attend college part-time or who are studying typically place a high value on flexible work schedules. Such individuals may be attracted to organisations that offer flexible work hours, job sharing, or temporary assignments. A father may prefer to work the midnight to 08:00 shift in order to spend time with his children during the day when his wife is at work.

If one is to maximise employees' motivation, one has to understand and respond to this diversity (Robbins, 1998:224). The key idea, Robbins believes, is the flexibility to be ready to design work schedules, compensation plans, benefits, physical work settings, and the like to reflect employees' varied needs. This might include offering child and elder care, flexible work hours, and job sharing for employees with family responsibilities. It also might include offering flexible leave policies for immigrants who occasionally want to make return trips to their homelands, or creating work teams

for employees who are attending educational institutions to vary their work schedules from semester to semester.

#### **2.5.4 Motivating Low-Skilled Service Workers**

One of the most challenging motivation problems in industries such as retailing and fast-food is: “How do you motivate individuals who are earning very low wages and who have little opportunity to increase their pay significantly in either their current jobs or through promotions?” (Robbins, 1998:225). These jobs are usually occupied by people who have limited education and skills, and pay levels are little above the minimum wage.

Traditional approaches for motivating these people have focused on providing more flexible work schedules and filling these jobs with teenagers and retirees whose financial needs are less. Robbins (1998) reports that, this has met with less than enthusiastic results. For instance, turnover rates of 200 percent or more are not uncommon for businesses such as McDonald’s. Taco Bell, PepsiCo’s Mexican fast-food chain, has tried to make some of its service jobs more interesting and challenging but with limited results. It has experimented with incentive pay and stock options for cashiers and cooks. These employees have also been given broader responsibilities for inventory, scheduling, and hiring. Nevertheless, over a four-year period, this experiment had only reduced annual turnover from 223 percent to 160 percent.

What choices are left? Unless pay and benefits are significantly increased, a high turnover probably has to be expected in these jobs. This can be somewhat offset by widening the recruiting net, making these jobs more appealing, and raising pay levels.

#### **2.5.5 Motivating People Doing Highly Repetitive Tasks**

Employees who do standardised and repetitive jobs; for instance, working on an assembly line or transcribing court reports are often bored and may even experience stress. Motivating individuals in these jobs can be made easier through careful selection.

People vary in their tolerance for variety. Many individuals prefer jobs that have a minimal amount of discretion and variety and such individuals are obviously a better match for standardised jobs than individuals with strong needs for variety, growth and autonomy. Furthermore, standardised jobs should also be the first to be considered for automation.

Many standardised jobs, especially in the manufacturing sector, pay well and this makes it relatively easy to fill vacancies. While high pay can ease recruitment problems and reduce turnover, it does not necessarily lead to highly motivated workers. Realistically, there are jobs that do not readily lend themselves to being made more challenging and interesting or to being re-designed. Some tasks, for instance, are far more efficiently done on assembly lines than in teams, thus leaving limited options. One may not be able to do much more than try to make a bad situation tolerable by creating a pleasant work climate. This might include providing clean and attractive work surroundings, ample work breaks, the opportunity to socialise with colleagues during these breaks, and empathetic supervisors.

## **2.6 IMPLICATIONS FOR MANAGERS IN MOTIVATING EMPLOYEES**

It is arguable that motivation is the responsibility of the individual, rather than of the manager or supervisor. Equally, it might be argued that the manager is responsible for enabling employees as much as possible to realise what motivates them or at least, eliminate sources of demotivation (Holbeche, 1997). Employees are motivated in different ways and tend to have differing degrees of tolerance for frustration; one individual may be content doing structured and routine work, while another individual may be unhappy in such a situation (Catt & Miller, 1991).

Diversity in the workplace makes the issue of employee motivation in South Africa even more complex (Carrel, Elbert & Hatfield, 2000). It will always be problematic to attempt to adapt motivational theories that are applicable to America or Europe to the diverse South African workforce (Smit & De J Cronje, 1999).

## **2.7 THE RELATIONSHIP BETWEEN NEED SATISFACTION AND EMPLOYEE JOB PERFORMANCE**

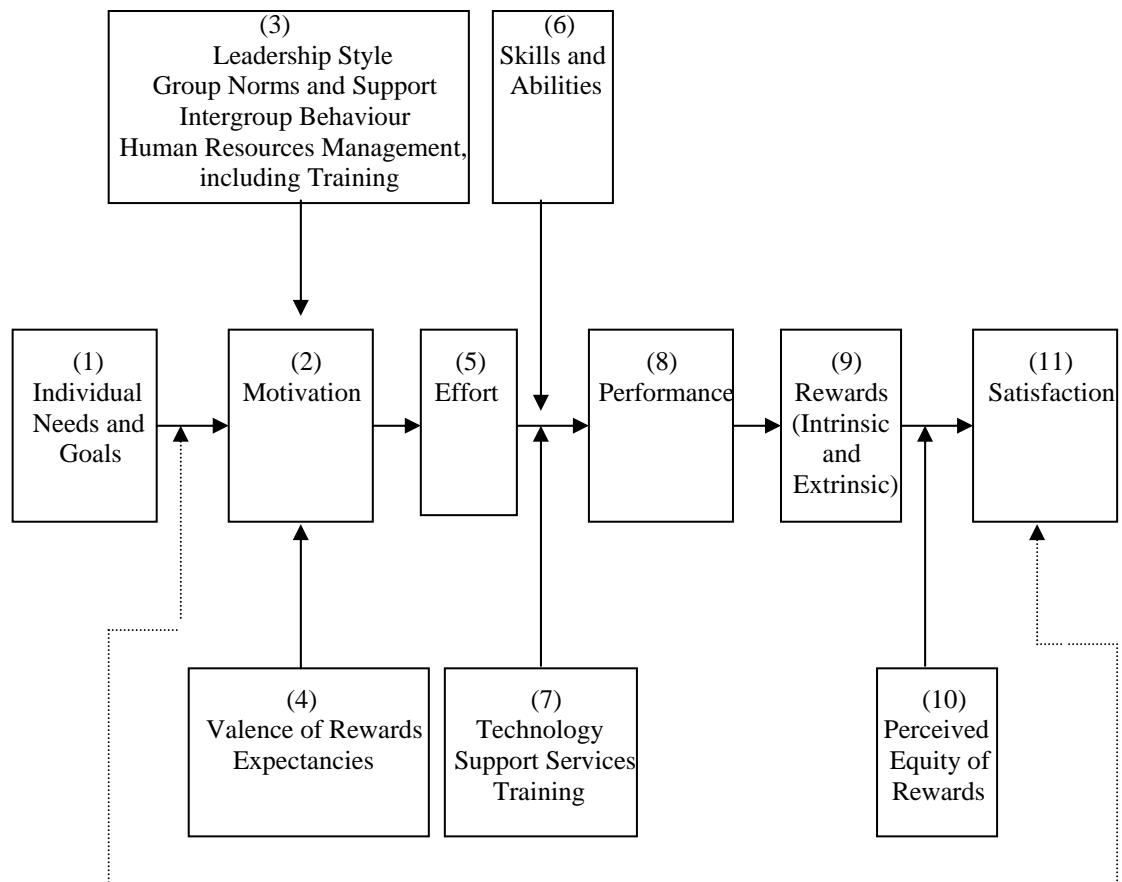
The present study asserts that satisfying certain needs in the organisation is vital where lower-level employees' work can increase their individual job performance. In other words, the study empirically assesses the relationship between the Two-factor theory of Herzberg and employee job performance. The employee's performance intentions, defined as the intentions to perform well in one's job (Shore, Newton & Thornton, 1990: 60; Arnolds & Boshoff, 1998:217), are used as a surrogate measure of employee job performance. It is suggested that by improving the performance intentions of employees through the satisfaction of various needs such as achievement, the job performance of such employees will be increased.

### **2.7.1 Performance intentions as a measure of employee job performance**

Several researchers have described performance intentions as a potent measure or predictor of employee job performance (Arnolds & Boshoff, 1998:218). Performance intention is regarded as a direct motivational determinant of task performance (Hampton, Summer & Webber, 1982:378), a strong indication of motivation to produce (Carkhuff, 1986:61), a prerequisite for peak performance (Sumerlin & Norman, 1992:478) and a strong precursor to actual job performance (Shore *et al.*, 1990:64).

Motivation is conceptualised as the degree of strength with which an individual strives to satisfy certain needs. In fact, various studies have suggested that the drive to satisfy needs is the most important determinant of employee job performance (Inkson, 1978; Alpander, 1990; Smith & Tisak, 1993). Figure 2.7 clearly depicts an inherent relationship between motivation, performance and satisfaction as suggested research empirical job satisfaction research and the theories of individual motivation.

**Figure 2.7: The motivation-performance-satisfaction relationship**



Adapted from French (1994:112)

Elucidating what is depicted on this figure, from left to right, individual needs and goals (Box 1) are fundamental driving forces in motivation. The extent and direction of an individual's motivation (Box 2) are influenced by factors in the organisational environment such as leadership style, group norms and support, intergroup behaviour and human resources policies and practices (Box 3). Individual motivation is further influenced by the desirability of the rewards (valence) and by the expectancy that effort will lead to performance that will produce the desired outcomes (Box 4). The effort that is expended (Box 5) coupled with the skills and abilities (Box 6), results in performance (Box 8). However, it must be mentioned that the technology that is used, the support services that are provided, and the training given the person (Box 7) are also factors in the level of performance.

It cannot be disputed that performance leads to rewards of both an intrinsic and an extrinsic nature (Box 9). Intrinsic rewards are internal reinforcements, such as feelings of accomplishment and self-worth, whereas extrinsic rewards are external reinforcements, such as pay, recognition, or promotion. Job satisfaction (Box 11) stems from performance and the accompanying rewards, but is influenced by the extent to which the individual perceives the rewards as equitable (Box 10). An arrow is drawn from Box 11 back to Box 1 and 2 because job satisfaction or dissatisfaction affects need fulfilment, future goals, and ongoing motivation.

## **2.8 THE EFFECTS OF JOB SATISFACTION ON EMPLOYEE PERFORMANCE**

Managers' interest in job satisfaction tends to centre on its effect on employee performance. According to Robbins (1998:154) researchers have recognised this interest and a large number of studies have been designed to assess the impact of job satisfaction on employee productivity, absenteeism, and turnover.

- **Satisfaction and productivity**

The satisfaction and performance relationship can be cogently summarised in the statement: 'a happy worker is a productive worker' (Robbins, 1998:154). A careful review of the research indicates that if there is a positive relationship between satisfaction and productivity, the correlations are consistently low – in the vicinity of +.0.14. This means that no more than 2 percent of the variance in output can be accounted for by employee satisfaction. However, the introduction of moderating variables has improved the relationship. For example, the relationship is stronger when the employee's behaviour is not constrained or controlled by outside factors. An employee's productivity on machine-based jobs, for instance, is going to be much more influenced by the speed of the machine than his or her level of satisfaction.

Similarly, a stockbroker's productivity is largely constrained by the general movement of the stock market. When the market is bullish and the volume is high, both satisfied and dissatisfied brokers are going to ring up lots of commissions. Conversely, when

the market is bearish, the level of broker satisfaction is not likely to mean much. Job level also seems to be an important moderating variable. The satisfaction-performance correlations are stronger for higher-level employees. Thus, we might expect the relationship to be more relevant for individuals in professional, supervisory, and managerial positions.

When satisfaction and productivity data are gathered for the organisation as a whole, rather than at the individual level, organisations with more satisfied employees tend to be more effective than organisations with less satisfied employees. If this conclusion can be reproduced in additional studies, it may well be that the reason why Robbins (1998) has not had stronger support for the 'satisfaction causes productivity thesis', is that studies have focused on individuals rather than the organisation and that individual-level measures of productivity do not take into consideration all the interactions and complexities in the work process.

- **Satisfaction and turnover**

Robbins (1998) reports that researchers found that satisfaction is negatively related to turnover, albeit stronger than their correlation. Yet, again factors such as labour market conditions, expectations about alternative job opportunities, and the length of tenure with the organisation are important constraints on the actual decision to leave one's current job (Robbins, 1998).

Evidence indicates that an important moderator of the satisfaction-turnover relationship is the employee's level of performance. More specifically, the level of satisfaction is less important in predicting turnover for superior performers. The reason is that the organisation usually makes a considerable effort to keep high performance people. They receive pay raises, praise, recognition, increased promotional opportunities, and so forth. Just the opposite tends to apply to poor performers, as few attempts are made by the organisation to retain them. There may even be subtle pressure applied to encourage them to quit. It is expected therefore, that job satisfaction is more important in influencing poor performers to stay than superior performers. Regardless of the level of satisfaction, the latter (that is, poor performers)

are more likely to remain with the organisation because the receipt of recognition, praise, and other rewards gives them more reasons to stay.

Consistent with this discussion, it is not surprising to find that a person's general disposition towards life also moderates the satisfaction-turnover relationship. Furthermore, some individuals generally complain more than others and such individuals, when dissatisfied with their jobs, are less likely to quit than those who are more positively disposed toward life. Therefore, if two workers report the same level of job dissatisfaction, the one most likely to quit is the one with the highest predisposition to be happy or satisfied in general (Robbins, 1998).

## **2.9 SUMMARY AND CONCLUSIONS**

This chapter provided an in-depth interrogation of the theoretical body of knowledge pertaining to motivation of employees, including lower-level employees. According to Arnolds and Boshoff (2000:29) managers are likely to err if they unquestioningly accept that lower-level employees are not motivated by higher order needs. It is essential that any motivational interventions (for example. training, job enrichment, recognition systems, etc.) should be clearly defined in terms of the goals and end results they are directed at achieving. Motivational interventions grounded and supported by a sound organisational climate will ensure organisational effectiveness and aid the process of monitoring employee motivational levels. Organisational effectiveness can be increased by creating an organisational climate that satisfies employees' needs while channelling motivated behaviour towards organisational goals. It is through the creation of an effective organisational climate that the manager's job of improving or managing the motivational levels of employees will reap rewards and enhance individual performance.

In Chapter Three, an attempt is made to link organisational climate with (individual) performance. The aim is to determine the extent to which this variable is able to determine individual performance, and whether intervention in the form of skills development training can enhance the perception employees hold about their organisation, and how this impacts on their performance.

## **CHAPTER 3**

### **OVERVIEW OF ORGANISATIONAL CLIMATE**

#### **3.1 INTRODUCTION**

The previous chapter investigated the various motivational theories, and these studies of motivation have accentuated the importance of both environmental and situational factors in determining work motivation and individual performance. These environmental and situational factors that affect work motivation and ultimately individual performance are referred to as the organisational climate.

#### **3.2 THE CONCEPT OF ORGANISATIONAL CLIMATE**

Anyone who has worked in several different organisations knows that each one of these is unique. Even organisations with the same activities or which provide similar products or services can be quite different places in which to work. Kilmann (1985) and Schlechter *et al.* (2000:34) state that to understand the soul of a particular organisation requires travelling below the charts, rulebooks, machines and buildings into the underground world of corporate cultures. The determinants of a business success are not the skills of the executives alone, nor the visible features of the organisation such as the strategies, structures or rewards systems; rather, the organisation has an invisible quality, a certain style, character or way of doing things, that may have an even more powerful effect on various organisational outcomes than the leadership of any one person or organisational system (Kilmann, 1985; Schlechter, Tromp & Vos, 2000:34).

Furthermore, Kangis & Williams (2000:531) indicate that there is a wide range of both anecdotal and empirical evidence of what leads to business success; for example, leadership (Kotter, 1990); mergers and acquisitions (Haspeslagh & Jemison, 1991); re-engineering (Hammer & Champny, 1993); quality (Deming, 1986); and general strategy (Peters & Waterman, 1982; Ohmae, 1983; Kanter, 1992; Ansoff, 1990; Porter;

1990; Schwartz, 1992; Mintzberg, 1994). However, few have attempted to explore the *process* of the suspected link between climate and (individual) performance.

Climate is a perceptual medium through which the effects of the environment on attitudes and behaviours pass (Kopelman, Brief & Guzzo, 1990:295). Similarly, it is not what the work environment is, but what the individual's perception of that environment (an individual level variable) is. Organisational climate, as suggested by West *et al.* (1998:262), refers to the "perceptions that organisation members share of fundamental elements of their organisation." It has been claimed by Schneider and Snyder (1975:475) that the molar (environmental) or holistic nature of climate perceptions is such that perceptions function as a frame of reference for the attainment of some congruity between behaviour and the system's practices and procedures.

Moreover, because satisfaction is a personal evaluation of a system's practices and procedures, people in the system will tend to agree less on their satisfaction than on their description of the system climate. Moran and Volkwein (1992:20) define climate as: "relatively enduring characteristics of an organisation which distinguishes it from other organisations and:

- (a) it embodies members' collective perceptions about their organisation with respect to such dimensions as autonomy, trust, cohesiveness, support, recognition, innovation and fairness;
- (b) is produced by member interaction;
- (c) it serves as a basis for interpreting the situation;
- (d) it reflects the prevalent norms and attitudes of the organisation's culture; and
- (e) it acts as a source of influence for shaping behaviour."

According to Campbell, Dunnette, Lawler and Weick (1970:390) climate - or more appropriately - psychological climate is: "a set of attributes specific to a particular organisation that may be induced from the way the organisation deals with its members and its environment. For the individual member within an organisation, climate takes the form of a set of attitudes and expectations which describe the organisation in terms of static characteristics and behaviour-outcome and outcome-outcome contingencies."

The climate construct was initially developed to help explain meaningful aspects of people's psychological environments. If, as Lewin *et al.* (1939) argued in the well-known equation  $B=f(P,E)$ , behaviour is jointly determined by characteristics of the person and of the environment, then researchers needed a means of explaining environmental variation; and climate served this purpose. Thus, climate does not represent individuals' idiosyncratic descriptions of organisational characteristics. Rather, for climate to be a meaningful construct at an organisational level of analysis, there must be shared perceptions of these organisational characteristics. Only when there is perceptual agreement does an organisational climate objectively exist. In other words, organisational climate is *not* an assessment of what organisational members believe the organisation *should* be like, but rather is an assessment of the shared perception of what the organisation actually *is like* (Dickson *et al.*, 2001:199).

### **3.3 THEORETICAL FOUNDATIONS: COMPARATIVE DESCRIPTION BETWEEN 'CLIMATE' AND 'CULTURE'**

There is a close and sometimes ambiguous relationship between organisational culture and climate which has often been overlooked in the literature (Schneider, 1985; Ryder & Southey, 1990). According to Barker (1994), there is even evidence that the two terms have frequently been used synonymously. Despite the large number of studies into climate, attempts to define the construct in a way that differentiates it from culture have proven problematic (Field & Ableson, 1982). Prior to showing areas of convergence in the culture and climate literature, it is essential to reflect on some of the widely documented arguments between the two concepts.

#### **3.3.1 RIVALRY BETWEEN ORGANISATIONAL CLIMATE VIS-À-VIS CULTURE**

Schneider (2000:XIX-XXX) discusses the rivalry between the researchers of climate and culture and summarises his findings as follows:

The two main strengths of the research and thinking on climate are (a) the strategic focus of climate research on identifiable organisational imperatives

(e.g. safety, service) and (b) the measurement and statistical documentation of the degree to which climate is shared by organisational members.

The two main strengths of the research and thinking on organisational culture are (a) relatively complete specification of the deep psychological attributes (values, beliefs, and meanings) that can be used to characterise culture and (b) a focus on the development or aetiology of culture over time, especially through socialisation processes. As will become clear, the strengths of each can compensate for the weaknesses of the other.

**Table 3.1**

**Relationship between organisational culture and organisational performance**

The argument of the corporate-culture school is:

- That organisations have cultures.
- That they become more effective when they develop the right ‘strong’ cultures (which need careful definition).
- That these cultures create consensus and unity and motivate staff.
- That cultures have an effect on corporate performance.
- That when necessary, cultures can – and should - be changed.
- That it is the responsibility of senior managers to change them.

The corporate-culture approach presumes that organisational cultures can be assessed, managed, constructed and manipulated in the pursuit of enhanced organisational effectiveness. Employees’ norms, beliefs and values can, and when necessary, should be changed so that they can contribute the appropriate behaviour, commit themselves to the organisation, support management and strategy. This prevalent view holds that the norms and values shared by members of the organisation create consensus, induce unity and, when appropriate, generate appropriate behaviour. Cultures integrate the organisation (Meek, 1988).

Source: Mabey and Salaman (1995:283). In Williams (1998:43)

Williams's (2000:43) diagram below sums up the core themes in the arguments that organisational culture affects organisational performance. According to Brown (1995:185) as cited by Williams (1998:42), the above argument assumes that a particular kind of culture – a 'strong' corporate culture, facilitates goal alignment and engenders high levels of employee motivation, and "is better able to learn from its past".

At the centre of this argument is what is termed the integration perspective on organisational culture:

Integration studies of culture implicitly assume that a 'strong' culture is characterised by consistency, organisation-wide consensus, and clarity. According to Integration studies, consistency occurs because people at the higher levels of an organisation articulate a set of espoused values, sometimes in the form of a philosophy of management or mission statement; these values are then reinforced by a variety of cultural manifestations which presumably generate organisation-wide value consensus.

In Integration studies, there is clarity concerning what the organisational values are and should be, and what behaviours are preferable. Organisational members apparently know what they are to do and they agree why it is worthwhile to do it (Martin, 1995:377). According to Olivier (2002) the two concepts of "organisational climate" and "organisational culture" are related, in that the former is a measure of the perceptions of individuals working in the organisation, of the organisation's culture and their reaction to it.

Organisational climate is concerned with how employees perceive the characteristics of an organisation's culture. In contrast to culture, which sets the boundaries of behaviour, climate directly influences behaviour within the organisation and with the organisation's external customers. Climate deals with organisational characteristics which are perceived by individual employees as anything in the organisations which members interpret or attach meaning to in their attempt to make sense of the organisational environment (Govender, 1998).

Kopelman *et al.* (1990:289) have presented a framework linking organisational culture, climate and productivity. They argue that all organisations operate within a societal cultural context and distinct cultures produce unique sets of influences which affect the human resources management practices in organisations. A variety of Human Resource practices have been implemented in an attempt to increase employee productivity. Over time these practices have been thoroughly researched and their influence upon productivity is well documented. These practices include goal-setting, training, redesigning of jobs, feedback, financial incentives, changes in organisational structure and systematic approaches to staff recruitment and selection.

Such Human Resource interventions or practices influence productivity via the climate of an organisation. The contention is not that all Human Resource practices that result in productivity are mediated via a change in climate, but certainly that some are (Ribton-Turner, 1995:14). What appears likely is that one or more of the climate dimensions will respond to changes in Human Resource practices. For example, a change in financial incentives is likely to change not only the reward dimension of climate but also the socio-emotional aspect of climate, i.e. the feeling that the individual is being treated 'fairly' or 'unfairly' (perceived equity) by the organisation.

Further definitions of climate position it as functional in nature. It serves as a basis for interpretation and as a guide to behaviour. It is the psychological process that mediates the relationships between the work environment and work-related attitudes and behaviour. It was mentioned earlier that "climate is a perceptual medium through which the effects of the environment on attitudes and behaviour pass" (Kopelman *et al.*, 1990:295) and it is not what the work environment is, but rather the individual's perception of that environment (an individual level variable). However, climate is expected to be widely shared by other members of the organisation. Tustin (1993:2) suggests the following four dimensions of climate:

- Autonomy/control
- Degree of structure
- Rewards

- Consideration, warmth and support

James and Jones (1976) contend that climate is tied causally to end-result criteria which include employee productivity. The behaviours that are most relevant for an increase (or a decrease) in productivity are attachment, performance and citizenship.

Attached behaviours are those that retain the individual in the organisation (decreasing turnover and absenteeism) and performance behaviours which are role-prescribed, for example, in job descriptions. Furthermore, an increase in performance leads naturally to an increase in productivity and citizenship behaviours refer to co-operation, pro-social and constructive gestures that are not mandatory. Katz (1964) gives examples of such behaviour as co-operating with others, protecting the organisation from unexpected dangers and suggesting organisational improvements.

Citizen behaviour is subtle and pervasive and in its positive form, it is unlikely to have a dramatic effect upon the organisation. Nevertheless, without the support of the individual members and the collective support, productivity would slowly deteriorate. Negative forms of confrontational behaviour, such as strikes or 'go slow' activities, evidence an obviously detrimental effect with prolonged negative behaviour able to threaten the survival of the enterprise.

Productivity as a concept expresses the relationship between input and output required for production. It is a performance measure including effectiveness and efficiency and can be viewed as a total factor measure, such as an economist's natural productivity measure. In organisational research however, a productivity measure is conceptualised within a partial factor paradigm; that is, as a function of individual behaviour which can be aggregated to the group. It is accepted and assumed that a positive change in employee (labour) productivity would result in an overall improvement of total productivity. Table 3.2 provides areas of convergence in the culture and climate literature.

Perhaps the most significant difference between culture and climate literatures lies not in the nature of the phenomenon or the methods used to study it, but in the theoretical traditions that have been borrowed from other branches of the social sciences (Denison, 1996:634). Culture and climate are clearly related concepts, and some believe that they are most useful in understanding organisational phenomena when used in conjunction with one another (Schneider & Rentsch, 1988).

**Table 3.2**  
**Areas of Convergence in the Culture and Climate Literature**

Areas of convergence	Examples of Convergence
Definition of the Phenomenon	Both focus on the internal, social and psychological environment as a holistic, collectively defined social context.
Central Theoretical Issues	Shared dilemma: context is created by interaction, but context determines interaction. Definition of domain varies greatly by individual theorists. Dynamics between the whole and the part: <ul style="list-style-type: none"> <li>• Multiple layers of analysis</li> <li>• Dimensions vs. holistic analysis</li> <li>• Subcultures vs. unitary culture</li> </ul>
Content and Substance	High overlap between the dimensions studied by quantitative culture researcher and earlier studies by climate researchers.
Epistemology and Methods	Recent emergence of quantitative culture studies and qualitative climate studies.
Theoretical Foundations	Roots of culture research are in social constructionism. Roots of climate research are in Lewinian field theory. Many recent studies have crossed or combined these traditions.

Source: Denison (1996:627)

Climate literature has its roots in the field theory of Lewin (1951), whereas culture literature is grounded in the symbolic interaction and social construction perspectives developed by Mead (1934) and Berger and Luckmann (1966). This section contrasts the different ontologies (Smircich, 1983; Smircich & Calas, 1987) that underlie these

two perspectives and examines the influence that they have had on the literatures. However, a distinction needs to be made between organisational climate and organisational culture.

Many of the differences between climate and culture can be understood by examining Lewin's basic concept of the relationship between individuals and their social environments and then considering the implications of this framework for the study of organisations. Lewin expressed his basic formulation in terms of a simple equation:  $B = f(P,E)$  in which B = behaviour, E = the environment, and P = the person. It is against this background that a decision was taken in this study not to attempt to distinguish between the two concepts, but rather to refer to and use them interchangeably.

Ribton-Turner (1995:11) indicates that the concepts of 'culture' and 'climate' in an organisational setting have been described and defined in numerous ways. The construct 'climate' was introduced in the late 1960s and a number of dimensions including structure, reward, warmth and support were identified as describing the 'personality' of an organisation. Closely related and very similar are the two descriptions of 'culture' and Brown (1995:8) says that an "organisational culture refers to the pattern of beliefs, values and learned ways of coping with experience that have developed during the course of an organisation's history, and which tend to be manifested in its material arrangements and in the behaviours of its members."

Similarly, Schein (1985:9) defines culture as "a pattern of basic assumptions, invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems". On the other hand, Burke and Litwin (1992:526) define climate in terms of perceptions that individuals have of how their local work unit is managed and how effectively they and their day-to-day colleagues work together on the job.

The level of analysis, therefore, is the group, the work unit. Climate is much more in the foreground of organisational members' perceptions, whereas culture is more in the background and defined by beliefs and values. Climate is, of course, affected by culture, and people's perceptions define both, although at different levels. In a nutshell, the measurement of organisational climate is the means to uncover an organisation's culture (Desatnick, 1986). Ashkanasy, Wilderom and Peterson (2000:166) conclude that although it is difficult to distinguish definitions of culture from those of climate, it is possible to claim that climate is a way of measuring culture.

### **3.4 DEVELOPMENT OF ORGANISATIONAL CLIMATE**

Given that climates represent people's perceptions of relatively objective organisational characteristics (e.g. policies, practices, and procedures), how do specific climates emerge in an organisation (Dickson *et al.*, 2001:200)? Schneider and Reichers (1983) attribute the development of climates to three sources: common exposure of organisational members to the same objective structural characteristics; attraction, selection, and attrition of organisational members, resulting in a homogenous set of members; and social (symbolic) interaction leading to shared understandings/meanings among organisational members.

Earlier studies by Litwin and Stringer (1968:188) identified the following factors that may influence the development of an organisational climate: (a) the history of the climate (length, type, direction of change); (b) the constraints imposed by the formal organisational system and the task; and (c) the needs, values, and initial expectations of the members. They went further to indicate that the most important and dramatic determinant of climate seems to be the leadership style utilised by managers or by informal leaders. The emphasis a leader puts on adherence to rules, the kinds of goals and standards he/she sets, and perhaps most important, the nature of his/her informal relationships and communications with his/her people, have a great impact on the climate (Litwin & Stringer, 1968).

Similarly, Dickson *et al.*, (2001:201) concur that climate formation begins with the founder of an organisation. The founder and early leaders bring to the organisation their individual values, the term values is used broadly here, incorporating both the dispositional sense in which values are seen as most akin to personal motives (Hogan & Hogan, 1996) and these values play a primary role in determining an organisation's strategy, structure, climate and culture.

Several studies exist in support of the founder in establishing organisational structures, culture, and climates. For example, Kimberley's (1980) case study of the founding of a medical school showed that the founding dean had a clear and significant impact on the unique goals, structures, processes, and culture of the school. Schein (1992) presents three separate cases supporting this process which suggest that founders choose subordinates with similar basic assumptions about organising, and with similar personality and demographic characteristics. Schein (1992:224) notes "So over the course of its first decade, the organisation tended to hire and keep only those kinds of people who fitted the assumptions [of the founder] and were willing to live in the system even though it might at times be frustrating."

Additionally, Miller and Droge (1986) have shown that the personalities of CEOs are related to the form of the structures in their organisations, while Giberson and Resick (2001) have shown similarities between CEOs' personalities. Finally, Schein (1992:227) notes that "In the early life of any new organisation one can see many examples of how partners or co-founders who do not think alike end up in conflict and that results in some people leaving, thus creating a more homogeneous climate for those who remain."

Schneider *et al.* (1995) maintain that the development of an organisation is, in fact, analogous with a projective personality measure (e.g., the TAT). Faced with an ambiguous context and little external guidance, top managers/founders make decisions regarding process and structure that are consistent with their values and personality. Buss (1992) would probably agree, based on his argument that that it is a basic human process to attempt to manipulate the environment to achieve personality-environment congruence. The development of an organisation can thus be seen as the enactment of

these values and the manipulation or creation of an environment that maintains a consonance with individual personality. Thus early organisational leaders make decisions about organisational structure and organisational policies, practices and procedures that are congruent with and follow naturally from their own personal sense of what is right and wrong, as well as their personality characteristics (Dickson *et al.*, 2001:201).

Furthermore, James (1998) suggests that values are important perceptual filters. People frame external events in terms of their personal values and motives. For example, a person with strong achievement orientation will most likely see competitive forces at play in many circumstances. In other words, values not only play a role in founders' and top leaders' decisions regarding structure and the processes that will be put in place in a fledgling organisation, but they also affect people's interpretation of external events.

A leader is likely to choose an initial cadre of associates who share his/her vision for the organisation, and these people are consequently likely to share the values of the founder. That is, they are likely to interpret external events similarly and agree with basic decisions regarding structure and process. Put differently, initial organisation members are likely to perceive the work world from similar 'frames', with some people interpreting the world in terms of symbols, some in terms of power and politics and some in terms of structure, etc. (Bolman & Deal, 1992). Of course, over time the direct impact of the founder and initial leaders decreases, especially as the organisation goes through turnover among top leaders and experiences major shifts in the marketplace, merges with or acquires other organisations, and/or experiences other discontinuous changes (Schein, 1992).

As an organisation grows over time, these initial decisions made by early leaders form the basis for the nascent organisation's climate and culture (Dickson *et al.*, 2001:202). As climate and culture develop, the organisation develops a reputation based on the values and goals that are embodied in the climate and culture. This reputation serves as the catalyst for what Schneider (1987) referred to as the Attraction-Selection-Attrition (ASA) model, the natural outcome of which is a restricted range within organisations on a variety of personal variables, including personality and values.

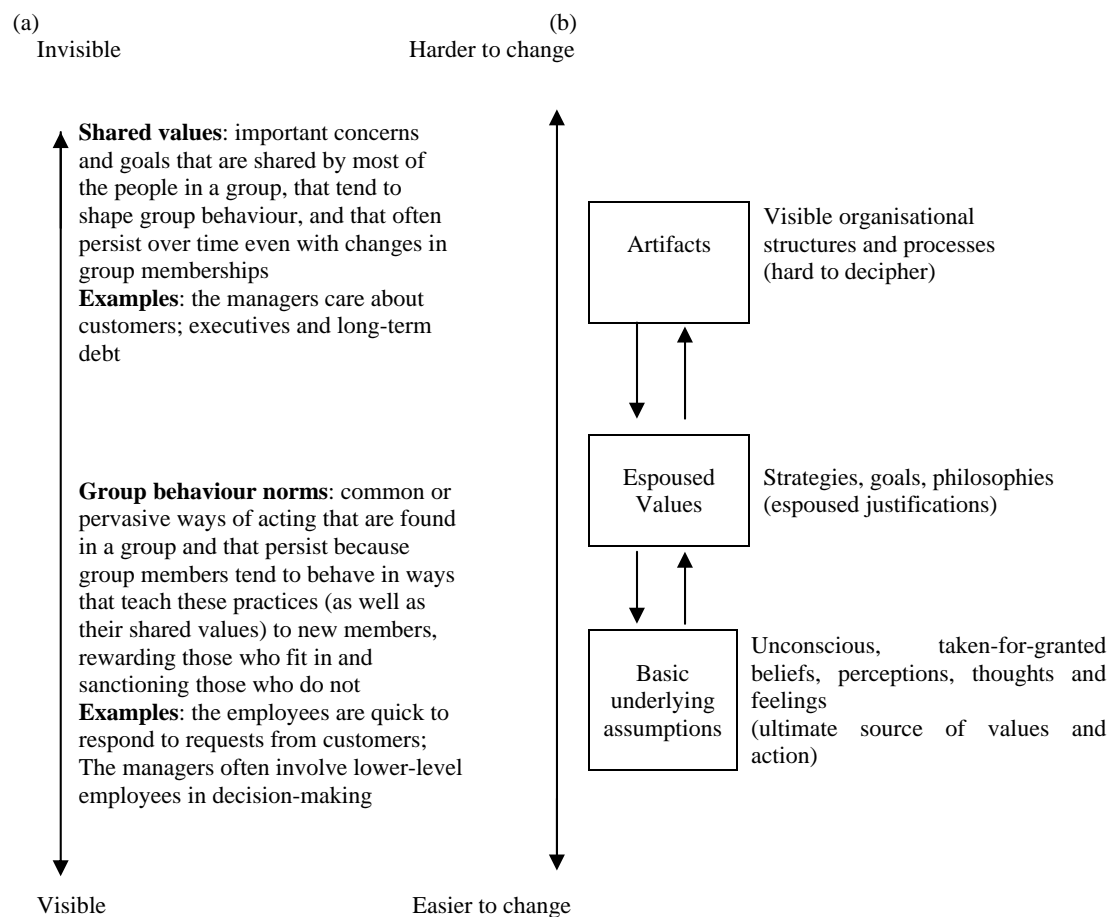
The ASA model developed from the recognition that people are not randomly assigned to organisations; they actively choose the organisations to which they wish to belong and for whom they wish to work, with similar people presuming to choose to belong to a given organisation (Kristof, 1996). This idea is explicated in detail by Schneider (1987) and Schneider *et al.*, (1995). According to the ASA model, people are attracted to (and therefore attempt to join) organisations in which they believe they would ‘fit’ (Judge & Cable, 1997). In other words, an assessment of the degree to which one’s own values and personality would match well with the values and tasks of the organisation determines whether or not a person chooses to apply to, or accept an offer from, a given organisation. This process is the “Attraction” component of the model, and the first reduction in the range of personalities and values in an organisation occurs here. The organisation then does its own assessment of the people who apply, and invites those who are believed likely to “fit” to join the organisation. This is the “Selection” component of the model, and the second wave of range restriction in personality and values occurs here.

Finally, those who do join an organisation and find that they were wrong – that the fit is poor – are likely to leave the organisation to find another place where the fit would be better. This is “Attrition” and the third wave of range restriction occurs here. As a result of this process, organisations become more homogenous on individual level variables (Schneider, Smith, Taylor & Fleenor, 1998).

In other words, organisation members tend to be similar to one another, to experience the same events, and to interpret those events in similar ways, because they interact with one another in deciphering the events’ meanings. Thus, they experience the organisation in similar ways and their reports of characteristic system practices and procedures will generally be similar (Dickson *et al.*, 2001:203). As organisational members interact in an organisation they tend to develop a common language and understanding of important organisational symbols. That is, interaction further refines the rough homogeneity that began with the ASA model.

Through interaction in this concept, common meaning and understanding develop, which are at the core of symbolic interactionism and social constructionist thought (Berger & Luckmann, 1967). Within various definitions of organisational climate and culture, is the idea that there are levels of culture, as exemplified by Schein (1992) and Kotter and Heskett (1992), and illustrated in Figure 3.1. Organisational cultures are revealed at three different related levels: Artifacts, values, and basic assumptions. These levels vary in their visibility to an outsider, with the first being easiest to see and the last the most difficult. Figure 3.1 shows the three levels of organisational culture and their visibility to an outsider (Pratt & Rafaeli, 1997).

**Figure 3.1**  
**Levels of organisational culture**



Adapted from (a) Kotter and Heskett, (1992); (b) Schein (1992), in Williams (1998: 41)

**Artifacts** are the most visible parts of an organisation's culture. They are the obvious features of an organisation that are immediately visible to a new employee. Artifacts include sounds, architecture, smells, behaviour, attire, language, products, and ceremonies. Organisations differ in the layout of their interior space and the formality of their working relationships. Do people work in an open office space or behind closed doors? Do people dress formally or informally? Does the interior design give the impression of a cheerful or a sombre work environment? Do people refer to one another by first names or do they use formal titles such as Doctor, Mr, Ms, Lieutenant? These factors are clues to an organisation's culture and one can infer some values, norms, and required behaviour from such factors. A new employee must first attend to messages from the physical characteristics of the organisation and then watch the behaviour of veteran organisation members (Champoux, 2000:58).

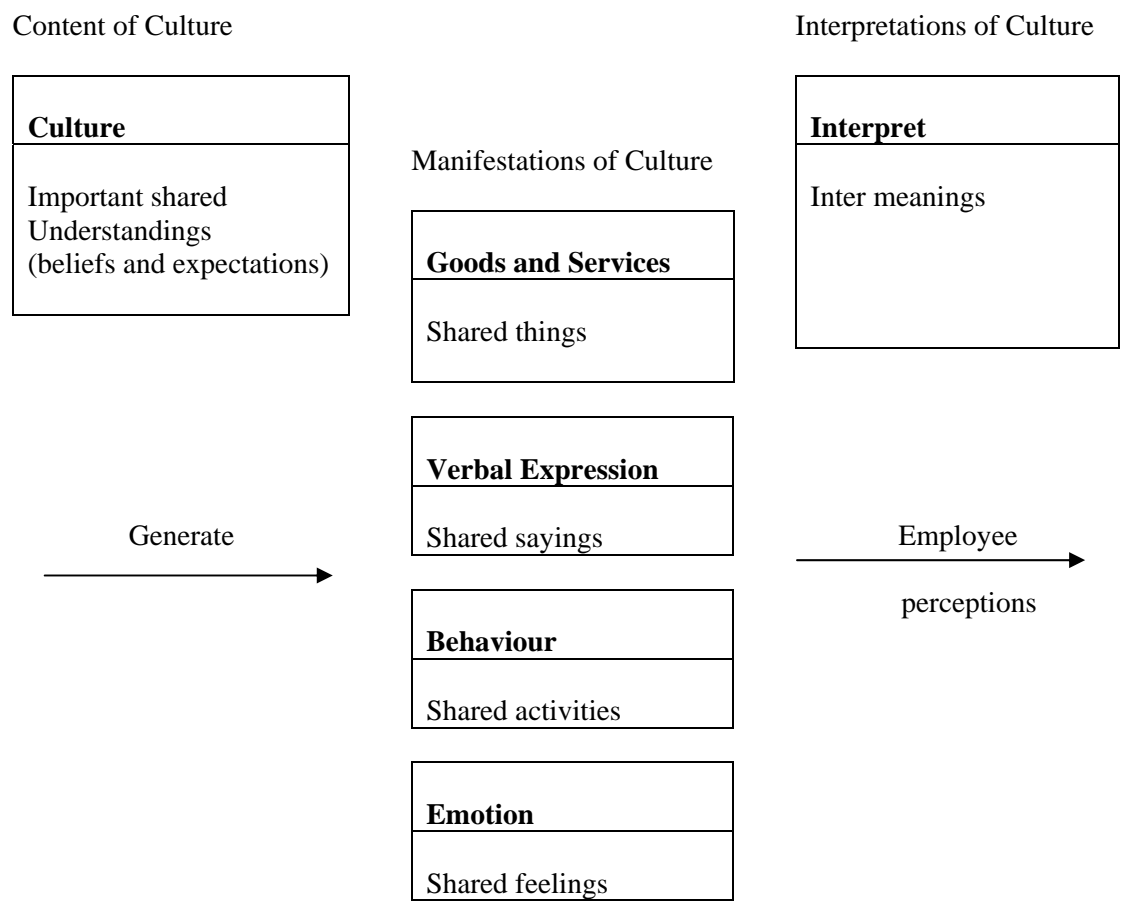
At the next level of awareness are the values embedded in the culture. Values tell organisation members what they *ought* to do in various situations. **Values** are hard for the newcomer to see, but he/she can discover and learn them. The newcomer must be wary of **espoused values** that guide what veteran members say in a given situation. More important are the **in-use values** that really guide the behaviour of organisation members (Argyris & Schon, 1978).

The last level of discovery is almost invisible to a new employee. Even the veteran organisation members are not consciously aware of the basic assumptions. Basic assumptions deal with many aspects of human behaviour, human relationships within the organisations, and relationships with elements in the organisation's external environment. These assumptions develop over the history of the organisation and from its ways of dealing with various events. Because the assumptions are unconscious, veteran members find it hard to describe them to a new employee. People learn about them from trial-and-error behaviour and by watching how veteran employees behave in different situations (Champoux, 2000:58).

### 3.5 ORGANISATIONAL CULTURE AND ITS EFFECTS

Since organisational culture involves shared expectations, values and attitudes, it exerts influence on individuals, groups and organisational processes. Individual members are influenced to be good citizens and co-operate. Thus, if quality customer service is important in the culture, then individuals are expected to adopt this behaviour. If, on the other hand, adhering to a specific set of procedures in dealing with customers is the norm, then this type of behaviour would be expected, recognised, and rewarded (Ivancevich & Matteson, 1993:677). Figure 3.2 illustrates how the culture of a firm can be inferred by looking at those aspects that are perceptible.

**Figure 3.2**  
**Cultural Relationships**



Source: Adapted from Sathe (1983:8), in Ivancevich & Matteson (2000:678)

Smircich (1983) reports that researchers who have studied the impact of the culture of employees indicate that it provides and encourages a form of stability. There is a feeling of stability, as well as a sense of organisational identity, provided by an organisation's culture. Saffold III (1988) indicates that it has become useful to differentiate between strong and weak cultures. A strong culture is characterised by employees sharing core values. The more employees share and accept the core values, the stronger the culture is and the more influential it is on behaviour.

### **3.6 TYPES OF CULTURES**

Various organisational culture typologies have been developed (Allan & Dyer, 1980; Bate, 1994; Deal & Kennedy, 1982; Poupert & Hobbs, 1989; Schein, 1983; Wallach, 1983). Although they all attempt to classify organisational culture, Botha, Rothmann, van Rooyen and Steyn (2001:39) maintain that several theorists agree that Harrison (1972) and Harrison and Stokes (1992) devised the most practicable typology for analysing organisational culture and drawing comparisons between different organisational cultures (Harrison 1993; Williams *et al.*, 1993).

Harrison and Stokes (1992) postulated that organisational culture can be divided into four dimensions or ideologies, namely power, role, performance and supportive cultures, and that these four culture ideologies occur in organisations in combination with one another. Each ideology implies unique patterns of behaviour based on different values. Each represents a unique way of making decisions, motivating employees, a typical management style and assumptions about the nature of work and about human nature (Harrison & Stokes, 1992).

They also argue that if one cultural ideology is predominant in an organisation, it influences the relations within the organisation and the organisation's relation with competing organisations as well as the organisation's environment. The cultural ideologies are described below (Harrison & Stokes, 1992; Makin, Cooper & Cox, 1996).

- **Power culture**

Organisations in which a power culture dominates are characterised by unequal access to resources. The power culture is authoritarian and hierarchical, with people in power using resources in order to satisfy or frustrate other people (thus allowing them to control people's behaviour).

In power cultures, leadership is based on paternalism and justice: a leader will be strict but fair with loyal subordinates. Leaders believe that they have an obligation towards subordinates and the organisation, and exercise their power in accordance with their view of what will be best for the organisation and its employees.

As long as leaders are right, they are seen as visionary as far as the needs of the organisation are concerned. Power-oriented organisations may also be characterised by power-hungry managers who rule by fear, while large power-oriented organisations are characterised by internal politicking and interpersonal conflict between employees to gain (more) power, privileges and promotion. The success of this culture is dependent on the organisation's products or services remaining exclusive. In the absence of a large enough clientele, the organisation may have to seek other markets.

- **Role culture**

A role culture is a system of structures and procedures which protects employees and gives the organisation stability. According to Harrison (1993), the role culture substitutes a system of structures and procedures for the naked power of the leaders. The struggle for power is moderated by the rule of law. The duties and rewards of members' roles are defined, reduced to writing and are the result of an explicit or implicit contract between an organisation and its individuals. The values underlying a role oriented organisation are administrative order, dependence, rationality and constancy.

A well-considered and complete set of rules where performance is monitored by structures and procedures makes the organisation bureaucratic and predictable. Moreover, formal lines of communication quickly become overloaded and because of the difficulty in handling information, the organisation becomes slow to adapt to environmental changes. Large organisations in particular tend to be characterised by a role-oriented culture.

Traditional role-oriented organisations with fairly stable technology and markets were common especially between 1850 and 1950. However, in today's rapidly changing world role-based organisations find it difficult to adjust, since the entrenched procedures offer employees protection against risk and punishment. Role-centred organisations are managed on the assumption that employees cannot be trusted; therefore their autonomy, discretion and initiative are restricted to activities within the rules.

- **Performance culture**

The power and role cultures both rely on external recognition and punishment to motivate employees, and in both, the employees are expected to make their energy available in exchange for reward. In Harrison's view (1972; 1993), however, there are many employees who find reward in their work. They have a preference for, and take pleasure in, intrinsic reward.

Employees take a positive view of a performance-oriented culture, which gives them a high degree of commitment and personal satisfaction. In such a culture, they are considered as whole persons; they believe that they are working for something larger than themselves; they manage themselves, their morale is high, they have a sense of urgency, understand the values of the organisation and see errors as learning experiences. In a performance-oriented organization, employees are lined up behind a common vision or purpose (Harrison, 1993).

- **Supportive culture**

The supportive culture can be described as an organisational culture that is based on reciprocal trust between the organisation and individuals. In a supportive culture, employees believe that they are regarded as valuable human beings, and good relations between employees are encouraged. They like going to work, not only because they like the work itself but also because they care for one another.

Since they feel that they are cared for, they reflect the same behaviour towards colleagues, clients and suppliers. A support-oriented culture is characterised by a high flow of information, which includes work-related as well as non-work-related communication, a constructive view of mankind, support by the organisation and harmony in the workplace.

A shared vision, goals and practices can, to a great extent, contribute to the accomplishment of organisational goals. Robbins (1998:601) states that the role of (organisational) climate/culture in influencing behaviour appears to be increasingly important in the 1990s. As organisations have widened spans of control, flattened structures, introduced teams, reduced formalisation, and empowered employees, the shared meaning provided by a strong culture/climate ensures that everyone is pointed in the same direction.

Who receives a job offer to join the organisation, who is appraised as a high performer, and who gets the promotion are strongly influenced by the individual-organisation 'fit'; that is, whether the applicant or employee's attitude and behaviour are compatible with the culture. Motivation, cooperation, and commitment may also be facilitated by shared values, with organisational efficiency achieved as a result (Nel *et al.*, 2001:307).

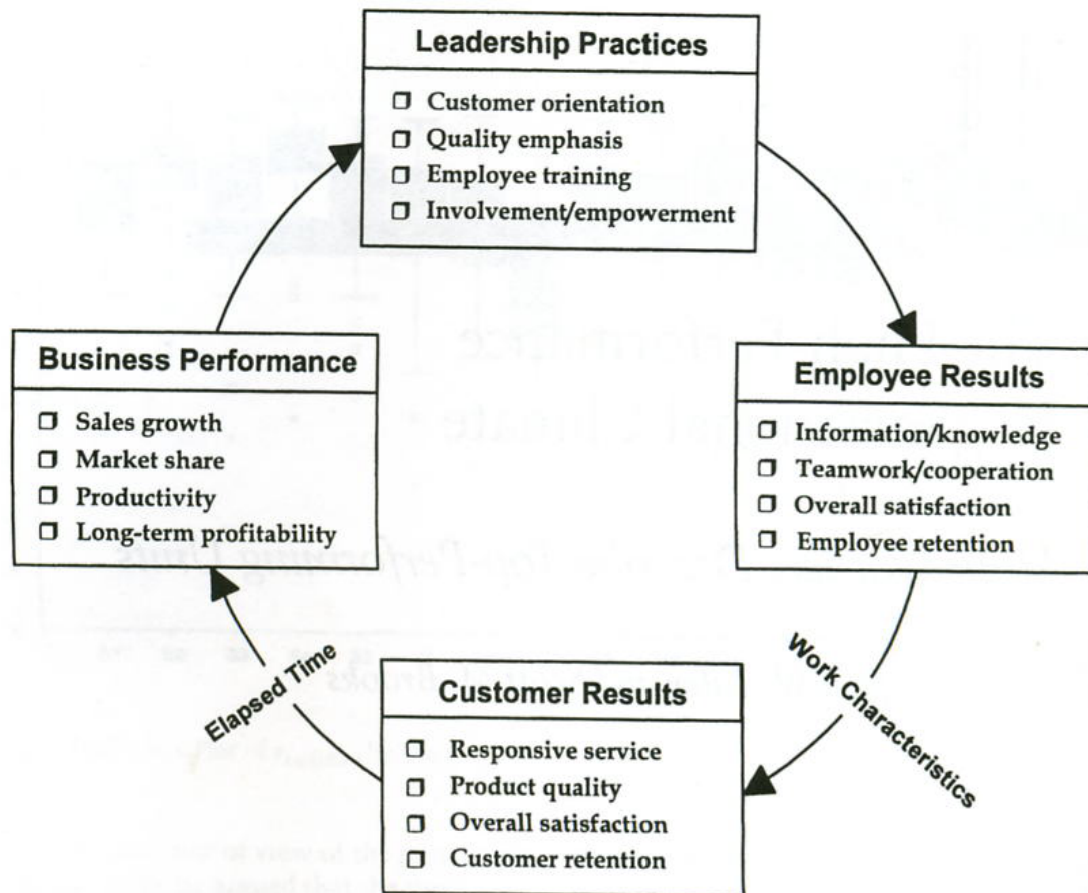
### **3.7 HOW ORGANISATIONAL CLIMATE IMPACTS ON JOB SATISFACTION AND PERFORMANCE**

The first systematic attempt to understand western work organisations in cultural terms occurred in the late 1920s with the well-known Hawthorne studies at the Western Electric Company (Roethlisberger & Dickson, 1975). Specific findings from this research emphasised the importance of the culture of a work group and the role that these cultural norms had on productivity. The attitude of workers towards management was also investigated (Schuster, 1986).

These norms were found to have a greater impact on productivity than either technology or working conditions (Schuster, 1986) and informal groups of workers were found to exert considerable control over the behaviour of individual group members by way of these norms (Roethlisberger & Dickson, 1975).

Furthermore, a significant body of research has emerged over the past 20 years that examines the relationship between how employees describe their work environments and the relative performance success of those work environments. Wiley (1996:330) has termed this body of research as *linkage research* and has provided the following definition and purpose: “linkage research involves integrating and correlating data collected from employees with data in other key organisational databases. The purpose of linkage research is to identify those elements of the work environment as described by employees that correlate, or link, to critically important organisational outcomes such as customer satisfaction and business performance”.

**Figure 3.3**  
**The Linkage Research Model**



Adapted from Gantz Wiley Research (1996) in Ashkanasy *et al.* (2000:178)

Wiley (1996) summarised the approximately 20 studies then published, which included both qualitative case studies and quantitative empirical studies. From this summary, he developed the linkage research model, which is depicted in Figure 3.3.

The linkage research model provides a comprehensive framework for integrating all previously published work in this field. It suggests that the more present certain organisational or leadership practices are in a given work environment, the more energised and productive the workforce. In turn, the more energised and productive the workforce is, the greater the satisfaction of customers and the stronger the long-term business performance of the organisation. The model gives special consideration to the moderating effects of work characteristics (Ashkanasy *et al.*, 2000:177).

The character of an organisation's work environment (particularly as perceived by a member) has long been recognised as a potent influence on employee cognitions, attitudes and behaviours (Ostroff, 1993). Such an environment influences job satisfaction, organisation, organisation commitment, employee turnover, vocational adjustment and occupational stability (Holland, 1985; O'Reilly *et al.*, 1991). The theoretical link between climate and performance has been examined by several researchers. Some of the most relevant to this study are Denison (1990), West *et al.* (1998) and Burke and Litwin (1992), who claimed that when the perception by employees of greater involvement in decision making, information sharing and management support was favourable, greater corporate effectiveness was also observed and reciprocal influence between climate and performance suspected. The theoretical underpinnings of such research can be traced back to the Lewinian theory (Lewin, 1951), which was characterised as a method of analysing causal relationships, rather than as a theory *per se*.

Employees form an overall subjective perception of the organisation based on such factors as degree of risk tolerance, team emphasis and support of people. This overall perception becomes, in effect, the organisation's culture or personality. These favourable or unfavourable perceptions then affect employee performance and satisfaction, with the impact being greater for stronger cultures.

### **3.8 REFLECTIONS ON THE TRADITIONAL SOUTH AFRICAN ORGANISATIONAL CLIMATE**

Fullagar (1987:03) explains that the use of psychology in industry in South Africa is well entrenched; the principles of Industrial Psychology being referred to as early as 1910. However, the foundation of the National Institute of Personnel Research (NIPR) in 1946 may be seen as the formal inauguration.

Fullagar (1987:04) holds that the industrial psychologist's preoccupation with managerial values and management's definitions of workplace problems has resulted in the discipline ignoring the broad political aspects of organisations and their contents. The discipline has, therefore, been ill-equipped and unable to deal with many of the

facts of social organisation and social structure. The discipline was seen as serving the dominant elite and this bias has meant that past approaches have not provided adequate conceptual tools to deal with issues of conflict and alienation in South African organisational settings. There is a need for industrial psychologists to shift focus from an emphasis on the traditional concepts and to extend investigations, explanations and descriptions to a systems approach concerned with social structures and their supporting environment.

Scientific management was prevalent in South Africa in the early period 1910–1920 and was used to maximise the productivity of the workforce. Particularly in the mining industry, labour was viewed as a natural resource which needed to be developed and exploited like any other resource.

The humanistic approaches to organisational behaviour were introduced when various external pressures were brought to bear on South Africa, that is, to adopt a more ‘human’ approach to black workers. Informal characteristics of the workplace which affected human efficiency and happiness were investigated. Factors such as character qualities, supervision, inter-personal relationships, cultural values and attitudes were researched. In spite of attention to the *warm fuzzies* as the softer issues in the workplace are known, the Apartheid ideology of the 1960s and 1970s discouraged investigations of socio-political determinants of workplace behaviour.

Theories which emphasised cultural differences emerged and ‘dictated that the various race groups may not be motivated in terms of the same opportunities for development, promotion, self-expression, remuneration, security, achievement, self-determination and so forth (Wiendlock, 1978:232). Ribton-Turner (1995:28) reports that the Human Resources Management era promoted goals of self-actualisation and emphasised individual satisfaction. Human Resources Management did encourage participation of employees in decision-making but mostly at the shop-floor level and in a controlled manner. This followed the American approach rather than the European trend towards industrial democracy and viewed conflict in the workplace as unacceptable; that workplace harmony was the ideal and that the goals of the individual and the organisation were compatible. A more realistic view sees conflict as inevitable and

integral to any human encounter, since there are genuine differences of interest and feelings which exist between various organisational groups.

Fullagar (1987:23) adds that for the Human Relations approaches to be effective, high levels of trust are necessary in the organisational climate. On the other hand, Ribton-Turner (1995:28) states that in South Africa, research has shown that this is not the case. Furthermore, there are inherent differences between trusting behaviour and certain management requirements for effectiveness. Unions also comment on the incompatibility in the Human Resources Management approaches and the adversarial relationship of collective bargaining.

It can be said therefore, that both the scientific and human approaches have placed emphasis upon control and authority and have viewed behaviour in the workplace from a functional and reductionist point of view. The narrow concentration upon personal or inter-personal problems does not even begin to address the real source of workplace differences; the emphasis upon the managerial perspective requires balance with investigations of crucial problems of workers. This will further assist in comprehending their behaviour at work, if their energy and efforts are to be channelled in the right direction.

### **3.9 HOW TO MEASURE ORGANISATIONAL CLIMATE**

A variety of organisational climate measures have been developed to measure climate in most types of organisations (Woodman & King, 1978). Litwin and Stringer's (1968) Organisational Climate Questionnaire (LSOCQ) is used most frequently in business organisations. They define organisational climate as: "a set of measurable properties of the work environment, perceived directly or indirectly by the people who live and work in this environment and assumed to influence their motivation and behaviour."

They called their approach to organisational climate the perceptual measurement-organisational attribute approach. Litwin and Stringer (1968) drew from the McClelland-Atkinson motivation theory (McClelland & Atkinson, 1953), and based their dimensions of organisational climate and their effects on the need for achievement, the need for power, and the need for affiliation. They proposed that

climate is made up of the dimensions of structure, responsibility, rewards, risks, tolerance and conflict. These dimensions are described briefly in Chapter 5, Table 5.2.

As mentioned earlier, at its most basic level, organisational climate refers to employee perceptions of their work environment (Altmann, 2000:31). Generally, these perceptions are descriptively based rather than value based. For example, the phrase “I have more work to do than I can possibly finish” is a description of a person’s workload, while the phrase “I like my job” is a positive evaluation of one’s job. Thus, organisational climate is more than simply a summary of employee likes and dislikes.

The assessment of organisational climate typically occurs through an off-the-shelf or customised survey containing questions about the work environment. Although administration procedures used when conducting a survey can vary, ideally, employees are asked to report to a designated work-site at a scheduled time to complete the survey, and employee participation is voluntary. Watkin (2001:52) reports that research, building on the work of Litwin and Stringer (1968), indicates that 50 to 70 percent of an organisation’s climate can be traced to its leadership or management style. In other words, good managers create good climates, while poor managers create poor climates and both affect motivation and (individual) performance. This holds true in all sectors. So how does one measure the climate in one’s own organisation? Watkin (2001) asserts that the following questions could serve as guidelines for the manager/supervisor who is concerned about the kind of climate he/she is creating:

- Do the people in my team feel encouraged to do their best?
- Do I recognise them when they do perform well?
- Do they understand what I expect of them and why?
- Do I give them clear feedback so that they know when they are doing well?

He further maintains that, on an organisational level, there are three strategies for measuring climate:

- Observe work in progress.
- Carry out interviews with key members of the workforce.

- Conduct a survey of staff members using questionnaires

While cost is not the only consideration, the first two strategies are more expensive than the last one. In practice, accurately taking the pulse of larger organisations usually requires some form of climate survey, for which several off-the-shelf questionnaires are available. The dimensions and description given by Newman (1977) are:

- *Supervisory style*: the extent to which company management is open, supportive and considerate.
- *Co-workers*:: the extent to which co-workers are described as trusting, friendly, and co-operative.
- *Work motivation*: the extent to which employees show concern for the quality of their work, try to get ahead, and are involved in their work, etc.
- *Employee competence*: the extent to which the employees have the proper background training and 'know-how' to do what is expected of them.
- *Decision-making*: the extent to which employees take part in decisions that affect their work situation.
- *Performance rewards*: the extent to which rewards such as promotions and salary increases are based on performance rather than on other considerations such as favouritism.

Although the different versions may use different labels to describe the qualities that they aim to evaluate, most measure the following key aspects or dimensions of organisational climate (Watkin, 2001):

## **1. Flexibility**

In a positive climate, new ideas are accepted easily and unnecessary rules are kept to a minimum. Management's focus is on getting the best people together to do a job, rather than on establishing long lines of authority.

To improve this dimension, one needs to reduce the number of regulations and the amount of red tape, encourage employees to come up with new ideas and establish a structure with minimum lines of authority.

## **2. Responsibility**

Employees tend to be more motivated when they are allowed to accomplish tasks without constantly seeking their manager's approval. To improve this dimension, it is important to delegate as many tasks as possible to employees and to hold them accountable for the outcomes. They should also be encouraged to take calculated risks without fear of blame.

## **3. Standards**

In a poor organisational climate, management places little emphasis on improving performance. Managers need to set challenging but realistic goals, give regular feedback and make sure that performance measures are adequate and clear. Individual employees should be given plenty of opportunity to take part in the goal-setting and planning process.

## **4. Rewards**

A positive organisational climate is one in which employees are recognised and rewarded for good performance. To improve this aspect of an organisation's climate, managers need to use encouragement more often than they use threats and criticism. The promotion system should help the best people rise to the top and the rewards

offered should be in direct proportion to the quality of the employees' output. Development opportunities should be used to both reward and improve performance.

## **5. Clarity**

People rarely give of their best when they are not sure what they are expected to do. It is important to make sure that employees know exactly what is expected of them and how they can contribute to the organisation's goals. Policies, procedures and lines of authority should also be clear.

## **6. Team commitment**

People need to be loyal to the organisation and proud to belong to it. In most roles, they need to be able to cooperate with others in order to get the job done. Managers should make sure they resolve conflicts quickly and foster cooperation between individuals.

## **7. Climate and leadership style**

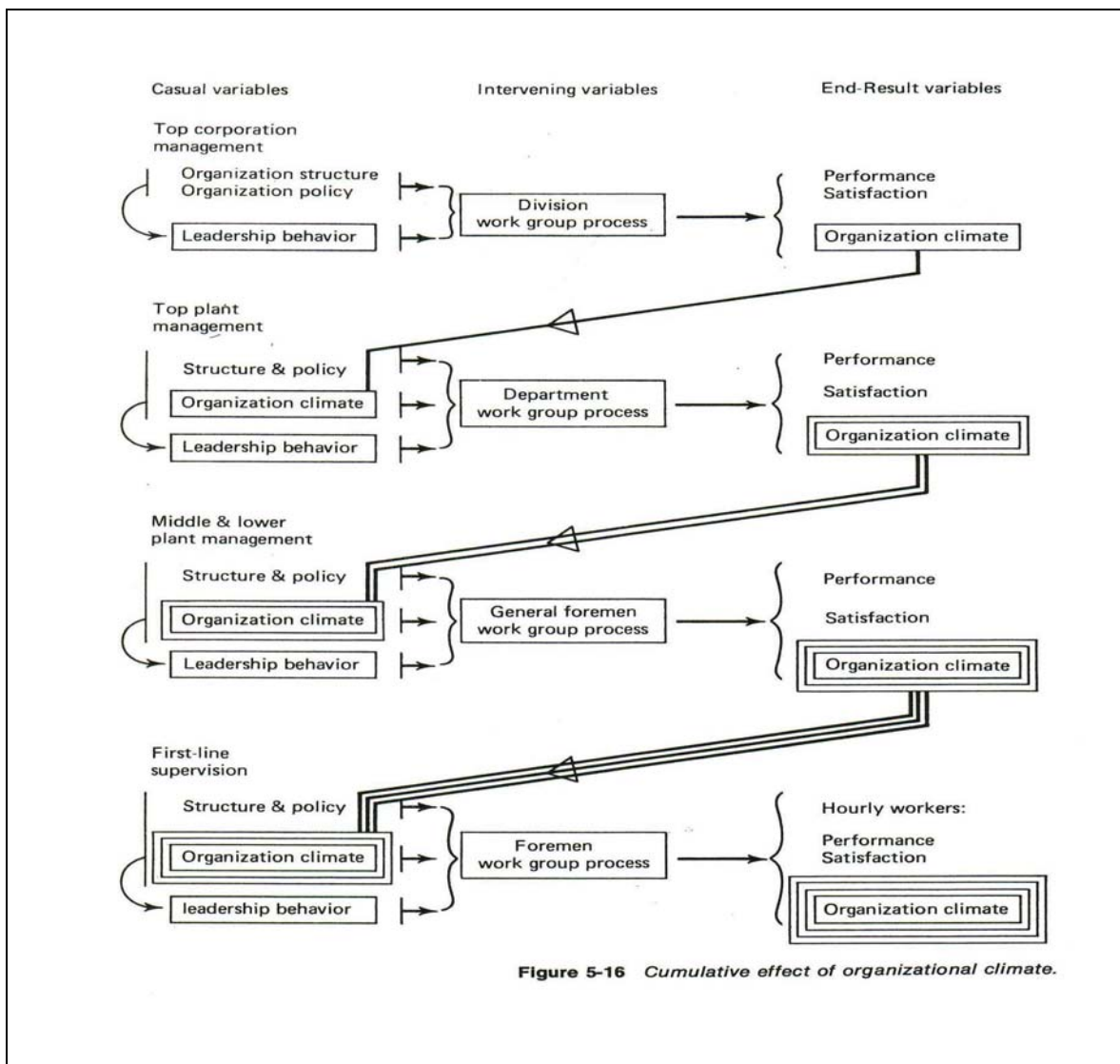
Managers can directly influence their employees' ability to excel by aligning their leadership/management style with the specific demands of the situation they are in and with the people with whom they work. When these are out of tune, effort declines. The most effective way of getting this alignment right, is through the use of 360-degree questionnaires on style and climate dimensions. These will ensure that the links between the two are anchored in the expectations of those who directly experience the effects of leadership (Watkin, 2001).

Analyses of the extensive data obtained by the Institute for Social Research since 1946 reveal that the organisational climate experienced by a particular work group or by a particular hierarchical level in an organisation is determined primarily by the leadership behaviour of echelons above it. The behaviour of the leaders at the very top echelon exerts by far the greatest influence (Likert & Likert, 1976:103). The capacity to exert influence on the organisational climate drops sharply by hierarchical level

unless some conditioning factor such as geographical distance from top management alters the situation (Samuel, 1970).

As one proceeds down the hierarchy, superiors at each level are found to exert less and less influence on the organisational climate and to be increasingly influenced by the organisational climate in which they are embedded. This climate provides powerful restraints upon the kind of management which they feel free to use.

**Figure 3.4**  
**Cumulative effect of organisational climate**



Source: Likert & Likert (1976:104)

The sizable correlations, e.g., + .5, found in organisations between the management systems used by the higher echelons and those used by lower levels of management reveal the substantial constraint exerted by the organisational climate upon the behaviour of superiors at middle and lower levels in an organisation. Figure 3.4 illustrates graphically the manner in which organisational climate functions in an organisation. The wider lines at lower hierarchical levels depict the progressively greater constraining force of organisational climate.

The effect of a System 1 or 2 organisational climate is to put pressure on the superiors at middle and lower echelons to use System 1 or 2 leadership methods of conflict management. A superior has to be highly competent and highly courageous in a System 1 or 2 organisation to deviate from the established pattern. This same situation exists also in a System 3 organisation, but the restraining forces of the climate are less and it is easier for a lower-level superior to move toward System 4.

In System 4T organisations, the effect of the organisational climate is beneficial since it encourages lower echelons to use System 4T styles of leadership and conflict management. Moreover, the effect of the organisational climate in System 4 organisations is much less restraining than in other kinds of organisations since lower levels in a System 4 organisation have much greater capacity to exert upward influence successfully upon the organisational climate and other variables and decisions than is the case in System 1,2, or 3 organisations.

### **3.10 SUMMARY AND CONCLUSION**

Harrison and Carrol (1991) have recorded the burgeoning interest in organisational culture in the last decade to the point where organisational theorists have come to regard strong culture as an alternative to the formal structure of an organisation. The achievement of excellence within organisations requires both a widespread competence (achieved only through skills training) among employees and an environment that encourages and enables the expression of that competence (Hall, 1996; Schlecter *et al.*, 2000:52). It would seem that many organisations have been

created so as to punish, rather than encourage, and suppress, rather than enable, a full expression of human competence.

It is essential to note the remark made by Kangis and Williams (2000:538), in their paraphrasing of Auden (1940): “to its members an organisation is not so much a place of work, but a whole climate of perceptions and opinions”. The dimensions of competence and the supporting conditions thereof, spell out in detail the mechanics of an organisational culture that can be created by managers which both supports and releases human competence for the fullest expression thereof, in the doing of organisational work. It would seem that the creation of such an organisational culture should not only provide intrinsic rewards to the participants, but also extrinsic financial rewards to the organisation.

The following chapter will focus on the significance of investing in human capital in the form of skills transfer. The chapter attempts to unpack ‘training and development’ in totality, the intention being to check its mediating role between the independent variables namely, employee motivation, organisational climate and work performance.

## CHAPTER 4

### TRAINING AND DEVELOPMENT

#### 4.1 INTRODUCTION

The previous chapter focused on the organisational climate and its relationship to individual performance. In this chapter, reflections are made on training and development, where the role and value of skills transfer for the purpose of improving productivity and employee performance is explored.

Just like any other developing economy, the biggest challenge facing South Africa in the new millennium is that of rebuilding the economy. This process can only be successful if companies raise performance and productivity standards through skill enhancement and development (Grobler *et al.*, 2002:340). Grobler *et al.* further state that many studies have reduced the factors for sustainable productivity increases to three aspects:

- Education and training;
- Economic restructuring; and
- Better management practices.

Seeing to it that a country's workforce will have the necessary mix and level of knowledge, skills, behaviours and attitudes is the responsibility of two complementary systems namely, training and development (Kiat, 1994:14; Grobler *et al.*, 2002). Grobler *et al.* (2002) maintain that if South Africa wants to succeed in the new environment, it will have to start by building its competency base. This can be done on four levels (Meyer, 1995:24):

- *national competencies*, with the external driver being the national economic strategy;

- *organisational competencies* with a subcategory of core and strategic, driven by the corporate strategy;
- *occupational competencies* with a subcategory of vocational and managerial, driven by individual career management; and
- *individual generic competencies* driven by personal motivation and ability.

The emphasis of this study focuses on competencies two and three above, namely the organisational competencies and individual generic competencies as driven by personal motivation and ability. The value of staff training can never be over-emphasised. It was mentioned in the first chapter that the quality of an organisation is, to a large degree, determined by the quality of people it employs. Success for most organisations depends on finding the employees with the skills to successfully perform the tasks required to attain the company's strategic goals (Robbins & Decenzo, 2001:184).

The country's history, technological innovations, competitive pressures, restructuring and downsizing, the low level of literacy and numeracy and the increasing diversity of the workforce, are some of the important issues which force organisations to re-train staff and to provide basic literacy training, thus ensuring that employees are ready to face present challenges and to prepare themselves for the future.

The importance of Human Resource Development (HRD) as a means of ensuring that organisations maintain their competitiveness in an ever-changing environment, has never been so necessary. Griesel (2004:95) remarked that it makes no sense to spend time, money and HR on the appointment of the right people in the right positions to then ultimately relinquish them to other organisations because they are not being looked after. Organisations should make it possible for employees to achieve their own objectives in order to achieve the objectives of the organisation (Marx, 1993:365).

## **4.2 REFLECTIONS ON TRAINING AND DEVELOPMENT**

Training and development are seen as totally different, yet very much the same in the literature. The following literature study will give an exposition of the different views, and show the impact thereof on the employee motivation, perception of organisation climate and individual performance. One of the most important functions of Human Resource Management (HRM) is to assist staff to become effective in their jobs.

### **4.2.1 Philosophy of training and development**

#### **4.2.1.1 Learning organisation**

Training and development is receiving much attention in terms of policy making and management research throughout the world. Greater emphasis is placed on the workforce qualifications and skills, with the growing view that an organisation should be a learning organisation. It is especially applicable to countries with economic problems, so that an effort to improve economic growth and productivity can be made (Noble, 1998:87). The ability to perform should therefore be developed (Torrington & Chapman, 1979:116; Griesel, 2004:96). The organisation's investment in HR development with the focus on employees' development sends a strong signal of the organisation's intention with regard to its employees and the community (Gold, 1999:274). HRM should concentrate on promoting and supporting learning throughout the whole organisation (Bramham, 1989:28).

The question that can be formulated is: "Why do employees need to be trained by organisations?" The answer entails a definite effort to improve the profits of the organisations (Baron & Kreps, 1999:372).

#### **4.2.1.2 Training and development as an investment**

It was mentioned in the earlier chapter that it is imperative for organisations to take cognisance of the costs involved in training and development as an investment, rather than as an expense, because this investment in HR is a trigger for the progression of

the HR policy which is aimed at recruiting, retaining and compensating employees. This investment is a way of creating a primary internal market and policy regarding the upgrading of skills and thereby reducing the organisation's dependence on external resources for skills (Gold, 1999:274).

#### **4.2.1.3 Holistic approach**

Dulebohn, Ferris and Stodd (1996:39) suggest a much more holistic approach to the specific functioning of training as an independent HR function. They place the emphasis on an organisational strategy within the complex, changing surroundings characteristic of modern mankind. This holistic view establishes the concept that the idea of learning, focused on individual and organisational levels, is a critical factor in the creation of a competitive advantage because learning is the only strategy that can cope with change (Gold, 1999:274).

Training is aimed at changing people in terms of knowledge, experience, views and other elements of behaviour, but people will only accept and embrace this change if they benefit from the process. Torrington and Chapman (1979:116) further argue that training should be recognised effectively as a need by both the employee and the organisation. An effort is therefore made to integrate learning and work (Gold, 1999).

#### **4.2.1.4 Strategic training and development**

Strategic training and development aims at bringing HRM in line with the organisational strategy (Lundy & Cowling, 1996:246). The focus is set on providing and organising a learning experience in order to ensure the realisation of the organisation's goals and to bring it in line with the organisation's mission, knowledge, abilities and enthusiasm. This will enable continuous growth for both the employees and the organisation (Harrison, 1994:300).

### **4.3 DESCRIPTION OF TRAINING, DEVELOPMENT AND EDUCATION**

Training and development is seen as a key factor in making it possible for the organisation to achieve its strategic, business and operational goals (Carrell, Elbert, Hatfield, Grobler, Max & Van der Schyff, 2000:308). In addition, Walker (1980:265) postulates that training and development are closely linked in practice and that it is difficult to distinguish them indissolubly from each other; while Bartol and Martin (1991:419) indicate that the distinction is not clear, because upgrading of skills in the present job (training) improves performance in future jobs (development). Lunenburg and Ornstein (1991:478) differentiate between training and development as follows: training is aimed at the lower levels of staff and at staff who perform more technical work, such as terrain managers and terrain staff; whereas development is aimed at administrative and professional staff. A more focused and detailed overview of the three concepts, namely education, training and development is depicted below.

#### **4.3.1 Education**

Education is described as an academic orientation where knowledge is obtained and examinations are written (Lundy & Cowling, 1996:244). This type of employee education embraces basic skills and training programmes (Carrel *et al.*, 2000:308). Similarly, Nel (2001:467) defines education as that activity that pertains to the provision of knowledge, skills, moral values and understanding, necessary for the normal course of life. Education, and more specifically the qualification and skills obtained, is therefore used by organisations as a selection mechanism for the appointment of personnel. It serves as an indication of the user value of education in this case. Education can furthermore be described as training people to do a different job (South African Management Development Institute, 2002d:6).

#### **4.3.2 Training**

Nel (2001:467) describes training as a learning experience aimed at bringing about a relatively permanent change in an individual that will heighten the individual's ability to do the job. According to Marx (1993:365) it comprises a systematic process in

which employees obtain knowledge, skills, attitudes and information needed to achieve the objectives of the organisation, as well as personal objectives. Dransfield, Howkins, Hudson and Davies (1996:55) insist that training fills the gap created between that which a person is able to do at a specific moment in time and what he/she is able to do after applicable training has been given. In the case of this study, the fundamental hypothesis is to determine whether there is any change in an employee's motivation level, perception of the organisational climate and his/her individual performance after receiving training.

### **4.3.3 Development**

To move the employee to a different state of functionality, development supports the employee in obtaining cultivated skills in order to handle future responsibilities, rather than merely the handling of the present job (Marx, 1993; Armstrong, 1996:513; Griesel, 2004:98).

## **4.4 TRAINING AND DEVELOPMENT PROCESS**

The training and development process is described and investigated extensively in the literature. It is described as a transformation process by which an untrained employee is transformed into a competent one, or a present employee may be given extra responsibility by means of training. The first step in developing a training plan is to determine what needs exist. For instance, if employees do not know how to operate machinery required to do their job, a training programme on how to operate the machinery is clearly needed. On the other hand, when a group of office workers is performing poorly, training may or may not be the answer. The problem could be motivation, aging equipment, poor supervision, inefficient work design, or a deficiency of skills and knowledge. Only the last could be remedied by training (Griffin, 1990:361).

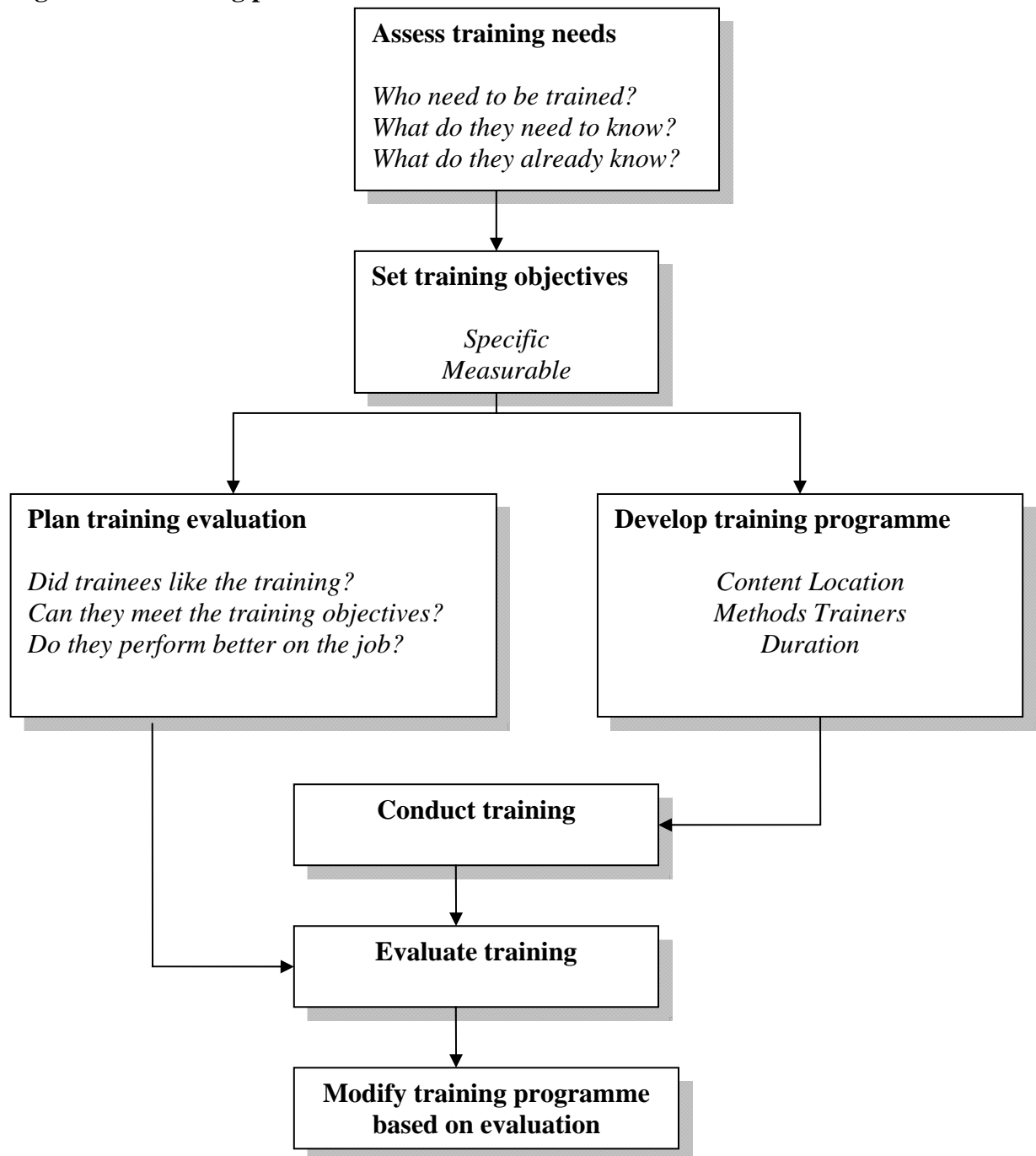
If, after careful investigation, the problem does seem to require training, the manager should thoroughly assess the present level of skill and knowledge and then define the desired level of skill and knowledge in concrete, measurable form. For example, a manager might set the following objective for a training programme in word

processing: “Trainees will be able to type from handwritten copy at 60 words per minute with no more than one error per page” (Griffin, 1990:362).

#### 4.4.1 Training process

The training process is represented in Figure 4.1

**Figure 4.1: Training process**



Adapted from Griffin (1990:362)

After the training is completed, trainee performance can be assessed against the objectives that were set prior to training. Training programmes should always be evaluated; they are costly and should be modified or discontinued if they are not effective. The training process from start to finish is diagrammed in Figure 4.1. For the purpose of this study, Kirkpatrick's (1981) framework for the evaluation of a training programme will be used to develop an instrument addressing pertinent issues under investigation.

#### **4.4.2 Assessment of training needs**

Goodman (1972:183) views training "as a very good mechanism for bringing about change by means of a systematic process of addressing problems and contributing to the achievement of the objectives of the organisation". The emphasis on training and development is important, but greater emphasis should be placed on the needs within the organisation. Management and employees should identify these needs and investigate how they can be satisfied (Walker, 1996:436).

A training need exists in an organisation where there is a gap between levels of present skills and the knowledge of employees, and the skills and knowledge that are needed or will be needed in future (Dalziel & Kennedy, 1987:167). Before formal plans can be made with regard to training, training needs and the organisation's commitment with regard to training, should be determined (Schneier, 1980:184). The forecasting of the needs of the organisations seems to be essential and results in the institution of training measures to stop the need from becoming a problem or crisis (Goodman, 1972:183).

The general approach with regard to the identification of training and development needs is to identify the organisation's present position and then determine the desired future position and through the development of human resources fill the gap (Klatt, Murdick & Schuster, 1985:340). By means of a needs assessment it intercepts future challenges.

The most important consideration concerning training and development is to ensure that training and development is truly needed and is not only a desire. Human resources planning demands that a training and development programme be developed that would facilitate the needs and that does not take on the form of the marketing of programmes within the organisation. The question now arises is: “Is there really a training problem, and to what degree and of what importance? (Goodman, 1972:188). Training should therefore address the true problem (Andrews, 1985:144).

Klatt *et al.*, (1985:340-342) identify ten techniques that can be used in identifying training needs:

- interview with potential participants
- questionnaire survey
- analysis of personnel inventory files
- management requests
- observation of on-the-job behaviour
- job analysis and job competencies
- tests
- outside consultants
- group problem analysis
- assessment centres

#### **4.4.2.1          Setting of training and development objectives**

Training and development objectives should be formulated and will indicate what is expected of the employee after training has been completed, at which standards performance is going to be measured, as well as other circumstances (Carrell *et al.*, 2000:317).

#### **4.4.2.2 Planning of training evaluation**

Training or development programmes should always be evaluated. The success of the training and development programme is determined by evaluating it against specific measures and evaluation criteria (Marx, 1993:367). There are two basic kinds of evaluation measures: those collected in or at the end of training and actual performance measures collected when the trainee is on the job. The former are easier to get but the latter are more important. Trainees may say they enjoyed the training and learned a lot, but the true test is whether their job performance is better after their training than before. Griffin (1990:362) asks the following questions to evaluate the training programme:

- Did the trainees enjoy the training?
- Did the trainees achieve the training objectives?
- Did the trainees' job performance improve?

#### **4.4.2.3 Development of a training programme**

The description of the development of the training programme is done by means of the framework developed by Kirkpatrick (1976) focusing on the following issues:

### **4.5 THE SOUTH AFRICAN SKILLS DEVELOPMENT ACT (SDA) NO. 97 OF 1998 (As amended by Amendment - SKILLS DEVELOPMENT ACT – 2003)**

The growth of the South African economy is being hindered by inadequately skilled workers, which has a negative influence on productivity (Griesel, 2004:109). As education and training are linked, these two aspects need to be integrated. The advent of the Skills Development Act and Strategy initiated by the South African government in pursuit of addressing the dire skills shortages in the country came at an opportune time; notwithstanding criticism such as 'SETAs have not yet done well – National African Congress of Trade Unions (Nactu)' in the City Press (2003:02).

To improve the low skills base of people in South Africa, the government of South Africa has promulgated three important Acts, namely the Skills Development Act (as amended), the Skills Development Levies Act and the South African Qualifications Authority Act. These Acts form part of the national skills development strategy; a new approach that aims, among other things, to link learning to the demand of the world of work, to develop the skills of existing workers, and to enable employers to become more productive and competitive (Cronje *et al*, 2004:248). Prior to reviewing these Acts and whether they will ultimately accomplish their set goals, it is necessary to firstly unpack and discuss these Acts further and their anticipated outcomes.

#### **4.5.1 Objectives of the Skills Development Act as amended**

Chapter 1 of the Act focuses on the definition, purpose and application of the Act and it is extrapolated as follows (RSA, 2006). The purposes of this Act are:

- a) to develop the skills of the South African workforce –
  - (i) to improve the quality of life of workers, their prospects of work and labour mobility;
  - (ii) to improve productivity in the workplace and the competitiveness of employers;
  - (iii) to promote self-employment; and
  - (iv) to improve the delivery of social services.
- (b) to increase the levels of investment in education and training in the labour market and to improve the return on that investment;
- (c) to encourage employers –
  - (i) to use the workplace as an active learning environment;
  - (ii) to provide employees with the opportunities to acquire new skills;

- (iii) to provide opportunities for new entrants to the labour market to gain work experience; and
- (iv) to employ persons who find it difficult to be employed;
- (d) to encourage workers to participate in learnership and other training programmes;
- (e) to improve the employment prospects of persons previously disadvantaged by unfair discrimination and to redress those disadvantages through training and education;
- (f) to ensure the quality of education and training in and for the workplace;
- (g) to assist –
  - (i) work-seekers to find work;
  - (ii) retrenched workers to re-enter the labour market;
  - (iii) employers to find qualified employees; and
- (h) to provide and regulate employment services.

The Act comes into play through its establishment of the following institutions namely:

- The National Skills Authority advises the Minister of Labour regarding the national skills development policy and the national skills development strategy and reports regarding the implementation thereof.
- The National Skills Fund is aimed at financing meaningful skills and occupational competence.
- The purpose of the Skills Development Levies Act 9 of 1999 is to provide for the imposition of a skills development levy.
- The establishment of Sector Education and Training Authorities (SETAs) that will act as intermediaries on education between the stakeholders in the economic sector and the Department of Labour.
- The establishment of the Skills Development Planning Unit and Labour Centres.

- The encouragement of partnerships between the private and public sectors to supply education and training in and for the workplace.
- Establishing cooperation with the South African Qualifications Authority (SAMDI, 2002:18-28 & Kitching, 2003).

#### **4.6 MANAGEMENT DEVELOPMENT AND TRAINING**

Management development represents any planned action to improve the effectiveness of present and future managers. Management development can be described as the acquisition of cognitive knowledge as seen against interpersonal skills (DuBrin & Ireland, 1993:255). Management training is a process aimed at educating and training managers.

Traditionally, the approach with regard to employee training and management showed vast differences, but also had much in common. The flattening of organisational structures and the exclusion of mid-level management has dismantled the borders between management and non-management. The focus has shifted from non-management receiving training for technically orientated skills and management development being aimed at developing the skills of present and future managers, to a redesign of jobs to move greater responsibilities downward to the lowest levels in the organisation, with specific skills being executed by non-management (Carrell *et al.*, 2000:308 - 309).

During the process of the training and development of managers, a decision needs to be taken whether the process is aimed at the identification and training of potential managers, the training of managers for promotion, or the improvement of the present performance of managers. The emphasis of courses as training for managers has shifted to the design of training plans in a system of on-going objectives, an intervention by management trainers as on-the-job consultants who facilitate problems, situations or lack in management, and the use of workshops to approach problem situations practically and/or theoretically in discourse. Although the evaluation of management training is difficult, the influence of management on training and development in terms of the impact thereof is very important.

#### **4.7 PERFORMANCE APPRAISAL**

It is reported that despite the enthusiasm regarding performance management by various companies, a comprehensive survey of nine leading South African organisations undertaken by the University of Stellenbosch Business School revealed a rather bleak picture of the way employee performance is managed and rewarded. Major problems that were identified during the survey included the existence of a rather negative work culture; changes in corporate strategy did not result in corresponding behaviour changes; and insufficient line management support for performance management (Spangenberg, 1993:31).

Performance appraisal (PA) is a process where the expected performance of employees is described and the actual performance is measured, evaluated and recorded. A comparison is then drawn between expected and actual performance with suitable feedback to the employee on the process (Bartol & Martin, 1991:421). It is a never-ending process of continuous evaluation that measures the contribution of the employee to an organisation. The achievement of groups can also be measured by PA (French, 1974:54).

PA is described by Fidler (1994:190) as a process during which an employee and supervisor come together to discuss work performance, with the focus on education, accountability, assessment and evaluation. Various terminologies are used to describe staff appraisal. These include, amongst others, the following: performance appraisal, performance review, performance evaluation, staff review, staff reporting, appraisal and assessment. Dunham (1995:94) and Riches (1997:25) indicate that by means of PA valuable opportunities can be created for the satisfaction of crucial organisational needs by:

- An assessment of present and past performance of staff and a forecast of future performance of each individual staff member;
- An overview of present and potential skills, resources and capabilities available for HRM to meet future and present challenges; and

- The identification of training needs for staff development.

Feedback to the employee is the basis for PA and the employee is informed regarding his/her past and present job performance. This forms the basis of job performance in the future; in other words, by PA it is determined how job performance can be improved (Donnelly, Gibson & Ivancevich, 1992:470). By means of the systematic examination of an employee's successes and failures a judgement can be made on a person's suitability for promotion and training as well as his/her potential development (Bennett, 1991:434).

PA affects both the organisation and the employees; therefore, it is important that both groups view PA as valuable, because it determines the success of the process. PA serves as a management information system for the organisation and as a feedback system for the employee (Haynes, 1980:130). Dessler (1981:301) states that PA enables the organisation to determine the success of employment, placing and motivation.

Griffen (1990:364) gives a simple description of PA as a formal assessment of how well the employee executes the job. PA therefore deals with people who obtain certain information about themselves and get to know themselves in order to function in such a way in the organisation that the organisation and they themselves, can benefit from this (Newton & Findlay, 1998:130). Consequently, PA aims at ensuring greater organisational effectiveness by means of individual performance (Griesel, 2004:114). Moreover, it is important that PA is concerned with development in such a way that all staff who are appraised can do a more advanced job than simply what is appraised (Stewart, 1987:309).

#### **4.7.1 Objectives and uses of performance appraisal**

For the purpose of this study, the focus of the objectives of PA will centre mainly on the following two of its objectives namely, (i) evaluative and (ii) developmental objectives (Carrell *et al.*, 2000:260-261):

#### **4.7.1.1 Evaluative objectives**

The past job performance of the employee is evaluated and this enables the organisation to make employment decisions. By evaluating past performance, financial compensation can be given to employees and decisions can be made regarding promotion, transfers, demotions and termination of service. It serves as a link between the productivity of employees and their expectations with regard to compensation that they are hoping to receive for their productivity (Mathis & Jackson, 2000:384; Carrell *et al.*, 2000).

#### **4.7.1.2 Developmental objectives**

The development objective serves as a source of information and feedback, so that the employee will know what the organisation's management is thinking in terms of whether he/she is doing a good job or not; what the organisation expects of the employee; what the employee can expect from the organisation; and which aspect of the employee's performance can be improved upon in future. The objective is therefore to address the employee's skills and motivation, keeping in mind future performance (Mathis & Jackson, 2000:384; Carrell *et al.*, 2000:260).

#### **4.7.1.3 General objectives and uses**

The general objectives and uses are seen as a whole in conjunction with the two categories of objectives mentioned (c.f. 5.7.1.1 and 5.7.1.2). They can be stated as follows:

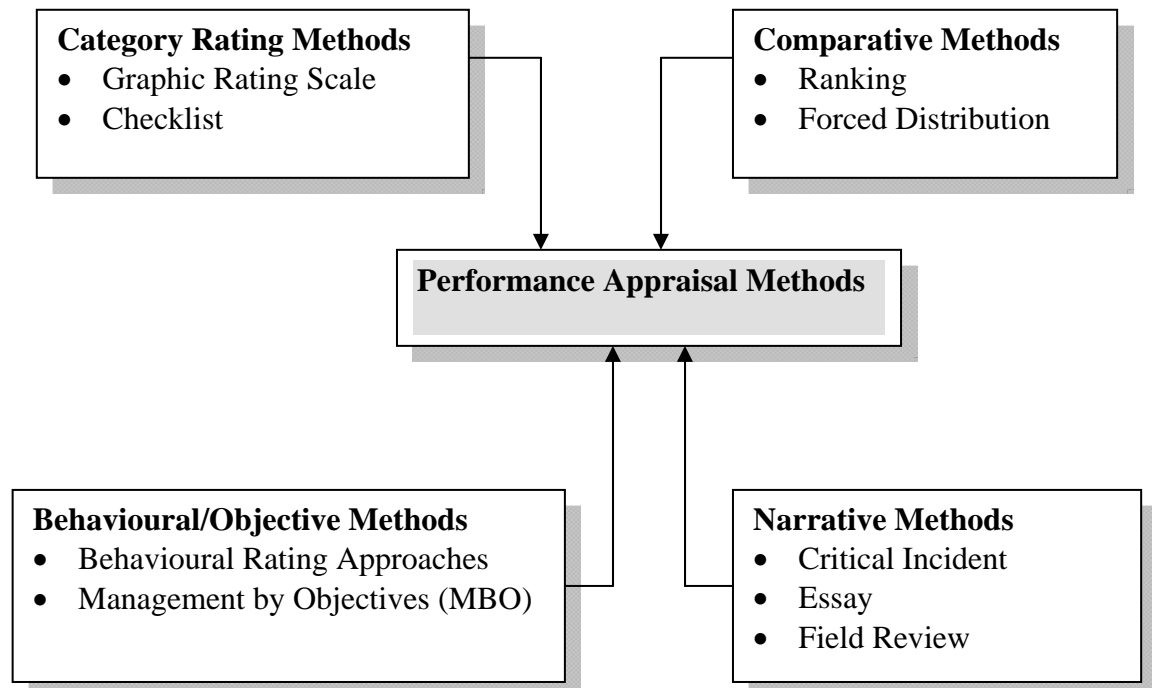
- The point of departure is to improve management of HR.
- Employees are supported in career development.
- Employees have the opportunity to discuss their performance and performance standards with their immediate seniors on a regular basis.
- Weaknesses and strengths of employees can be identified.
- Specific programmes can be suggested to help with job performance.

- Results of PA can be used in making decisions about future job assignments, promotion and compensation.
- Employees' performance can be compared to real results.
- The need and effectiveness of training programmes can be determined.
- Feedback from employees can be used regarding compensation structures.
- PA results form the basis of management training and development.
- PA results form the basis of validation of predictors used in selection and placement processes.
- Test results are compared with PA to evaluate the assumption that test results forecast job performance (Lundy & Cowling, 1996:289).

#### 4.7.2 Methods used to appraise performance

The different methods that can be used in PA are portrayed in Figure 4.2 below. Combinations of appraisal methods may be used in an organisation and even for a specific appraisal (Mathis & Jackson, 2000:393).

**Figure 4.2: Methods used for performance appraisal**



Source: Mathis & Jackson, 2000:393

The methods used in PA as illustrated in Figure 4.2 above are described as follows:

#### **4.7.2.1 Category rating methods**

##### **a) Graphic rating scale**

The graphic rating scales are also known as the conventional rating method (French, 1994:341). Employees are rated according to a certain standard or attribute of work. Traditionally, it was aimed at personal traits, but presently, the focus is placed on work behaviours and outcomes (Grobler *et al.*, 2002:270). This method is used most frequently, because of its simplicity (Mathis & Jackson, 2000:393). It is, furthermore, very popular with managers because it can be filled in quickly and because very little training is needed in using it (Grobler *et al.*, 2002).

Grobler *et al.*, (2002) further describe a non-graphic rating scale that is much more valid as a measuring instrument because there is a description of every mark, rather than a higher or lower mark on a scale. It gives a more accurate indication of an employee's behaviour with regard to a specific attribute because every level of the rating scale is described. It is a very easy and quick method for use by managers.

##### **b) Checklist**

This method makes use of statements or values in describing the behaviour of employees. Those statements or words best describing an employee's performance can be chosen from the checklist. Checklists can be modified by allocating weights to certain statements or words (Mathis & Jackson, 2000:395). These weights are based on the perceived importance of each item with regard to successful job performance (French, 1994:346). The weights are usually not known to the rater as the processing is handled by someone else.

#### **4.7.2.2 Comparative methods**

##### **a) Ranking**

Ranking entails the listing of employees from the most effective to the least effective. Personnel are compared in relation to one another with reference to performance against one another (Grobler *et al.*, 2002:270). This method is used least of all the methods of PA (French, 1994:347).

##### **b) Forced distribution**

The ratings of staff are distributed along a bell-shaped curve (Mathis & Jackson, 2002:396). Members of staff are classified according to a scale that ranges from 'poor' to 'excellent' (Grobler *et al.*, 2002:275). The scale suggested by Mathis and Jackson (2002:396) ranges from 'unsatisfactory' to 'outstanding'.

#### **4.7.2.3 Narrative methods**

##### **a) Critical incidents**

These methods require that the appraiser keeps records of unusually favourable or unfavourable occurrences regarding the employee's work (Mathis & Jackson, 2000:397; French, 1994:346). It calls for the manager to compile a list of critical incidents regarding the employee's performance for a total rating period (Mathis & Jackson, 2000). The use of critical incidents as an appraisal method makes appraisal more job related, as specific examples of job behaviour are collected (Grobler *et al.*, 2002:276). This method can be used with great success in conjunction with other appraisal methods, as it can supply documented reasons for a certain rating (Mathis & Jackson, 2000:397).

**b) Essay**

The manager writes a free-form essay that describes an employee's performance when linked to a number of broad categories (French, 1994:346).

**c) Field review**

The field review concentrates on the person doing the evaluation, rather than on the method to be followed. The reviewer, who can also be a person from outside, interviews the manager about every employee's performance and the results of the interview are then converted into a rating for each employee (Mathis & Jackson, 2000:397).

**4.7.2.4 Behaviour/Objective methods****a) Behaviour rating approaches**

Behaviour rating approaches assess an employee's behaviours instead of other characteristics. The different behaviour approaches that can be used are as follows:

- Behaviourally anchored rating scales (BARS), which is a description of possible behaviour that the employee most commonly exhibits.
- Behaviour observation scales (BOS) show quite clear similarities to BARS, but the greatest difference is that behaviours are listed individually for each performance dimension and the result is that an individual is assessed for each type of behaviour.
- Behaviour expectation scales (BES) entail the exhibition of outstanding, average and unacceptable performance on a continuum (Mathis & Jackson, 2000:397).

**b) Management by Objectives (MBO)**

Management by objectives specifies the performance goals that an individual wants to achieve within a certain time period and it entails an agreement between the manager and the employee regarding what the employee's objectives for the relevant time period are going to be. MBO comprises measurable goal setting (Mathis & Jackson, 2000:399; Grobler *et al.*, 2002:284).

**4.7.3 Responsibility for conducting performance appraisal**

PA can be done by a variety of people with the focus on flexibility and feedback (Mullins, 1999:697). The following parties are involved in performance appraisal:

**4.7.3.1 Senior management**

Mullins (1999) is of the opinion that PA can be managed by senior management, because it strengthens communication with employees and excludes the personal opinions of supervisors. Furthermore, Mathis and Jackson (2000: 388) feel that senior management should study and approve only the final PA, while Caldwell (1972:43) excludes the involvement of senior management because it does not work sufficiently closely with the employee to be able to make a judgment.

**4.7.3.2 Immediate supervisor**

Almost all the literature sees the immediate supervisor as the logical and the most relevant person to do the PA, with Mathis and Jackson (2000) maintaining that the immediate supervisor is able to judge the employee's job performance realistically, objectively and fairly.

#### **4.7.3.3 Peers**

If the employees are working in a non-competitive group situation, peers are in the best position to be able to assess a co-worker's job performance, because peers are able to supply firsthand information (Carrell *et al.*, 2000:290). Mutual trust and co-operation are important for successful peer appraisal.

#### **4.7.3.4 Subordinates**

Evaluation by subordinates is also known as reverse appraisals (Carrell *et al.*, 2000:291; Schultz, 2001:522) or inverted appraisal (Crane, 1979:370). Subordinates are in a very favourable position to evaluate supervisors and managers, because they have a great deal of contact with them (Sherman & Bohlander, 1992:273).

Appraisal by subordinates is largely used for the development of supervisors and managers (Cascio, 1995:291). It also gives a good indication to supervisors and managers as to how they are viewed by their subordinates. The success of this method of appraisal is dependent on the respect and transparency present within the organisation (Schultz, 2001:522). It must, however, be handled with care, because the supervisor or manager may feel threatened by this and the subordinate may also feel threatened in doing it. It works well in big organisations where anonymity is ensured (Schultz, 2001).

#### **4.7.3.5 Self-appraisal**

This is a very good self-development technique where the employees themselves identify strengths and weaknesses and develop their own goals (Mathis & Jackson, 2000:391). It is also very useful if an effort is made to get the employee more involved in the process (Sherman & Bohlander, 1992:271). In the case of this study, employees are required to reflect on their overall individual performance after receiving some training.

#### **4.7.3.6 Customer or client**

Internal or external customers or clients can be used, but it can only be seen as a supplement because it cannot be a complete appraisal (Schultz, 2001:522; Carrell *et al.*, 2000:290).

#### **4.7.3.7 Team**

Team appraisal is undertaken dually with the evaluation of every member of the group whose job performance is evaluated. The group as a whole is also evaluated to determine if the set goals have been achieved (Schultz, 2001:523). Teams are used to establish compliance within the organisation. Assignments can be rotated within the group, with the result that the group is evaluated as a whole and also rewarded as such (Cherrington, 1995:300).

#### **4.7.3.8 Computerised performance appraisals**

Using certain kinds of software, supervisors and managers are able to keep log notes in order to evaluate job performance (Cascio, 195:201; Schultz, 2001:522).

#### **4.7.3.9 Multi-source rating**

Multi-source rating is also known as 360-degree appraisal (Schultz, 2001). A team evaluates the performance of an employee (Carrell *et al.*, 2000:292). This team can consist of supervisors or managers, subordinates, peers, internal and external customers and clients and the employee, who then completes questionnaires (Schultz, 2001). The supervisor or manager handles the feedback and this is very useful for the PA of an employee with a wide field of work (Mathis & Jackson, 2000:392; Schultz, 2001:523).

#### **4.7.3.10 Rating committees**

The employee's supervisor and other supervisors form a committee where each evaluates an aspect of the employee's job. This has the benefit of excluding bias, with the job performance being evaluated from different angles.

#### **4.7.4 Performance appraisal (PA) interview**

It is a common knowledge that more than 80% of all employees attend a PA interview with the conviction that their performance is above average, while research has shown that, although it is possible for all employees to perform above the expected average, only 50% of employees in a big organisation actually do (Griesel, 2004:133). Therefore, the PA interview is a challenging situation for any manager (Bartol & Martin, 1991:423).

The PA interview provides the manager with the opportunity to discuss the employee's performance record with him/her and to investigate possible improvements in performance and growth (Sherman & Bohlander, 1992:291). The feedback should be focused on the employee's job performance and not on the employee (Werther & Davis, 1989:326).

##### **4.7.4.1 Types of performance appraisal interviews**

Sherman and Bohlander (1992) and Werther and Davis (1989) discuss the following types of performance appraisal interviews:

- **Tell-and-sell method**

The employee's job performance is reviewed during the interview and an effort is made to convince the employee to aim for a better performance and to adjust present action in order to improve job performance.

- **Tell-and-listen method**

Strengths and weaknesses of the employee's job performance are explained to the employee during the first part of the interview. During the second half of the interview, the employee can furnish reasons or explanations about his/her specific job performance.

- **Problem-solving method**

Problems that interfere with job performance are indicated in order to bring about growth and development. A combination of interviews can be used, depending on the subject under discussion and the approach of the manager. The interview is seen as the most important part of the PA and should therefore be handled in such a way that communication is set up with employees in order to enable them to reveal their own feelings.

#### **4.7.5 Performance management**

##### **4.7.5.1 Process of performance management**

Performance management (PM) builds on PA rather than replacing it. PA is seen by Harrison (1994:253) as an essential characteristic (one of many) of PM. PM focuses on the management of the employee's performance instead of on PA by itself (Schultz, 2001:516). PM makes use of all management tools, including PA, to ensure the realisation of performance goals. Examples of such tools include compensation systems, job design, leadership and training. These tools are viewed in conjunction with PA as a performance approach (Carrell *et al.*, 2000:258).

Performance management is defined by Redman and Dickson (1990:01) as a data-guided approach to managing work behaviour. It entails a process starting with the setting of targets and is supplied with regular mentoring and coaching (Middlewood, 1997:170). PM therefore uses PA as a point of departure for the determination of

targets and the making of range statements that have employee performance as the goal (Harrison, 1993:254). According to Harrison (1993:255) PM is a process that is aimed at ensuring that HR strategies underwrite the policy direction of the organisation, because it serves as a basis for the evaluation and improvement of individual and organisational performance, as seen against previously stated organisational strategies and objectives.

Mathis and Jackson (2000:380) add that PM is made up of processes used for the identification, encouragement, measurement, evaluation and compensation of employee performance. These intertwined processes of work, development and compensation are viewed as fundamental aspects of HRM (Armstrong, 1996:233). PM can therefore be seen as a systematic process which has as its goal to bring about better results by managing performance. Therefore, it should be viewed against the background of planned goals, objectives and standards (SAMDI, 2002:204).

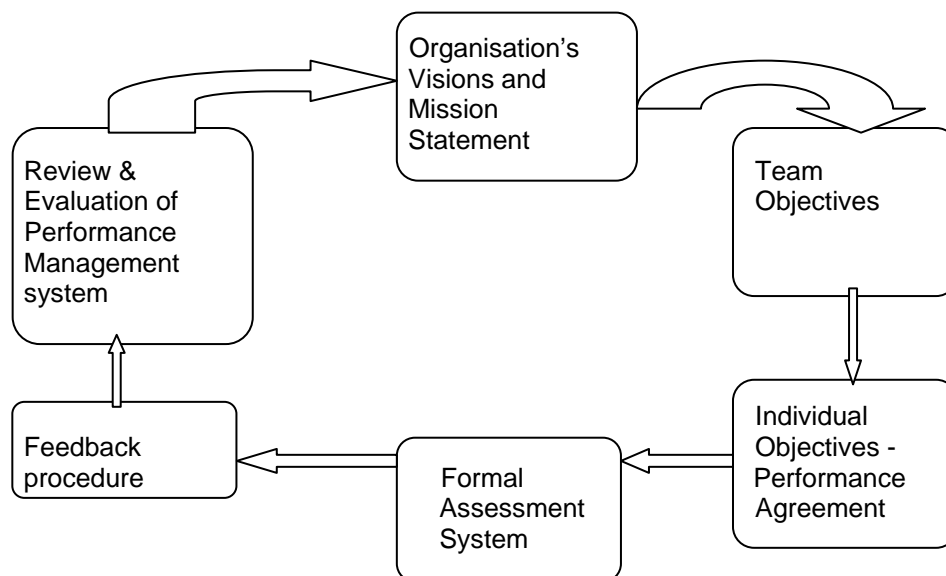
#### **4.7.5.2 Characteristics and objectives of performance management**

The process of PM seems to be in place, if the following requirements are met (Harrison, 1993:253; Lundy & Cowling, 1996:307; Schultz, 2001:517; Griesel, 2004:135):

- Communicating the objectives of the mission statement of the organisation to the employee with the viewing thereof as a partial vision.
- Setting individual performance targets that are related to the organisation's objectives.
- Having a formal review of the process to determine if there is progress towards the realisation of the stated targets.
- Having a review process to identify training, development and compensation outcomes.
- Evaluating the effectiveness of the whole process and identifying the contribution of the organisation's performance.
- Having available career planning and counselling to employees.

The goal of PM is performance improvement (Harrison, 1994:259). The improved results of the individual employees and the organisation as a whole take place against the background of the management and understanding of performance within a framework of planned goals, standards and capability requirements (Armstrong, 1996:232). It aims at the implementation of strategic goals on lower levels in the organisation (Carrell *et al.*, 2000:258). This shared vision (Figure 4.3), to make every employee part of the aim and purpose of the organisation allows employees the ability to identify their contribution in the performance of the organisation (Armstrong, 1996:235).

**Figure 4.3: Components of an effective performance management system**



Adapted from Price (2000:181)

PM is a future-directed process that includes management and employees to ensure improved performance. It forms the basis of regular discussion amongst management, employees or groups, regarding performance and development needs. Emphasis is therefore placed on individual, as well as on group performance and development (Armstrong, 1996).

#### **4.8 SUMMARY AND CONCLUSION**

It is the intention of every organisation not only to have sufficient staff, but also to create opportunities for these employees to make themselves more valuable to the organisation. This chapter has looked at how training and development could be a useful vehicle in the realisation of the goal of helping employees perform to their potential with the intention of increasing their productivity.

HRD activities should begin when an employee joins an organisation and should continue throughout his or her career, regardless of whether that employee is an executive or a worker on an assembly line. The HR manager should ensure that the employees are given an opportunity for training and development and that they are encouraged to develop to higher levels of competence (Cronje *et al.*, 2006:208).

The next chapter will focus on the methodology of the study, where its research design and sampling, data collection, analysis and interpretation will be unpacked and analysed so that the aims of this study can be accomplished.

## **CHAPTER 5**

# **METHODOLOGY, SAMPLING AND DATA COLLECTION**

### **5.1 INTRODUCTION**

The preceding literature study chapters dealt in detail with the following dependent variables, namely (i) theories of motivation/job satisfaction; (ii) organisational climate; as well as an independent variable, namely (iii) training and development. The focus of this chapter therefore, is the design and methodology of the study followed in researching the impact of skills development training on employee motivation, perception of the organisational climate and individual performance.

An overview of the purpose of the research study is stated. Research propositions and key concepts that formed part of the research are reviewed, including how the propositions were derived from existing theories and empirical studies, and which definitions of constructs were chosen and on what grounds.

The study design is then discussed with regard to the type of research conducted and the general approach followed. Detailed reference is also made to the research methodology employed during the various stages of the research which included gathering, processing and analysis of data. The chapter is divided into four sections. The first is a description of the sample and the sampling procedure used. The second is a description of the research design and the data collection process. In the third section, the measures employed in data collection are described. A discussion of the data analysis techniques used in the study is provided in the fourth section.

## 5.2 RESEARCH DESIGN

There are many definitions of research design, but no one definition imparts the full range of important aspects. These definitions differ in detail, but most give the essentials of research design (Cooper & Schindler, 2001:134):

- The design is an activity- and time-based plan.
- The design is always based on the research question.
- The design guides the selection of sources and types of information.
- The design is a framework for specifying the relationships among the study's variables.
- The design outlines procedures for every research activity.

Thus, the design provides answers for questions such as these: What techniques will be used to gather data? What kind of sampling will be used? How will time and cost constraints be dealt with?

Page & Meyer (2000:41) describe research design as the plan to which we obtain participants and collect information from them, with a view to reaching conclusions about the research problem. The research design that will ultimately be selected must be able to answer the research question and so serve the purpose for which the research was undertaken in the first place. There are four different types of research design namely; experimental research, quasi-experimental research, non-experimental research and qualitative research.

The two main paradigms of research methodologies that have been prominent in educational research for a number of years are quantitative and qualitative research methodologies. Leedy (in De Vos, 2000:15) distinguishes these methodologies, and subsequently identifies qualitative research methodologies as dealing with data that are principally verbal in nature.

By contrast, in the case of quantitative research methodologies he states that they are dealing with data that are principally numerical in nature

For the purpose of this study, the researcher has selected the quasi-experimental research comparable pre-test post-test one group design to carry out the objectives and test the hypothesis of this study, illustrated below as follows in Figure 5.1.

**Figure 5.1: Pre- post-test - quasi-experimental research**

O	X	O
Pretest	<b>Manipulation</b>	Post-test

Source: Cooper & Schindler (2000:405)

The study is longitudinal in nature spanning over a period of eighteen months to two years, between the pre- and post-training data collection intervals. This quasi-experimental method, consisting of “one-group pretest-posttest research design” is described by De Vos, Strydom, Fouche and Delpont (2002:144) as follows: in this research design, there is a measurement of a dependent variable, namely individual motivation and organisational climate when no independent variable is present (pre-training, in the case of this study), and subsequently an independent variable is introduced, namely employee training, followed by a repeated measurement of the dependent variable at a later stage (post-training, in the case of this study).

Measures of the dependent variables, namely individual motivation and organisational climate, are compared for two different states of the independent variable within the same group (before and after training). All elements in the questionnaire are measured to ensure reliability, validity and accuracy.

A further rationale for utilising the pre-post quasi-experimental design is as follows:

The examination of many research problems in business sciences can be investigated in “laboratory-type” situations with a great amount of difficulty. Therefore, these problems rather lend themselves to field studies and field experiments such as this study, thus demanding quasi-experimentation (Baard, 2003:203).

In experimental research, quantitative research designs are used to determine aggregate differences between groups or classes of subjects. Emphasis is placed on precise measurement and controlling for extraneous sources of error (Rudestam & Newton, 2001:28). The purpose is to isolate a variable of interest (independent variables are (a) individual motivation and (b) organisational climate) and to manipulate it (i.e through staff training) to observe the impact of the manipulation on a second, or dependent variable (i.e. individual performance).

This randomly sampled population consists of respondents who are not expected to make any upward or downward movement, i.e in terms of promotion or demotion) in the management hierarchy after training, at least until this research study has been completed. This will obviously be a longitudinal study, since these employees’ performance after training has to be compared with their performance before training. Path analysis and other multivariate techniques to test alternative heuristic causal models will be used to explain and predict the relationships among the variables. The unit of analysis is only at the company levels.

### **5.3 POPULATION AND SAMPLING PROCEDURE**

This section describes the sampling techniques used for selecting the respondents, and the key characteristics of the respondent samples.

Sekaran (2000:225) defines a population as “the entire group of people, events or things of interest that the researcher wishes to investigate”. Further, De Vos (2000:193) points out that two major groups of sampling procedures exist. The first is probability sampling that is based on randomisation, while the second is non-probability sampling that is done without randomisation. Similarly, MacMillan and Schumacher (2001:170-174)) indicate that, in probability sampling, subjects are drawn

from a larger population in such a way that there is a probability of selecting each member of the population, though probabilities are not necessarily equal. This type of sampling is conducted to efficiently provide estimates of what is true for a population from a smaller group of subjects/sample. In non-probability sampling, the researcher uses subjects who happen to be accessible, or who may represent certain types of characteristics.

### 5.3.1 Statistical determinants of sample size

The ultimate test of a sample design is how well it represents the characteristics of the population it purports to represent. In measurement terms, the sample must be valid. Validity of a sample depends on two considerations, namely accuracy and precision (Cooper & Schindler, 2001:164). Samples are evaluated according to whether they have been randomly drawn with an appropriate sampling design. The sample size formula, based on the logic of probability theory, is used to determine how large the sample from a particular population must be in order to furnish an estimate with the required degree of precision (Channels, 1985:106).

Three factors play an important role in determining sample sizes with probability designs (Hair, Wolfinbarger, Ortinau & Bush, 2008:138; Channels, 1985):

- *The variability of the population characteristic under investigation.* The greater the variability of the characteristic the larger the sample size necessary.
- *The level of confidence desired in the estimate.* The higher the level of confidence desired the larger the sample size needed.
- *The degree of precision desired in estimating the population characteristic.* The more precise the required sample results, that is, the smaller the desired error, the larger the sample size.

Table 5.1 above provides guidelines regarding the acceptable size of sample given the number of respondents earmarked for a particular study. For instance, for the one thousand employees that constitute the total population for this study, a sample population of about 278 is required to obtain a substantive and acceptable inference.

Note that the sample size increases very little in response to larger and larger populations.

*Accuracy* is the degree to which bias is absent from the sample. When the sample is drawn properly, some sample elements underestimate the population values being studied and others overestimate them. Variations in these values offset each other; this counteraction results in a sample value that is generally close to the population value. For these offsetting effects to occur, however, there must be enough elements in the sample, and they must be drawn in a way to favour neither overestimate nor underestimation (Cooper & Schindler, 2001:164).

The sample size formula is used to determine the size of the sample necessary to satisfy the researcher's precision requirements. The major decision in determining the sample size is the width of the confidence interval – where the narrower interval, which gives more precision to the estimate, requires a larger sample (Channels, 1985:108-9).

This study uses stratified random sampling to identify for example, size and selection process from its target population size. Further, and because (i) the interviewers or others cannot modify the selections made, (ii) only those selected elements from the original sampling frame are included, that is lower-level employees; and (iii) substitutions are excluded except as clearly specified and controlled according to predetermined decision rules (Cooper & Schindler, 2001:171), in this study we use 95% confidence level for purpose of statistical analysis and making inferences. This is most congruent with the general practice, because most researchers use the 95% confidence level (Cooper & Schindler, 2001:172; Hair, Wolfinbarger, Ortinau & Bush, 2008:138). The confidence level is the probability that the confidence interval constructed around an estimator contains the true value of the corresponding parameter of the population (Dodge, n.d).

**Table 5.1: Sample Size for a Given Population**

<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>
30	28	400	196	4500	354
40	36	420	201	5000	357
50	44	440	205	6000	361
60	52	460	210	7000	364
70	59	480	214	8000	367
80	66	500	217	9000	368
90	73	550	226	10000	370
95	76	600	234	15000	375
100	80	650	242	20000	377
110	86	700	248	30000	379
120	92	750	254	40000	380
130	97	800	260	50000	381
140	103	850	265	75000	382
150	108	900	269	100000	384
160	113	950	274		
170	118	1000	278		
180	123	1100	285		
190	127	1200	291		
200	132	1300	297		
210	136	1400	302		
220	140	1500	306		
230	144	1600	310		
240	148	1700	313		
250	152	1800	317		
260	155	1900	320		
270	159	2000	322		
280	162	2200	327		
290	165	2400	331		
300	169	2600	335		
320	175	2800	338		
340	181	3000	341		
360	186	3500	346		

Source: Sekaran (2000:295)

An accurate (unbiased) sample is one in which the under-estimators and the over-estimators are balanced among the members of the sample. There is no systematic variance with an accurate sample. Systematic variance has been defined as “the variation in measures due to some known influences that ‘cause’ the scores to lean in one direction more than another” (Cooper & Schindler, 2001:165).

Precision, a second criteria of a good sample design is *precision of estimate*. No sample will fully represent its population in all respects. The numerical descriptors that describe samples may be expected to differ from those that describe populations because of random fluctuations inherent in the sample process. This is called sampling error, and reflects the influences of chance in drawing the sample members. Sampling error is what is left after all known sources of systematic variance have been accounted for. Cooper & Schindler (2001) state that in theory, sampling error consists of random fluctuations only, although some unknown systematic variance may be included when too many or too few sample elements possess a particular characteristic.

Precision is measured by the standard error of estimate, a type of standard deviation measurement; the smaller the standard error of estimate, the higher is the precision of the sample. The ideal sample design produces a small standard error of estimate. However, not all types of sample design provide estimates of precision, and samples of the same size can produce different amount of error variance (Cooper & Schinder, 2001).

### **5.3.2 Random sampling**

Kerlinger (in De Vos, 2000:13) succinctly states that random sampling is that method of drawing a portion – or sample – of a population so that each member of the population has an equal chance of being selected. He points out however, that this definition, although it is easily understood, is limited.

A better definition is as follows: Random sampling is that method of drawing sample of a population, so that all possible samples of a fixed size have the same probability of being selected. Random selection of subjects permits the researcher to generalise the results of the study from the sample to the population in question. In the case of this study, stratified random sampling was preferred.

Stratification consists of the universe being divided into a number of strata that are mutually exclusive, and the members of which are homogeneous with regard to some characteristic such as gender, home language or age (De Vos, Strydom, Fouche & Delport, 2003:205; Mitchell & Jolley, 2001:497; Singleton, Straits, Straits & McAllister, 1988:145). The population sample of this study consisted exclusively of lower-level employees within five selected companies in the Free State and Northern Cape Provinces.

The rationale for this choice is based on the premise that performance management within most if not all organisations, is naturally directed and focused to employees who occupy positions of power and authority, i.e. from middle to top management employees, the intended goal being possibly prospects for promotion, demotions/dismissals as well as developments. Workers at the lower level, (who require mainly vocational competencies or technical skills), do not necessarily take cognisance of performance management on their daily routine jobs.

**Table 5.2:**  
**Breakdown of sampled population**

No.	Respondents by sector (n=5)	Expected Return	Pre-training (actual)		Post-training (actual)	
			No.	%	No.	%
1.	Food (bakery) company	150	<b>61</b>	10.17	<b>51</b>	10
2.	Transport (bus) company	200	<b>182</b>	30.33	<b>149</b>	29
3.	Financial (banking) sector	150	<b>68</b>	11.33	<b>37</b>	7
4.	Chicken breeding company	150	<b>174</b>	29.00	<b>176</b>	34
5.	Truck bodies manufacturer	150	<b>115</b>	19.17	<b>109</b>	21
<b>Total</b>		<b>800</b>	<b>600</b>	<b>100</b>	<b>522</b>	<b>100</b>

The intention of this study therefore, is to focus exclusively on this category of workers. The random selection procedure followed for all the participants from the five companies is reflected in Table 5.2.

List of all lower-level employees namely, skilled and semi-skilled were requested from the HR division. Fortunately, all the lists consisted of more than 200 of these employees. All names were then put in a box and shuffled by one of the same group of workers, were an equal numbers of 150 at each company were then drawn out of the box. It was only in one company where the number was increased to 200. The participating companies originated from the following five business sectors; (i) financial (banking) sector (n = 150), (ii) transport (bus) sector (n = 200), (iii) food (bakery) sector (n = 150), (iv) chicken breeding sector (n = 150), (v) and truck body manufacturer (n = 150), all located in and around the Greater Mangaung area (that is, Bloemfontein) and the Northern Cape (that is, Kimberley and Jan Kempdorp).

Generally, this category of employees is made up of employees such as electricians, maintenance engineers, clerical and/or secretarial staff, bus/truck drivers, sales personnel, bakery/food technologists, production and distribution specialists, etc. Table 5.2 above shows a breakdown of total participation by all companies for both pre- and post-training.

### 5.3.3 Delimiting the Population

The sample population of this investigation consists of lower-level employees with specific reference to employees doing ‘**automatic** – i.e. semi-skilled and **routine** – i.e. skilled workers and supervisory management from the selected five companies participating in this research study.

The majority of these companies are located in the Greater Mangaung area (which consists of Bloemfontein, Botshabelo and Thaba-Nchu areas), with some having branches in some parts of the Northern Cape Province. This classification is derived from Paterson’s (1972) Decision Band Job Grading model. According to this model, these category of workers belong to grades ‘A’, ‘B1’ and ‘B’. For the purpose of this

study, this category was identified exclusively as the population from which the sample will be drawn.

An overall number of 1000+ employees from all of the five companies were identified to serve as the population of this study, and a targeted sample of about 800 employees will be drawn from these companies. Sekaran (2000:226) defines a sample as “a subset of the population, it comprises some members selected from the population”.

According to Stevens (1986:59), in social science research about 15 subjects per predictor are required in order to ensure an equation that will cross-validate with little loss in predictive power. Assuming a two hundred (200) to one (1), n to k ratio, with 18 predictors being measured, a minimum sample of 800 subjects was required for this study. Borg and Gall (1983:432) estimate that a response rate of somewhat less than fifty percent (50%) can be expected from a single mailing. However, in this study, face-to-face questionnaire interviews are the method used to collect data, with no mailing of questionnaires.

To try and maximise the response rate, the researcher decided to produce one thousand (1000) questionnaires, making provision for the unexpected, and for possibly incomplete questionnaires (not more than two hundred) that can result from this kind of field-work. Estimating that the average number of these employees (working at least 50% of the time) would be 150 per company, five companies were selected for participation.

#### **5.3.4 Sampling Procedure**

Initially a probability sampling approach, namely, a stratified random sampling was followed for the pre-training, because of the fact that the population selected consisted of a control group and experimental group. However, later the research design was changed and “one-group pretest-posttest research design” was chosen (see 5.2 above). A proportionate stratified sampling implies that ‘each stratum is properly represented so the sample drawn from it is proportionate to the stratum’s share of the total population’ (Cooper & Schindler, 2001:186). In both instances (that is, pre- and post-) the suggested approach has been followed.

The selection procedure followed revealed that the average number of lower-level employees, working at least 50% of the time, was closer to two hundred (200) for the target population, which was slightly higher than the original projection of hundred and fifty (150) employees. It became clear that the five companies selected were going to yield a far greater number of lower-level employee subjects than had been earlier projected/anticipated. Because many if not all companies showed willingness to participate in this research, it would have been distasteful to leave out any of these willing companies. Therefore, the researcher decided to engage all of them by employing two extra research assistants.

#### **5.4 DATA COLLECTION**

Various data collection instruments are utilised in quantitative and qualitative research, such as questionnaires, interviews, observation, etc. The researcher decided to use questionnaires, as this instrument is probably the best suited to conduct survey research that is of a quantitative and qualitative nature.

The collection of data is both causal and longitudinal in nature, because it involves collecting the required data *before* and *after* training over a period of time, which can take anything from 18 to 24 months after the first data (i.e pre-training) collection is discharged (see Table 4.1). A survey research method in a form of ‘explanatory surveys – a form of causal-comparative research’ enables the researcher to ‘explain the attitudes and behaviour of the respondents on the basis of data gathered at a point in time’ (Ary 2002:406). Face-to-face self-completion questionnaire interviews are administered to the randomly selected respondents, the idea being to ensure (i) greater completion rates, (ii) control over order of questions, (iii) information from people who cannot read or write, and finally, to guarantee confidentiality.

The advantage of a longitudinal study is that it can track changes over time (Cooper & Schindler, 2001:136), while the causal study tries to explain relationships among variables, such as training and performance. For instance, change could have been brought about by the receipt of skills development training. Data was collected from five different companies’ full-time employees falling within the category of lower-

level, i.e skilled and semi-skilled employees, through the use of structured self-completion questionnaire interviews that require less than twenty (20) minutes to complete.

The sequence of data collection proceeded as follows:

1. Visitations to the participating companies were preceded by a number of phone call enquiries, to request permission, firstly for a face-to-face appointment with the person incharge, to explain the intention of the study, and secondly, to chart a more practical means of discharging the field work with minimal hindrances to the company's operations. The telephone directory was used to locate the contact numbers of these companies for the very first appointment.
2. After meeting HR representatives of all the companies telephoned, eight in all, the researcher decided to select the five biggest companies in terms of employee count, i.e. anything above two hundred of lower-level employees. The rest, with an employee count of less than one hundred, were eliminated. All the eliminated companies were branches of their respective companies and all of their head offices were located in the Gauteng province, where the biggest number of employees could be found. Due to costs and time constraints, this option of travelling to Gauteng was discarded.
3. A list of all potential respondents was requested from the participating companies. All the respondents were selected by companies, using quite diverse methods of selection, mainly dominated by the 'just-in-time' availability approach. Other forms used include random relieving of employees from duty from various shifts and sections by their respective heads. Once the required number was achieved, those employees were then requested to complete the questionnaire. The agreement between the researcher and the companies was that the questionnaire interviews with the randomly selected persons, were to be carried out with a group of not more than ten persons at a time, in an already prepared venue. Completion of the questionnaire is monitored and facilitated by the researcher or his trained

assistant/s. Every company is assigned a research assistant to oversee the process of questionnaire completion.

4. The pre-training questionnaire interviews were tentatively scheduled for January 2006, followed by the post-training questionnaire interviews 18 to 24 months later, i.e. June 2007 to 31 December 2007. All the companies agreed to this date, and indicated that a reasonable number of their employees would indeed have gone through training before the first half of the new year, that is 2006.
5. The 'self-assessment' is completed concurrently with the post-training questionnaire, by all the lower-level employees in their various categories of work.

#### **5.4.1 The Pilot study**

Subjects for the pilot study for all the questionnaires used were not selected at random, purposeful sampling was instead utilised. This was because the primary objectives of the pilot study were to reveal errors in the research design, to identify inadequate control over extraneous or environmental conditions, and to refine the questionnaire prior to the main study (Lord, 1995:213). Operational details of the pilot study will be reported in section 4.6 below.

#### **5.4.2 The First Survey – Pre-training**

Subjects for the first major data collection, that is, pre-training, were selected at random. This was in accordance with the recommendations of Leedy (1993:208), who maintains that the following three processes must occur, in logical order, within the overall sample-selection activity:

- identification of the population, plus an evaluation of its structure and characteristics;

- randomisation of the sample must be outlined, and the sample must be selected in accordance therewith; and
- extraction of the data from the sample must then occur.

These three recommendations were adhered to. The population was evaluated for its structure and characteristics, in accordance with the results reported in 4.2.2 delimiting the population above. The samples for this category were randomly selected from an updated database of company personnel.

### **5.4.3 The Second Survey – Post-training**

Lord (1995:215) concurs with Emory and Cooper (1991:141) that longitudinal studies can be undertaken on a ‘panel’, or ‘test-retest’ basis, where the same respondents are interrogated at repeated intervals. Such an approach would not necessitate the random selection of samples for the latter surveys. Alternatively, separate random samples may be drawn for each successive survey. This may be mandated in circumstances where the nature of the population has changed substantially during the intervening period, or when the original samples are not easily accessible on the subsequent occasions. This was the situation in the case of the second data-collection survey of the study.

Because of this, it was decided that purposive sampling would be most appropriate, and data collection would be drawn from all available respondents falling within the category of ‘semi-skilled and skilled employees’. It seemed likely that the change in performance for some employees or even the company in general, would give an indication of the impact of training on those individuals and/or companies, as opposed to those individuals who might not show any improvement on their performance, which might imply the absence of receipt of training, hence the same or poor performance.

Also due to the confirmatory nature of the second study, the significant results (reported later) from the first survey, and operational constraints at these companies, the sample sizes in the second survey were somewhat smaller than those in the first survey.

## **5.5 THE QUESTIONNAIRE AND MEASURING INSTRUMENTS**

This section describes the measuring instruments which comprised the questionnaires used in this study. Wherever possible, use was made of established measures that had been previously used in South Africa. This was frequently not possible however, as in many cases no documented South African measurement of the constructs could be found. In such circumstances, as in the case of Lord (1995), use was made of reported instruments from foreign countries, although such questionnaire items often require substantial adaptation to the particular circumstances of the five South African companies participating in this study.

A measurement instrument is a device or action plan to execute the measurement process (Vockell, 1983:354). The choice of a measurement instrument for quantitative research is influenced by the purpose of the study (Gall, Borg & Gall, 1996:246). Wolf (1988:480) contends that the chosen method for data collection depends on the following:

- the nature of variables under study;
- the nature of the target population; and
- the resources available.

The most applicable measurement instrument must then be selected from the available alternatives (Gay, 1981:109). For the purpose of this study, the questionnaire was selected as the method of research. The explanation why the questionnaire was selected for the goal of this research follows below.

### **5.5.1 The questionnaire as research instrument**

A questionnaire (Annexure C) was used in this study to obtain data from five participating companies located both in the Free State Province and Northern Cape Province. Wolf (1997:422) describes a questionnaire as a self-reporting instrument that can be used to gather specific information with regard to variables that interest the

researcher. Similarly, Wiersma (1969:274) refers to a questionnaire as a written, self-administered interview. De Vos et al., (2005:167); Gray (2004:207); Leedy & Ormrod (2001:202-204) add that a questionnaire is a quantitative data collection tool and is normally distributed to large numbers of respondents.

Although much criticism is levelled against the use of questionnaires as a method of obtaining information, particularly if misused (Hopkins, 1980:296), to the point that Best (1981:168) calls it a lazy man's way of gaining information, McMillan & Schumacher (1989:41) maintain that it is still a good, general technique to obtain information in the field of educational research.

A questionnaire consists of a number of items on paper that respondents read and answer (Wolf, 1997:422). Information gathered in this way is then converted into data. The use of the questionnaire as a measurement instrument is based on the following assumptions:

- the respondent can read and understand the questions;
- the respondent is equipped with the required knowledge to answer the questions; and
- the respondent will answer the questions or respond to the items honestly (Wolf, 1988:479).

Leedy (1993:189) recommends simplification of questionnaire items, and therefore in many cases items were re-worded to achieve ease of comprehension, and to ensure that the same construct was being measured across the different strata of the population from participating companies. It was recognised that, particularly in circumstances such as this where the questionnaire was substantially original, or amended from other measuring instruments, issues of validity and reliability were of concern (Lord, 1995:221).

Emory and Cooper (1991:375) state that borrowing questionnaire items from existing sources and different contexts is risky. This, they suggest, is because it is difficult to make generalised statements of reliability and validity from the resultant data. The procedure adopted to assess validity and reliability of the measuring instruments will be reported in chapter 5.

The questionnaire used in the present study consists of two sections. Section A is designed to measure the demographic characteristics of participants. Even though Paterson's job grading structure was adopted to draw clear distinction between skilled and semi-skilled employees, the researcher decided to also use qualification criterion to further distinguish between semi-skilled and skilled employees. To simplify this distinctions, employees in possession of a post-school qualification, were classified as skilled, for example, technicians, secretaries, stock clerks; while those without post-school qualification, were classified as semi-skilled to unskilled, for example, cleaners, drivers, van assistants, etc. The justification for using qualification is to provide a more definite and less vague distinction between the two categories of employees. The classification of Paterson (1972) does not draw a hard and fast rule, as a result, an overlapping between the two categories become obvious. For example, one bus driver might also be expected to collect money from passengers himself, and report on it accordingly, while another might be offered an assistant whose is better numerate than the bus driver due to his/her qualification.

The model for Section B is divided into two parts: Part 1, measures "employee motivation/job satisfaction" scales; Part 2 measures "perception of organisational climate", and Part 3, measures both "self-rated performance" scale and "effectiveness of training" scale (see chapter 5).

Three questionnaires, more or less of the same nature and structure as described for Section B above, are devised, excepting that the first instrument, which is the pre-training questionnaire, does not measure skills transfer, the second one for post-training includes the measuring of transfer of skills training, and the third one is the self-rated performance for each individual employee. The pre-training and post-

training questionnaire interviews for the quantitative analysis consists of personal details and specific measuring instruments, incorporating various Likert-type scales.

Personal details, which apply to all three questionnaires include: gender; race; age; home language; marital status; job title; qualifications; work experience in the same job and work experience within the same company. Five-point Likert-type scales, from strongly agree = 5 to strongly disagree = 1, is devised to measure (i) employee motivation and job satisfaction; (2) perceived organisational climate and (3) the effectiveness of transfer of skills training. The validity and reliability of these measuring instruments is reported in detail in the next chapter.

Questionnaire issues (using a range of Likert rating scales, for example; “strongly agree = 5; agree = 4; neither agree nor disagree = 3; disagree = 2; and strongly disagree = 1” for Employee Motivation and Organisational Climate Questionnaires (see Part 1 & 2); Skills transfer questionnaire ranged from “definitely not = 1 to definitely = 10” (see Part 3); and Self-rated performance questionnaire ranged from “exceptional = 4 to below standard = 1”see Appendix B) administered centre mainly around the randomly sampled population's performance, motivation level and perception of the organisational climate at work, before and after training.

## **5.6 PHASES OF THE RESEARCH**

The gathering of data took place in three interlinking phases. The table below tabulates the various phases and methods that were used to gather the data, as well as the intended aim and objectives of the study.

Phase 1 involved the gathering of qualitative data by means of questionnaire interviews with about (n=52) purposively selected skilled and semi-skilled employees of neither one of the five participating companies. This served as a pilot study and provided important exploratory insight and conceptual understanding of respondents' perceptions with regard to the impact of skills transfer on their individual motivation and perception of the organisational climate prior to receiving training. The pilot study was based and covered only variables to be measured by the pre-training measuring instrument.

Phase 2 of the research involved gathering of quantitative pre-training data through a self-completion structure questionnaire that was randomly distributed to lower-level employees (i.e skilled and semi-skilled). Data was gathered at different intervals from all the five companies, which provided valuable insight into these employees' individual motivation, and their perception of the organisational climate.

**Table 5.3:**  
**The research phases**

Phase	Data gathered	Target group	Method	Response	Objective
1	Qualitative	Skilled and semi-skilled employees - 1 company	Purposive sampling, hand delivered self-completion structured questionnaire (Pre-training)	52	Served as pilot study to identify emerging design categories and conceptual understanding
2	Quantitative	Pre-training - 5 Companies	In-depth questionnaire interviews	657	To measure the lower-level employees' motivation level and perception of organisational climate
3	Qualitative	Skilled and semi-skilled employees - 1 company	Hand delivered self-completion structured questionnaire	58	Served as pilot study to identify emerging design categories and conceptual understanding (skills transfer)
4	Quantitative and qualitative	Post-training: Skilled and semi-skilled employees - 5 companies	Hand delivered self-completion questionnaire (Post-training questionnaire)	522	To measure the impact of training on individual motivation, perception of organisational climate, effectiveness of training and self- performance

Phase 3 involved the gathering of qualitative data by means of questionnaire interviews with about 58 purposively selected skilled and semi-skilled employees working at a call-centre of a telecommunication company based in Bloemfontein. This served as a pilot study and provided important exploratory insight and conceptual understanding of respondents' perceptions with regard to the impact of skills transfer on their individual motivation, perception of the organisational climate and performance. This exercise was limited to the 'effectiveness of training' and 'self-rated performance' measuring instruments, seeing that the other measuring instruments had already been piloted during the first phase. Once the validity and reliability of the two measuring instruments were confirmed, they were then incorporated into the post-training questionnaire.

Phase 4 was conducted 18 months to two years after some of the skilled and semi-skilled employees had received training from their respective companies, and used the same method of data collection as used in Phase 2. In other words, quantitative and qualitative data on (i) individual motivation; (ii) perception of the organisational climate; (iii) effectiveness of training and self-performance, was gathered by means of a self-completion structured questionnaire that was distributed to all skilled and semi-skilled employees of the five participating companies. Table 5.3 above captures the entire process of data collection succinctly.

### **5.6.1 Reflections on individual company dynamics and challenges during the pre- and post-training data collection**

As mentioned earlier, the data collection for this study comes from (n=5) different companies located in the Free State Province and Northern Cape Province. The challenges encountered during the data collection process are elucidated below:

#### **(i) Company A: Food (Bakery) industry**

Data collection from these three branches of this company were located in various places namely, (i) Bloemfontein, (ii) Kimberley and (iii) Jan Kempdorp, took about three months to complete. The level of enthusiasm and co-operation varied from one

extreme to another among these three branches. Although no coercion was ever used to get employees to participate, hesitation coupled with suspicion was evident especially at the Jan Kempdorp branch, despite the confidentiality and assurance that there was nothing sinister about this research.

This data collection exercise took place just after the completion of one sensitive survey (on their health status, specifically HIV/AIDS status) on the entire staff. Another important factor was the level of literacy at this branch. Very few of the employees were able to read and write, and the researcher had to be very patient in explaining in detail what each item means and requires from them. Further reluctance from Kimberley and Jan Kempdorp employees, was the fact that they felt that management was imposing on them to participate, and they participated not out of their own volition. Fortunately, after the researcher explained to them especially about the confidentiality condition, things started to fall into place.

**(ii) Company B: Transport industry (bus company)**

For this company, the data collection exercise was also met with some suspicion, because salary negotiations was still on course when the researcher approached management with his request to undertake this research study. Even though the union representatives gave their go-ahead after a long and protracted discussion with the researcher, individual employees were quite restless, sceptical and suspicious of the whole exercise. Luckily, the researcher through the help of union leaders managed to allay their fears, and the entire process took just one month to complete. Two research assistants were employed to speed-up the process.

**(iii) Company C: Chicken breeding company**

The pre-training data collection took much longer than any other company, four visitations of three days per week over two months, and this took place just after new management took over the company and also amid a looming labour dispute with the company management concerning salaries and working conditions. However, the data collection was never disrupted.

**(iv) Company D: Banking sector**

It was quite difficult to coordinate and manage the data collection process for this company, because respondents were located at various stations far apart from each other, not even within the same building. So, it was agreed by the researcher and the Training Officer that questionnaires were to be sent to a central office which is the HR section, who will in turn dispatch them to their various divisions for completion. After two weeks, only a handful of the questionnaires were returned fully completed, and after fruitless three attempts to get the remaining questionnaires back, it was decided to go with the amount received.

**(v) Company E: Truck body manufacturing company**

It was almost impossible to get anybody to participate willingly, despite all the assurances that anonymity and confidentiality were guaranteed. The pre-training data collection occurred at the time when the company was locked in negotiations with employees for salary increases. Management reported that, it has been a while since such an investigation has taken place at their company, hence the resistance and scepticism from the workers. Most of them have never participated in such an exercise before. The efforts and persuasions by their union leaders somehow assisted to get some of them to take part in this research study.

### **5.6.2 Summary of data-collection challenges**

The fundamental purpose of conducting the pilot study for both first and second survey in this study was achieved. However, few modifications in both cases were done, which meant changes to the vernacular as well. A trial run was carried to check clarity and non-ambiguities of statements etc. before the actual data collection could be carried out. The post-training data collection went relatively smoothly as compared to the pre-training. The reason for that could be attributed to the fact that, respondents knew and somehow developed a relationship of trust and rapport with the researcher and his assistants.

The only challenge especially for the post-training data collection, which was of great concern for most respondents, was the length of the questionnaire. Luckily, for most of these companies, management agreed to let each section to take breaks of not more than twenty-minutes, for the purpose of completing this questionnaire. As for the bus company, the process happened just after ten o'clock, when most of the drivers (+/- 90%) had completed their morning rounds of transporting their customers to their respective work places. Hence the excellent response rate overall from this company.

## **5.7 PILOT STUDY**

Emory and Cooper (1991:376) indicate that pre-testing of a questionnaire is an established practice, both for discovering errors and for the preparation and training of the research team. Similarly, Tuckman (1988:237) contends that a pilot study should be performed on a number of respondents from the population who do not form part of the sample. The purpose of this is to ensure that respondents will understand the directions provided as well as the questions. The pilot study is further used to determine if answers provided are clear and easy to use and if there are other technical changes to be made. All this is necessary to ensure the highest possible degree of reliability and validity of the results (Huysamen, 1994:205/6).

Bell (2002:128) provides a list of the following questions that respondents who form part of the pilot study can be asked:

- How long did it take you to complete the questionnaire?
- Were the instructions clear?
- Were any of the questions unclear or ambiguous? If so, which ones and why?
- Did you have any objections to answering any of the questions?
- In your opinion, was anything important omitted?
- Was the layout of the questionnaire clear and attractive?
- Any comments?

For these reasons, the researcher then decided to conduct a pilot study.

When the skills transfer questionnaire was designed, special care was taken to ensure that there were no ambiguous and vague items, double-barrel questions and that the sequence of questions was logical in terms of the recommendations of Kirkpatrick (1976). This is consistent with what Royse (2004:154) says that research has shown that the order or sequence of questions affects response accuracy and rates. Thus a pilot test of the structured questionnaire was carried out amongst 52 respondents in September 2007. Those respondents were all chosen on the basis of availability and geographical accessibility for participation in the pilot study from one company which did not form part of the population sample of this study.

The purpose of this was to evaluate the relevance of the statements, to establish whether the wording was clear and unambiguous. Hussey and Hussey (1997:256) also insist on the importance of pre-testing a questionnaire, as well as a need to establish the ideal sample size for a pre-test to ensure that the questionnaire does indeed fulfil its intended purpose. As a result of the pilot study, minor wording modifications were effected on some of the statements to improve clarity. After the pilot study was completed, the questionnaire was presented to the study leader for final approval, after which it was then distributed to the five identified companies.

## **5.8 TRANSLATION INTO THE VERNACULAR**

Questionnaires administered to respondents were, as far as possible, in their home languages. The original English questionnaire was translated into South Sotho and Afrikaans. The procedure adopted for translation of the questionnaire follows the leads of Alverson (1969), Coldwell (1979) and Lord (1995). The steps in the procedure are as follows; separate translators were initially engaged for each language (i.e two in total). Each of these translators transposed the English questionnaire into their respective languages. The transposed copies were then re-transposed back into English by two other translators. The results were then compared with the items from the original English document, for reliability and wellness-of-fit.

Arising from this comparison, a number of amendments to the original English questionnaire were made. The procedure is designed to ensure that the translated

versions are as unambiguous as possible (Lord, 1995:244). The amendments to generate this final version of the English questionnaire were then translated into the other two languages, and incorporated into those translated documents. The final translated versions was compared with the English questionnaire by a further two translators, during the pilot study. Arising from their comments, and the findings of the pilot study, final refinements were made to selected items in various languages. These alterations further ensure clarity and simplicity of expression, thus maximising the construct validity of the questionnaire.

## **5.9 DATA ANALYSIS**

Data of the quantitative and qualitative sections of the questionnaires were analysed. For the quantitative approach, data were summarized by using basic descriptive statistics. The major type of descriptive statistics employed were measures of central tendency. According to Gay (1992:390), measures of central tendency give the researcher a convenient way of describing a set of data with a single number.

The number resulting from computation of a measure of central tendency represents the average or typical score attained by a group of subjects.

Gay (1992) writes that the three most frequently encountered indices of central tendency are the mode, the median and the mean. Each of these indices is appropriate for a different scale of measurement. For the purpose of this study, various statistical techniques were pursued, and they are described below.

### **5.9.1 Statistical Techniques**

Presentation of the collected data has been done using both inferential and descriptive statistics, with the help of the computer software package, Statistical Package for the Social Sciences (SPSS, 1993).

The five-point Likert rating scale lends itself to the evaluation of an item based on how well it discriminates between those persons whose total score is high and those whose total score is low. The mean scores for each scale item among the low scorers and high

scorers are calculated. The item means between the high-score group and the low-score group are then tested for significance by calculating  $t$  values. Finally, the 20 to 25 items that have the greatest  $t$  values (significant differences between means) are selected for inclusion in the final scale.

The rationale for opting for a Likert-type scale is that ‘these scales are relatively easy to construct to the equal-appearing interval scale’ (Cooper & Schindler 2001:240). The procedure to be followed is that the first step is to collect a large number of statements that meet two criteria; (1) each statement is believed to be relevant to the attitude being studied, and (2) each is believed to reflect a favourable or unfavourable position on that attitude. People similar to those who will comprise the study group are asked to read the statement and to state the level of their agreement with it, using a five-point scale, with a scale value 1 indicating a strongly unfavourable attitude and 5, a strongly favourable attitude (see Appendix D). Each person’s responses are then added to secure a total score. The next step is to array these total scores and select some portion representing the highest and lowest total scores, say, the upper 25% and the lower 25%.

These two extreme groups represent people with the most favourable and least favourable attitudes toward the topic being studied. The extremes are the two criteria according to which individual statements will be evaluated. Through a comparative analysis of response patterns to each statement by members of these two groups, we learn which statements consistently correlate with low favourability and which correlate with high favourability attitudes.

#### **5.9.1.1 Descriptive Statistics**

The purpose of descriptive statistics is to describe the raw data in a clear manner. This method enables the researcher to display the data in a structured, accurate and summarised way (Huysamen, 1990). The descriptive statistics considered appropriate for the current research include the mean and standard deviation.

The mean is a measure of central tendency that offers a general picture of the data, by providing an average value for the distribution of scores (Myers & Well, 1995). Standard deviation is a measure which is calculated as the square root of the variance. It is the standard measure of variability from the mean and the measure of dispersion (Sekaran, 2000; Leedy, 1993).

### **5.9.1.2 Inferential Statistics**

Inferential statistics can be described as a statistical method that can be utilised to gain universal deductions from gathered results of a specific population and/or sample (Viljoen & Van der Merwe, 1999). The inferential statistics for this research involved the use of the Pearson Product-moment correlation, Multiple Regression Analysis, Multiple Analysis of Variance and Scheffe's Multiple Comparison method.

### **5.9.1.3 The Pearson Product-Moment Correlation Co-efficient**

The Pearson product-moment correlation coefficient is employed to determine the critical relationship between two variables, for example, individual performance and training in the case of this study (Pfeiffer & Olson, 1981).

The calculated value will signify the extent to which training could effect positive change to an individual employee's performance, through improving his/her perception of organisational climate and his/her level of job satisfaction and motivation (Greenberg & Baron, 2000). The product-moment correlation provides an objective measure of the direction and strength of the relationship between two variables (Guyatt, Walter, Shannon, Cook, Jaeschke & Heddle, 1995; Sekaran, 2000).

The size of the product-moment correlation coefficient is an index of the extent of the (linear) relationship between two variables, and the sign of such a coefficient reveals the direction of the relationship: a positive sign indicating a direct relationship and a negative sign, an inverse relationship (Greenberg & Baron, 2000; Salkind, 1994).

The computational formula of the Pearson product-moment correlation is as follows (Huysamen 1990:68):

$$r_{xy} = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

#### 5.9.1.4 Multiple Regression Analysis

Multiple regression analysis is employed to determine the extent to which several different variables, namely the organisational climate, employee motivation and job satisfaction, contribute to predicting another variable, namely, individual performance (Greenberg & Baron, 2000). Regression analyses the strength of the relation between one or more predictor variables, such as training, and a target variable, such as improved performance (Guyatt *et al.*, 1995).

Multiple regression analysis is helpful in gaining an understanding of how the variance in the dependent variable will be explained by a set of predictor variables (Sekaran, 2000). In this research, multiple regression analysis assists in explaining how the variance in organisational climate, work motivation and individual performance are affected by various skills training endeavours.

#### 5.9.1.5 Multiple Analysis of Variance (MANOVA)

Multiple analysis of variance is used in the current study to calculate the difference between group means on multiple variables, namely biographical variables, organisational climate, work motivation and individual performance (Bless & Kathuria, 1993). Multiple analysis of variance has the distinct advantage that all the groups are compared simultaneously with the appropriate variables.

Mostert (1996) and Sherry (1997) identify the following foundations on which MANOVA is based:

- The group must be normally distributed.
- The groups must be independent.
- The population variance must be homogenous.
- The population distribution must be normal.

#### **5.9.1.6 Scheffe's Multiple Comparison**

Since in MANOVA there is no way of determining where differences between groups lie, an attempt will be made with the use of the Scheffe's multiple comparison method to determine exactly where such differences lie (Ravid, 1994; Snedecor & Cochran, 1978).

### **5.10 ETHICAL CONSIDERATIONS**

Anderson and Arsenault (2000:18) state that all people involved with research, the participants, governments and the public share certain common concerns. These concerns raise several general considerations which must be addressed. The specific consideration and acceptable standards for ethical research, according to Anderson and Arsenault (2000), are as follows:

- Those risks to participants are minimised by research procedures that do not unnecessarily expose them to risks;
- Those risks to participants are outweighed by the anticipated benefits of the research;
- That the rights and welfare of participants are adequately protected;
- That the research will be periodically reviewed; and

- That informed consent has been obtained and appropriately documented (Annexures A-E).

It is crucial that confidentiality and trustworthiness be maintained. Anderson (1990:24) indicates that confidentiality involves a clear understanding between the researcher and the participant concerning the use to be made of the data provided. Confidential information implies that the identity of the individual will remain anonymous. It also assumes that the researcher cannot identify the individuals. It is generally agreed that reports on behaviour of persons in public office performing the role of their job can be disclosed, but their personal lives should be protected. This is consistent with the following requirements or aspects that must be addressed by the covering letter that must accompany the questionnaire (Ary *et al*, 1990:429-431):

- the purpose of the study;
- an appeal for cooperation;
- protection of respondents with regard to confidentiality;
- sponsorship for study, where applicable;
- availability of research results;
- expression of appreciation for respondent;
- a date for the letter that is close to the posting date.

The researcher ensured that permission was sought from the relevant people from the five participating companies, and they were all assured of the confidentiality of the information they would be providing (Appendix A - the covering letter). Permission was also sought and obtained by the researcher to use the letterheads of the University, permission was given after the contents of the covering letter had been checked and verified that it in no way put these companies in a compromising position. All these matters were dealt with before the researcher could proceed with his project.

## 5.11 DEFINITION OF CONCEPTS/TERMINOLOGIES

A few key terminologies will be defined next. These terms will be referred to in the text, especially regarding the measuring instruments used in this study.

### a) **Validity**

The concept validity has been the subject of confusion (Van Rensburg, 2004:128). Different labels have been developed and a tripartite classification evolved. These are content, criterion-related, and construct validity (Anastasi, 1986). According to her, construct validity is a comprehensive approach that includes content and criterion-related validation. While it is useful to have a classification of the concepts, any information used in the development of an instrument is relevant to the validity of the instrument. Validation of instruments is not an event, but a process.

Validity is defined as the extent to which a set of measures (in this research, the various measuring instruments or questionnaires) accurately represents the research construct (Hair, Anderson, Tatham & Black, 1998). Three forms of validity will be referred to next.

- **Construct validity**

Construct validity is the degree to which an instrument measures the theoretical construct that the instrument is designed to measure (Allen & Yen, 1979; Kerlinger & Lee, 2000; Struwig & Stead, 2001; Welman & Kruger, 2001).

- **Factorial validity**

Factorial validity is a form of construct validity established through factor analysis (Allen & Yen, 1979).

- **Face validity**

Face validity relies on the perception that the items of a test appear to measure what the test claims to measure (McIntire & Miller, 2000; Struwig & Stead, 2001). Face validity is important, because it facilitates the completion of the questionnaire for the respondents making a concerted effort in completing the instrument (McIntire & Miller, 2000).

- b) Reliability**

This is a technique in which the same results appear over time when using the same measure repeatedly (Babbie & Mouton, 2001). The above guidelines were all adhered to in developing all the questionnaires used in this study, especially the Effectiveness of Training Questionnaire.

## **5.12 SUMMARY AND CONCLUSION**

This chapter documented the study research design and methodology followed in elucidating the objectives of the research, the research design issues involved and a description of the research sample as well as reconfirming the purpose of the research. Moreover, the procedure followed in executing the research, the research instrument (data collection methods) and the quantitative statistical analyses which will be utilised, are described.

In the next chapter, the focus and emphasis is on the reliability and validity of all the measuring instruments used in this study. The four measuring instruments employed are the: (i) employee motivation/job satisfaction questionnaire; (ii) organisational climate questionnaire; (iii) self-rated performance questionnaire; and (iv) effectiveness of training questionnaire.

## **CHAPTER 6**

### **THE RELIABILITY AND VALIDITY OF THE MEASURING INSTRUMENTS**

#### **6.1 INTRODUCTION**

The main objective of this chapter is to report the results of tests undertaken to assess the reliability and validity of the following measuring instruments, namely (i) employee motivation; (ii) organisational climate; (iii) self-rated performance; and (iv) skills transfer, that is, effectiveness of training. This study was longitudinal in nature, and involved two surveys, namely pre- and post-training, approximately 18 to 24 months apart. In achieving this objective, the following sub-objectives will be addressed in sequence:

- the results of tests undertaken to assess the reliability of the measuring instruments will be reported; and
- the results of the factor analysis procedures, undertaken in order to assess the factor structure of the measuring instruments, will be reported.

#### **6.2 REFLECTIONS ON THE CONCEPT OF VALIDITY AND RELIABILITY**

Whatever procedure for collecting data is selected, it should always be examined critically to assess to what extent it is likely to be reliable and valid (within the quantitative paradigm) and trustworthy (within the qualitative paradigm). One needs to assess to what extent an educational measuring instrument measures precisely and dependably what it is intended to measure. Distinction between these two concepts is essential:

*Reliability*, according to Bell (2002:103) is the extent to which a test or procedure produces similar results under constant conditions on all occasions. Anderson and Arsenault (2000:12) refer to reliability as consistency in measurement. In common terms, the reliability of a test is the extent to which subsequent administrations would give similar results.

The extent to which data relate to objective criteria will improve reliability. When data are based on personal impressions, these tend not to be so reliable. However, when data relate to counts or physical measurements or the number of correct responses, data are generally reliable. The data used in educational research must be reliable for the analysis to have any meaning. If researchers do not have reliable measurement tools, people cannot have much confidence in research results (Anderson & Arsenault, 2000).

In the case of this study, all the questionnaires with the exception of Effectiveness of Transfer questionnaire, were proved by the previous studies to be reliable and valid. From the results of the pilot study, the Skills Transfer instrument was also proved to be reliable. Detailed discussion of the validity and reliability of these measuring instruments follows below.

Further justification of the reliability of the measuring instruments is that (i) the responses/data of the pre-training were compared with that of the post-training of the lower-level employees following the same random sampling method; (ii) the emphasis on anonymity of the respondents in the survey assisted participants to feel free to respond and to take the research seriously; (iii) the questionnaire was pilot-tested beforehand. This could have increased the reliability of the research.

**Validity**, according to Cohen et al. (2000:105), De Vos et al., (2005:160) and Gray (2004:407) is an important key to effective research measurement, which is a requirement for both quantitative and qualitative research. In its broadest sense refers to the degree to which the research conclusions are sound. To evaluate the validity of the research, one should think about one's anticipated findings and conclusions and ask oneself: "How could I be wrong?"

There are many different areas of research where validity may be threatened. Although all these types of validity are important in research, their relative emphasis may vary, depending on the nature of the research questions. Explanatory research typically values internal over external validity, whereas descriptive surveys value representativeness and generalisability of the findings (Durrheim, 1999:62). This research study employed an integrated survey approach and therefore, internal and external validity and threats thereof were attended to.

The internal validity of a study is a judgement that is made concerning the confidence with which plausible rival hypotheses can be ruled out as explanations for the results. It involves a deductive process in which the investigators must systematically examine each of the threats to internal validity, which constitute rival alternative hypotheses that may have influenced the results (McMillan & Schumacher, 2001:327). Through careful design, it is usually possible to reduce the threats to internal validity that would otherwise render results worthless (Tredoux, 1999:324).

The threats to internal validity are summarised as follows: The threat of history is described as the unplanned or extraneous events that can occur during, and can affect the result; the threat to selection which means that differences between the subjects in the groups may result in outcomes being different, because of group participation; threat of statistical regression  $t$ , mean refers to scores of groups of subjects taking on values closer to the mean; due to respondents being identified on the basis of extremely high or low scores; threat of pre-testing occurs when the act of responding to a questionnaire prior to the treatment affects the subject; threat of instrumentation means differences in results due to unreliability, changes in the measuring instruments or in observers; maturation threat occurs when an effect is due to maturational or natural changes in the subject; threat of diffusion of treatment takes place when subjects in one group learn about conditions for different groups; the threat of the experimenter effects occurs when there are unintended or deliberate effects of the researcher on responses of subjects, and threat to statistical conclusion happens when there is a violation of assumptions or misuse of statistical tests (McMillan & Schumacher, 2001:327).

The researcher came across some of the threats to internal validity, namely, threat of history and the threat to selection. The threat of history, (unplanned or extraneous events than can occur during the research, and can affect the results) such as the respondents having been absent for a long period due to illness, and the respondents having to attend workshops outside the workplace, were counteracted by the redistribution of the questionnaire. The respondents were also given extended time in which to complete the questionnaire. The threat to selection, in this case, were male and female employees who had to complete the questionnaire in one room. This was counteracted by the presence of the researcher who had to be an observer and, in certain instances, had to offer assistance.

External validity is the extent to which generalising from the data and context of the research study to the broader populations and settings is possible (Durrheim, 1999:62). According to McMillan & Schumacher (2001:328), there are factors that influence external validity negatively or threats. These authors divided these threats into threats of population (viz. selection of subjects, characteristics of subjects and subject-treatment interaction), and ecological threats (viz. description of variables, multiple-treatment inference, setting-treatment interference, time of measurement-treatment interaction, pre-test – post-test sensitisation and novelty or disruption effect).

These threats to external validity (especially as far as experimental research is concerned) include the following: Selection of population – here generalisation is limited to the characteristics of the population, e.g. socio-economic status, age, etc; Subject-treatment interaction – in this threat, generalisation may be limited because of the interaction between the subjects and treatment; The threat of description of variables – here generalisation is limited to the operational definitions of the independent and dependent variables; Multiple-treatment interference – in experiments in which subjects receive more than one treatment, the ability to generalise is limited to similar multiple treatment situations, because of the first treatment on subsequent treatment; Setting-treatment interaction in this threat, generalisation is limited to the setting in which the study is conducted; time of measurement-results may be limited to the time frame in which the data were obtained; Pre- test/post-test sensitisation – the pre-test may interact with the treatment, so that similar results are obtained only when

the same testing conditions are present; The description of novelty or disruption threat – subjects may respond differently because of change in routine, and generalisation may be limited to situations that involve similar novelty or disruption (McMillan & Schumacher, 2001:328).

Some of these threats to external validity, such as the threats of population selection (viz. selection of subjects and characteristics of subjects), came to the fore during this investigation. Selection of subjects was counteracted by randomly selecting employees by putting their names/numbers in the box and after shaking the box, their names/numbers were pulled out of the box. All companies with branches, their branches were also considered when participants were selected at random. The characteristics of subject threat was counteracted by random selection (i.e. irrespective of whether a respondent was African, Coloured, Indian or White; male or female, with post-school qualification or below Gr. 12).

### **6.3 THE RELIABILITY OF THE MEASURING INSTRUMENTS**

A number of techniques were used to assess the reliability and validity of the questionnaires. The reliability analysis used by the researcher is the Cronbach's (1951) Coefficient Alpha correlational test. The reliability coefficient of a measurement test is defined as '... the squared correlation between the observed value Y ... and the true value T ... that is ... the proportion of the observed variance that is due to true differences among individuals in the sample' (SPSS, 1993; S.A.S, Procedures Guide, 1991:223; Lord, 1995:264).

Cronbach Coefficient Alpha is a measure of internal consistency (reliability). It is designed to measure the degree to which instrument items are homogenous and reflect the same underlying construct(s) (Emory and Cooper, 1991:188; Lord, 1995:264). 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.

Cronbach Coefficient Alphas were computed for each of the employee response variables, in respect of the entire samples, for both data collection surveys. However, the first survey, which is pre-training, focused only on employee motivation and organisational climate instruments, whereas the post-training instrument included also employees' self-rated performance as well as the effectiveness of training measuring instruments.

#### **6.4 THE FACTOR STRUCTURE OF THE MEASURING INSTRUMENTS**

This section describes the factor analysis procedures undertaken, in order to assess the discriminant and convergent validity of the measuring instruments. These procedures were undertaken on the data from both pre- and post-training data collection surveys.

The main purpose of undertaking the factor analysis was to investigate whether the variables purportedly measured were indeed separate constructs. It was therefore necessary to explore for factor analysis solutions that identified unique factors that each loaded upon groups of items measuring discrete variables.

The strategy that was followed is informed by the application of Kaiser's (1970) criterion. Based on Kaiser's (1970) criterion, various factors with eigen values greater than unity are postulated.

Factor rotation as a method is used to enhance the significance and reliability of the factors (Hair *et al.*, 1998). The purpose of rotation is to obtain the best out of the relevant factors (Kerlinger & Lee, 2000). Thus, to obtain a factor matrix, the variables load as high as possible on a few factors and have low loadings on other factors (Huysamen, 1980).

In this study, use will be made of the varimax technique in the extraction of the first level factors in order to maximise explained variance. The ultimate goal of factor analysis is to identify factors that describe the variables. The factor analysis becomes meaningful at the interpretation process. To enable a meaningful interpretation, the following practical rules should be applied:

- Variables with loadings greater than 0,3 are acceptable (Child, 1970; Hair *et al.*, 1998). As mentioned before, the number of factors that are to be extracted are done according to Kaiser's (1970) criterion.
- Huysamen (1980) suggested five times as many items/variables as expected factors are needed in factor analysis. According to Huysamen (1980), there should be five times as many participants as the number of items. In this study, over 500 respondents completed 96 items.
- The intercorrelation matrix is then subjected to principal axis analysis. An iterative process is initiated (Church & Waclawski, 1998) to determine the factors as indicated above until the factors have converged.

## **6.5 THE FACTOR ANALYSIS METHODOLOGY**

Due to the large number of measured variables (5) and questionnaire items relating thereto (96), it was decided to adopt the following structured procedure for the factor analysis:

- all 96 questionnaire items were initially factor-analysed together, to achieve an initial overview of the data. This provided an indication of the extent to which factors were loading onto similar questionnaire items as expected; and
- separate factor analysis was then undertaken in turn, on each 'category' of variables. The purpose of these separate analyses was to obtain a clearer picture of the factor structures and the loadings of the individual factors. These procedures followed the example of similar 'grouped' factor analyses undertaken by Coldwell (1979:158) and Lord (1995:266).

Thus an initial factor analysis was undertaken on all the questionnaire items, namely, (i) employee motivation; (ii) organisational climate; (iii) self-rated performance; and (iv) effectiveness of training, followed by separate analyses on the items measuring variables within the following independent, moderator and outcome categories:

- employees' job motivation constructs (moderator variables)
- employees' perceived impact of training (independent variables);
- employees' perceived organisational climate (moderator variables);
- employee performance (outcome variables).

The procedure used for the factor analysis as suggested by Schepers (1992) is summarised in Table 6.1 below. This procedure eliminates the possibility of artefactors.

A description of the procedure adopted for assessing the factor structure of the questionnaire will be reported in the following section. Because the validity and reliability of 'effectiveness of training' is not yet proven unlike the other three measuring instruments namely, 'employee motivation'; 'organisational climate' and 'self-rated performance', this report will be based extensively only on this measuring instrument. However, a brief reflection on the former three measuring instruments will commence the deliberations.

**Table 6.1**  
**Procedure for factor analysis**

Steps	Activity
One	Analyse the data to determine the descriptive statistics for the respective questionnaires.
Two	<p>To establish if a matrix is appropriate for factor analysis (on both levels), two procedures can be followed:</p> <ul style="list-style-type: none"> <li>• Bartlett's Test of Sphericity, which yields a Chi-square value.</li> <li>• The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) that yields a coefficient.</li> </ul> <p>Both tests determine the suitability of a matrix for factor analysis.</p>
Three	<p>Conduct the factor analyses on two levels.</p> <p>First level factor analysis:</p> <ul style="list-style-type: none"> <li>• Intercorrelate item scores.</li> <li>• Calculate eigen values of the unreduced matrix.</li> <li>• Postulate number of factors according to Kaiser's (1970) criterion (extraction of factors is optional).</li> <li>• Calculate sub-scores of the different postulated factors.</li> </ul> <p>Second level factor analysis:</p> <ul style="list-style-type: none"> <li>• Intercorrelate sub-scores.</li> <li>• Calculate eigen values of the unreduced matrix.</li> <li>• KMO and Bartlett's test.</li> <li>• Postulate number of factors according to Kaiser's (1970) criterion.</li> </ul> <p>Extract factors by using principal component (varimax) rotation.</p>

Adapted from Schepers (1992).

## **6.6 DESCRIPTION OF USED AND VALIDATED MEASURING INSTRUMENTS**

The following section focuses on all the measuring instruments used in this study.

### **6.6.1 Measuring instrument – “Employee Motivation/Job Satisfaction”**

The first measuring instrument tests and deals with the perceived employee motivation/job satisfaction (PERMOT) level, which consists of 33 sub-items from eight factors relating to dimensions originally identified by Herzberg (1966), namely, (1) work itself; (2) responsibility; (3) payment; (4) advancement; (5) growth; (6) recognition; (7) working conditions; and (8) leader/supervisor.

These employee job satisfaction dimensions are based on the Job Description Index (JDI), developed by Smith, Kendall & Hulin (1966). Numerous studies have assessed the validity of the JDI in different settings. Discriminant and convergent validity have been well substantiated (Christian 1986, Roedel & Nystrom 1988). Reliability coefficients estimated by Smith et al (1966) ranged from values of .80 to .88 for the 5 scales (Christian 1986). Pincus (1986) reports a Cronbach’s alpha reliability score of .85 on his modified version of the JDI.

**Table 6.2**  
**Reliability analysis of 'Employee Motivation/Job Satisfaction' measuring**  
**instrument (PERMOT)**

RELIABILITY ANALYSIS - SCALE (ALPHA)				
Item-total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
B1M1	113.1111	274.8611	.7304	.9152
B1M2	113.4444	270.5278	.7986	.9140
B1M3	113.0000	285.0000	.3302	.9217
B1M4	112.6667	288.2500	.5310	.9185
B1M5	113.0000	293.0000	.3305	.9203
B1M6	112.8889	299.1111	.0976	.9221
B1M7	112.8889	284.6111	.4436	.9192
B1R1	113.2222	275.4444	.7784	.9148
B1R2	113.4444	278.0278	.5888	.9172
B1R3	113.0000	293.0000	.4820	.9194
B1P1	114.2222	281.4444	.5143	.9183
B1P2	114.2222	280.4444	.5426	.9178
B1P3	114.3333	286.7500	.2662	.9233
B1P4	114.7778	293.9444	.1984	.9222
B1P5	113.5556	282.5278	.6137	.9172
B1P6	114.2222	292.4444	.3777	.9199
B1A1	114.5556	277.0278	.6164	.9167
B1A2	114.6667	274.5000	.6951	.9156
B1A3	113.7778	274.4444	.5880	.9172
B1A4	113.7778	276.6944	.6494	.9163
B1G1	112.6667	289.5000	.4779	.9189
B1G2	112.7778	285.6944	.2940	.9227
B1C1	113.1111	283.8611	.6464	.9171
B1C2	113.3333	282.2500	.5431	.9179
B1C3	113.4444	278.7778	.5681	.9175
B1W1	113.0000	281.0000	.5816	.9174
B1W2	114.3333	285.2500	.3972	.9200
B1W3	113.2222	292.1944	.3023	.9207
B1L1	112.7778	279.6944	.7574	.9157
B1L2	112.8889	289.3611	.4334	.9193
B1L3	113.0000	283.0000	.6092	.9173
B1L4	113.5556	304.7778	-.1932	.9239
B1L5	113.1111	281.3611	.7446	.9161
Reliability Coefficients				
N of Cases = 9.0                      N of Items = 33				
Alpha = .9208				

This study reports a Cronbach's alpha reliability score of 0.9208 for its pilot study of this measuring instrument (see Table 6.2). The researcher decided to use a five point Likert rating scale from "strongly agree = 5" to "strongly disagree = 1" to measure these scales, as indicated from the example below.

Work itself (sub-scale)		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1.	My work has become very stimulating	5	4	3	2	1

### 6.6.2 Measuring instrument – "Organisational Climate"

Table 6.4 reports on the second measuring instrument, which focused on the perceived organisational climate (ORGCLIM). This consists of eighteen scale items relating to dimensions originally identified by Likert and Likert (1976) and modified by Coldwell (1997) and is to a great extent based on Litwin and Stringer's (1968) Organisational Climate Questionnaire (LSOCQ) consisting of nine dimensions, as indicated in Table 6.3 below. The researcher adopted a five point Likert rating scale from "strongly agree = 5" to "strongly disagree = 1" to measure these scales, see example below.

Organisational Climate sub-scales		Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
2.	People feel free to talk to management about problems in their jobs.	5	4	3	2	1

Various types of validity and reliability of the items, indices, and subscales within the Survey of Organisations scale are well established (Taylor & Bowers, 1972). The internal consistency (alpha) coefficients for the 13 indices range from .70 for the index measuring peer goal emphases to .96 for the index measuring group process (Hernandez, Kaluzny, Parker, Chae & Brewington, 1988). The internal consistency reliability coefficients reported by Hernandez et al. for their OPQ range from .66 for the motivational conditions index to .93 for the supervisory support and supervisory work facilitation indices. Coldwell (1997) reported 0.77 (18 items in the instrument)

Cronbach alpha coefficient, and indicated that this instrument attained an acceptable level of internal consistency.

**Table 6.3**  
**Organisational Climate and Employee Perceptions - The**  
**Dimensions of the LSOCQ**

**The Dimensions of the LSOCQ**

- a. **Structure.** Structure indicates the feeling that employees have about the constraints in the group, how many rules, regulations, procedures there are; is there an emphasis on “red tape” and going through channels, or is there a loose and informal atmosphere?
- b. **Responsibility.** Responsibility is the feeling of being your own boss; not having to double-check all your decisions; when you have a job to do, knowing that is your job.
- c. **Reward.** Reward is the feeling of being rewarded for a job well done, emphasising positive rewards rather than punishments; the perceived fairness of the pay and promotion policies.
- d. **Risk.** Risk is the sense of riskness and challenge in the job and in the organisation; is there an emphasis on taking calculated risks, or is playing it safe the best way to operate?
- e. **Warmth.** Warmth is the feeling of good general fellowship that prevails in the work group atmosphere; the emphasis on being well-liked; the prevalence of friendly and informal social groups.
- f. **Support.** Support is the perceived helpfulness of the managers and other employees in the group; emphasis on mutual support from above and below.
- g. **Standards.** Standards are the perceived importance of implicit and explicit goals and performance standards; the emphasis on doing a good job; the challenge represented in personal and group goals.
- h. **Conflict.** Conflict is the feeling that managers and other workers want to hear different opinions; the emphasis placed on getting problems out in the open, rather than smoothing them over or ignoring them.
- i. **Identity.** Identity is the feeling that you belong to a working team; the importance placed on this kind of spirit.

Source: Litwin and Stringer (1968: 81-82)

Interestingly, this study's pilot study reported the Cronbach Alpha coefficient value of 0.722 (Table 6.4), which is greater than 0.6, and indication of a reliable measuring instrument. With the KMO value above the required 0.6, in addition Bartlett's test of Sphericity is significant with the p value being less than the required 0.05.

**Table 6.4:**  
**Reliability analysis of 'Organisational Climate' measuring instrument**  
**(ORGCLIM)**

Item-total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
OC1	54.9710	73.8901	.4426	.6974
OC2	54.6087	69.4391	.6643	.6746
OC3	55.2826	78.2180	.2391	.7167
OC5	54.1957	77.7434	.3319	.7091
OC6	54.0217	72.0795	.5898	.6850
OC7	54.7971	76.4460	.2901	.7122
OC9	55.3406	68.9090	.5521	.6818
OC12	56.3370	81.9042	.1188	.7245
OC14	54.6486	73.3415	.4937	.6931
OC16	55.2391	68.4517	.4938	.6876
NOC4	55.6341	78.4292	.1723	.7251
NOC8	55.9710	94.8646	-.5139	.7760
NOC10	54.5000	77.2909	.3294	.7089
NOC11	56.8007	81.7020	.1549	.7217
NOC13	55.9167	69.0876	.5604	.6813
NOC15	53.8333	82.5248	.1039	.7247
NOC17	53.9891	85.3708	-.0929	.7439
NOC18	54.9638	72.5805	.4134	.6988
Reliability Coefficients				
N of Cases = 276.0		N of Items = 18		
Alpha = .7227				

### 6.6.3 Measuring instrument – “Effectiveness of Training”

The third measuring instrument looks at the Effectiveness of Training (EFFTRA) as adopted and aligned to Kirkpatrick’s (1981) framework for the evaluation of the training programme as indicated in Table 6.5 below.

This framework was used by the researcher as a frame of reference for the design to measure the four identifiable factors namely, (i) reaction, (ii) learning, (iii) behaviour and (iv) results (Appendix I, Part 3). Each factor with six items making an overall 24 items to be responded to, making use of a summated rating, an example of ordinal scaling, where items are rated on a scale of 1 to 10, where 1 represents the lowest rating, 5 an average rating and 10 an excellent rating ranging from ‘definitely not =10’ to ‘definitely =1’ (see example below).

Question Rn1: The training was well organised

<b>Definitely not</b>									<b>Definitely</b>
1	2	3	4	5	6	7	8	9	10

The researcher hoped that the pilot study would yield the desired results and prove the reliability and validity of this instrument. Indeed the results of the pilot study conducted on 52 respondents proved beyond doubt that the internal consistency reliability coefficient ranged from 0.930 for Reaction, 0.949 for Behaviour; 0.930 for Learning dimensions; to 0.954 for Results. These results were even presented by the researcher at the 20<sup>th</sup> Annual Conference of the Southern Africa Institute for Management Scientists (SAIMS), hosted by the University of Pretoria in 2008. The comprehensive report on the validity and reliability of this instrument is covered in the next chapter.

**Table 6.5**  
**Evaluation of the training programme**

- **Level 1: The learners' reactions** - what they think of the training and what they have learned - questionnaire or reaction or response sheet is used. That is, did the participants find the course beneficial? To what extent do they feel it would help them improve their job performance?
  
- **Level 2: The change in learning by the learner** - 'did the training actually result in the participants' ability to apply new skills and knowledge on-the-job? That is, what knowledge was learnt? What skills were developed? What attitudes were changed? How well did participants achieve the learning outcomes of the course?
  
- **Level 3: Behaviour change on the job** – that is, what changes in job behaviours resulted from training? To what extent are workers applying what they have learnt in a way that is measurable and observable?  
 Kirkpatrick's (in Craig 1981:312) requirements for behaviour change:
  - There must be a desire on the part of the individual to change behaviour.
  - The individual must know what to do and how to do it.
  - The climate in the job situation must be conducive to the behaviour change and the application of newly acquired knowledge, skills, and attitudes.
  - The individual needs help, guidance, and support in applying the knowledge, skills, and attitudes learned in the training situation. There must be rewards for changing behaviour.
  
- **Level 4: The results to the organisation or enterprise** - in what way has the organisation benefited from this training? What results have been achieved in terms of organisational effectiveness? What changes in job results are attributable to training? How much more productive than untrained workers are trained workers? What differences in productivity levels stem from training?

Source: Fisher, Schoenfeldt, and Shaw (1993:405); Erasmus, Loedolff, Mda & Nel (2006:224)

#### 6.6.4 Measuring instrument – “Self-rated performance”

Finally, the measuring instrument used for self-assessment of performance (SELFPERF) is based on Heneman’s (1974) original study and Lord’s (1995) modification of the instrument (Annexure C, Part 4). Using self-anchored rating scales, consisting of ten (performance-related) scales, rated ‘below standard = 1’, ‘acceptable standard = 2’, ‘good = 3’ and ‘exceptional = 4’ (see example below).

<b>Performance issues</b>		<b>Exceptional</b>	<b>Good</b>	<b>Acceptable standard</b>	<b>Below standard</b>
1.	Commitment to safety	4	3	2	1

The pilot study conducted on the “Self-rated performance” measuring instrument reported the Cronbach Alpha coefficient value of 0.749 (Table 6.6), which is greater than 0.6, and indication of a reliable measuring instrument.

**Table 6.6**  
**Reliability analysis of ‘Self-rated performance’ measuring instrument**  
**(SELPERF)**

RELIABILITY ANALYSIS - SCALE (ALPHA)				
Item-total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
P1	30.0000	9.4118	.1248	.7625
P2	30.0000	9.0588	.2544	.7484
P3	29.8333	8.5000	.4078	.7301
P4	29.8333	7.7941	.6731	.6943
P5	30.2778	8.4477	.4590	.7242
P6	30.2222	6.7712	.6136	.6928
P7	29.7778	6.7712	.7353	.6689
P8	29.6111	8.1340	.5811	.7087
P9	30.0000	8.4706	.2719	.7535
P10	29.9444	9.7026	.0130	.7760
Reliability Coefficients				
N of Cases = 18.0		N of Items = 10		
Alpha = .7497				

With the KMO = 0.61 (mediocre) in Table 6.7 which is however greater than 0.6 is reported. The variance explained is high at 65.6%.

**Table 6.7**  
**KMO and Bartlett’s Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.611
Bartlett’s Test of Sphericity	Approx. Chi-Square	53.697
	df	45
	Sig.	.175

## **6.7 THE FACTOR STRUCTURE OF ALL THE 'EFFECTIVENESS OF TRAINING' QUESTIONNAIRE ITEMS**

It was mentioned in the above paragraph that the data set used in this measuring instrument is derived and based on Kirkpatrick's (1976; 1981) 'framework for the evaluation of the training programme model'. The items are twenty-four measurements taken from a sample of 51 respondents (from the pilot-study). The dimensions are (i) reaction; (ii) behaviour; (iii) learning; and (iv) results.

The correlation matrix of all variables is provided (Annexure E) and this matrix clearly shows correlations between certain groupings of items. The factor analysis conducted in this report used principal component extraction and varimax rotation (orthogonal rotation) and yielded a five components in the rotated component matrix. Various technical terms such as Kaiser Meyer- Olkin and Bartlett's Test of Sphericity and eigen values, scree test and factor loadings were used in the interpretation of such matrix.

The object was to determine whether there were underlying components/dimensions within the 24 items and for this reason factor analysis was chosen as the appropriate technique. The correlation table for these variables is shown in Annexure E (see HTM attachment). An examination of the correlations reveals that within the twenty-four variables there are most definitely groupings of variables which seem to be highly correlated with each other. This indicates a strong possibility of a factorable matrix.

The analysis initially ran a test on the Kaiser Meyer – Olkin (KMO) Test Statistic and Bartlett's test of sphericity. The initial test is a measure of sample adequacy and basically checks if the correlation matrix is factorisable. This value should be above 0.6 for the analysis to continue. The Kaiser Measure of Sampling Adequacy as indicated in Table 6.8 below for the overall factor analysis was 0.876. Kaiser and Rice (1974) as quoted by Lord (1995:267) described M.S.A values in the range of 0.880 to 0.90 as 'meritorious', and the M.S.A obtained in this instance therefore supported the use of the factor analysis on this data. The latter test checks that the correlation matrix

is significantly different from an Identity matrix and should result in a p value less than 0.05. The results of the two tests are outlined below.

**Table 6.8**  
**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.876
Bartlett's Test of Sphericity	Approx. Chi-Square	1513.973
	df	276
	Sig.	.000

Both the KMO finding of  $0.876 > 0.6$  and Bartlett's p value which equals  $0.000 < 0.05$  (significance level) are considered satisfactory for further factor analysis.

The object of factor rotation is to seek an improved solution that will be more informative than others. Rotation of factor solutions is based on the principle that there are many statistically equivalent ways to establish the underlying dimensions of a data set. The axes dividing the multidimensional space occupied by the data are positioned arbitrarily (in the case of oblique rotations). There is an infinite number of alternate reference frames that could be utilised to reproduce the factor matrix (Lord, 1995:268).

Prior to rotating the factors, it was necessary to decide on the number of factors to retain for rotation. The S.A.S. Factor procedure identified 24 significant factors, using the 'proportion' criterion. This method of factor extraction selected only those factors with Eigen values greater than the figure obtained by dividing the total variance by the number of items being analysed.

**Table 6.9**  
**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.251	59.379	59.379	14.251	59.379	59.379	5.362	22.343	22.343
2	2.050	8.543	67.921	2.050	8.543	67.921	4.257	17.736	40.079
3	1.545	6.438	74.359	1.545	6.438	74.359	3.793	15.806	55.885
4	1.400	5.835	80.194	1.400	5.835	80.194	3.524	14.681	70.566
5	1.176	4.899	85.093	1.176	4.899	85.093	3.486	14.527	85.093
6	.626	2.608	87.701						
7	.573	2.386	90.087						
8	.402	1.673	91.760						
9	.375	1.564	93.324						
10	.341	1.420	94.744						
11	.215	.897	95.641						
12	.174	.727	96.368						
13	.152	.634	97.002						
14	.141	.589	97.592						
15	.108	.448	98.040						
16	.100	.417	98.457						
17	.093	.387	98.843						
18	.064	.268	99.112						
19	.052	.218	99.330						
20	.046	.191	99.520						
21	.037	.155	99.675						
22	.030	.125	99.800						
23	.028	.115	99.915						
24	.020	.085	100.000						

Extraction Method: Principal Component Analysis.

An eigenvalue measures the amount of variance explained by a factor is shown in Table 6.9 above. Principal eigenvalues will always be a decreasing series of values that sum to the number of variables (Pohlmann, 2004:17). Without loss of generality, the variables are assumed to be standardised with means of 0 and variances of 1. Accordingly, the sum of the variances for those standardised measures is 24.0. An eigenvalue divided by the number of variables gives the proportion of variance in all the measures explained by a component.

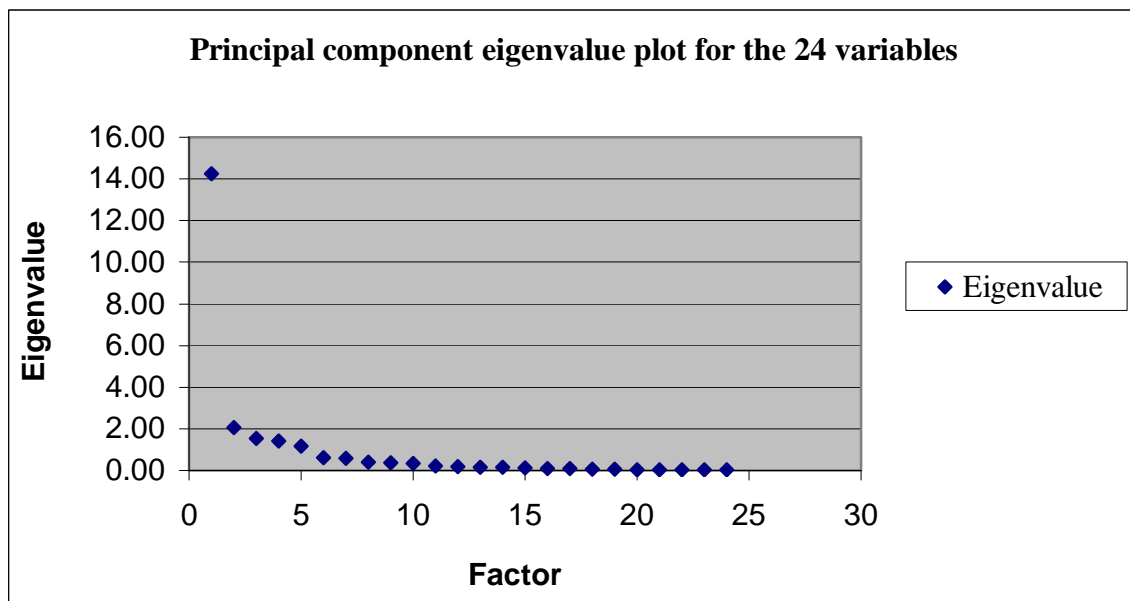
The first eigenvalue (14.251) in Table 6.9 divided by 24.0 indicates that 59.4% of variance in the 24 variables is explained by Component 1. The second component explains another 8.5% of variance. The third component explains another 6.4% of variance, fourth component explains 5.8% of variance, and the fifth component explains 4.89% of variance. Cumulatively, the first five components account for

85.09% of the variance. Components 6-24 explain the remaining 14.91% of variance and as their eigenvalues are less than one it was decided that they would not be taken into account in the rotated component final solution.

### 6.7.1 Dimensionality: Number of Components or Factors to Interpret

Pohlmann (2004:17) maintains that researchers also can use eigenvalues to determine the number of factors to interpret. The Kaiser-Guttman, eigenvalue-greater-than-one rule suggests a five-factor solution. Figure 6.1 shows a plot of the eigenvalues. A visual inspection of Figure 6.1, called a Scree Test (Cattell, 1996), also suggests a five-factor solution. The break in the trend line commencing at the fifth eigenvalue indicates that the major portion of variance is explained by the first five factors.

**Figure 6.1**  
**Principal component eigenvalue plot for the 24 variables**



The use of an orthogonal 'Varimax' rotated solution was then undertaken on these 24 factors because it provides the simplest interpretation of the structure (Pohlmann, 2004:18). Pohlmann (2004) further states that there is no rule for determining an interpretation cutoff, and analysts commonly use values between  $|.3|$  and  $|.6|$  for the factor coefficients.

For this pilot study, with a sample size of 51, the researcher chose to use a coefficient of  $|.5|$  (see Table 10) to interpret the varimax solution; the reason for this was to achieve a rotated structure that was simple to interpret. The first six variables measure Component 1 called Reaction (Rn1-Rn6), the second six variables measure Component 2 called Learning (L7-L12), the third six variables measure Component 3 called Behaviour (B13-B18), and the fourth six variables measure Component 4 called Results (Rs19-Rs24). That structure leads to an interpretation consistent with that obtained from the inspection of the correlation table.

### **6.7.2 Interpretation of Dimensions: Rotation**

The next step in the analysis is to interpret the factor structure by rotating the factors to a simple structure (Thurstone, 1935, 1947; Pohlmann, 2004:18). The pattern coefficients for the principal component solution are presented in Table 6.10 below, titled Rotated Component Matrix.

**Table 6.10**  
**Rotated Component Matrix**

	Component				
	1	2	3	4	5
Rs22	.848				
Rs21	.840				
Rs24	.808				
Rs20	.799				
Rs19	.784				
Rs23	.730				
Rn2		.841			
Rn3		.778			
Rn4		.757			
Rn1		.701			
Rn5		.695			
L8			.819		
L7			.809		
L12			.786		
Rn6		.551	.559		
B16				.776	
B18				.754	
B17				.713	
B14				.639	.556
L11					.731
L10					.712
B15				.612	.669
B13				.511	.645
L9					.545

The above Table 6.10 will be interpreted in line with the pre conceived dimensions and their attached items as is reflected in the tables that follow.

#### **6.7.2.1 Interpretation of factors analysis:**

Even though the four dimensions for the Effectiveness of training namely, reaction, learning, behaviour and results, were originally identified by Kirkpatrick (1976; 1981), it was essential to determine whether each item as previously identified loaded under each pre conceived dimension.

Component one is made up of the sub dimension: **“Perception of learners Results from the training received”** which confirms the researchers preconceived dimension.

**Table 6(a1):  
Perception of learners ‘Results’ from the training received**

No.	Sub dimensions	Factor score
Rs22	The level of team-work within my unit has improved since receiving training.	.848
Rs21	All individual members of my unit are exceeding their set targets since receiving training.	.840
Rs24	The overall performance of my unit has increased since receiving training	.808
Rs20	My team has consistently being producing better results since receiving training.	.799
Rs19	The quantity of work output from my section has increased since receiving training	.784
Rs23	The quality of my unit’s outputs has improved since receiving training.	.730

If one investigates all items carefully that make up each component it seems apparent that Component two is made up of the sub dimension: **“Employees’ Reaction to training received”** which confirms the researchers preconceived dimension.

**Table 6(a2):  
Employees’ “Reaction” to training received**

No.	Items	Factor score
Rn2	The goals of the training were clearly communicated to trainees	.841
Rn3	The training was conducted in an interesting way.	.778
Rn4	The training was relevant.	.757
Rn1	The training was well organized	.701
Rn5	The training addressed my individual needs.	.695
Rn6	The training was informative.	.551

Component three is made up of the sub dimension: **“Individually I feel more capacitated(empowered) through the training received”** which does not confirm the researchers preconceived dimension of Learning, but introduces a possible sub dimension of Learning namely “Individual Empowerment through learning”.

**Table 6(a3):**

**Individually I feel more capacitated through training received**

No.	Sub dimensions	Factor score
L7	I am feeling more confident in my work after receiving training.	.809
L8	I am feeling more capable at my job after receiving training.	.819
L12	I feel that training has provided me with valuable workplace skills.	.786
Rn6	The training was informative.	.551

Component four is made up of the sub dimension: **“Whether there is a behavior change as a result of training received”** which confirms the researcher’s preconceived dimension.

**Table 6(a3):**

**Whether there is a “behaviour” change as a result of training received**

No.	Sub dimensions	Factor score
B16	I am more able to handle conflict at work since receiving training.	.776
B18	Since receiving training, I am more understanding of my work colleagues.	.754
B17	I now take more challenging tasks at work since receiving training.	.713
B14	The training has made me more tolerant towards authority.	.639
B15	Since receiving training, I am more cooperative towards my colleagues.	.612
B13	The training has made me more tolerant of my colleagues.	.511

Component five is made up of both Learning and behaviour (because of their dual loadings) sub dimension which translates to the sub dimension: **“I feel more capacitated(empowered) to work within my team or with my work colleagues”** which does not confirm the researchers preconceived dimension of Learning, but introduces a possible sub dimension of Learning namely “Teamwork Empowerment through learning”.

**Table 6(a4):**  
**I feel more capacitated (empowered) to work within my team**

No.	Sub dimensions	Factor score
B14	The training has made me more tolerant towards authority.	.639
B15	Since receiving training, I am more cooperative towards my colleagues.	.612
B13	The training has made me more tolerant of my colleagues.	.511
L11	I better understand the value of time management since receiving training.	.731
L10	I better understand my role within the company since receiving training.	.712
L9	I better understand the value of team-work since receiving training.	.545

Note that the original questionnaire as was mentioned above (see 6.4.3) was developed off the Kirkpatrick's (1976; 1981) 'framework for the evaluation of the training programme model' and this same model consisting of (i) reaction; (ii) learning; (iii) behaviour; and (iv) results, was refined continuously via rigorous sampling and quantitative analysis, the results of which are portrayed in Table 6.10. Therefore, the factors analysis that was applied in all cases was a form of confirmatory factor analysis as it was expected that the items load on the preconceived constructs.

As can be seen from the grid in Table 6.10 above, almost all items loaded onto their preconceived constructs with a few exceptions as is outlined above. This study goes a long way in proving the validity of this measuring instrument and although two dimension namely component three and five did not load exactly on the Learning dimension the interpreted dimensions or factors definitely are sub dimensions of Learning. In all other cases all items as expected loaded onto their pre conceived constructs of Results, reaction and behavior.

To obtain greater clarity as to the factor structure of the questionnaire, and in order to obtain a simple structure, the separate, 'grouped' factor analyses were then undertaken. These will be described in detail in the following sections of this chapter.

In addition to the validity testing the study also runs reliability testing which is outlined below using the Cronbach Coefficient Alpha tests. Initially the study investigates the overall scale reliability by looking at the Cronbach Coefficient Alpha for all 24 Items combined. As the results below Table 6.11(a) & (b) indicate the Coefficient value equals 0.969 which is far greater than 0.6 which indicates overall scale reliability.

**Table 6.11(a)**  
**Inter Item Statistics (Overall Scale)**

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Rn1	186.76	1398.784	.777	.967
Rn2	186.35	1424.153	.665	.969
Rn3	186.43	1425.570	.718	.968
Rn4	186.08	1454.714	.565	.969
Rn5	186.63	1402.878	.757	.968
Rn6	186.18	1413.268	.826	.967
L7	186.45	1425.373	.717	.968
L8	186.45	1424.413	.755	.968
L9	186.18	1434.548	.714	.968
L10	186.06	1447.456	.681	.968
L11	185.88	1421.866	.810	.967
L12	186.22	1422.173	.760	.968
B13	186.65	1427.873	.752	.968
B14	186.12	1441.946	.762	.968
B15	186.20	1440.401	.766	.968
B16	186.18	1424.228	.773	.968
B17	186.14	1429.121	.750	.968
B18	186.18	1417.748	.808	.967
Rs19	186.53	1416.214	.703	.968
Rs20	186.67	1403.107	.796	.967
Rs21	187.37	1403.678	.723	.968
Rs22	187.02	1400.020	.729	.968
Rs23	186.76	1414.384	.796	.967
Rs24	186.71	1407.732	.775	.967

**Table 6.11(b)**  
**Cronbach Coefficient Alpha (Overall Scale)**

Cronbach's Alpha	N of Items
.969	24

The procedure undertaken in the factor analysis for each category of variables or dimensions follows the same sequence of steps as that undertaken in the initial overview procedure, namely, principal-factor extraction is followed by orthogonal varimax and rotations of the factor solutions. The 'Varimax' rotated solutions were again compared in each case, and found to be broadly consistent.

### **6.8 THE RELIABILITY ANALYSIS OF THE “EFFECTIVENESS OF TRAINING” MEASURING INSTRUMENT.**

This measuring instrument is structured around four dimensions as originally identified by Kirkpatrick (1981; 1976), namely, (i) reaction; (ii) learning; (iii) behaviour; and (iv) results. It is worth noting that Cronbach's alpha is the most common form of internal consistency reliability coefficient. By convention, a lenient cut-off of .60 is common in exploratory research; alpha should be at least .70 or higher to retain an item in an "adequate" scale; and many researchers require a cut-off of .80 for a "good scale." George and Mallery (2003:231) provide the following rules of thumb: “\_ > .9 – Excellent, \_ > .8 – Good, \_ > .7 – Acceptable, \_ > .6 – Questionable, \_ > .5 – Poor, and \_ < .5 – Unacceptable”.

The study now undertakes an item analyse to determine the reliability of all the four dimensions separately below.

### 6.8.1 Summary on the reliability analysis of the “reaction dimension” of the “effectiveness of training” measuring instrument

The study makes use of the Cronbach Alpha Coefficient to investigate and identify items to assess reliability of the scale from the “Reaction” dimension consisting of six items. The results in Table 6.12(a) below indicate the Cronbach’s alpha Coefficient value equals 0.930 which is far greater than 0.6 which indicates scale reliability within this dimension.

**Table 6.12(a)**  
**Inter Item Statistics (Reaction Dimension)**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Rn1	40.98	90.460	.812	.916
Rn2	40.57	91.690	.828	.913
Rn3	40.65	94.753	.830	.914
Rn4	40.29	101.652	.690	.930
Rn5	40.84	89.775	.834	.913
Rn6	40.39	97.243	.794	.918

**Table 6.12(b)**  
**Cronbach Coefficient Alpha (Reaction Dimension)**

Cronbach's Alpha	N of Items
.930	6

The study now focuses on the reliability analysis of the “learning dimension”.

### 6.8.2 Summary on the reliability analysis of the “learning dimension” of the “effectiveness of training” measuring instrument

The study turns to studying the Cronbach Alpha Coefficient Alpha for the Learning dimension consisting of six items. The results in Tables 6.13(a) & (b) below indicate the Cronbach Alpha Coefficient value equals 0.930 which is far greater than 0.6 which indicates scale reliability within this dimension.

**Table 6.13(a)**  
**Inter Item Statistics (Learning Dimension)**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
L7	41.86	74.081	.803	.916
L8	41.86	73.721	.859	.909
L9	41.59	79.567	.699	.929
L10	41.47	80.294	.748	.923
L11	41.29	75.852	.833	.912
L12	41.63	74.038	.835	.912

**Table 6.13(b)**  
**Cronbach Coefficient Alpha (Learning Dimension)**

Cronbach's Alpha	N of Items
.930	6

The next section looks at the reliability analysis of the “behaviour dimension”.

### 6.8.3 Summary on the reliability analysis of the “behaviour dimension” of the “effectiveness of training” measuring instrument

The study turns to studying the Cronbach Alpha Coefficient for the Behaviour dimension consisting of six items. The results in Tables 6.14(a) & (b) below indicate the Cronbach Alpha Coefficient value equals 0.949 which is far greater than 0.6 which indicates scale reliability within this dimension.

**Table 6.14(a)**  
**Inter Item Statistics (Behaviour Dimension)**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
B13	41.84	75.015	.802	.944
B14	41.31	77.220	.869	.937
B15	41.39	76.683	.879	.936
B16	41.37	73.118	.861	.937
B17	41.33	75.627	.789	.946
B18	41.37	72.398	.876	.935

**Table 6.14(b)**  
**Cronbach Coefficient Alpha (Behaviour Dimension)**

Cronbach's Alpha	N of Items
.949	6

The next section looks at the reliability analysis of “behaviour dimension”.

#### 6.8.4 Summary on the reliability analysis of the “results dimension” of the “effectiveness of training” measuring instrument

The focus of study turns to studying the Cronbach Alpha Coefficient for the results dimension consisting of six items. The results in Tables 6.15(a) and (b) below indicate the Cronbach Alpha Coefficient value equals 0.954 which is far greater than 0.6 which indicates scale reliability within this dimension.

**Table 6.15(a)**

##### **Inter Item Statistics (Results Dimension)**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Rs19	38.12	117.266	.785	.953
Rs20	38.25	113.834	.886	.942
Rs21	38.96	110.718	.866	.944
Rs22	38.61	108.683	.892	.941
Rs23	38.35	119.393	.838	.947
Rs24	38.29	114.492	.879	.942

**Table 6.15(b)**

##### **Cronbach Coefficient Alpha (Results Dimension)**

Cronbach's Alpha	N of Items
.954	6

An item analysis was therefore undertaken on the 24 items measuring the four dimensions of ‘effectiveness of training’ measuring instrument, namely, reaction; learning; behaviour; and results. The intercorrelation matrix on these 24 items was initially scrutinised, to assess the degree of association between the scores on items measuring this dimension. The intercorrelation matrix is contained in Annexure E. The items were observed to generally correlate with each other from the same variable or dimension.

The next section presents a summary of the reliability analysis of the “effectiveness of training” measuring instrument.

## **6.9 SUMMARY ON THE RELIABILITY ANALYSIS OF THE ‘EFFECTIVENESS OF TRAINING’ MEASURING INSTRUMENT**

Under 6.4.3 above, the factor structure of all the effectiveness of training questionnaire items was conducted. It is significant to note that the variables falling into the four dimensions, namely, reaction; learning; behaviour; and results, as originally identified by Kirkpatrick (1976) constitute a good scale. Because the results in most cases closely resemble the preconceived constructs, although there are a few that do not fall into components as one would have initially anticipated. The reliability results are also satisfactory as the overall scale construct as well as all individual dimensions all have Cronbach Alpha Coefficient values greater than 0.6.

## **6.10 SUMMARY AND CONCLUSION**

This chapter reported on the results of tests undertaken to assess the reliability and validity of the following measuring instruments, namely,

- (i) employee motivation;
- (ii) organizational climate;
- (iii) self-rated performance; and
- (iv) effectiveness of training.

All the questionnaires with the exception of “effectiveness of training” questionnaire, were proved by the previous studies to be reliable and valid. However, in this study they were further subjected to a pilot study, and the Cronbach’s Alpha coefficient and KMO results for each measuring instrument are indicated below. The newly constructed measuring instrument namely, “effectiveness of training” was also proved to be valid and reliable from the pilot study results, an item analysis was also executed on each of its four dimensions as originally identified by Kirkpatrick (1976).

The study used Cronbach's (1951) Coefficient Alpha correlational test to test the reliability of all the questionnaires used. Factor analysis conducted used principal component extraction and varimax rotation in order to assess the discriminant and convergent validity of the measuring instruments. These procedures were undertaken on the data from both pre- and post-training data collection surveys.

The strategy followed is informed by the application of Kaiser's (1970) criterion, where various factors with eigen values greater than unity are postulated. The study reported the reliability and validity results of all the four measuring instruments below.

- Employee motivation (PERMOT)  
Cronbach Alpha coefficient = 0.9208 and KMO = 0.89
- Organisational Climate (ORGCLIM)  
Cronbach Alpha coefficient = 0.722 and KMO = 0.778
- Self-rated performance (SELFPERF)  
Cronbach Alpha coefficient = 0.7497 and KMO = 0.61
- Effectiveness of Training (EFFTRA)  
Cronbach Alpha coefficient = 0.969 and KMO = 0.876

Having determining the validity and reliability of the measuring instruments used in this study, in the next chapter the empirical investigation will be described and the analysis and interpretation of research results discussed.

## **CHAPTER 7:**

### **RESULTS**

#### **7.1 INTRODUCTION**

Chapter 5 presented the research design and methodology of this study, which included the research design, measuring instruments, research procedure and statistical analysis. Chapter 6 addressed the validity and reliability of the measuring instruments used in this study, reporting on factor analysis results. The present chapter deals with the statistical results of the research.

Initially, the objectives and hypotheses together with sample size and techniques are indicated. Following this, the results of the descriptive statistics are reflected and finally Correlation and Regression Modelling is applied and final predictive models are presented. It should be pointed out that the particular statistical procedures were selected for their suitability to test the research hypotheses of the study.

The empirical research objectives will be referred to next.

#### **7.2 EMPIRICAL RESEARCH OBJECTIVES**

The primary objective of the research study is to investigate the impact of skills development training on employee motivation and job satisfaction, the perceptions of the organisational climate, self-performance and the effectiveness of training.

At the secondary level, the objectives are to:

- 4) determine the overall change in the dependent variables, namely: employee motivation and job satisfaction; and organisational climate across both pre- and post-groups.

- 5) determine the overall change in the dependent variables, namely: employee motivation and job satisfaction; and organisational climate across both pre- and post-groups by each of the following demographical variables, namely: company, gender, race, age, home language, marital status, job title, qualifications, training received in the past 18 months, the number of times of such training, work experience in the same job and work experience in the same company.
  
- 6) determine and if possible, model the relationships between the variables: effectiveness of training; self-performance; motivation and job satisfaction; and organisational climate.

The next section reports on the data, with emphases being on the sample size and the technique used.

### 7.3 DATA

#### 7.3.1 Sample Size

**Table 7.1**  
**List of participating companies**

			Company			
PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	Sasko	115	19.0	19.0	19.0
		Country Bird	183	30.3	30.3	49.3
		Interstate Bus Lines	175	29.0	29.0	78.3
		SA Truck and Bodies	69	11.4	11.4	89.7
		Absa	62	10.3	10.3	100.0
		Total	604	100.0	100.0	
Post	Valid	Sasko	110	20.9	20.9	20.9
		Country Bird	150	28.5	28.5	49.4
		Interstate Bus Lines	177	33.7	33.7	83.1
		SA Truck and Bodies	38	7.2	7.2	90.3
		Absa	51	9.7	9.7	100.0
		Total	526	100.0	100.0	

First sample consisted of 604 respondents and 526 respondents in the second study. The same respondents were divided across the companies indicated in Table 7.1.

From Table 7.1, it is evident that the majority of respondents were drawn from mainly three companies, namely: Interstate Bus-Line, followed by Country-Bird and Sasko. This consistency is evident in both the pre- and post stage.

### **7.3.2 Sampling Technique**

Both pre- and post- samples were chosen based on a random sampling technique using respondents who were selected to fill in the questionnaire as requested by their respective companies in consultation with the researcher.

The next section will focus on the results that are broken up into two sections: namely, the demographics across both samples, followed by the inferential statistics as applied to each hypothesis.

## **7.4 DEMOGRAPHICS OF RESPONDENTS PRE- AND POST STAGES**

Initially, the study outlines the demographic findings. This demographic information was used to obtain information about the respondents. The actual sample characteristics for purposes of comparison are grouped as pre- and post respectively, as indicated in Tables 7.2 to 7.11 below and will be described next.

**Table 7.2**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Company**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	Sasko	115	19.0	19.0	19.0
		Country Bird	183	30.3	30.3	49.3
		Interstate Bus Lines	175	29.0	29.0	78.3
		SA Truck and Bodies	69	11.4	11.4	89.7
		Absa	62	10.3	10.3	100.0
		Total	604	100.0	100.0	
Post	Valid	Sasko	110	20.9	20.9	20.9
		Country Bird	150	28.5	28.5	49.4
		Interstate Bus Lines	177	33.7	33.7	83.1
		SA Truck and Bodies	38	7.2	7.2	90.3
		Absa	51	9.7	9.7	100.0
		Total	526	100.0	100.0	

From Table 7.2, it is evident that the majority of respondents were drawn from mainly three companies, namely, Interstate Bus-Line, followed by Country-Bird and then Sasko. This consistency is evident in both stages: that is pre- and post.

**Table 7.3**  
**Descriptive Statistics (Frequencies) by Pre- and Post- Groups by Gender**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	Male	366	60.6	60.7	60.7
		Female	237	39.2	39.3	100.0
		Total	603	99.8	100.0	
	Missing	System	1	.2		
	Total		604	100.0		
Post	Valid	Male	339	64.4	64.4	64.4
		Female	187	35.6	35.6	100.0
		Total	526	100.0	100.0	

From Table 7.3 above, it is worth noting that an overwhelming majority (60.6% for pre- and 64.4% for post-) of the respondents were males, with women making up a small number of about 39.2% and 35.6% for post-. This skewed gender representation arguably confirms a long history of perpetual biased practices between males and females across sectors at this level of operation. On the other hand, it is not surprising that this is the case, because generally, the type of jobs being executed at this level are

more physical in nature and require strength, which is normally associated with male workers.

**Table 7.4**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Race**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	African	484	80.1	80.7	80.7
		Coloured	51	8.4	8.5	89.2
		Asian	1	.2	.2	89.3
		White	64	10.6	10.7	100.0
		Total	600	99.3	100.0	
	Missing	System	4	.7		
	Total	604	100.0			
Post	Valid	African	445	84.6	84.6	84.6
		Coloured	31	5.9	5.9	90.5
		Asian	1	.2	.2	90.7
		White	49	9.3	9.3	100.0
		Total	526	100.0	100.0	

The types of races represented in Table 7.4 are: Africans, Coloureds, Indians, Whites, and others, in the same order. It is apparent that an overwhelming majority of workers at the lower level of management across these companies still reflects a very skewed representation. A huge number of African workers (proportion of 82.4% for pre- and post-), followed by Whites (with a 10% proportion) and then Coloureds (with a 7.2% proportion) make up a full complement of respondents in this study.

Undoubtedly, if companies were to meaningfully invest in this category of workers through skills transfer and many other systems, surely, the results of such investment will be reflected only in the overall bottom-line output.

**Table 7.5**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Age**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	21 - 25	57	9.4	9.5	9.5
		26 - 30	71	11.8	11.8	21.2
		31 - 35	109	18.0	18.1	39.3
		36 - 40	115	19.0	19.1	58.4
		41 - 45	88	14.6	14.6	73.0
		46 - 50	87	14.4	14.4	87.4
		51 - 55	50	8.3	8.3	95.7
		56 and above	26	4.3	4.3	100.0
		Total	603	99.8	100.0	
	Missing	System	1	.2		
Total		604	100.0			
Post	Valid	21 - 25	24	4.6	4.6	4.6
		26 - 30	74	14.1	14.1	18.6
		31 - 35	89	16.9	16.9	35.6
		36 - 40	89	16.9	16.9	52.5
		41 - 45	109	20.7	20.7	73.2
		46 - 50	73	13.9	13.9	87.1
		51 - 55	43	8.2	8.2	95.2
		56 and above	25	4.8	4.8	100.0
		Total	526	100.0	100.0	

It is very clear from Table 7.5 that a sizeable number of the respondents from these participating companies are between 31 and 45 years of age. The smallest number of respondents is divided amongst those that are between the age of 21 and 25; 51 and 55; and those above 56 years of age. It stands to reason that these categories of respondents represent those employees that are relatively new in the labour market and those who are on the verge of exiting the labour market, mainly due to retirement.

**Table 7.6**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Home Language**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	South Sotho	375	62.1	62.5	62.5
		English	12	2.0	2.0	64.5
		Afrikaans	111	18.4	18.5	83.0
		Xhosa	78	12.9	13.0	96.0
		Zulu	16	2.6	2.7	98.7
		Other	8	1.3	1.3	100.0
		Total	600	99.3	100.0	
	Missing	System	4	.7		
Total		604	100.0			
Post	Valid	South Sotho	363	69.0	69.0	69.0
		English	7	1.3	1.3	70.3
		Afrikaans	82	15.6	15.6	85.9
		Xhosa	66	12.5	12.5	98.5
		Zulu	8	1.5	1.5	100.0
		Total	526	100.0	100.0	
	Missing	System				

From Table 7.6, it is clear from the findings that South Sotho or Sesotho (65.8%) and Afrikaans (17.1%) are the two most dominant and most spoken languages in both provinces; namely, the Free State and the Northern Cape. It is also interesting to note that Xhosa-speaking people are starting to make inroads into the two provinces far faster than English speakers, who are rated last.

**Table 7.7**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Marital Status**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	Married	385	63.7	64.0	64.0
		Single	160	26.5	26.6	90.5
		Divorced	57	9.4	9.5	100.0
		Total	602	99.7	100.0	
		Missing	System	2	.3	
	Total		604	100.0		
Post	Valid	Married	360	68.4	68.4	68.4
		Single	126	24.0	24.0	92.4
		Divorced	40	7.6	7.6	100.0
		Total	526	100.0	100.0	

The findings in Table 7.7 indicate that most of the respondents (66.2%) are married, giving an indication that this study deals with a reasonably mature group of people with a certain level of responsibility. Nevertheless, almost half of this number (25.3%) represents those who have not yet decided to get married.

**Table 7.8**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Job Category**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	Skilled	83	13.7	13.7	13.7
		Semi-skilled	521	86.3	86.3	100.0
		Total	604	100.0	100.0	
Post	Valid	Skilled	165	31.4	31.5	31.5
		Semi-skilled	359	68.3	68.5	100.0
		Total	524	99.6	100.0	
	Missing	System	2	.4		
	Total		526	100.0		

Because job title alone cannot provide a definite answer to whether one is skilled or semi-skilled, experience gained over the years in a particular job coupled with appropriate qualifications are better determinants of an employee's ability to do a job. It was for this reason therefore that the researcher deemed it essential to factor in the qualifications of individuals for better clarification of this variable. Paterson's (1972) Decision Band Job Grading model was used in this study as a frame of reference for clarifying the differences between the two (refer to 4.2.2).

Table 7.8 shows an overwhelming majority (77.4%) of respondents as those workers doing routine jobs (that is, semi-skilled) whilst a very small number (22.6%) do jobs that require some level of skill and competence.

**Table 7.9**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Qualification**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	Below Grade 12	521	86.3	86.3	86.3
		Post Matric	83	13.7	13.7	100.0
		Total	604	100.0	100.0	
Post	Valid	Below Grade 12	440	83.7	83.7	83.7
		Post Matric	86	16.3	16.3	100.0
		Total	526	100.0	100.0	

It is clear from Table 7.9 that a large proportion (85%) of the respondents can barely read and write and a very small number possess a qualification higher than Grade 12 (15%). This large discrepancy poses a serious challenge to this category of workers to execute their duties with confidence, accuracy and precision, given their levels of educational competency and skill. Poor literacy and numeracy skills will make it almost impossible for them to avoid making mistakes at work; something that may cause companies to lose large amounts of money.

**Table 7.10**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by Work experience in the same job**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	1 - 5 years	262	43.4	43.5	43.5
		6 - 10 years	116	19.2	19.3	62.8
		11 - 20 years	190	31.5	31.6	94.4
		21 and above	34	5.6	5.6	100.0
		Total	602	99.7	100.0	
	Missing	System	2	.3		
Total		604	100.0			
Post	Valid	1 - 5 years	234	44.5	44.5	44.5
		6 - 10 years	122	23.2	23.2	67.7
		11 - 20 years	138	26.2	26.2	93.9
		21 and above	32	6.1	6.1	100.0
		Total	526	100.0	100.0	

Table 7.10 indicates very interesting trends; respondents with 1-5 years experience are in the majority (44%), followed by those with 11-20 years with an (29%); and finally those with 6-10 years experience with an (21.3%). It is not surprising for workers at this level to spend a number of years in the same job, because for most of them, it is the only thing they know.

Mobility of whatever kind rarely takes place, because having to face a new challenge seems not to be an option for most of them; it appears to be a frightening experience for these individual employees.

**Table 7.11**  
**Descriptive Statistics (Frequencies) by Pre- and Post Groups by work experience within the same company**

PrePost			Frequency	Percent	Valid Percent	Cumulative Percent
Pre	Valid	1 - 5 years	236	39.1	39.5	39.5
		6 - 10 years	107	17.7	17.9	57.5
		11 - 20 years	218	36.1	36.5	94.0
		21 and above	36	6.0	6.0	100.0
		Total	597	98.8	100.0	
	Missing	System	7	1.2		
	Total	604	100.0			
Post	Valid	1 - 5 years	232	44.1	44.1	44.1
		6 - 10 years	115	21.9	21.9	66.0
		11 - 20 years	146	27.8	27.8	93.7
		21 and above	33	6.3	6.3	100.0
		Total	526	100.0	100.0	

Table 7.11 indicates the same trend as Table 7.10 above, where the majority of those with 1 – 5 years' experience, followed by 11 – 20 years', and then 6 – 10 years' decide to stay with the same company for long periods. One very significant observation here is the degree of loyalty shown to these companies by this category of workers, despite the prospect of promotion being almost non-existent for most of them. It is also worth noting that remaining in one company for them for so long is not necessarily their own decision, but their lack of skills and competencies render them unmarketable elsewhere.

In the next section, the study will focus on the investigation of each of the hypotheses using numerous inferential statistical techniques in the process. The following serve as the main hypotheses of this study.

## **7.5 LIST OF HYPOTHESES**

### **Hypothesis 1:**

*Hypothesis 1 concerns associations between pre and post test scores on the employee motivation/ job satisfaction measuring instrument.*

H1: Scores on “employee motivation/job satisfaction” differ significantly across pre- and post test groups.

H<sub>1o</sub>: There is no significant difference between scores on “employee motivation/job satisfaction” in pre- and post test groups.

### **Hypothesis 2:**

*Hypothesis 2 incorporates ten sub-hypotheses concerning associations between demographic variables and pre and post test scores on the “employee motivation/job satisfaction” measuring instruments.*

H2: Demographic variables significantly affect pre and post test scores on the “employee motivation/job satisfaction” measuring instrument.

H<sub>2o</sub>: Demographic variables do not significantly affect pre and post test scores on the “employee motivation/job satisfaction” measuring instrument.

**Hypothesis 3:**

*Hypothesis 3 concerns associations between pre- and post test scores on the organisational climate measuring instrument.*

H3: Scores on perceptions of organisational climate measuring instrument differ significantly in pre- and post- treatment groups.

H<sub>3o</sub>: There are no significant differences in scores of organisational climate measuring instrument across pre- and post- groups.

**Hypothesis 4:**

*Hypothesis 4 incorporates ten sub-hypotheses concerning associations between demographic variables and group pre- and post scores on the organisational climate measuring instrument.*

H4: Demographic variables significantly affect pre- and post test scores on the organisational climate measuring instrument.

H<sub>4o</sub>: Demographic variables do not significantly affect pre- and post test scores on the organisational climate measuring instrument.

**Hypothesis 5:**

*Hypothesis 5 concerns associations between frequency of training and group pre- and post tests scores on the “employee motivation/job satisfaction” measuring instruments.*

H5: Scores on the “employee motivation/job satisfaction” measuring instrument do significantly differ across various categories of frequency of training.

H<sub>5o</sub>: Scores on the “employee motivation/job satisfaction” measuring instrument do not significantly differ across various categories of frequency of training.

**Hypothesis 6:**

*Hypothesis 6 concerns associations between frequency of training and group pre- and post tests scores on the organisational climate measuring instrument.*

H6: Scores on the “organizational climate” measuring instrument do differ significantly across various categories of frequency of training.

H6<sub>0</sub>: Scores on the “organizational climate” measuring instrument do not significantly differ across various categories of frequency of training.

**Hypothesis 7:**

*Hypothesis 7 concerns associations between frequency of training and group pre- and post tests scores on the effectiveness of training measuring instrument.*

H7: Scores on the “effectiveness of training” measuring instrument do differ significantly across various categories of frequency of training.

H7<sub>0</sub>: Scores on the “effectiveness of training” measuring instrument do not differ significantly across various categories of frequency of training

**Hypothesis 8:**

*Hypothesis 8 concerns associations between frequency of training and group pre- and post test scores on the self-rated performance measuring instrument.*

H8: Scores on the “self-rated performance” measuring instrument do differ significantly across various categories of frequency of training.

H8<sub>0</sub>: Scores on the “self-rated performance” measuring instrument do not differ significantly across various categories of frequency of training.

**Hypothesis 9:**

*Hypothesis 9 concerns associations between effectiveness of training measuring instrument scores and “employee motivation/ job satisfaction” measuring instruments.*

H9: Effectiveness of training scores significantly correlate with scores on the “employee motivation/job satisfaction” measuring instrument.

H9<sub>0</sub>: Effectiveness of training scores do not significantly correlate with scores on the “employee motivation/job satisfaction” measuring instrument.

**Hypothesis 10:**

*Hypothesis 10 concerns associations between effectiveness of training measuring instrument scores and “organizational climate” measuring instruments.*

H10: Effectiveness of training scores significantly correlate with scores on the “organizational climate” measuring instrument.

H10<sub>0</sub>: Effectiveness of training scores do not significantly correlate with scores on the “organizational climate” measuring instrument.

**Hypothesis 11:**

*Hypothesis 11 concerns associations between effectiveness of training measuring instrument scores and “self-rated performance” measuring instruments.*

H11: Effectiveness of training scores significantly correlate with scores on the “self-rated performance” measuring instrument.

H11<sub>0</sub>: Effectiveness of training scores do not significantly correlate with scores on the “self-rated performance” measuring instrument.

**Hypothesis 12:**

***Hypothesis 12 concerns associations between effectiveness of training, organizational climate and self-rated performance scores combined and the employee motivation/job satisfaction measuring instrument.***

H12: Aggregated scores on effectiveness of training, perceptions of organisational climate, and self-rated performance measuring instruments, significantly correlate with scores on the employee motivation/job satisfaction measuring instrument.

H12<sub>o</sub>: Aggregated scores on effectiveness of training, perceptions of organisational climate, and self-rated performance measuring instruments do not significantly correlate with scores on the employee motivation/job satisfaction measuring instrument.

**Hypothesis 13:**

***Hypothesis 13 concerns associations between effectiveness of training, employee motivation/job satisfaction and self-rated performance measuring instruments combined and the organisational climate measuring instrument.***

H13: Aggregated scores on effectiveness of training, employee motivation/job satisfaction and 'self-rated performance measuring instruments significantly correlate with scores on the perceptions of organisational climate measuring instrument.

H13<sub>o</sub>: Aggregated scores on effectiveness of training, employee motivation/job satisfaction, and self-rated performance measuring instruments, do not significantly correlate with scores on the perceptions of organisational climate measuring instrument.

### 7.5.1 Analysis of hypothesis 1 it relates to the ‘Employee Motivation/job satisfaction’ construct only

Initially, differences in Employee Motivation/job satisfaction across pre- and post groups overall, is studied (namely Hypothesis 1). The results of the investigation follow below:

**Table 7.12**  
**Descriptive Statistics (Means and Standard Deviations) for the metric “Employee Motivation/job satisfaction” by Pre- and Post Groups**

	PrePost	N	Mean	Std. Deviation	Std. Error Mean
Motivation and Job Satisfaction	Pre	589	100.41	24.603	1.014
	Post	526	101.48	25.349	1.105

**Table 7.13**  
**Independent T-Test for the metric “Employee Motivation/job satisfaction” for Pre- and Post Groups**

		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
Motivation and Job Satisfaction	Equal variances assumed	.269	.604	-.711	1113	.477	-1.065	1.497	-4.003	1.873
	Equal variances not assumed			-.710	1090.684	.478	-1.065	1.500	-4.008	1.878

As can be seen from Table 7.13 the p value of 0.477 is not less than 0.05; therefore, with reference to Hypothesis 1, there is not sufficient evidence at a 5% level of significance to suggest that the population mean ‘employee motivation/job satisfaction scores’ are significantly different across both the pre- and post groups .

## 7.5.2 Analysis of hypothesis 2 relates to the ‘Employee Motivation/job satisfaction’ construct only

Secondly, Hypothesis 2 with its ten sub-hypotheses is investigated by looking at each demographic individually and its effect on motivation and job satisfaction across pre- and post groups.

### 7.5.2.1 Analysis of differences in the “Employee Motivation/job satisfaction scores” pre- and post groups for individual companies

The study now investigates differences in the employee motivation/job satisfaction scores across both the pre- and post groups by each demographic variable, initially starting with the company.

**Table 7.14**  
**Descriptive Statistics (Means and Standard Deviations) for Employee Motivation/job satisfaction for Pre- and Post Groups by individual Company**

Company		PrePost	N	Mean	Std. Deviation	Std. Error Mean
Sasko	Motivation and Job Satisfaction	Pre	105	115.51	23.557	2.299
		Post	110	114.33	23.677	2.257
Country Bird	Motivation and Job Satisfaction	Pre	178	89.87	23.626	1.771
		Post	150	102.05	21.000	1.715
Interstate Bus Lines	Motivation and Job Satisfaction	Pre	175	99.03	22.565	1.706
		Post	177	94.42	21.768	1.636
SA Truck and Bodies	Motivation and Job Satisfaction	Pre	69	97.70	24.211	2.915
		Post	38	69.82	28.863	4.682
Absa	Motivation and Job Satisfaction	Pre	62	112.05	17.162	2.180
		Post	51	120.20	16.316	2.285

As can be seen from Table 7.15 the p values of Country Bird, Absa and SA Truck and Bodies are all less than 0.05. The former two companies reveal a significant increase in the construct, whereas the latter company reveals a significant decrease if one studies Table 7.14.

**Table 7.15**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by individual Company.**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Company										Lower	Upper
Sasko	Motivation and Job Satisfaction	Equal variances assumed	.257	.613	.368	213	.713	1.187	3.222	-5.165	7.539
		Equal variances not assumed			.368	212.631	.713	1.187	3.222	-5.164	7.538
Country Bird	Motivation and Job Satisfaction	Equal variances assumed	.943	.332	-4.892	326	.000	-12.181	2.490	-17.080	-7.283
		Equal variances not assumed			-4.942	325.058	.000	-12.181	2.465	-17.031	-7.332
Interstate Bus Lines	Motivation and Job Satisfaction	Equal variances assumed	.056	.813	1.953	350	.052	4.616	2.363	-.032	9.264
		Equal variances not assumed			1.953	349.219	.052	4.616	2.364	-.032	9.265
SA Truck and Bodies	Motivation and Job Satisfaction	Equal variances assumed	3.158	.078	5.319	105	.000	27.880	5.241	17.487	38.272
		Equal variances not assumed			5.055	65.852	.000	27.880	5.515	16.868	38.892
Absa	Motivation and Job Satisfaction	Equal variances assumed	.832	.364	-2.568	111	.012	-8.148	3.173	-14.436	-1.860
		Equal variances not assumed			-2.580	108.656	.011	-8.148	3.158	-14.406	-1.889

### 7.5.2.2 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by Job Category

Differences in the motivation/job satisfaction scores across both the pre- and post groups by the job categories of skilled and semi-skilled are indicated in Tables 7.16 and Table 7.17.

**Table 7.16**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by Job Category**

Job title		PrePost	N	Mean	Std. Deviation	Std. Error Mean
Skilled	Motivation and Job Satisfaction	Pre	82	105.52	24.121	2.664
		Post	165	110.72	22.074	1.718
Semi Skilled	Motivation and Job Satisfaction	Pre	507	99.59	24.604	1.093
		Post	359	97.21	25.718	1.357

From the above findings (Table 7.16 and 7.17) no tests are significant as both p values are not less than the 5% significance level. However, it is interesting to see how skilled workers have increased their levels, whereas the semi-skilled have decreased; although, in both cases not significantly.

**Table 7.17**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Job Category**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Job title									Lower	Upper	
Skilled	Motivation and Job Satisfactor	Equal variances assumed	1.080	.300	-1.689	245	.092	-5.197	3.077	-11.257	.863
		Equal variances not assumed			-1.639	149.654	.103	-5.197	3.170	-11.460	1.067
Semi Skilled	Motivation and Job Satisfactor	Equal variances assumed	.262	.609	1.372	864	.170	2.373	1.729	-1.021	5.768
		Equal variances not assumed			1.362	749.631	.174	2.373	1.742	-1.047	5.794

### 7.5.2.3 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by Gender

Differences in the motivation/job satisfaction scores across both the pre- and post groups by gender are indicated in Table 7.18 and Table 7.19.

**Table 7.18**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by Gender**

Gender	PrePost	N	Mean	Std. Deviation	Std. Error Mean
Male	Motivation and Job Satisfaction Pre	356	103.65	24.956	1.323
	Post	339	100.60	26.621	1.446
Female	Motivation and Job Satisfaction Pre	232	95.32	23.187	1.522
	Post	187	103.07	22.845	1.671

**Table 7.19**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Gender**

Gender			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Male	Motivation and Job Satisfaction	Equal variances assumed	1.451	.229	1.560	693	.119	3.053	1.956	-788	6.894
		Equal variances not assumed			1.558	684.204	.120	3.053	1.960	-795	6.900
Female	Motivation and Job Satisfaction	Equal variances assumed	.077	.782	-3.426	417	.001	-7.756	2.264	-12.206	-3.306
		Equal variances not assumed			-3.432	400.690	.001	-7.756	2.260	-12.199	-3.313

As can be seen from Table 7.19 the p value of 0.001 for females is less than 0.05; therefore, there is sufficient evidence at a 5% level of significance to suggest that the population means for motivation/job satisfaction scores for the post group are significantly larger than the population means for the pre-group. The findings, however, in the male category reveal no significant changes.

#### 7.5.2.4 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by Race

Differences in the motivation/job satisfaction scores across both the pre- and post groups by race are indicated in Table 7.20 and Table 7.21.

**Table 7.20**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by Race.**

Race	PrePost	N	Mean	Std. Deviation	Std. Error Mean
1	Motivation and	470	97.49	24.560	1.133
	Job Satisfaction	445	98.91	25.456	1.207
2	Motivation and	51	106.90	19.096	2.674
	Job Satisfaction	31	113.45	23.705	4.258
3	Motivation and	1	126.00	.	.
	Job Satisfaction	1	135.00	.	.
4	Motivation and	63	115.92	22.508	2.836
	Job Satisfaction	49	116.51	16.590	2.370
5	Motivation and	2	100.50	12.021	8.500
	Job Satisfaction	0	.	.	.

It is evident from the findings on motivation/job satisfaction dimension (see Table 7.20 and 7.21) that no tests are significant as all three p values are not less than the 5% significance.

**Table 7.21**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Race**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Race									Lower	Upper	
1	Motivation and Job Satisfaction	Equal variances assumed	.219	.640	-.863	913	.388	-1.427	1.654	-4.673	1.818
		Equal variances not assumed			-.862	905.587	.389	-1.427	1.655	-4.676	1.821
2	Motivation and Job Satisfaction	Equal variances assumed	1.107	.296	-1.373	80	.174	-6.550	4.770	-16.042	2.942
		Equal variances not assumed			-1.303	53.354	.198	-6.550	5.028	-16.632	3.533
4	Motivation and Job Satisfaction	Equal variances assumed	3.588	.061	-.154	110	.878	-.590	3.836	-8.192	7.013
		Equal variances not assumed			-.160	109.718	.874	-.590	3.696	-7.914	6.735

### 7.5.2.5 The Mann Whitney U-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Race

The study checks parametric findings by also running the corresponding non-parametric test, namely the Mann Whitney U-Test; the results of which follow in Tables 7.22 and 7.23.

**Table 7.22**  
**The Mann Whitney Ranks for Motivation and Job Satisfaction for Pre- and Post Groups by Race**

Race		PrePost	N	Mean Rank	Sum of Ranks
African	Motivation and Job Satisfaction	Pre	470	441.69	207593.50
		Post	445	475.23	211476.50
		Total	915		
Coloured	Motivation and Job Satisfaction	Pre	51	37.57	1916.00
		Post	31	47.97	1487.00
		Total	82		
Asian	Motivation and Job Satisfaction	Pre	1	1.00	1.00
		Post	1	2.00	2.00
		Total	2		
White	Motivation and Job Satisfaction	Pre	63	55.87	3519.50
		Post	49	57.32	2808.50
		Total	112		

The findings from the corresponding non parametric tests back up the findings of the parametric test counterparts. As can be seen from the findings on motivation/job satisfaction dimension (see Table 7.22 and 7.23) that no tests are significant as all three p values are not less than the 5% significance. It should however be mentioned that African and Coloured race categories are very close to being significant with p values for both equalling 0.055. In both categories by looking at Table 7.20 the sample means for “employee motivation/job satisfaction” show increases from the pre to post groups.

**Table 7.23**  
**The Mann Whitney U-Test for Motivation/Job Satisfaction for Pre- and Post**  
**Groups by Race**

Race		Motivation and Job Satisfaction
African	Mann-Whitney U	96908.500
	Wilcoxon W	207593.500
	Z	-1.919
	Asymp. Sig. (2-tailed)	.055
Coloured	Mann-Whitney U	590.000
	Wilcoxon W	1916.000
	Z	-1.918
	Asymp. Sig. (2-tailed)	.055
Asian	Mann-Whitney U	.000
	Wilcoxon W	1.000
	Z	-1.000
	Asymp. Sig. (2-tailed)	.317
	Exact Sig. [2*(1-tailed Sig.)]	1.000
White	Mann-Whitney U	1503.500
	Wilcoxon W	3519.500
	Z	-.235
	Asymp. Sig. (2-tailed)	.814

**7.5.2.6 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by Age**

Differences in the motivation/job satisfaction scores across both the pre- and post groups by age are indicated in Table 7.24 and Table 7.25.

**Table 7.24**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by Age**

Age		PrePost	N	Mean	Std. Deviation	Std. Error Mean
21 - 25	Motivation and Job Satisfaction	Pre	56	105.55	20.268	2.708
		Post	24	94.67	35.766	7.301
26 - 30	Motivation and Job Satisfaction	Pre	70	101.23	26.511	3.169
		Post	74	101.96	26.287	3.056
31 - 35	Motivation and Job Satisfaction	Pre	106	98.18	24.203	2.351
		Post	89	98.94	25.213	2.673
36 - 40	Motivation and Job Satisfaction	Pre	111	101.07	26.206	2.487
		Post	89	105.55	21.510	2.280
41 - 45	Motivation and Job Satisfaction	Pre	86	97.45	23.382	2.521
		Post	109	100.57	25.926	2.483
46 - 50	Motivation and Job Satisfaction	Pre	86	99.72	24.890	2.684
		Post	73	100.08	23.338	2.732
51 - 55	Motivation and Job Satisfaction	Pre	48	105.33	27.060	3.906
		Post	43	108.21	24.875	3.793
56 and above	Motivation and Job Satisfaction	Pre	25	95.52	19.575	3.915
		Post	25	97.60	26.841	5.368

**Table 7.25**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Age**

Age			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
21 - 25	Motivation and Job Satisfaction	Equal variances assumed	19.754	.000	1.728	78	.088	10.887	6.300	-1.656	23.430
		Equal variances not assumed			1.398	29.533	.172	10.887	7.787	-5.027	26.800
26 - 30	Motivation and Job Satisfaction	Equal variances assumed	.093	.761	-.166	142	.868	-.731	4.401	-9.431	7.969
		Equal variances not assumed			-.166	141.413	.868	-.731	4.402	-9.433	7.972
31 - 35	Motivation and Job Satisfaction	Equal variances assumed	.067	.796	-.216	193	.830	-.765	3.547	-7.760	6.231
		Equal variances not assumed			-.215	184.358	.830	-.765	3.559	-7.787	6.258
36 - 40	Motivation and Job Satisfaction	Equal variances assumed	3.570	.060	-1.299	198	.195	-4.478	3.448	-11.278	2.321
		Equal variances not assumed			-1.327	197.882	.186	-4.478	3.374	-11.133	2.176
41 - 45	Motivation and Job Satisfaction	Equal variances assumed	.439	.508	-.870	193	.386	-3.115	3.582	-10.181	3.950
		Equal variances not assumed			-.880	189.528	.380	-3.115	3.539	-10.096	3.865
46 - 50	Motivation and Job Satisfaction	Equal variances assumed	.585	.445	-.094	157	.925	-.361	3.850	-7.965	7.243
		Equal variances not assumed			-.094	155.424	.925	-.361	3.829	-7.926	7.203
51 - 55	Motivation and Job Satisfaction	Equal variances assumed	.347	.557	-.526	89	.600	-2.876	5.470	-13.745	7.993
		Equal variances not assumed			-.528	88.935	.599	-2.876	5.445	-13.695	7.943
56 and above	Motivation and Job Satisfaction	Equal variances assumed	2.947	.092	-.313	48	.756	-2.080	6.644	-15.439	11.279
		Equal variances not assumed			-.313	43.901	.756	-2.080	6.644	-15.471	11.311

It is indicated from the above findings that no tests are significant, as all p values are not less than the 5% significance level. The lowest age group is on the borderline of a significant decrease.

#### 7.5.2.7 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by Language

Differences in the motivation/job satisfaction scores across both the pre- and post groups by home language (Kolmogorov Smirnov Test) are indicated in the Annexure F as Table A to Table G. Due to small sample sizes in many categories the Kolmogorov Smirnov test statistic of normality is run for all metrics, initially to decide if either parametric or non-parametric tests are appropriate.

By inspecting the results from Table A to Table G, the p value from 'Pre-South Sotho' is 0.027 which is less than 0.05; therefore, this metric in particular reveals significant evidence (5% significance level) of non-normality. However, all other metrics do not reflect significant evidence of non-normality, but in terms of being thorough, both parametric and non-parametric tests are run in all cases. The parametric tests are run initially.

**Table 7.26**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by Home Language**

Home Language	PrePost	N	Mean	Std. Deviation	Std. Error Mean
South Sotho	Motivation and Pre	367	97.14	24.531	1.280
	Job Satisfaction Post	363	99.38	25.772	1.353
English	Motivation and Pre	11	107.45	18.587	5.604
	Job Satisfaction Post	7	115.14	22.887	8.650
Afrikaans	Motivation and Pre	109	112.72	22.417	2.147
	Job Satisfaction Post	82	115.73	19.168	2.117
Xhosa	Motivation and Pre	75	98.05	24.303	2.806
	Job Satisfaction Post	66	93.68	24.460	3.011
Zulu	Motivation and Pre	15	100.13	24.204	6.249
	Job Satisfaction Post	8	103.00	14.755	5.217
Other	Motivation and Pre	8	94.63	22.251	7.867
	Job Satisfaction Post	0	.	.	.

**Table 7.27**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Home Language**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Home Language									Lower	Upper	
South Sotho	Motivation and Job Satisfaction	Equal variances assumed	.307	.580	-1.201	728	.230	-2.236	1.862	-5.892	1.420
		Equal variances not assumed			-1.200	725.365	.230	-2.236	1.863	-5.893	1.421
English	Motivation and Job Satisfaction	Equal variances assumed	.160	.695	-0.783	16	.445	-7.688	9.818	-28.502	13.125
		Equal variances not assumed			-0.746	10.937	.471	-7.688	10.307	-30.390	15.013
Afrikaans	Motivation and Job Satisfaction	Equal variances assumed	2.379	.125	-0.976	189	.331	-3.007	3.082	-9.087	3.073
		Equal variances not assumed			-0.997	185.863	.320	-3.007	3.015	-8.955	2.941
Xhosa	Motivation and Job Satisfaction	Equal variances assumed	.139	.710	1.063	139	.290	4.372	4.114	-3.763	12.506
		Equal variances not assumed			1.062	136.501	.290	4.372	4.116	-3.768	12.511
Zulu	Motivation and Job Satisfaction	Equal variances assumed	1.717	.204	-0.304	21	.764	-2.867	9.422	-22.460	16.727
		Equal variances not assumed			-0.352	20.450	.728	-2.867	8.141	-19.824	14.091

It is evident that no tests are significant as all p values are not less than the 5% significance level. These results are substantiated in Tables 7.28 and 7.29 below, with one exception being that South Sotho reveals a significant increase in motivation and job satisfaction.

**Table 7.28**  
**The Mann Whitney Ranks for Motivation/Job Satisfaction for Pre- and Post**  
**Groups by Home Language**

Home Language		Motivation and Job Satisfaction
South Sotho	Mann-Whitney U	60202.500
	Wilcoxon W	127730.500
	Z	-2.250
	Asymp. Sig. (2-tailed)	.024
English	Mann-Whitney U	29.500
	Wilcoxon W	95.500
	Z	-.816
	Asymp. Sig. (2-tailed)	.415
	Exact Sig. [2*(1-tailed Sig.)]	.425
Afrikaans	Mann-Whitney U	3886.500
	Wilcoxon W	9881.500
	Z	-1.541
	Asymp. Sig. (2-tailed)	.123
Xhosa	Mann-Whitney U	2276.000
	Wilcoxon W	4487.000
	Z	-.822
	Asymp. Sig. (2-tailed)	.411
Zulu	Mann-Whitney U	51.500
	Wilcoxon W	171.500
	Z	-.549
	Asymp. Sig. (2-tailed)	.583
	Exact Sig. [2*(1-tailed Sig.)]	.591

**Table 7.29**  
**The Mann Whitney U-Test for Motivation/Job Satisfaction for Pre- and Post**  
**Groups by Home Language**

Home Language		PrePost	N	Mean Rank	Sum of Ranks
South Sotho	Motivation and Job Satisfaction	Pre	367	348.04	127730.50
		Post	363	383.15	139084.50
		Total	730		
English	Motivation and Job Satisfaction	Pre	11	8.68	95.50
		Post	7	10.79	75.50
		Total	18		
Afrikaans	Motivation and Job Satisfaction	Pre	109	90.66	9881.50
		Post	82	103.10	8454.50
		Total	191		
Xhosa	Motivation and Job Satisfaction	Pre	75	73.65	5524.00
		Post	66	67.98	4487.00
		Total	141		
Zulu	Motivation and Job Satisfaction	Pre	15	11.43	171.50
		Post	8	13.06	104.50
		Total	23		
Other	Motivation and Job Satisfaction	Pre	8	4.50	36.00
		Post	0	.00	.00
		Total	8		

**7.5.2.8 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by Marital Status**

Differences in the motivation/job satisfaction scores across both the pre- and post groups by marital status are presented in Table 7.30 and Table 7.31.

**Table 7.30**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job**  
**Satisfaction for Pre- and Post Groups by Marital Status**

Marital Status		PrePost	N	Mean	Std. Deviation	Std. Error Mean
Married	Motivation and Job Satisfaction	Pre	376	101.14	25.865	1.334
		Post	360	100.37	26.063	1.374
Single	Motivation and Job Satisfaction	Pre	154	99.44	21.895	1.764
		Post	126	103.08	24.840	2.213
Divorced	Motivation and Job Satisfaction	Pre	57	98.35	23.181	3.070
		Post	40	106.45	19.342	3.058

**Table 7.31**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Marital Status**

Marital Status			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Married	Motivation and Job Satisfaction	Equal variances assumed	.003	.958	.404	734	.686	.774	1.914	-2.984	4.533
		Equal variances not assumed			.404	732.081	.686	.774	1.915	-2.985	4.533
Single	Motivation and Job Satisfaction	Equal variances assumed	2.447	.119	-1.302	278	.194	-3.638	2.795	-9.139	1.864
		Equal variances not assumed			-1.285	251.420	.200	-3.638	2.830	-9.212	1.936
Divorced	Motivation and Job Satisfaction	Equal variances assumed	3.584	.061	-1.811	95	.073	-8.099	4.473	-16.980	.781
		Equal variances not assumed			-1.869	92.088	.065	-8.099	4.334	-16.706	.508

Research results above from Table 7.31 clearly show that no tests are significant as all p values are not less than the 5% significance level.

### 7.5.2.9 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by Qualification

Differences in the motivation/job satisfaction scores across both the pre- and post groups by qualification are presented in Table 7.32 and 7.33.

**Table 7.32**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by Qualification**

Qualification	PrePost	N	Mean	Std. Deviation	Std. Error Mean
Below Grade 12	Motivation and Job Satisfaction Pre	507	99.59	24.604	1.093
	Post	440	98.68	25.650	1.223
Post Matric	Motivation and Job Satisfaction Pre	82	105.52	24.121	2.664
	Post	86	115.83	17.938	1.934

**Table 7.33**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by Qualification**

Qualification			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Below Grade 12	Motivation and Job Satisfaction	Equal variances assumed	.373	.541	.558	945	.577	.913	1.635	-2.296	4.122
		Equal variances not assumed			.557	914.247	.578	.913	1.640	-2.306	4.131
Post Matric	Motivation and Job Satisfaction	Equal variances assumed	7.953	.005	-3.151	166	.002	-10.301	3.269	-16.756	-3.846
		Equal variances not assumed			-3.129	149.370	.002	-10.301	3.292	-16.806	-3.796

Table 7.33 indicates that the p value of 0.002 for post Matric is less than 0.05. Therefore, there is sufficient evidence at a 5% level of significance to suggest that the population mean motivation/job satisfaction scores for the post group is significantly larger than the population mean for the pre- group for post Matric. The findings however, in the 'below grade 12' category reveal no significant changes.

**7.5.2.10 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by work experience in the same job**

Differences in the motivation/job satisfaction scores across both the pre- and post groups' work experience in the same job are presented in Tables 7.34 and 7.35.

**Table 7.34**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by work experience in the same job**

Work Experience in the Same Job		PrePost	N	Mean	Std. Deviation	Std. Error Mean
1 - 5 years	Motivation and Job Satisfaction	Pre	256	102.11	24.126	1.508
		Post	234	98.56	26.947	1.762
6 - 10 years	Motivation and Job Satisfaction	Pre	113	97.47	24.047	2.262
		Post	122	104.51	24.773	2.243
11 - 20 years	Motivation and Job Satisfaction	Pre	185	98.39	25.099	1.845
		Post	138	103.07	23.238	1.978
21 and above	Motivation and Job Satisfaction	Pre	33	108.55	26.282	4.575
		Post	32	104.44	22.842	4.038

**Table 7.35**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by work experience in the same job**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Work Experience in the Same Job									Lower	Upper	
1 - 5 years	Motivation and Job Satisfaction	Equal variances assumed	2.335	.127	1.537	488	.125	3.546	2.307	-.988	8.079
		Equal variances not assumed			1.529	469.310	.127	3.546	2.319	-1.011	8.102
6 - 10 years	Motivation and Job Satisfaction	Equal variances assumed	.826	.364	-2.207	233	.028	-7.039	3.189	-13.322	-.756
		Equal variances not assumed			-2.210	232.481	.028	-7.039	3.186	-13.315	-.763
11 - 20 years	Motivation and Job Satisfaction	Equal variances assumed	.878	.350	-1.709	321	.088	-4.676	2.736	-10.058	.706
		Equal variances not assumed			-1.729	306.416	.085	-4.676	2.705	-9.999	.647
21 and above	Motivation and Job Satisfaction	Equal variances assumed	1.249	.268	.672	63	.504	4.108	6.115	-8.113	16.329
		Equal variances not assumed			.673	62.268	.503	4.108	6.102	-8.089	16.305

As can be seen from Table 7.35 the p value of 0.028 for 6 – 10 years is less than 0.05; therefore, there is sufficient evidence at a 5% level of significance to suggest that the population mean motivation/job satisfaction scores for the post group are significantly larger than the population mean for the pre-group for the 6 – 10 year category. The findings however, in all other categories reveal no significant changes.

#### **7.5.2.11 Analysis of differences in the Motivation/Job Satisfaction scores for pre- and post groups by work experience in the same company**

Differences in the motivation/job satisfaction scores across both the pre- and post groups by work experience in the same company are indicated in Tables 7.36 and 7.37.

**Table 7.36**  
**Descriptive Statistics (Means and Standard Deviations) for Motivation/Job Satisfaction for Pre- and Post Groups by work experience in the same company**

Work Experience within the Same Company	Motivation and Job Satisfaction	PrePost	N	Mean	Std. Deviation	Std. Error Mean
1 - 5 years	Motivation and Job Satisfaction	Pre	232	101.37	24.115	1.583
		Post	232	97.46	26.097	1.713
6 - 10 years	Motivation and Job Satisfaction	Pre	103	101.41	26.485	2.610
		Post	115	104.69	26.907	2.509
11 - 20 years	Motivation and Job Satisfaction	Pre	213	98.97	24.472	1.677
		Post	146	103.11	22.663	1.876
21 and above	Motivation and Job Satisfaction	Pre	35	102.06	23.893	4.039
		Post	33	111.36	21.254	3.700

**Table 7.37**  
**Independent T-Test for Motivation/Job Satisfaction for Pre- and Post Groups by work experience in the same company**

Work Experience with the Same Company			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
1 - 5 years	Motivation and Job Satisfaction	Equal variances assumed	1.455	.228	1.678	462	.094	3.914	2.333	-.671	8.498
		Equal variances not assumed			1.678	459.148	.094	3.914	2.333	-.671	8.498
6 - 10 years	Motivation and Job Satisfaction	Equal variances assumed	.213	.645	-.905	216	.366	-3.279	3.623	-10.421	3.862
		Equal variances not assumed			-.906	214.070	.366	-3.279	3.620	-10.415	3.857
11 - 20 years	Motivation and Job Satisfaction	Equal variances assumed	1.226	.269	-1.621	357	.106	-4.138	2.552	-9.157	.882
		Equal variances not assumed			-1.645	326.676	.101	-4.138	2.516	-9.087	.812
21 and above	Motivation and Job Satisfaction	Equal variances assumed	.629	.431	-1.693	66	.095	-9.306	5.496	-20.280	1.667
		Equal variances not assumed			-1.699	65.785	.094	-9.306	5.477	-20.243	1.630

Table 7.37 indicates that no tests are significant, as all p values are not less than the 5% significance level, although a few categories are on the borderline of being significant.

### 7.5.3 Analysis of Hypotheses 3, it relates to the Organisational Climate construct only

The study now repeats the above process by investigating Hypotheses 3 and by also investigating the categories of skilled and semi-skilled workers for differences in organisational climate.

**Table 7.38**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups**

PrePost	N	Mean	Std. Deviation	Std. Error Mean
OC Pre	587	53.4872	8.20770	.33877
OC Post	518	54.0039	9.17865	.40329

**Table 7.39**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
OC	Equal variances assumed	3.389	.066	-.988	1103	.323	-.51664	.52304	-1.54290	.5096
	Equal variances not assumed			-.981	1044.993	.327	-.51664	.52669	-1.55013	.5168

As can be seen from Table 7.39, the p value of 0.323 is not less than 0.05, therefore regarding Hypothesis 3, there is not sufficient evidence at a 5% level of significance to suggest that the population mean organisational climate scores are significantly different across both the pre- and post groups.

#### 7.5.4 Analysis of Hypothesis 4 it relates to the Organisational Climate construct only

Hypothesis 4 is investigated by looking at each demographic individually and its effect on organisational climate across pre- and post groups.

##### 7.5.4.1 Analysis of differences in the Organisational Climate scores for pre- and post groups by Company

Differences in the organisational climate scores across both the pre- and post groups by each demographic are presented in Tables 7.40 and 7.41 below, initially starting with company.

**Table 7.40**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by Company**

Company		PrePost	N	Mean	Std. Deviation	Std. Error Mean
Sasko	OC	Pre	102	57.3922	8.80836	.87216
		Post	109	57.2202	8.31259	.79620
Country Bird	OC	Pre	179	51.3408	7.49989	.56057
		Post	148	51.4459	8.82813	.72567
Interstate Bus Lines	OC	Pre	175	52.4686	7.74729	.58564
		Post	175	51.3657	6.79697	.51380
SA Truck and Bodies	OC	Pre	69	51.7536	7.45655	.89766
		Post	35	49.7714	5.17395	.87456
Absa	OC	Pre	62	58.0645	7.39488	.93915
		Post	51	66.5098	8.68418	1.21603

**Table 7.41**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by Company**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Company									Lower	Upper	
Sasko	OC	Equal variances assumed	.270	.604	.146	209	.884	.17197	1.17865	-2.15160	2.49555
		Equal variances not assumed			.146	205.813	.884	.17197	1.18093	-2.15630	2.50025
Country Bird	OC	Equal variances assumed	3.280	.071	-.116	325	.907	-.10516	.90298	-1.88159	1.67126
		Equal variances not assumed			-.115	289.616	.909	-.10516	.91697	-1.90993	1.69960
Interstate Bus Lines	OC	Equal variances assumed	2.352	.126	1.416	348	.158	1.10286	.77908	-.42944	2.63516
		Equal variances not assumed			1.416	342.206	.158	1.10286	.77908	-.42953	2.63525
SA Truck and Bodies	OC	Equal variances assumed	2.961	.088	1.408	102	.162	1.98219	1.40731	-.80920	4.77359
		Equal variances not assumed			1.582	92.207	.117	1.98219	1.25326	-.50680	4.47119
Absa	OC	Equal variances assumed	3.262	.074	-5.583	111	.000	-8.44529	1.51260	-11.44261	-5.44797
		Equal variances not assumed			-5.497	98.663	.000	-8.44529	1.53647	-11.49410	-5.39648

As can be seen from Table 7.41, the p value of Absa is less than 0.05. Therefore, Absa reveals a significant increase from that shown in Table 7.39 and that significance for a two-tailed test implies significance for a one-tailed test. No other categories of company reveal any significant changes.

#### **7.5.4.2 Analysis of differences in the Organisational Climate scores for pre- and post groups by Job Category**

Differences in the organisational climate scores across both the pre- and post groups by the job categories of skilled and semi-skilled are presented in Tables 7.42 and 7.43.

**Table 7.42**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by Job Category**

Job title	PrePost	N	Mean	Std. Deviation	Std. Error Mean
Skilled	OC Pre	80	54.8875	9.24216	1.03331
	OC Post	162	58.3519	10.00216	.78584
Semi Skilled	OC Pre	507	53.2663	8.02011	.35619
	OC Post	354	51.9746	8.04181	.42742

**Table 7.43**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by Job Category**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Job title									Lower	Upper	
Skilled	OC	Equal variances assumed	2.631	.106	-2.598	240	.010	-3.46435	1.33349	-6.09119	-.83751
		Equal variances not assumed			-2.669						
Semi Skilled	OC	Equal variances assumed	.357	.551	2.323	859	.020	1.29170	.55611	.20021	2.38319
		Equal variances not assumed			2.322						

From Table 7.43, both categories are significant with p values in both cases less than 0.05. When studying Table 7.42, skilled workers have increased their organisational climate scores significantly, while semi-skilled workers have decreased their organisational climate scores significantly.

#### **7.5.4.3 Analysis of differences in the Organisational Climate scores for pre- and post groups by Gender**

Differences in the organisational climate scores across both the pre- and post groups by gender are indicated in Tables 7.44 and 7.45 below.

**Table 7.44**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by gender**

Gender	PrePost	N	Mean	Std. Deviation	Std. Error Mean
Male	Organizational Climate Pre	355	53.6338	8.21092	.43579
	Post	333	53.7417	9.22278	.50541
Female	Organizational Climate Pre	231	53.1991	8.17548	.53791
	Post	185	54.4757	9.10451	.66938

**Table 7.45**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by gender**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Gender									Lower	Upper	
Male	Organizational Climat	Equal variances assumed	2.167	.141	-.162	686	.871	-.10794	.66488	-1.41337	1.19750
		Equal variances not assumed			-.162	664.636	.872	-.10794	.66734	-1.41829	1.20242
Female	Organizational Climat	Equal variances assumed	1.486	.224	-1.504	414	.133	-1.27654	.84858	-2.94460	.39152
		Equal variances not assumed			-1.487	373.701	.138	-1.27654	.85873	-2.96508	.41200

The results of the test from Table 7.45 for both categories namely, males and females, show that there are no significant differences in mean scores, as the p values in both cases are not less than 0.05.

#### 7.5.4.4 Analysis of differences in the Organisational Climate scores for pre- and post groups by Race

Differences in the organisational climate scores across both the pre- and post groups by race are presented in Tables 7.46 and 7.47 below.

**Table 7.46**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by race**

Race	PrePost	N	Mean	Std. Deviation	Std. Error Mean
1	Organizational Climate Pre	470	52.7000	7.91946	.36530
	Post	438	52.5434	8.22825	.39316
2	Organizational Climate Pre	50	55.9800	7.67580	1.08552
	Post	31	59.0968	8.71915	1.56601
3	Organizational Climate Pre	1	68.0000	.	.
	Post	1	63.0000	.	.
4	Organizational Climate Pre	62	57.0484	9.47720	1.20361
	Post	48	63.8542	10.53058	1.51996
5	Organizational Climate Pre	2	53.0000	4.24264	3.00000
	Post	0	.	.	.

**Table 7.47**  
**Independent T-Test for Organisational Climate by Pre- and Post Groups by race**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Race									Lower	Upper	
1	Organizational Climate	Equal variances assumed	.016	.901	.292	906	.770	.15662	.53595	-.89523	1.20847
		Equal variances not assumed			.292	895.408	.770	.15662	.53667	-.89666	1.20990
2	Organizational Climate	Equal variances assumed	2.386	.126	-1.686	79	.096	-3.11677	1.84889	-6.79690	.56335
		Equal variances not assumed			-1.636	57.612	.107	-3.11677	1.90545	-6.93149	.69794
4	Organizational Climate	Equal variances assumed	2.017	.158	-3.558	108	.001	-6.80578	1.91282	10.59732	-3.01424
		Equal variances not assumed			-3.510	95.493	.001	-6.80578	1.93880	10.65453	-2.95703

Table 7.47 indicates that the white race reflects a significant increase in organisational climate scores with a p value of 0.001, which is less than 0.05 (an indication of a significance level). The coloured race is on the borderline of a significant increase, and no other categories reveal significant changes.

#### **7.5.4.5 Analysis of differences in the Organisational Climate scores for pre- and post groups by Age**

Differences in the organisational climate scores across both the pre- and post groups by age are represented in Tables 7.48 and 7.49 below.

**Table 7.48**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by Age**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Age									Lower	Upper	
21 - 25	Organizational Climate	Equal variances assumed	2.317	.132	-1.164	79	.871	-.30263	1.85060	-3.98616	3.38090
		Equal variances not assumed			-1.146	34.356	.885	-.30263	2.07990	-4.52788	3.92262
26 - 30	Organizational Climate	Equal variances assumed	.283	.596	-1.651	139	.516	-1.02295	1.57037	-4.12786	2.08196
		Equal variances not assumed			-1.650	137.248	.517	-1.02295	1.57274	-4.13288	2.08699
31 - 35	Organizational Climate	Equal variances assumed	.036	.850	-1.755	192	.451	-.93546	1.23882	-3.37891	1.50799
		Equal variances not assumed			-1.752	182.319	.453	-.93546	1.24385	-3.38966	1.51873
36 - 40	Organizational Climate	Equal variances assumed	.134	.714	-1.402	194	.163	-1.75505	1.25195	-4.22423	.71413
		Equal variances not assumed			-1.399	184.704	.163	-1.75505	1.25429	-4.22964	.71954
41 - 45	Organizational Climate	Equal variances assumed	4.615	.033	-.027	192	.979	-.03416	1.27318	-2.54538	2.47705
		Equal variances not assumed			-.028	191.447	.978	-.03416	1.23977	-2.47953	2.41121
46 - 50	Organizational Climate	Equal variances assumed	4.038	.046	-.984	154	.327	-1.33135	1.35341	-4.00500	1.34230
		Equal variances not assumed			-.963	131.122	.337	-1.33135	1.38186	-4.06497	1.40227
51 - 55	Organizational Climate	Equal variances assumed	.000	.989	1.076	89	.285	2.00680	1.86577	-1.70045	5.71406
		Equal variances not assumed			1.077	87.291	.284	2.00680	1.86343	-1.69679	5.71040
56 and above	Organizational Climate	Equal variances assumed	1.353	.250	-.238	49	.813	-.56000	2.35249	-5.28750	4.16750
		Equal variances not assumed			-.237	45.238	.814	-.56000	2.36427	-5.32118	4.20118

**Table 7.49**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by Age**

Age		PrePost	N	Mean	Std. Deviation	Std. Error Mean
21 - 25	Organizational Climate	Pre	57	55.6140	6.86283	.90900
		Post	24	55.9167	9.16476	1.87075
26 - 30	Organizational Climate	Pre	69	54.1159	9.65057	1.16179
		Post	72	55.1389	8.99500	1.06007
31 - 35	Organizational Climate	Pre	106	52.9623	8.41871	.81770
		Post	88	53.8977	8.79268	.93730
36 - 40	Organizational Climate	Pre	108	52.9722	8.64617	.83198
		Post	88	54.7273	8.80534	.93865
41 - 45	Organizational Climate	Pre	87	52.5172	7.50482	.80460
		Post	107	52.5514	9.75669	.94322
46 - 50	Organizational Climate	Pre	84	52.9048	7.28362	.79471
		Post	72	54.2361	9.59239	1.13047
51 - 55	Organizational Climate	Pre	49	55.2449	8.93852	1.27693
		Post	42	53.2381	8.79526	1.35714
56 and above	Organizational Climate	Pre	26	53.0000	7.29383	1.43044
		Post	25	53.5600	9.41223	1.88245

The results of the tests shows that no tests are significant as all p values are not less than the 5% significance level. These results are further substantiated by the corresponding non-parametric test, namely the Mann Whitney U-Test which was also run for substantive checks and yielded the same findings as reflected in Tables 7.50 and 7.51 below.

**Table 7.50**  
**The Mann Whitney Ranks for Organisational Climate by Pre- and Post Groups**  
**by Age**

Age		PrePost	N	Mean Rank	Sum of Ranks
21 - 25	Organisational Climate	Pre	57	41.55	2368.50
		Post	24	39.69	952.50
		Total	81		
26 - 30	Organisational Climate	Pre	69	69.46	4793.00
		Post	72	72.47	5218.00
		Total	141		
31 - 35	Organisational Climate	Pre	106	96.27	10204.50
		Post	88	98.98	8710.50
		Total	194		
36 - 40	Organisational Climate	Pre	108	93.96	10148.00
		Post	88	104.07	9158.00
		Total	196		
41 - 45	Organisational Climate	Pre	87	98.60	8578.00
		Post	107	96.61	10337.00
		Total	194		
46 - 50	Organisational Climate	Pre	84	76.10	6392.50
		Post	72	81.30	5853.50
		Total	156		
51 - 55	Organisational Climate	Pre	49	48.93	2397.50
		Post	42	42.58	1788.50
		Total	91		
56 and above	Organisational Climate	Pre	26	27.00	702.00
		Post	25	24.96	624.00
		Total	51		

**Table 7.51**  
**The Mann Whitney U-Test for Organisational Climate for Pre- and Post Groups**  
**by Age**

Age		Organizational Climate
21 - 25	Mann-Whitney U	652.500
	Wilcoxon W	952.500
	Z	-.326
	Asymp. Sig. (2-tailed)	.744
26 - 30	Mann-Whitney U	2378.000
	Wilcoxon W	4793.000
	Z	-.438
	Asymp. Sig. (2-tailed)	.662
31 - 35	Mann-Whitney U	4533.500
	Wilcoxon W	10204.500
	Z	-.336
	Asymp. Sig. (2-tailed)	.737
36 - 40	Mann-Whitney U	4262.000
	Wilcoxon W	10148.000
	Z	-1.242
	Asymp. Sig. (2-tailed)	.214
41 - 45	Mann-Whitney U	4559.000
	Wilcoxon W	10337.000
	Z	-.246
	Asymp. Sig. (2-tailed)	.806
46 - 50	Mann-Whitney U	2822.500
	Wilcoxon W	6392.500
	Z	-.717
	Asymp. Sig. (2-tailed)	.473
51 - 55	Mann-Whitney U	885.500
	Wilcoxon W	1788.500
	Z	-1.144
	Asymp. Sig. (2-tailed)	.253
56 and above	Mann-Whitney U	299.000
	Wilcoxon W	624.000
	Z	-.491
	Asymp. Sig. (2-tailed)	.623

#### 7.5.4.6 Analysis of differences in the Organisational Climate scores for pre- and post groups by Home Language

Differences in the organisational climate scores across both the pre- and post groups by home language are presented in Annexure G, from Table K to T.

Due to small sample sizes in many categories, the Kolmogorov Smirnov test statistic of normality is run for all metrics initially to decide if either parametric or non-parametric tests are appropriate. Initially, all pre-metrics and then all post-metrics are investigated.

By inspecting the results from Tables K to Table T, one notes that the p value from Pre-South Sotho is 0.049 which is less than 0.05. Therefore, this metric in particular reveals significant evidence (5% significance level) of non-normality; however, all other metrics do not reflect significant evidence of non-normality, but in terms of being thorough both parametric and non-parametric tests were run in all cases. The parametric tests were run initially.

**Table 7.52**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by Home Language**

Home Language	PrePost	N	Mean	Std. Deviation	Std. Error Mean
South Sotho	Organizational Climate Pre	367	52.5341	7.79507	.40690
	Post	358	52.6872	8.11454	.42887
English	Organizational Climate Pre	12	54.4167	5.23030	1.50986
	Post	7	56.0000	8.94427	3.38062
Afrikaans	Organizational Climate Pre	108	56.8056	8.81106	.84784
	Post	81	62.0988	9.99075	1.11008
Xhosa	Organizational Climate Pre	77	53.0909	8.24171	.93923
	Post	64	50.7031	8.50897	1.06362
Zulu	Organizational Climate Pre	15	55.5333	10.26691	2.65091
	Post	8	55.6250	7.04957	2.49240
Other	Organizational Climate Pre	5	49.6000	7.79744	3.48712
	Post	0	.	.	.

**Table 7.53**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by race**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Home Language										Lower	Upper
South Sotho	Organizational Climate	Equal variances assumed	.035	.852	-.259	723	.796	-.15309	.59089	-1.31315	1.00697
		Equal variances not assumed			-.259	719.960	.796	-.15309	.59118	-1.31373	1.00755
English	Organizational Climate	Equal variances assumed	1.723	.207	-.491	17	.630	-1.58333	3.22341	-8.38413	5.21746
		Equal variances not assumed			-.428	8.449	.680	-1.58333	3.70246	-10.04289	6.87623
Afrikaans	Organizational Climate	Equal variances assumed	3.351	.069	-3.858	187	.000	-5.29321	1.37197	-7.99974	-2.58668
		Equal variances not assumed			-3.789	159.880	.000	-5.29321	1.39683	-8.05182	-2.53460
Xhosa	Organizational Climate	Equal variances assumed	.000	.984	1.688	139	.094	2.38778	1.41476	-.40945	5.18502
		Equal variances not assumed			1.683	132.682	.095	2.38778	1.41896	-.41892	5.19449
Zulu	Organizational Climate	Equal variances assumed	.693	.414	-.022	21	.982	-.09167	4.07971	-8.57589	8.39256
		Equal variances not assumed			-.025	19.389	.980	-.09167	3.63859	-7.69700	7.51366

From the results it is clear that the Afrikaans-speaking subjects reveal a significant increase with a p value equal to 0.000 which is less than 0.05 (significance level). These results are substantiated by the corresponding non-parametric test namely, the Mann Whitney U-Test which yields the same findings; although, according to Table 7.55, Xhosa speakers also showed significant changes in organisational climate scores across pre- and post groups.

**Table 7.54**  
**The Mann Whitney Ranks for Organisational Climate for Pre- and Post Groups by Race**

Home Language		PrePost	N	Mean Rank	Sum of Ranks
South Sotho	Organizational Climate	Pre	367	363.16	133278.50
		Post	358	362.84	129896.50
		Total	725		
English	Organizational Climate	Pre	12	10.13	121.50
		Post	7	9.79	68.50
		Total	19		
Afrikaans	Organizational Climate	Pre	108	83.13	8978.50
		Post	81	110.82	8976.50
		Total	189		
Xhosa	Organizational Climate	Pre	77	77.21	5945.50
		Post	64	63.52	4065.50
		Total	141		
Zulu	Organizational Climate	Pre	15	11.57	173.50
		Post	8	12.81	102.50
		Total	23		
Other	Organizational Climate	Pre	5	3.00	15.00
		Post	0	.00	.00
		Total	5		

**Table 7.55**  
**The Mann Whitney U-Test for Organisational Climate for Pre- and Post Groups**  
**by Race**

Home Language		Organizational Climate
South Sotho	Mann-Whitney U	65635.500
	Wilcoxon W	129896.500
	Z	-.020
	Asymp. Sig. (2-tailed)	.984
English	Mann-Whitney U	40.500
	Wilcoxon W	68.500
	Z	-.127
	Asymp. Sig. (2-tailed)	.899
	Exact Sig. [2*(1-tailed Sig.)]	.902
Afrikaans	Mann-Whitney U	3092.500
	Wilcoxon W	8978.500
	Z	-3.446
	Asymp. Sig. (2-tailed)	.001
Xhosa	Mann-Whitney U	1985.500
	Wilcoxon W	4065.500
	Z	-1.984
	Asymp. Sig. (2-tailed)	.047
Zulu	Mann-Whitney U	53.500
	Wilcoxon W	173.500
	Z	-.421
	Asymp. Sig. (2-tailed)	.674
	Exact Sig. [2*(1-tailed Sig.)]	.681

**7.5.4.7 Analysis of differences in the Organisational Climate scores for pre- and post groups by Marital Status**

Differences in the organisational climate scores across both the pre- and post groups by Marital Status are presented in Tables 7.56 and 7.57.

**Table 7.56**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational**  
**Climate for Pre- and Post Groups by Marital Status**

Marital Status		PrePost	N	Mean	Std. Deviation	Std. Error Mean
Married	Organizational Climate	Pre	374	53.8743	8.28725	.42852
		Post	356	53.7584	9.11511	.48310
Single	Organizational Climate	Pre	156	52.9872	7.80652	.62502
		Post	124	54.9194	8.99015	.80734
Divorced	Organizational Climate	Pre	55	52.1091	8.78271	1.18426
		Post	38	53.3158	10.36654	1.68167

**Table 7.57**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by**  
**Marital Status**

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Marital Status									Lower	Upper	
Married	Organizational Climate	Equal variances assumed	1.082	.299	.180	728	.857	.11590	.64426	-1.14892	1.38073
		Equal variances not assumed			.179	713.196	.858	.11590	.64577	-1.15193	1.38374
Single	Organizational Climate	Equal variances assumed	2.727	.100	-1.923	278	.055	-1.93218	1.00471	-3.90998	.04563
		Equal variances not assumed			-1.892	244.832	.060	-1.93218	1.02100	-3.94325	.07890
Divorced	Organizational Climate	Equal variances assumed	1.475	.228	-.605	91	.547	-1.20670	1.99527	-5.17005	2.75666
		Equal variances not assumed			-.587	70.857	.559	-1.20670	2.05682	-5.30802	2.89462

From the results in Table 7.57, no marital status categories reflect significant changes, although a category of 'single' is extremely close to reflecting a significant increase at a 5% significance level.

#### 7.5.4.8 Analysis of differences in the Organisational Climate scores for pre- and post groups by Qualification

Differences in the organisational climate scores across both the pre- and post groups by Qualification are presented in Tables 7.58 and 7.59 below.

**Table 7.58**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by Qualification**

Qualification	PrePost	N	Mean	Std. Deviation	Std. Error Mean
Below Grade 12	Organizational Climate Pre	507	53.2663	8.02011	.35619
	Post	432	52.4144	8.05417	.38751
Post Matric	Organizational Climate Pre	80	54.8875	9.24216	1.03331
	Post	86	61.9884	10.30305	1.11101

**Table 7.59**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by Qualification**

Qualification			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
Below Grade 12	Organizational Climate	Equal variances assumed	.251	.616	1.619	937	.106	.85192	.52616	-.18066	1.88450
		Equal variances not assumed			1.619	912.268	.106	.85192	.52634	-.18105	1.88489
Post Matric	Organizational Climate	Equal variances assumed	3.973	.048	-4.662	164	.000	-7.10087	1.52324	-10.10855	-4.09319
		Equal variances not assumed			-4.680	163.790	.000	-7.10087	1.51725	-10.09677	-4.10498

Table 7.59 indicates that the post-Matric category reveals a significant increase with a p value equal to 0.000 which is less than 0.05 (significance level). This significant change does not manifest in the 'below Grade 12' category.

### 7.5.4.9 Analysis of differences in the Organisational Climate scores for pre- and post groups by work experience in the same job

Differences in the organisational climate scores across both the pre- and post groups by work experience in the same job are indicated in Tables 7.60 and 7.61 below.

**Table 7.60**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by work experience in the same job**

Work Experience in the Same Job	PrePost	N	Mean	Std. Deviation	Std. Error Mean
1 - 5 years	Organizational Climate Pre	254	54.0669	8.31111	.52149
	Post	230	54.0826	8.30463	.54759
6 - 10 years	Organizational Climate Pre	112	52.5357	7.95248	.75144
	Post	119	55.2269	9.76715	.89535
11 - 20 years	Organizational Climate Pre	186	53.1559	7.70626	.56505
	Post	137	52.9854	9.77691	.83530
21 and above	Organizational Climate Pre	33	54.3030	10.43278	1.81611
	Post	32	53.2500	10.10589	1.78649

**Table 7.61**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by work experience in the same job**

Work Experience in the Same Job	Organizational Climate	Levene's Test for Equality of Variances	t-test for Equality of Means								
			F		t		Mean Difference		95% Confidence Interval of the Difference		
			Sig.	Sig.	Sig. (2-tailed)	Std. Error Difference	Lower	Upper			
1 - 5 years	Organizational Climate	Equal variances assumed	.018	.893	-.021	482	.983	-.01568	.75621	-1.50155	1.47019
		Equal variances not assumed			-.021	477.348	.983	-.01568	.75618	-1.50153	1.47017
6 - 10 years	Organizational Climate	Equal variances assumed	1.133	.288	-2.288	229	.023	-2.69118	1.17613	-5.00859	-.37376
		Equal variances not assumed			-2.302	224.414	.022	-2.69118	1.16890	-4.99459	-.38776
11 - 20 years	Organizational Climate	Equal variances assumed	8.398	.004	.175	321	.861	.17051	.97323	-1.74420	2.08523
		Equal variances not assumed			.169	250.401	.866	.17051	1.00847	-1.81564	2.15667
21 and above	Organizational Climate	Equal variances assumed	.019	.890	.413	63	.681	1.05303	2.54878	-4.04029	6.14635
		Equal variances not assumed			.413	63.000	.681	1.05303	2.54751	-4.03776	6.14382

From Table 7.61, it is clear that the category 6 – 10 years reveals a significant increase with a p value equal to 0.023, which is less than 0.05 (significance level). This significant change does not manifest itself in all the other categories.

### 7.5.4.10 Analysis of differences in the Organisational Climate scores for pre- and post groups by work experience in the same company

Differences in the organisational climate scores across both the pre- and post groups by work experience in the same company are presented in Tables 7.62 and 7.63 below.

**Table 7.62**  
**Descriptive Statistics (Means and Standard Deviations) for Organisational Climate for Pre- and Post Groups by work experience in the same company**

Work Experience within the Same Company		PrePost	N	Mean	Std. Deviation	Std. Error Mean
1 - 5 years	Organizational Climate	Pre	226	54.0354	7.97823	.53070
		Post	229	53.8908	8.62480	.56994
6 - 10 years	Organizational Climate	Pre	106	53.4151	8.83701	.85833
		Post	113	55.3982	10.08406	.94863
11 - 20 years	Organizational Climate	Pre	213	53.1549	7.81022	.53515
		Post	143	52.6993	9.22110	.77111
21 and above	Organizational Climate	Pre	36	53.4167	9.93515	1.65586
		Post	33	55.6667	8.97102	1.56165

**Table 7.63**  
**Independent T-Test for Organisational Climate for Pre- and Post Groups by work experience in the same company**

Work Experience with the Same Company	Organizational Climat		Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
1 - 5 years	Organizational Climat	Equal variances assumed	.918	.338	.186	453	.853	.14457	.77917	-1.38667	1.67580
		Equal variances not assumed			.186	451.118	.853	.14457	.77877	-1.38590	1.67503
6 - 10 years	Organizational Climat	Equal variances assumed	.161	.689	-1.544	217	.124	-1.98314	1.28471	-4.51524	.54897
		Equal variances not assumed			-1.550	216.016	.123	-1.98314	1.27930	-4.50465	.53838
11 - 20 years	Organizational Climat	Equal variances assumed	4.648	.032	.501	354	.616	.45563	.90863	-1.33136	2.24262
		Equal variances not assumed			.485	269.803	.628	.45563	.93861	-1.39230	2.30356
21 and above	Organizational Climat	Equal variances assumed	.295	.589	-.984	67	.329	-2.25000	2.28634	-6.81355	2.31355
		Equal variances not assumed			-.989	66.987	.326	-2.25000	2.27610	-6.79313	2.29313

It is clear from Table 7.63 that the above tests revealed no significant changes as all the categories are not less than 0.05, and therefore an indication of a significant level.

The next section investigates Hypothesis 5 of this study.

### 7.5.5 Analysis of Hypothesis 5, 6, 7 and 8.

These hypotheses are now investigated, initially outlining the descriptive frequencies of the independent variable namely “aspects of training” used in the analysis. The aim being to find out how many of such training did respondents receive in the last 18 months, to determine its impact on their performance.

As can be seen in Table 7.64 there were very few respondents who received no training at all. The study therefore split up the data base of those that received training in Table 7.65. Based on the outcome of such Table the study then grouped those respondents who had received training once over the period studied versus those who had received training two or more times in an attempt to check if significant differences in the constructs investigated existed within such categories of “frequency of training”.

**Table 7.64**  
**Descriptive Statistics (Frequencies) of ‘Did you receive training in the last 18 Months?’ in the Post Group**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	519	45.9	98.7	98.7
	No	7	.6	1.3	100.0
	Total	526	46.5	100.0	
Missing	System	604	53.5		
Total		1130	100.0		

**Table 7.65**  
**Descriptive Statistics (Frequencies) of ‘How many of such training in the last 18 months?’ in the Post Group (ungrouped)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once	340	30.1	65.3	65.3
	Twice	157	13.9	30.1	95.4
	Three or more Times	24	2.1	4.6	100.0
	Total	521	46.1	100.0	
Missing	System	609	53.9		
Total		1130	100.0		

**Table 7.66**  
**Descriptive Statistics (Frequencies) of ‘How many sessions of such training in the last 18 months?’ in the Post Group (grouped)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once	340	30.1	65.3	65.3
	Two or more Times	181	16.0	34.7	100.0
	Total	521	46.1	100.0	
Missing	System	609	53.9		
Total		1130	100.0		

The study now investigates those respondents who have experienced a different frequency of training, namely either once in the last 18 months; or two and more times in the last 18 months; and whether or not either group of respondents reflect a different magnitude of each of the four constructs, namely:

- Motivation/Job Satisfaction construct
- Organisational Climate construct
- Effectiveness of Training construct
- Self-performance construct

Hypothesis 5 reads as follows: Scores on the “employee motivation/job satisfaction” measuring instrument do significantly differ across various categories of frequency of training. The results are as follows:

#### **7.5.5.1 Test for Motivation/Job Satisfaction by frequency of training**

The study commences by looking first at motivation/job satisfaction.

Kolmogorov Smirnov tests from Table V (see report in Annexure H) indicate neither training frequency distribution differs significantly from normality, therefore parametric tests were used.

**Table 7.67**  
**Descriptive Statistics (Means and Standard Deviations) of Motivation/Job Satisfaction by ‘How many of such training sessions in the last 18 months?’ in the Post Group (grouped)**

	How much of such training in the last	N	Mean	Std. Deviation	Std. Error Mean
Motivation and Job Satisfaction	Once	340	97.25	25.400	1.378
	Two or more Times	181	109.96	23.071	1.715

The results show the p value of 0.000 in Table 7.68, is significantly high. From Table 7.67, those respondents who received training two or more times reveal a significantly higher score in the motivation/job satisfaction measuring instrument than those respondents who received training only once in the last 18 months.

**Table 7.68**  
**Independent T-Test for Motivation/Job Satisfaction by ‘How many of such training sessions in the last 18 months?’ in the Post Group (grouped)**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Motivation and Job Satisfaction	Equal variances assumed	1.808	.179	-5.611	519	.000	-12.709	2.265	-17.159	-8.259
	Equal variances not assumed			-5.778	399.034	.000	-12.709	2.200	-17.033	-8.385

Hypothesis 6 reads as follows: Scores on the “organizational climate” measuring instrument do differ significantly across various categories of frequency of training. The results are as follows:

#### 7.5.5.2 Test for Organisational Climate by frequency of training

In terms of organisational climate, the results revealed the following:

Kolmogorov Smirnov tests from Table V (see report in Annexure H) indicate neither training frequency distribution differs significantly from normality, therefore parametric tests were used.

**Table 7.69**  
**Descriptive Statistics (Means and Standard Deviations) of Organisational Climate by ‘How many of such training sessions in the last 18 months?’ in the Post Group (grouped)**

	How much of such training in the last	N	Mean	Std. Deviation	Std. Error Mean
Organizational Climate	Once	334	52.5359	8.25732	.45182
	Two or more Times	179	56.7821	10.25038	.76615

**Table 7.70:**  
**Independent T-Test for Organisational Climate by ‘How many of such Training sessions in the last 18 months?’ in the Post Group (grouped)**

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Organizational Climate	Equal variances assumed	13.869	.000	-5.092	511	.000
	Equal variances not assumed			-4.774	303.704	.000

The p value of 0.000 (Table 7.70) is a significant one. From Table 7.69 those respondents who received training two or more times revealed a significantly higher score in organisational climate than those respondents who received training only once in the last 18 months.

Hypothesis 7 reads as follows: Scores on the “effectiveness of training” measuring instrument do differ significantly across various categories of frequency of training. The results are as follows:

### 7.5.5.3 Test for Effectiveness of Training by frequency of training

In terms of effectiveness of training, the results revealed the following:

Kolmogorov Smirnov tests results are indicated in Table V (see report in Annexure H).

**Table 7.71**  
**Descriptive Statistics (Means and Standard Deviations) of Effectiveness of Training by ‘How many of such training sessions in the last 18 months?’ in the Post Group (grouped)**

	How much of such training in the last	N	Mean	Std. Deviation	Std. Error Mean
Effectiveness of Training	Once	340	162.50	72.408	3.927
	Two or more Times	180	172.48	66.151	4.931

**Table 7.72**  
**Independent T-Test for Effectiveness of Training by ‘How many of such Training sessions in the last 18 months?’ in the Post Group (grouped).**

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Effectiveness of Training	Equal variances assumed	5.869	.016	-1.540	518	.124
	Equal variances not assumed			-1.583	394.326	.114

The results of the test indicate that the p value of 0.124 from Table 6.71 is not significant. Although effectiveness of training is higher for those respondents receiving more training as may be seen from Table 7.71, the change is not significant. These parametric findings are once again substantiated by the corresponding non-parametric test in Tables 7.73 and 7.74 below.

**Table 7.73**  
**The Mann Whitney Ranks for Effectiveness of Training by frequency of Training**

	How much of such	N	Mean Rank	Sum of Ranks
Effectiveness of Training	Once	340	255.67	86927.50
	Two or more Times	180	269.63	48532.50
	Total	520		

**Table 7.74**  
**The Mann Whitney U-Test for Effectiveness of Training by frequency of Training**

	Effectiveness of Training
Mann-Whitney U	28957.500
Wilcoxon W	86927.500
Z	-1.009
Asymp. Sig. (2-tailed)	.313

Hypothesis 8 reads as follows: Scores on the “self-rated performance” measuring instrument do differ significantly across various categories of frequency of training. The results are as follows:

#### 7.5.5.4 Test for Self-rated Performance by frequency of training

In terms of self-rated performance, the results revealed the following:

Kolmogorov Smirnov tests results are indicated in Table W (see report in Annexure H).

**Table 7.75**  
**Descriptive Statistics (Means and Standard Deviations) of Self-rated Performance ‘How many of such training sessions in the last 18 months?’ in the Post Group (grouped)**

	How much of such training in the last	N	Mean	Std. Deviation	Std. Error Mean
Self Performance	Once	333	32.82	6.231	.341
	Two or more Times	180	32.00	6.574	.490

**Table 7.76**  
**Independent T-Test for Self-Performance by 'How many of such**  
**Training sessions in the last 18 months?' in the Post Group (grouped)**

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Self Performance	Equal variances assumed	.007	.931	1.395	511	.164
	Equal variances not assumed			1.373	350.484	.171

The results of the test indicate that the p value of 0.164 from Table 7.76 is not significant. These parametric findings are once again substantiated by the corresponding non-parametric test in Tables 7.77 and 7.78 below.

**Table 7.77**  
**The Mann Whitney Ranks for Self-Performance by frequency of**  
**Training**

How much of such		N	Mean Rank	Sum of Ranks
Self Performance	Once	333	262.85	87529.00
	Two or more Times	180	246.18	44312.00
Total		513		

**Table 7.78**  
**The Mann Whitney U-Test for Self-Performance by frequency of**  
**Training**

	Self Performance
Mann-Whitney U	28022.000
Wilcoxon W	44312.000
Z	-1.222
Asymp. Sig. (2-tailed)	.222

The next section addresses Hypothesis 9 of this study.

### 7.5.6 Intercorrelations among Hypotheses 9, 10, 11 and 12.

The study now applies the final few hypotheses by investigating possible correlations among all four constructs and if such correlations are strong and worth modelling. The thesis at this stage analyses whether or not ‘Effectiveness of training’ scores correlate positively with the dependent variables, namely: individual motivation; organisational climate; effectiveness of training and individual performance. These relationships are scrutinised individually first, and then in Hypothesis 12 as a combined group of independent variables.

In order to investigate these correlations comprehensively, the study analyses various regression models in order to look at the data from different angles. It should be mentioned that the regression techniques applied make the assumption of linearity.

The study initially looks at Hypothesis 9, namely: whether Effectiveness of training scores significantly correlate with scores on the “employee motivation/job satisfaction” measuring instrument. The results are as follows:

#### 7.5.6.1 Pearson’s Correlation Coefficient Re: Effectiveness of Training and Motivation/Job Satisfaction

Initially, this section of the study looked at the relationship and potential modelling of the two variables, namely ‘effectiveness of training’ and ‘motivation/job satisfaction’. The dependent variable is the latter and the independent variable the former.

**Table 7.79**  
**Pearson’s Correlation Coefficient re: Effectiveness of Training and Motivation and Job Satisfaction**

		EOT	MOTJS
EOT	Pearson Correlation	1	.426
	Sig. (2-tailed)		.000
	N	525	525
MOTJS	Pearson Correlation	.426	1
	Sig. (2-tailed)	.000	
	N	525	526

**Table 7.80**  
**R-square statistics for the model Effectiveness of Training (Independent Variable) and Motivation and Job Satisfaction (Dependent Variable)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426	.182	.180	22.956

**Table 7.81**  
**Significance of the model (F Test), Effectiveness of Training (Independent Variable) and Motivation and Job Satisfaction (Dependent Variable)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61214.259	1	61214.259	116.156	.000
	Residual	275620.9	523	527.000		
	Total	336835.1	524			

**Table 7.82**  
**The full Regression model extracted, Effectiveness of Training (Independent Variable) and Motivation and Job Satisfaction (Dependent Variable)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	76.123	2.553		29.811	.000
	Effectiveness of Training	.153	.014	.426	10.778	.000

The model as shown in Table 7.82 has been extracted using the 'enter' option. As can be seen from Tables 7.81 to 7.82, Pearson's correlation coefficient of 0.426 is significant with a p value of 0.000 (Table 7.79), which is less than 0.05 (significance level). Additionally, R square which is an indication of how well the model fits the data by explaining what proportion of total variance is explained by the model, is reported at 42.6% (Table 7.80), which is a large proportion of the total variance.

In addition, the model is significant as explained by Table 7.81 where the p value of 0.000 is less than 0.05. Finally, the model as predicted reads  $Y = 76.123 + 0.153$  Effectiveness of Training. All coefficients are also significant within Table 7.82 where the respective p values are less than 0.05.

All regression models are based on certain assumptions, namely:

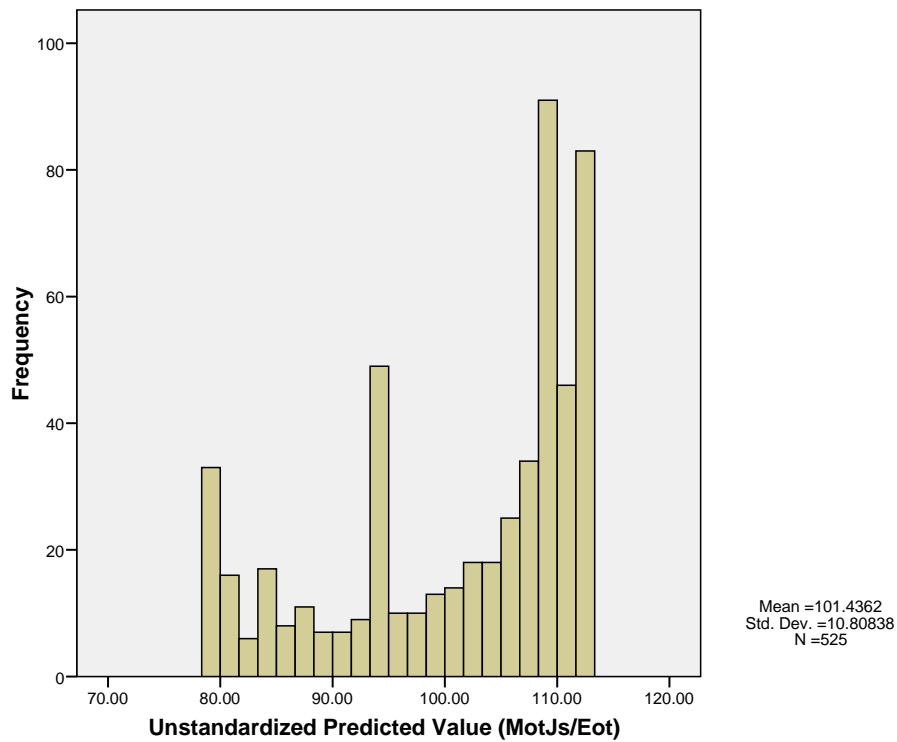
- 1 That the residuals are normally distributed.
- 2 That the variance of error across all predicted values is constant (Homoscedacity).
- 3 That a linear relationship exists between the dependent and independent variable.

These assumptions are now tested for veracity in respect of the model just developed, to ensure that none of them is violated. They are tested in the order listed.

**Table 7.83**  
**Kolmogorov Smirnov Test for Standardised Residuals (Model: Effectiveness of Training (Independent Variable) and Motivation and Job Satisfaction (Dependent Variable))**

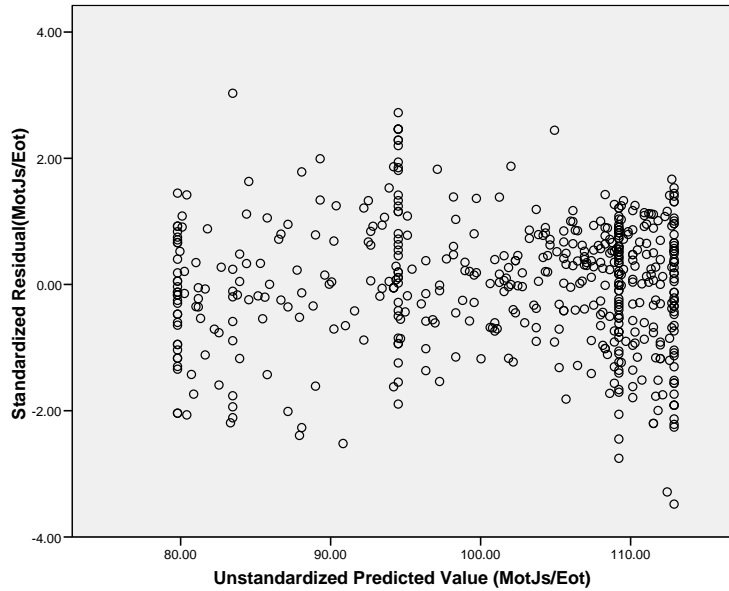
		Standardized Residual(Mot Js/Eot)
N		525
Normal Parameters	Mean	.0000
	Std. Deviation	.99905
Most Extreme Differences	Absolute	.056
	Positive	.034
	Negative	-.056
Kolmogorov-Smirnov Z		1.289
Asymp. Sig. (2-tailed)		.072

**Figure 7.1**  
**Histogram Plot of the Standardised Residuals (Model: Effectiveness of Training**  
**(Independent Variable) and Motivation and Job Satisfaction (Dependent**  
**Variable)**



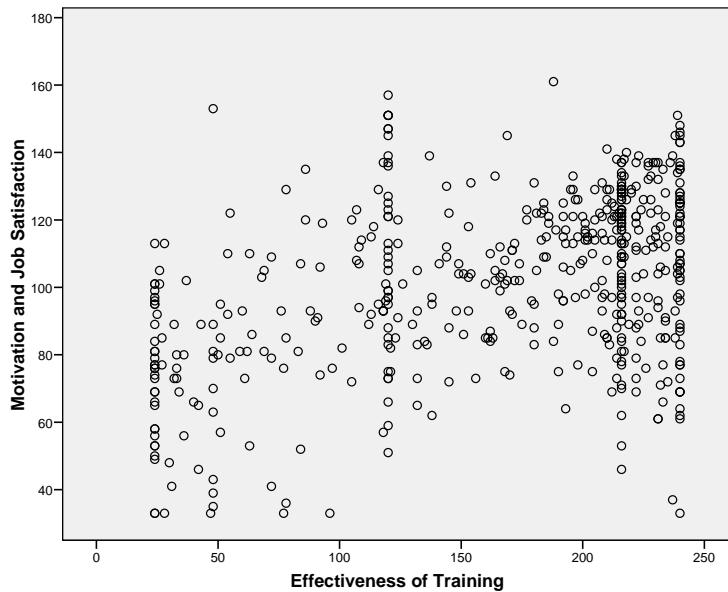
The results of the above test in Table 7.83, show clearly that the p value of 0.07, although on the borderline, is not less than 0.05; therefore, there is not enough evidence to reject the possibility of normality of the residuals.

**Figure 7.2**  
**Plot of the Standardised Residuals by Unstandardised Predicted Values (Model: Effectiveness of Training (Independent Variable) and Motivation and Job Satisfaction (Dependent Variable))**



As can be seen by looking at the graph, that is Figure 7.2 above, there is no evidence of homoscedacity and thus no evidence of assumption violation. In addition, the assumption of linearity between the independent and dependent variables is tested visually in Figure 7.3 below.

**Figure 7.3**  
**Scatter Plot of Effectiveness of Training (Independent Variable) and Motivation and Job Satisfaction (Dependent Variable).**



The results from the test indicate that again, by inspecting Figure 7.3 above, there is no assumption violation of non-linearity.

The study now looks at Hypothesis 10, namely: whether Effectiveness of training scores significantly correlate with scores on the “organizational climate” measuring instrument. The results are as follows:

#### **7.5.6.2 Pearson Correlation Coefficient Re: Effectiveness of Training and Organisational Climate**

The study now investigates the relationship and potential modelling of the two variables, namely ‘effectiveness of training’ and ‘organisational climate’. The dependent variable is the latter and the independent variable the former.

**Table 7.84**  
**Pearson's Correlation Coefficient re: Effectiveness of Training and Organisational Climate**

		EOT	OC
EOT	Pearson Correlation	1	.339
	Sig. (2-tailed)		.000
	N	525	517
OC	Pearson Correlation	.339	1
	Sig. (2-tailed)	.000	
	N	517	518

**Table 7.85**  
**R-square statistics for the model Effectiveness of Training (Independent Variable) and Organisational Climate (Dependent Variable)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.339	.115	.113	8.608

**Table 7.86**  
**Significance of the model (F Test), Effectiveness of Training (Independent Variable) and Organisational Climate (Dependent Variable)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4955.937	1	4955.937	66.887	.000
	Residual	38158.364	515	74.094		
	Total	43114.302	516			

**Table 7.87**  
**The full Regression model extracted, Effectiveness of Training (Independent Variable) and Organisational Climate (Dependent Variable)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	46.763	.958		48.797	.000
	Effectiveness of Training	.044	.005	.339	8.178	.000

The model as shown in Table 7.87 has been extracted using the 'enter' option. As can be seen from Tables 7.84 to 7.87, Pearson's correlation coefficient of 0.339 is significant with a p value of 0.000 (Table 7.84) which is less than 0.05 (significance level).

Additionally, R square which is an indication of how well the model fits the data by explaining what proportion of total variance is explained by the model, is sitting at 33.9% (Table 7.85), which is a large proportion of the total variance. Furthermore, the model is significant as explained by Table 7.86, where the p value of 0.000 is less than 0.05. Finally, the model as predicted reads  $Y = 46.763 + 0.044$  Effectiveness of Training. All coefficients are also significant within Table 7.87, where the respective p values are less than 0.05.

All regression models are based on certain assumptions, namely:

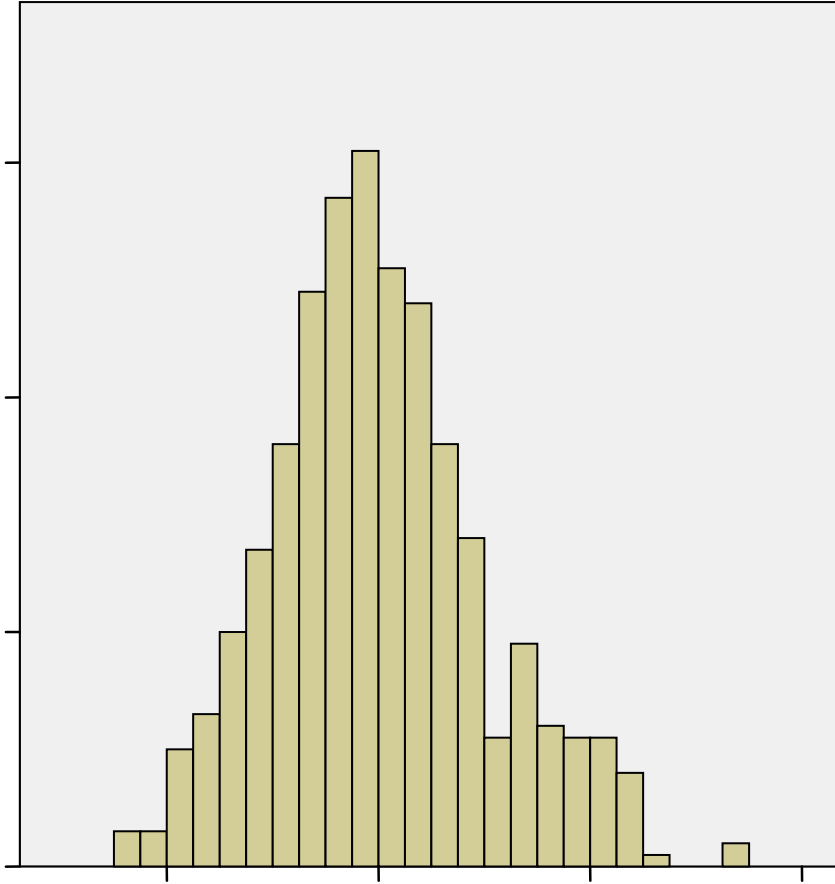
1. That the residuals are normally distributed.
2. That the variance of error across all predicted values is constant (Homoscedacity)
3. That a linear relationship exists between the dependent and independent variable.

These assumptions are now tested in respect of the model just developed to ensure that none of them is violated. They are tested in the order listed.

**Table 7.88**  
**Kolmogorov Smirnov Test for ‘Standardised Residuals’ (Model: Effectiveness of Training (Independent Variable) and Organisational Climate (Dependent Variable))**

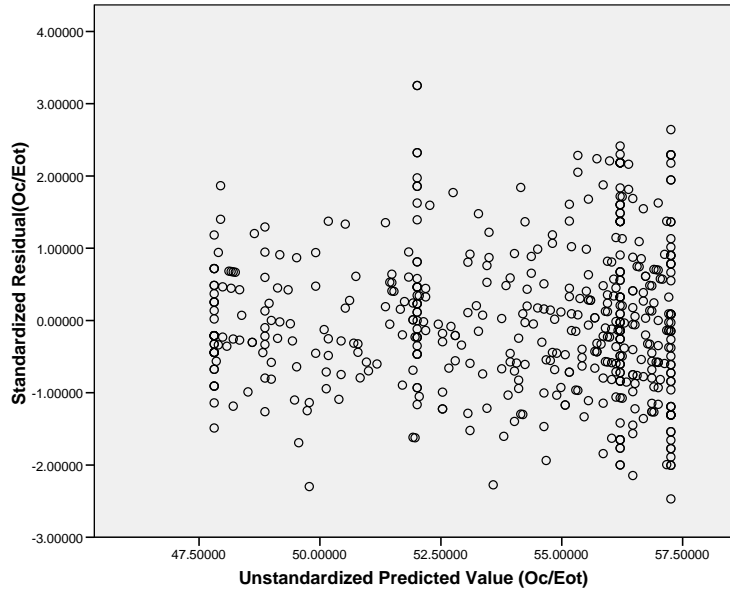
		Standardized Residual(Oc/Eot)
N		517
Normal Parameters	Mean	.0000000
	Std. Deviation	.99903054
Most Extreme Differences	Absolute	.049
	Positive	.049
	Negative	-.032
Kolmogorov-Smirnov Z		1.104
Asymp. Sig. (2-tailed)		.174

**Figure 7.4**  
**Histogram Plot of the 'Standardised Residuals' (Model: Effectiveness of Training (Independent Variable) and Organisational Climate (Dependent Variable))**

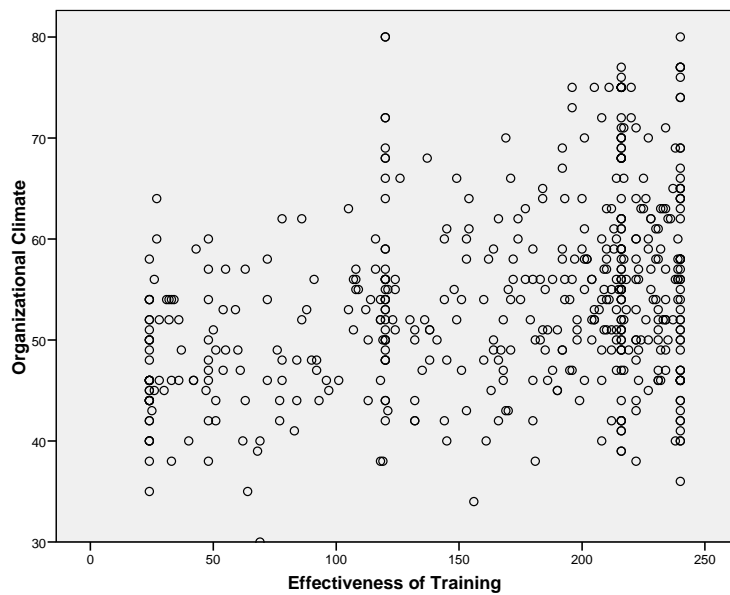


From the results of the test, the p value of 0.174 from Table 7.88 is not less than 0.05; therefore, there is not enough evidence to reject the possibility of normality of the residuals.

**Figure 7.5**  
**Plot of the 'Standardised Residuals' by Unstandardised Predicted Values**  
**(Model: Effectiveness of Training (Independent Variable) and**  
**Organisational Climate (Dependent Variable))**



**Figure 7.6**  
**Scatter Plot of Effectiveness of Training (Independent Variable) and**  
**Organisational Climate (Dependent Variable).**



As can be seen from the graph above; that is, Figure 7.5, there is no strong evidence of homoscedacity and thus no evidence of assumption violation. In addition, the assumption of linearity between the independent and dependent variable is tested visually in Figure 4.6 below. Again, by inspecting Figure 4.6 above there is no assumption violation of non-linearity.

The study now looks at Hypothesis 11, namely: Effectiveness of training scores significantly correlate with scores on the “self-rated performance” measuring instrument. The results are as follows:

### **7.5.6.3 Pearson’s Correlation Coefficient Re: Effectiveness of Training and Self-rated Performance**

The study now investigates the relationship and potential modelling of the two variables, namely ‘effectiveness of training’ and ‘self-rated performance’. The dependent variable is the latter and the independent variable the former.

**Table 7.89**  
**Pearson’s Correlation Coefficient re: Effectiveness of Training and Self-Performance**

		EOT	SP
EOT	Pearson Correlation	1	.125
	Sig. (2-tailed)		.005
	N	525	517
SP	Pearson Correlation	.125	1
	Sig. (2-tailed)	.005	
	N	517	518

**Table 7.90**  
**R-square statistics for the model Effectiveness of Training (Independent Variable) and Self-Performance (Dependent Variable)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.125	.016	.014	6.328

**Table 7.91**  
**Significance of the model (F Test), Effectiveness of Training**  
**(Independent Variable) and Self-Performance (Dependent**  
**Variable)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	325.093	1	325.093	8.119	.005
	Residual	20621.944	515	40.043		
	Total	20947.037	516			

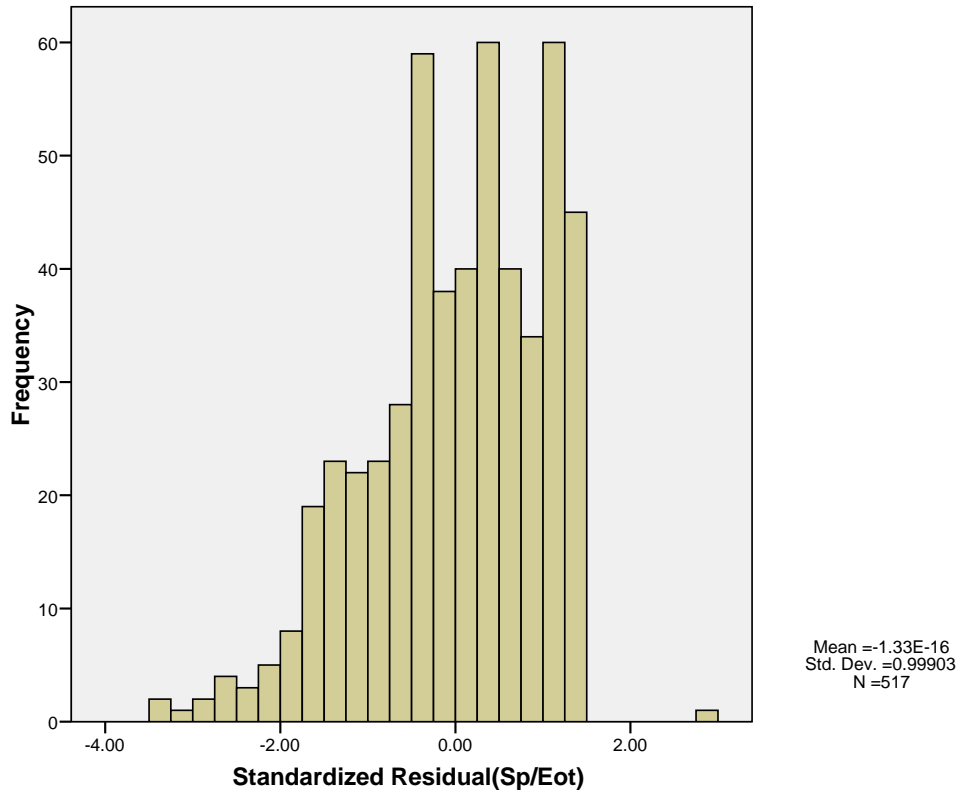
**Table 7.92**  
**The full Regression model extracted, Effectiveness of Training**  
**(Independent Variable) and Self-Performance (Dependent**  
**Variable)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	30.662	.709		43.234	.000
	Effectiveness of Training	.011	.004	.125	2.849	.005

**Table 7.93**  
**Kolmogorov Smirnov Test for 'Standardised Residuals' (Model: Effectiveness of**  
**Training (Independent Variable) and Self Performance**  
**(Dependent Variable)**

		Standardized Residual(Sp/ Eot)
N		517
Normal Parameters	Mean	.0000
	Std. Deviation	.99903
Most Extreme Differences	Absolute	.074
	Positive	.074
	Negative	-.067
Kolmogorov-Smirnov Z		1.678
Asymp. Sig. (2-tailed)		.007

**Figure 7.7**  
**Histogram Plot of the 'Standardised Residuals' (Model: Effectiveness of Training (Independent Variable) and Self-Performance (Dependent Variable))**



The p value of 0.007 (Table 7.93) is not less than 0.05; therefore, there is enough evidence to reject the possibility of normality of the residuals. Moreover, based on this assumption being violated, this model will not be used in any further study.

### **7.5.7 Integrated correlations - model construction**

Finally, all four constructs are analysed together in Hypothesis 12. Initially, the study attempted to build a model for motivation/job satisfaction as the dependent variable (Hypothesis 12) and then build a model with organisational climate as the dependent variable (Hypothesis 13). In both cases the remaining three variables are the independent variables. The study also employs the stepwise analysis option at each stage of the model-building process which provides for the optimum combination of

independent variables that have the highest correlation with the dependent variable in each case.

**7.5.7.1 The Motivation/Job Satisfaction correlation and regression procedure is outlined below (Hypothesis 12):**

Attempts to build a model for motivation/job satisfaction as the dependent variable are indicated indepth, below.

**Table 7.94**  
**R-square statistics for the model Effectiveness of Training, Organisational Climate and Self-Performance (Independent Variables) and Motivation and Job Satisfaction (Dependent Variable)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.583	.340	.338	20.701
2	.635	.403	.400	19.705
3	.639	.408	.405	19.637

**Table 7.95**  
**Significance of the models (F –Test) Effectiveness of Training, Organisational Climate and Self-Performance (Independent Variables) and Motivation/Job Satisfaction (Dependent Variable)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	111741.0	1	111740.962	260.760	.000
	Residual	217259.7	507	428.520		
	Total	329000.6	508			
2	Regression	132519.2	2	66259.577	170.639	.000
	Residual	196481.5	506	388.303		
	Total	329000.6	508			
3	Regression	134262.0	3	44754.001	116.057	.000
	Residual	194738.6	505	385.621		
	Total	329000.6	508			

**Table 7.96**  
**The full regression model extracted: Effectiveness of Training, Organisational Climate and Self-Performance (Independent Variables) and Motivation/Job Satisfaction (Dependent Variable)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.357	5.468		2.625	.009
	Organizational Climate	1.613	.100	.583	16.148	.000
2	(Constant)	12.057	5.215		2.312	.021
	Organizational Climate	1.363	.101	.493	13.492	.000
	Effectiveness of Training	.096	.013	.267	7.315	.000
3	(Constant)	4.254	6.362		.669	.504
	Organizational Climate	1.337	.101	.483	13.185	.000
	Effectiveness of Training	.094	.013	.261	7.161	.000
	Self Performance	.294	.138	.074	2.126	.034

The models as shown in Table 7.96 have been extracted using the ‘stepwise’ option. As can be seen from Tables 7.94 to 7.96, the R-square, which is an indication of how well the model fits the data, explains what proportion of total variance is extrapolated by the model at 63.9% (Table 7.94) for the third model extracted. This demonstrates a large proportion of the total variance. In addition, this model is significant as explained by Table 7.95, where the p value of 0.000 is less than 0.05.

Finally, the model as predicted reads  $Y = 4.254 + 1.337 \text{ Organisational Climate} + 0.094 \text{ Effectiveness of Training} + 0.294 \text{ Self-Performance}$ . All coefficients are also significant in Table 7.96 where the respective p values are less than 0.05.

All regression models are based on certain assumptions, namely:

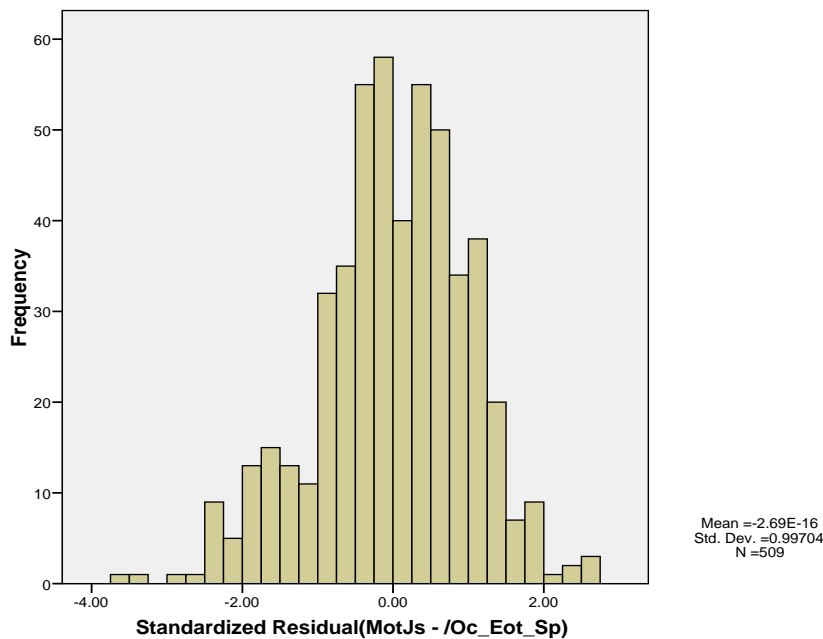
- 1 That the residuals are normally distributed.
- 2 That the variance of error across all predicted values is constant. (Homoscedacity)
- 3 That a linear relationship exists between the dependent and independent variable.

These assumptions are now tested in respect of the model just developed to ensure that none of them is violated. They are tested in the order listed.

**Table 7.97**  
**Kolmogorov Smirnov Test for ‘Standardised Residuals (Model: Effectiveness of Training, Organisational Climate and Self Performance (Independent Variables) and Motivation/Job Satisfaction (Dependent Variable))**

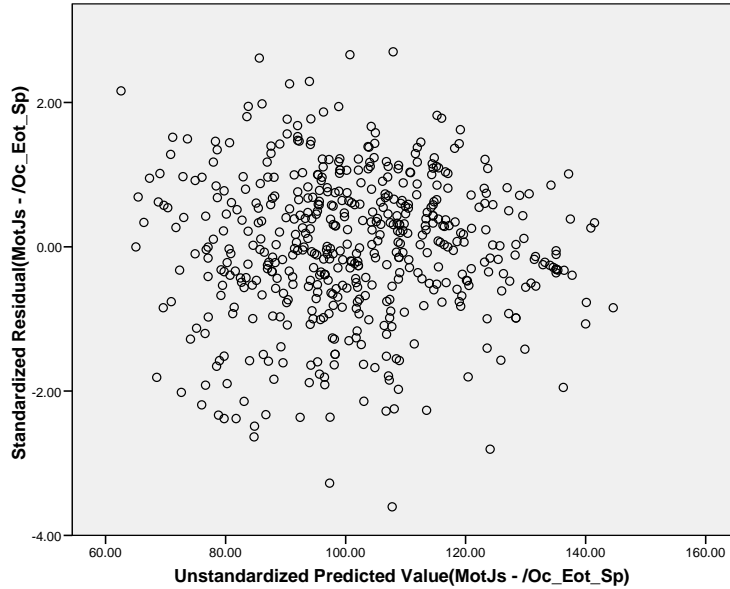
		Standardized Residual(Mot Js - /Oc_Eot_Sp)
N		509
Normal Parameters	Mean	.0000
	Std. Deviation	.99704
Most Extreme Differences	Absolute	.048
	Positive	.029
	Negative	-.048
Kolmogorov-Smirnov Z		1.085
Asymp. Sig. (2-tailed)		.190

**Figure 7.8**  
**Histogram Plot ‘Standardised Residuals’ (Model: Effectiveness of Training, Organisational Climate and Self Performance (Independent Variables) and Motivation/Job Satisfaction (Dependent Variable))**

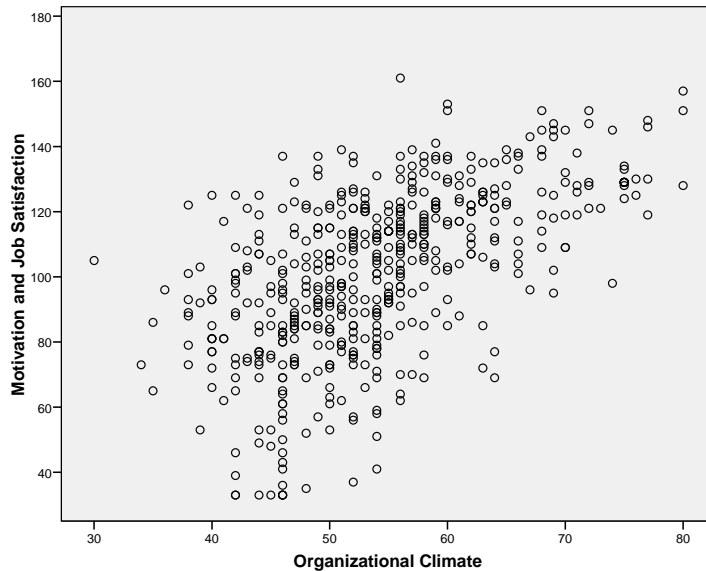


The results of the study shows that the p value of 0.190 from Table 7.97, is not less than 0.05; therefore, there is not enough evidence to reject the possibility of normality of the residuals.

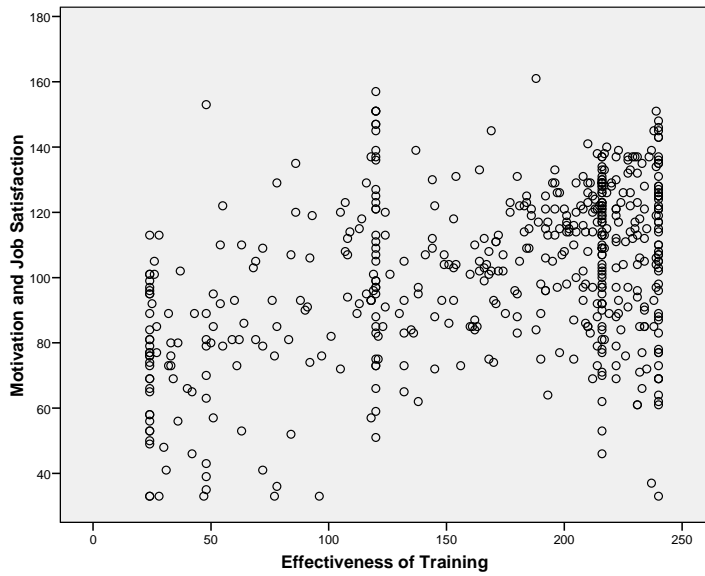
**Figure 7.9**  
**Scatter Plot ‘Standardised Residuals (Model: Effectiveness of Training, Organisational Climate and Self Performance (Independent Variables) and Motivation/Job Satisfaction (Dependent Variable))**



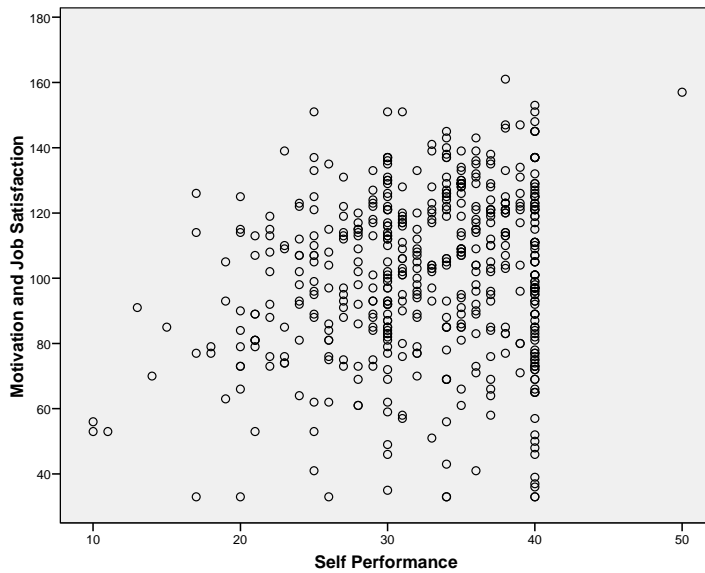
**Figure 7.10**  
**Scatter Plot of Organisational Climate (Independent Variable) and Motivation/Job Satisfaction (Dependent Variable)**



**Figure 7.11**  
**Scatter Plot of Effectiveness of Training (Independent Variable) and**  
**Motivation/Job Satisfaction (Dependent Variable).**



**Figure 7.12**  
**Scatter Plot of Self-Performance (Independent Variable) and**  
**Motivation/Job Satisfaction (Dependent Variable)**



As can be seen from Figure 7.9 above, there is no evidence of homoscedacity and thus no evidence of assumption violation. In addition, the assumption of linearity between

the independent and dependent variables is tested visually from Figure 7.10 to Figure 7.12 and is not violated.

**7.5.7.2 The Organisational Climate correlation and regression procedure is outlined below (Hypothesis 13):**

Attempts to build a model for organisational climate as the dependent variable are indicated extensively below.

**Table 7.98**  
**R-square statistics for the model Effectiveness of Training, Motivation and Job Satisfaction and Self-Performance (Independent Variables) and Organisational Climate (Dependent Variable)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.583	.340	.338	7.481
2	.590	.349	.346	7.437

**Table 7.99**  
**Significance of the models (f-Test) Effectiveness of Training, Motivation and Job Satisfaction and Self-Performance (Independent Variables) and Organisational Climate (Dependent Variable)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14592.091	1	14592.091	260.760	.000
	Residual	28371.626	507	55.960		
	Total	42963.717	508			
2	Regression	14978.129	2	7489.065	135.408	.000
	Residual	27985.588	506	55.307		
	Total	42963.717	508			

**Table 7.100**  
**The full regression model extracted: Effectiveness of Training, Motivation and Job Satisfaction and Self-Performance (Independent Variables) and Organisational Climate (Dependent Variable)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	32.620	1.363		23.925	.000
	Motivation and Job Satisfaction	.211	.013	.583	16.148	.000
2	(Constant)	32.045	1.373		23.341	.000
	Motivation and Job Satisfaction	.194	.014	.537	13.492	.000
	Effectiveness of Training	.014	.005	.105	2.642	.008

The models as shown in Table 7.100 have been extracted using the ‘stepwise’ option. As can be seen from Tables 7.98 to 7.100, the R-square which is an indication of how well the model fits the data, explains what proportion of total variance is explained by the model at 59% (Table 7.98) for the second model extracted. This is a large proportion of the total variance. In addition, this model is significant, as explained by Table 7.99 where the p value of 0.000 is less than 0.05.

Finally, the model as predicted reads  $Y = 32.045 + 0.194 \text{ Motivation/Job Satisfaction} + 0.014 \text{ Effectiveness of Training}$ . All coefficients are also significant in Table 4.99 where the respective p values are less than 0.05.

All regression models are based on certain assumptions, namely:

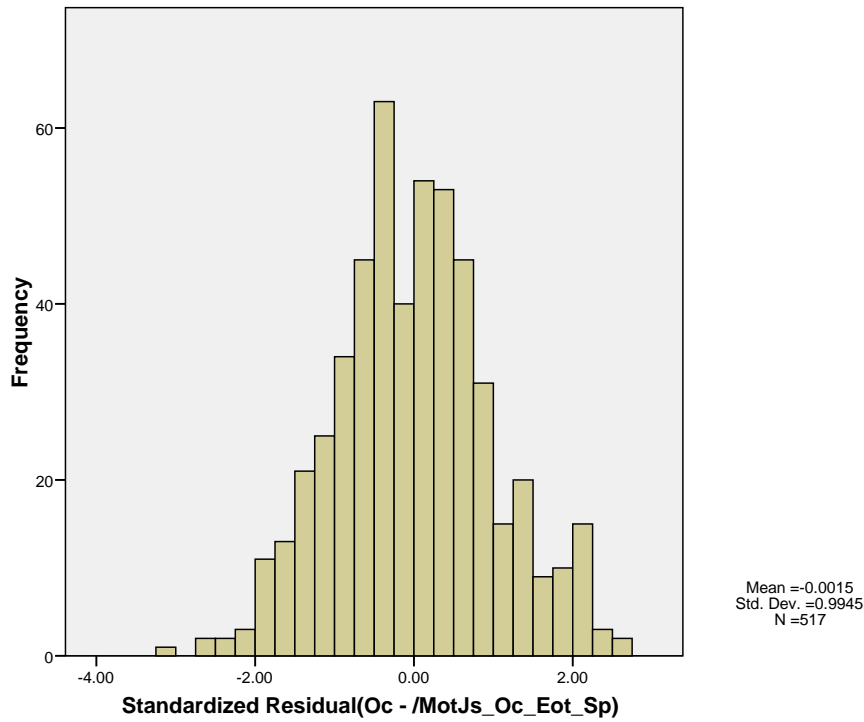
- 1 That the residuals are normally distributed.
- 2 That the variance of error across all predicted values is constant. (Homoscedacity)
- 3 That a linear relationship exists between the dependent and independent variable.

These assumptions are now tested in respect of the model just developed to ensure that none of them is violated. They are tested in the order listed.

**Table 7.101**  
**Kolmogorov Smirnov Test for ‘Standardised Residuals’ (Model: Effectiveness of Training, Motivation/Job Satisfaction and Self Performance (Independent Variables) and Organisational Climate (Dependent Variable))**

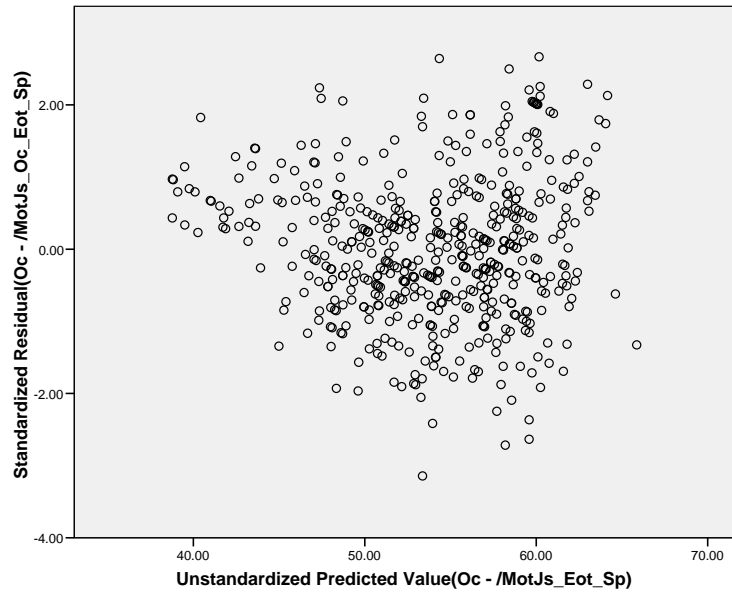
		Standardized Residual(Oc - /MotJs_Oc_ Eot_Sp)
N		517
Normal Parameters	Mean	-.0015
	Std. Deviation	.99450
Most Extreme Differences	Absolute	.032
	Positive	.032
	Negative	-.023
Kolmogorov-Smirnov Z		.734
Asymp. Sig. (2-tailed)		.655

**Figure 7.13**  
**Histogram Plot of ‘Standardised Residuals’ (Model: Effectiveness of Training, Motivation/Job Satisfaction and Self Performance (Independent Variables) and Organisational Climate (Dependent Variable)).**

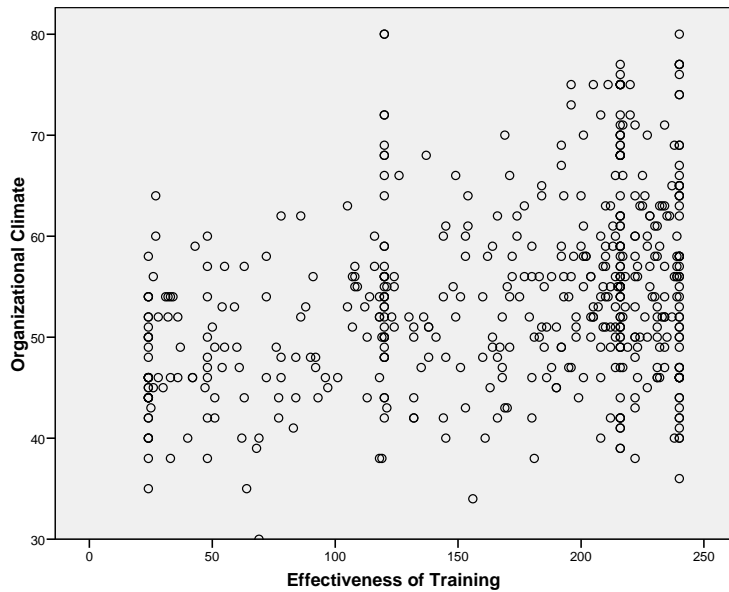


The results of the study clearly indicate that the p value of 0.65 (Table 7.101) is not less than 0.05; therefore, there is not enough evidence to reject the possibility of normality of the residuals.

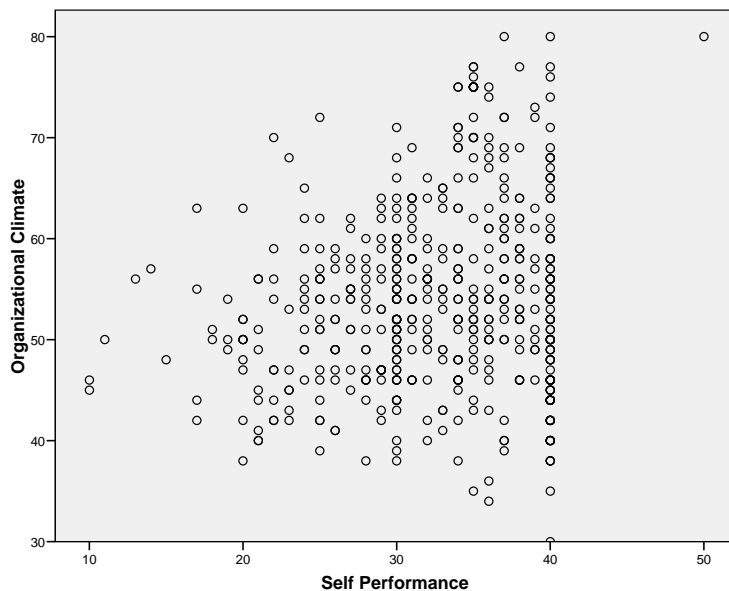
**Figure 7.14**  
**Scatter Plot 'Standardised Residuals' (Model: Effectiveness of Training, Motivation/Job Satisfaction and Self Performance (Independent Variables) and Organisational Climate (Dependent Variable))**



**Figure 7.15**  
**Scatter Plot of Effectiveness of Training (Independent Variable) and Organisational Climate (Dependent Variable)**



**Figure 7.16**  
**Scatter Plot of Self Performance (Independent Variable) and Organisational Climate (Dependent Variable)**



As can be seen from Figure 7.14 above, there is no evidence of homoscedasticity and thus no evidence of assumption violation. In addition, the assumption of linearity

between the independent and dependent variables is tested visually from Figures 7.15 to Figures 7.16 is not violated.

## **7.6 SUMMARY AND CONCLUSION**

This chapter has highlighted the statistical findings together with all the related appendices. Numerous hypotheses that were tested yielded some interesting results with significant findings. These significant changes across both pre- and post groups, the models derived and how aspects of training affected the dependent variables, to name a few, will be analysed and discussed in more detail in the following chapter.

The findings will also be compared to the literature research and these comparisons will lead to the final conclusions and recommendations.

## CHAPTER 8

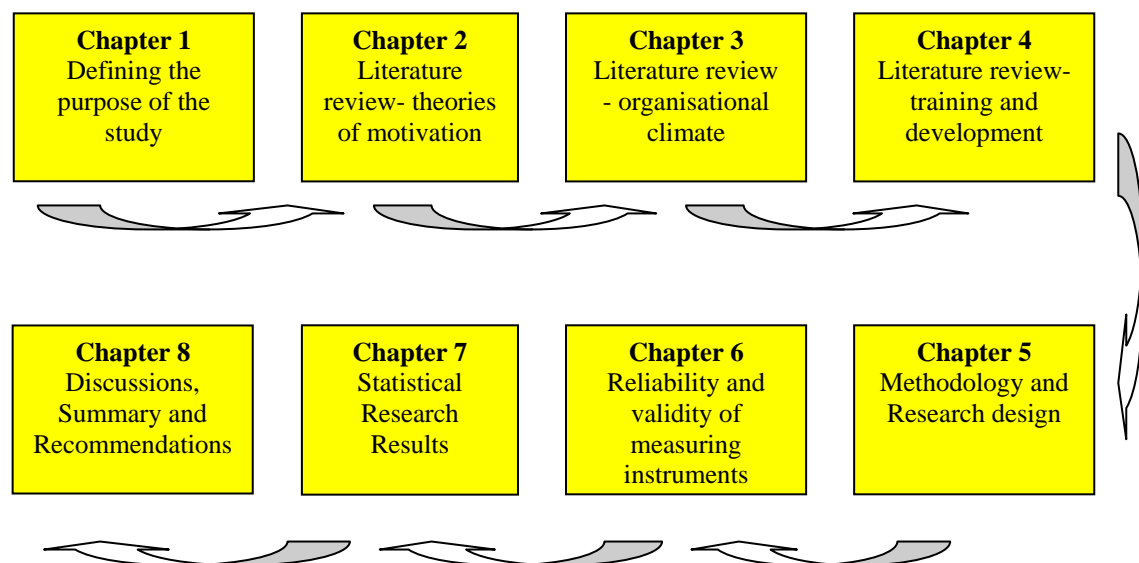
### DISCUSSION, SUMMARY AND RECOMMENDATIONS

#### 8.1 INTRODUCTION

In the previous chapter, the results of the various statistical procedures were documented and a few observations were made. The results of the descriptive statistics, intercorrelations, the analysis of variance (ANOVA) and a Correlation and Regression Modelling (CRM) were portrayed.

In this final chapter, it will be pointed out how the objectives of the study, both theoretical and empirical, were achieved.

**Figure 8.1: Summary of the sequence of chapters of the study**



The findings of the study will be discussed, followed by an overview of the limitations and contributions of the present study, together with recommendations for future research. This chapter begins with a reflection of a brief overview of the sequence of the entire study as indicated in Figure 8.1.

Focusing briefly on each chapter will provide a broad synthesis of the entire study.

### **Chapter One: Introduction**

The fundamental purpose of this study was firstly, to investigate the impact of skills development training on employee motivation, perception of the organisational climate and individual performance. Secondly, the aim was to develop a theoretical predictive model of individual performance and to investigate empirically the relationship between key variables as portrayed in Figure 1.1. The objectives of the study were divided into primary and secondary empirical research objectives, as well as primary and secondary literature research objectives. The empirical objectives and hypotheses of the study were grounded on the literature survey.

### **Chapter Two: Literature Review – Motivational Theories**

The literature review was devoted to a comprehensive review of the literature related to this construct. This included amongst others, a definition of the concept of (employee) motivation and a reflection on classical and contemporary theories of motivation and empirical findings. These theories unpack the effects and consequences of job satisfaction and dissatisfaction and their links to employee morale and attitude, which have a subsequent impact on employee performance.

### **Chapter Three: Literature Review - Organisational Climate**

Various theories and empirical findings related to this construct were investigated. The chapter also investigates the distinction and similarities between the organisational culture and climate, their role in explaining the behaviour of employees in the workplace and the impact this has on the overall employee performance.

## **Chapter Four: Literature Review - Training and Development**

In this chapter a comprehensive review of the literature related to this construct was executed. This includes amongst others, the definition of the concept of training and development and a comparison between training and development. The chapter also highlights and deliberates on the three Skills Development Acts promulgated by the Department of Labour. It concludes by showing the interaction between training and change on employee motivation, their perception of the organisational climate, as well as individual performance.

## **Chapter Five: Research design and Methodology**

The purpose of this chapter was to design a research methodology for answering the research question. The research design followed in the study was quantitative in nature, in a form of a quasi-experimental comparable pre post one group design, and the application of measuring instruments generated primary data. The Job Description Index Questionnaire (JDI), Litwin & Stringer's Organisational Climate Questionnaire (LSOCQ), the Effectiveness of Training Questionnaire (EFFTRA) and the Self-rated Performance Questionnaire (SELPERF) were used for this purpose.

A pre- post longitudinal approach to data collection and analysis was used for retrospectively exploring the interrelationships between variables and the moderating effect of training transfer to these variables.

A two-stage process of data analysis was followed. The objective of the first phase was to establish the scale reliabilities and validities before proceeding with the second phase. The objective of the second stage was firstly, to test for magnitudinal differences within all dependent variables across both pre- and post groups overall, and by each demographic; and secondly, to assess the nature of the relationships between key variables by applying various multi-variate statistical techniques, (e.g. analysis of variance (ANOVA) and Correlation and Regression Modelling) in order to construct various empirical models for predicting dependent variables such as organisational climate and motivation and job satisfaction.

## **Chapter Six: Reliability and validity of the measuring instruments**

A detailed description of all the measuring instruments used in this study is given, and their reliability and validity is statistically confirmed and justified. The statistical procedures applied include various statistical tests, such as tests for sampling adequacy and sphericity. In addition, tests to establish whether the intercorrelation matrices were suitable for further factor analysis were also conducted. The factor analyses used included principal component rotation. All scales yielded highly acceptable Cronbach coefficient Alphas which indicated good scale reliability. Additionally, the majority of tests yielded acceptable factor analysis indicators such as Kaiser Meyer Olkin (KMO), total variance extracted and a number of components and accuracy of items extracted per component.

## **Chapter Seven: Analysis and interpretation of research findings**

Following from Chapter Six above, in stage two, inferential statistical procedures were conducted to test the hypotheses of the study. In applying both multi-variate and bi-variate analysis (e.g. Anova and t-tests) magnitudinal differences between constructs were established. In addition, Correlation and Multiple regression modelling across the variables of employee motivation and job satisfaction, their perception of the organisational climate and individual performance were also run.

## **Chapter Eight: Synthesis, conclusions and recommendations**

The results of the study were used not only to report on the impact of skills development training on employee motivation, perception of organisational climate and individual performance, but also to refine the theoretical model of (lower-level) employee performance in Figure 1.1; thus resulting in a final empirical predictive model of individual performance.

Empirical support was found for some hypotheses whereas other hypotheses were not supported. Overall, the study succeeded in achieving the following: firstly, to determine accurately the impact of skills transfer on employee motivation and job

satisfaction, perception of organisational climate and individual performance; and secondly, to test the relationships between key variables of the theoretical model (Figure 1.1); and establish an empirical, predictive model.

Based on empirical evidence a demographic profile could be compiled for establishing the relationship between employee motivation and job satisfaction and training, as well as organisational climate and training respectively. The theoretical model that hypothesised that skills transfer, that is training, mediates the relationship between employee motivation and job satisfaction, (perception of) organisational climate and individual performance, is confirmed by the empirical evidence. The results further indicated that one cannot refer to an improved lower-level in the organisation, without including some form of training, whether it be in-house or external.

## **8.2 REVIEW OF THE STUDY**

### **8.2.1 The literature study**

The primary aim of the literature study was to provide research evidence on the impact of skills transfer development on employee motivation, perception of organisational climate and individual performance, as well as determining the empirical predictive model for individual performance. This aim was achieved in Figure 1.1.

1. Outline of the following key concepts, namely:
  - i. Motivation/job satisfaction;
  - ii. Organisational climate; and
  - iii. Training and its effects.
2. Describe the demographic factors (antecedents) of individual performance as contained within the above three concepts.
3. Describe the relationship between motivation/job satisfaction and effectiveness of training.

4. Describe the relationship between organisational climate and effectiveness of training.
5. Describe the role of 'skills transfer'; that is, training as a moderator for employee motivation/job satisfaction, perception of organisational climate and individual performance.

### **8.2.2 The empirical study**

The primary objective of the study was elaborated upon and illustrated in Figure 1.1, where key relationships between the variables in the model were investigated, in order to propose a predictive model of individual performance.

At the secondary level, the objectives were formulated to:

1. Determine the overall change in the dependent variables, namely 'employee motivation/job satisfaction' and 'organisational climate' across both pre- and post- groups.
2. Determine the overall change in the dependent variables, namely 'employee motivation/job satisfaction' and 'organisational climate' across both pre- and post- groups by each of the following demographics, namely company, gender, race, age, home language, marital status, job title, qualifications, training received in the past 18 months, the number of times such training occurred, work experience in the same job and work experience in the same company.
3. Determine and, if possible, model the relationships between the variables 'effectiveness of training', 'self-rated performance', 'motivation/job satisfaction' and 'organisational climate'.

The following section describes the choice of the statistical tests adopted in this study.

### **8.3 RATIONALE FOR THE USE OF CERTAIN STATISTICAL TESTS**

In this study, it was deemed necessary that the Kolmogorov Smirnov Tests of normality should be applied to decide on whether or not the appropriate test should be parametric (in the case of the construct not having a significantly non-normal shape) or non-parametric (in the case that there was sufficient evidence of the construct being non-normal). Following the results, the appropriate parametric statistical procedures (Independent T Tests) or appropriate non-parametric procedures (the Mann Whitney U Tests) were applied in the study or in some cases, both were applied.

The central limit theorem was also applied when sample sizes were greater than 30. This theorem states that the sampling distribution of means follows a normal distribution for sample sizes greater than 30. The following Table 8.3 illustrates the key descriptive findings that serve as the base and are directly related to Hypotheses 1 to 4 under discussion.

The findings of the literature survey will be referred to next.

### **8.4 DISCUSSION OF THE RESULTS OF THE LITERATURE SURVEY**

Literature information on each of the secondary objectives is reported below.

#### **8.4.1 Work motivation**

Job satisfaction is a complex phenomenon that has been widely researched (Li-Ping Tang & Talpade, 1999; Matloga, 2005:14). Yousef (2000) ascribes this to the fact that job satisfaction has significant associations with several variables. It is evident from various literature sources that job satisfaction goes hand-in-hand with motivation, the only difference being in the causes and effects (Matloga, 2005). In this study, the two concepts are used interchangeably, due to their complimentary nature.

The origin of the term 'motivation' lies in the noun motion which implies movement or changing of position (Hawkins, 1989). Action is the beginning of everything, and in business, as in every other human activity, nothing of any consequence happens until an individual wants to act (Gellerman, 1963). What a person accomplishes depends, to a large extent, on how much and why he wants to act. Motivation theory attempts to explain how behaviour begins, is energised, sustained, directed and stopped, and the kind of subjective reaction present in the organism (Lawler, 1969).

Work motivation is the concept used to describe the forces acting on, or within an organism, to initiate and direct behaviour in relation to work (Petri, 1991). Work motivation is defined as that which (1) energises human behaviour; (2) directs or channels such behaviour; and (3) maintains or sustains this behaviour (Allscheid & Cellar, 1996; Muchinsky, 1987). Pinder (1998) describes motivation as the set of internal and external forces that initiates work-related behaviour, and determines its form, direction, intensity, and duration. This conceptualisation points to energetic forces within individuals that influence or drive them to behave in certain ways, and environmental forces that trigger these drives.

Other variables often mentioned in association with the activating properties of motivation are effort (Wallbank, 1980) and persistence (Petri, 1991). The strength of motivation also explains differences in the intensity of behaviour. More intense behaviours are considered to be the result of higher levels of motivation and less intense behaviours are considered to be the result of lower levels of motivation (Steers & Porter, 1979).

One problem of studying motivation is that motivation is an invisible, internal hypothetical construct; it cannot be seen or be measured directly (Pinder, 1998). Its existence and intensity has therefore to be inferred from observation (Muchinsky, 1987). There are several reasons why it is difficult to infer motives from observed behaviour: behaviour is multi-determined; in other words, there is never only one cause for behaviour (Saari, 1991). Furthermore, a single act may express several motives; motives may appear in disguised forms and cultural and personal variations

may significantly moderate the modes of expression of certain motives (Steers & Porter, 1979).

According to Cronje *et al.* (2006:222), in the workplace, motivation is what makes people work. Similarly, motivation may be defined as the reason people want to work (Ivancevich, 1998). It is the internal drive that encourages people to achieve a particular goal (Robbins, 1998). Cronje *et al.* (2006) further argue that to be successful in any organisation, employees and managers should understand what causes different motivational levels, because the achievement of both personal and organisational goals is important. It is against this background that Cronje *et al.* (2006:222) opine that without a well-trained and motivated workforce, organisations cannot be successful.

Robbins surmises that an individual should begin by recognising that opportunities can aid or hinder individual effort, while individual effort is also influenced by goals which direct behaviour. The underlying assertion of this study is that an employee will exert a high level of effort if a strong relationship is perceived between:

- Effort and performance;
- Performance and rewards; and
- Rewards and satisfaction of personal goals.

For effort to lead to good performance the individual should have the required ability to perform (cf. the expectancy theory, i.e. 2.4 above) and the performance appraisal system that measures the individual's performance which should be perceived as fair and objective. The performance-reward relationship will be strong if the individual perceives it as performance that is rewarded. Motivation will be high if the reward an employee receives for performance satisfies the dominant needs consistent with the employee's goals (Sall & Knight, 1988).

## 8.4.2 Organisational climate

The study of organisational climate has its roots in the work of Kurt Lewin in the late 1930s (Denison, 1996; Lewin, Lippitt & White, 1939; Schneider, 1990; Martins & Von der Ohe, 2003: 41). Organisational climate has a long history in the social sciences (for example, Argyris, 1957; Dieterly & Schneider, 1972; Fleishman, 1953; Joyce & Slocum, 1984; Lewin, Lippitt & White, 1939; Litwin & Stringer, 1968). Organisational psychologists have become increasingly interested in the organisational climate because of the significant relationships exhibited between this construct and job satisfaction and job performance (Furnham & Gunter, 1993).

Although organisational climate has been defined in many different ways, there seems to be consensus that it includes three behavioural levels; namely, the individual, the interpersonal and the organisational (Field & Abelson, 1982; Joyce & Slocum, 1979; James & Jones, 1974; Cilliers & Kossuth, 2002; Martins & Von der Ohe, 2003: 41). According to Martins and Von der Ohe (2003: 42), in the South African context, employees' behaviour at the organisational level is influenced by continuous changes brought about by the Employment Equity Act and similar legislation; downsizing of organisations, mergers, globalisation, re-engineering and outsourcing, all of which affect employee motivation and commitment (Martins, 2002; Martins & Von der Ohe, 2002).

Among the most commonly accepted definitions of organisational climate is that proposed by Schneider (1975: 474): "organisational climate comprises perceptions that are psychologically meaningful molar [environmental] descriptions that people can agree characterise a system's practices and procedures".

The climate construct was initially developed to help explain meaningful aspects of people's psychological environments (Dickson, Smith, Grojean & Ehrhart, 2001). Similarly, West, Smith, Feng, and Lawthom (1998: 262) refer to organisational climate as the "perceptions that organisation members share of fundamental elements of their organisation". There are several studies that document the importance of organisational climate as a determinant of organisational outcomes. Various features

of the work environment have been considered by previous researchers (Schneider, 1990), including the climate for work group cooperation, job challenge and autonomy, leader support, pay performance linkages and performance feedback (Jones & James, 1979; Kopelman, Brief & Guzzo, 1990; Schneider, 1990).

The theoretical link between climate and performance has been examined by several researchers; some of those relevant to this study are Denison (1990), West *et al.* (1998) and Burke and Litwin (1992), where it is claimed that when perception by employees of greater involvement in decision making, information sharing and management support is favourable, then greater corporate effectiveness is also observed, as well as reciprocal influence between climate and performance.

In the context of organisational processes, climate plays the part of an intervening variable, which affects the results of the operations of the organisation. Climate has this moderating power because it influences organisational processes such as problem-solving, decision-making, communications, co-ordination, controlling, and the psychological processes of learning, creating, motivation, and commitment (Ekvall, 1996: 106).

The organisation has resources of different kinds – people, money, machines, etc. – which are used in its processes and operations. These operations result in effects of many kinds and on different levels of abstraction: high or low quality of products or services; radically new products or only small improvements in the old ones; high or low well-being among employees; and commercial profit or loss. Climate exerts a strong influence on these outcomes, but the effects in turn, influence both resources and climate.

### **8.4.3 Relationship between motivation/job satisfaction, organisational climate and performance**

Notwithstanding the essence and indications from Figure 1.1, Toulson and Smith (1994: 454) similarly report that there is evidence to suggest that organisational climate can influence both job performance and employee satisfaction (Lawler, Hall, & Oldham, 1974). Bezuidenhout (2001:86) mentions that organisational climate is a product of several environmental and internal organisational factors that are subject to some degree of regulation or influence by management.

### **8.4.4 Training and its effects**

Nearly all employees receive some form of training during their careers. Indeed, individuals rely on training to improve their current skills and to learn new skills (Mathieu, Tannenbaum, & Salas, 1992: 828). Evidently, performance is moderated by abilities, skills, competencies and traits (Porter & Lawler, 1968). Training represents an expensive investment organisations make in their human resources and therefore, it is important that organisations evaluate the effectiveness of their training efforts (Cascio, 1989) to maximise the benefits of such training.

Brewer's (1996:35) views regarding the role of training in organisational development is that training can be used as a planned managerial programme of individual and organisational growth.

Effective change processes need to consider both the forces within the individual and the organisational situation surrounding the individual. Training programmes, utilising organisational development interventions, need to maximise the effectiveness of organisational training activities.

Aders and Gill (1996:19) however, concur that the role of training in organisational development is not effective in many organisations. O'Connor (1995:26) concurs by postulating that trainers should rewrite their job descriptions "to become the eyes and

ears of senior management by identifying critical gaps in business leadership and technical competencies and to fill those gaps with training”.

Training should become more intimately involved with every developmental aspect of the organisation. The need to prove the value of training in organisational development initiatives has become more critical. The role of training in the learning organisation is highlighted by Greenberg and Baron (1997:92) who argue that training is a systematic approach to incorporating learning in the organisation. Training can be used to prepare employees to meet the challenges and changes in the workplace and to upgrade and refine skills (Struwig & Smith, 2000:114).

The best training programmes often use many different approaches, thereby assuring that several different learning principles may be incorporated into training (Bencivenga, 1995:69). Dobson and Tosh (1998:66) propose a focus on training in the learning organisation that ensures that business objectives are cascaded into departmental objectives and then ultimately transformed into training objectives.

Price (1997:334) asserts that because of organisational change, the traditional role of training has become obsolete. Training cannot be used only to improve knowledge and skills; a change in emphasis is required in which training is placed at the centre of strategic human resources programmes. The detailed discussion on training and development and its role in this study is covered in Chapter 5.

#### **8.4.5 Demographic factors (antecedents) of individual performance as contained within the above three concepts**

The factors (antecedents) of motivation/job satisfaction and the organisational climate, are included in the sections where the results are discussed, thus addressing the literature’s secondary objective 2 of the study.

In the next section, an overview of the key findings of the study will be provided.

## **8.5 SUMMARY OF THE MAIN FINDINGS AND DISCUSSION IN RELATION TO EXTANT LITERATURE**

The first phase of the statistical results focuses on the discussion of the descriptive statistics.

### **8.5.1 Descriptive statistics**

Research conducted has indicated that the relationship between employee motivation/job satisfaction and variables such as gender, race, age, home language, marital status, job title, education/qualification level, tenure and job level is well documented (Meyer & Allen, 1997; Naswall & De Witte, 2003; Spector, 1997; Matloga, 2005; Van Rensburg, 2004; Buitendach, 2004).

It is interesting to note the extensive work done by Van Rensburg (2004) on the value of the personal attributes of respondents on the workings or functioning of organisations. Although her focus is exclusively on employee 'commitment', her discoveries are eminently relevant and related to the investigation in this study; namely, the impact of training on employee motivation, perception of organisational climate and individual performance. Moreover, the researcher shares Van Rensburg's opinion that personal attributes do play a role and that other researchers support this contention, as can be seen in the following discussions.

However, DeCotiis and Summers (1987); Steers (1977) and Stevens, Beyers and Trice (1978) have found that personal attributes are relatively unimportant predictors of organisation commitment in contrast to other types of variables, such as role-related factors and organisational characteristics.

The next section of the discussion will focus on the main results of the hypotheses.

## 8.6 THE HYPOTHESES OF THE STUDY

The hypotheses from one to four are listed below and a summarised table of the findings is outlined thereafter.

### **Hypothesis 1:**

*Hypothesis 1 concerns associations between pre and post test scores on the employee motivation/ job satisfaction measuring instrument.*

H1: Scores on “employee motivation/job satisfaction” differ significantly across pre- and post test groups.

H1<sub>0</sub>: There is no significant difference between scores on “employee motivation/job satisfaction” in pre- and post test groups.

### **Hypothesis 2:**

*Hypothesis 2 incorporates ten sub-hypotheses concerning associations between demographic variables and pre and post test scores on the “employee motivation/ job satisfaction” measuring instruments.*

H2: Demographic variables significantly affect pre and post test scores on the “employee motivation/job satisfaction” measuring instrument.

H2<sub>0</sub>: Demographic variables do not significantly affect pre and post test scores on the “employee motivation/job satisfaction” measuring instrument.

**Hypothesis 3:**

*Hypothesis 3 concerns associations between pre- and post test scores on the organisational climate measuring instrument.*

H3: Scores on perceptions of organisational climate measuring instrument differ significantly in pre- and post- treatment groups.

H<sub>3o</sub>: There are no significant differences in scores of organisational climate measuring instrument across pre- and post- groups.

**Hypothesis 4:**

*Hypothesis 4 incorporates ten sub-hypotheses concerning associations between demographic variables and group pre- and post scores on the organisational climate measuring instrument.*

H4: Demographic variables significantly affect pre- and post test scores on the organisational climate measuring instrument.

H<sub>4o</sub>: Demographic variables do not significantly affect pre- and post test scores on the organisational climate measuring instrument.

Table 8.1 portrayed below serves as a summary of the statistical findings of the first four hypotheses of this study.

**Table 8.1**  
**Summary of the comparison of descriptive findings for Hypotheses 1 to 4**

<b>Across</b>	<b>Motivation/Job Satisfaction</b>		<b>Organisational Climate</b>	
<b>Pre and Post</b>		<b>p val</b>		<b>p val</b>
<b>Overall</b>	No significant difference	0.477	No significant difference	0.323
<b>Company</b>	Significant increase Country Bird	0.000	Significant increase Absa	0.000
	Significant increase Absa	0.012		
	Significant decrease SA Truck and Bodies	0.000		
	Increase Interstate (not significant)	0.052		
<b>Skilled</b>	Increase (not significant)	0.092	Significant increase	0.010
<b>Semi-skilled</b>	Decrease (not significant)	0.170	Significant decrease	0.020
<b>Gender</b>	Significant increase Females	0.001		
<b>Race</b>	No significant difference		Increase Coloureds(not significant)	0.096
			Significant increase Whites	0.001
<b>Age</b>	No significant difference		No significant difference	
<b>Home Language</b>	Significant increase South Sotho (NP)	0.024	Significant increase Afrikaans (NP)	0.001
			Significant increase Afrikaans (P)	0.000
			Significant decrease Xhosa (NP)	0.047
<b>Marital Status</b>	Increase divorced (not significant)	0.073	Increase singles (not significant)	0.055
<b>Qualification</b>	Significant increase Post-Matric	0.002	Significant increase Post-Matric	0.000
<b>Same Job</b>	Significant increase 6 - 10 years	0.028	Significant increase 6 – 10 years	0.023
<b>Same Company</b>	No significant difference		No significant difference	
NP – Non-parametric				
P - Parametric				

### 8.6.1 Discussion of Hypotheses 1 to 4

The results of this study as can be seen from Table 8.1 indicate that the p value of 0.477 is not less than 0.05. Therefore, regarding Hypothesis one, there is not sufficient evidence at a 5% level of significance to suggest that the population mean

‘motivation/job satisfaction scores’ are significantly different across both the pre- and post groups. This finding does not support Hypothesis one, which states as follows: “There is a significant difference in the dependent variable, namely employee motivation/job satisfaction across pre- and post groups”.

**Table 8.2**  
**Comparison of the (Mean and Standard Deviation) results of Hypotheses 1 and 2**  
**against those of 3 and 4**

	<b>Prepost</b>	<b>N</b>	<b>Mean</b>	<b>Std. deviation</b>	<b>Std. error Mean</b>
Motivation/Job Satisfaction	Pre	589	100.41	24.603	1.014
	Post	526	101.48	25.349	1.105
Organisational Climate	Pre	587	53.4872	8.20770	.33877
	Post	518	54.0039	9.17865	.40329

**Table 8.3**  
**Comparison of the (Independent T-Test) results of Hypotheses 1 and 2**  
**against those of Hypotheses 3 and 4**

		Levene's Test for Equality of Variance		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of Difference	
									Lower	Upper
Motivation/ Job Satisfaction	Equal variance assumed	.269	.604	-.711	1113	.477	-1.065	1.497	-4.003	1.873
	Equal variance not assumed			-.710	1090.684	.478	-1.065	1.500	-4.008	1.878
Organisational Climate	Equal variance assumed	3.389	.066	-.988	1103	.323	-.51664	.52304	- 1.5429 0	.5096
	Equal variance not assumed			-.981	1044.993	.327	-.51664	.52669	- 1.5501 3	.5168

Similarly, the results of this study from Table 8.3 indicate that the p value of 0.323 is not less than 0.05. Therefore, regarding Hypothesis three, there is not sufficient evidence at a 5% level of significance to suggest that the population mean 'organisational climate scores' are significantly different across both the pre- and post groups. This finding does not support Hypothesis three, which is as follows: "There is a significant difference in the dependent variable, namely perceptions of organisational climate across pre- and post groups".

The next section focuses on Hypotheses 2 and 4.

The findings of the study concerning Hypotheses 2 and 4 as depicted in Table 8.1 above indicate that certain demographic variables impact differently on motivation/job satisfaction. The discussion of the results is listed below:

#### **8.6.1.1**            *Company category*

From the findings of this study as shown in Table 7.1, it is evident that the sample (Pre = 604 and Post = 526) comprise the majority of the respondents from the three companies, namely: Interstate Bus-Line; Country Bird; and Sasko. This is evident in both stages, i.e.: pre- and post (Table 7.3). Furthermore, the results showed a high level of employee motivation/job satisfaction for three of the five South African companies as indicated in Table 8.1 above. The p values of Country Bird, Absa and SA Truck & Bodies are all less than 0.05. The former two companies showed a significant increase, whereas the latter company revealed a significant decrease. By referring to Table 7.15, it is evident that significance for a two-tailed test implies significance for a one-tailed test.

It is evident from the findings that majority of lower level employees from participating companies, that is three out of five, reported an increased motivation and job satisfaction after receiving training. Thus, benefits of this motivation are likely to show in the bottom-line of these employees' performance. This finding is not only consistent with evidence discussed earlier in the literature review of the relationship between employee motivation and work performance, but also justifies the underlying main hypothesis of the study.

#### **8.6.1.2**            *Job title category*

The results of the study from Table 8.1 indicate that skilled workers have increased their level of motivation/job satisfaction, whereas those of semi-skilled workers have decreased; although in both cases, not significantly. These findings are consistent with those of Matloga (2005:101) where he reports that the level of job satisfaction is higher for principal/deputy-principals and HODs, and lower for educators. Similar reports were documented for instance, in Lacy *et al.* (1983) where it was found that more

highly educated people were committed to their work. Knoop (1986); Luthans *et al.* (1987); Mannheim (1975); Newton and Keenan (1983) and Siegel and Ruh (1973) also found a positive relationship between education and commitment, an indication of job satisfaction.

In addition, the study conducted by Van Rensburg (2004:288), reported on some profound perceptions, among them being that the unrealistic expectations of black employees leads to frustration, because they are not promoted (Herbert, 1994). Research has shown that one of the factors contributing to the 'job-hopping' of black employees is the practice of organisations which work to increase the number of black employees, resulting in token appointments (Roberts, 1997a). Black senior managers are being poached at salaries that are higher than those paid by the market (Roberts, 1997b). Innes (2001) supports this research. Thus, blacks are experiencing isolation and stress-related disorders as a consequence of the practice of progression to high positions without their possessing the necessary competence (Roberts, 1997a).

The following perceptions have been recorded:

- Blacks place a high value on being trusted and recognised for their work, though their value is not recognised (Vallabh & Donald, 2001).
- They have been placed in positions that are inconsistent with their academic background and they have been given opportunities to utilise their knowledge and skills fully (Vallabh & Donald, 2001).
- They are not utilised or are placed in working environments where they are 'second-guessed' by colleagues and supervisors. This treatment also causes frustration in aspiring black managers (Jordaan, 2002; Vallabh & Donald, 2001).

Even black professionals find themselves in jobs that are not at a strategic level and are 'soft function' positions. Those in managerial positions are constantly watched and have little freedom to make their own decisions and act on them (Sello, 2001). According to Greenhaus, Parasuraman and Wormley (1990), black managers feel less

accepted, receive lower performance evaluations and experience lower career satisfaction than their white counterparts. Whites see the excessive job mobility of black managers and the perceptions of greed as motivating factors for 'job-hopping' (Matuna, 1996; Primos, 1994; Sibanda, 1995).

Muller and Roodt (1998) found that there is a relationship between involvement and work status; that clerks are more involved than their seniors as a result of high work expectations and the hope of being promoted quickly. This is however contrary to the findings of Mannheim (1975) which are supported by Roodt *et al.* (1993) who also found that higher-level jobs lead to increased work involvement.

Buchanan (1974); Mathieu & Zajac (1990) and Sheldon (1971) found in their studies that there is a positive relationship between job level and commitment. Some researchers have also indicated that there is a positive relationship between affective commitment and job level (Colarelli, Dean & Konstans, 1987; Harrell, 1990; Randall, Fedor & Longenecker, 1990).

According to Mowday, Porter and Steers (1982) and Randall *et al.* (1990), commitment is equally strong up and down the organisational hierarchy. No group, for example top executives, was found to be more committed. The fact that there is no relationship between job level and commitment is also supported in a study conducted by Cohen and Lowenberg (1990) and Roodt (1992).

The findings show that the more skilled employees are, the more satisfied they are. It is therefore necessary for organizations to consider the value of improving the skills levels of their lower level employees, if any meaningful measurable outputs are to be expected from each of them.

### **8.6.1.3          *Gender category***

Van der Walt (1986) as cited by Van Rensburg (2004:59) found in her studies that the majority of organisations tend to do research on both men and women and not exclusively on women. The paths that women followed were different from those of

men and before comparing gender groups, cognisance needs to be taken of this; however, this is not what the present study intends pursuing.

From Table 7.4, it is clear that the majority (61%) of the sample population is made up of males. However, it is obvious from Table 8.1 that females have increased their level of motivation/job satisfaction significantly, whereas males reveal no significant changes. This is consistent with the findings of Van Rensburg (2004:274) that female employees are more committed to the organisation than male employees. When women accept dual roles of work and family (homemaking), they are confronted with demands that differ from married men (Gutek, Larwood & Stromberg, 1986; Rossi, 1980). The findings in Table 7.8 indicate that most of the respondents (66.2% average) are married.

It is, therefore, not surprising that there are fewer females compared to males in the type of industries the researcher investigated this study. Van Rensburg (2004:61) reports that very few aspects have changed over the years in terms of women's choice of careers. Van der Walt (1986) and Van Rooyen (1980) maintain that in the 1980s, women chose more traditional occupations, such as teaching, nursing, clerical and sales jobs. Wessels (1981) found this to be true for graduates. In 1993, this was still the case (Lerenskhe, 1993), and was found to be still in place in 2000. Vinnicombe, Singh and Sturges (2000) state that women tend to be in more 'specialist' and supportive jobs, e.g. marketing or personnel, while men occupy more general positions, which have a higher status than support jobs.

When women are expected to work, their occupation plays a secondary role and the family role remains the responsibility of the wife. Girls are even socialised to adhere to these roles (Kaufman & Fetters, 1980). Even at managerial level, women view their children as their primary responsibility (Wajcman, 1996). Contrary to the fact that no evidence of studies could be found on the relationship between performance as defined by the level of commitment and women of different cultures (African, Coloured, Indian and White women), Van Rensburg's (2004:274) findings reveal that female employees are more committed to the organisation than male employees.

It is clear that females are generally more satisfied at work than their male counterparts. This development might become a necessary revolution, where organization directs most of their resources for development towards females than males, if their satisfaction can be directly linked with productivity. Women being in the majority in this country, this proposition might not be a bad idea at all.

#### **8.6.1.4**      *Language category*

From Table 7.7, it is clear from the findings that South Sotho or Sesotho (65.8% average) and Afrikaans (17.1% average) are the two dominant spoken languages within the sample of respondents in this study.

The results of the study from Table 8.1 above indicate that pre- South Sotho revealed a p value of 0.027, which is a significant increase. Similarly, in their study Muller and Roodt (1998) found that proportionally, more English- than Afrikaans-speaking respondents were less committed to their work than black language respondents. This situation could have been motivated by the fact that this group of respondents might be positive about their prospects for career development, as part of apartheid redress, while the other groups, especially the Afrikaans and English groups, might not be as excited about their prospects for career development, hence their indifferent attitude. More often than not the government policies such as affirmative action are cited as contributing factors to this situation.

Additionally, Van Rensburg (2004:70) reports that the results of Muller and Roodt's (1998) study were also partially supported by the studies that Roodt (1991; 1993) conducted previously on mainly English- and Afrikaans-speaking people. Contrary to the above findings, Roodt, Bester and Boshoff (1993) found that Afrikaans-speaking employees are more committed to their jobs than their English-speaking equivalents.

### **8.6.1.5**            *Qualification category*

Table 7.9 shows an overwhelming majority (77.4% on average) of respondents as those workers doing routine jobs, whilst a very small number (22.6%) do jobs that require some level of skill and competency. The findings from Table 8.1 show that the p value of 0.002 for post-Matric category is less than 0.05; therefore, there is sufficient evidence at a 5% level of significance to suggest that the level of motivation for this group has increased; whereas the ‘below Grade 12’s’ reveal no significant changes.

Furthermore, Table 7.10 reveals that a large number (85%) of respondents can barely read and write, and according to Van Rensburg (2004:75), it seems reasonable to expect that people with only lower levels of qualification (less than Grade 12), in many cases, lack the skills and knowledge needed in order to make alternative choices. Only a very small number possess a qualification higher than Grade 12 (15%). From the literature, it is clear that there are different research findings with regard to the relationship between job levels and commitment, which is an indication of employee motivation.

The results clearly show that employees with lower than Grade 12 are receptive to training, and that it has in fact improved their motivation level. It is essential therefore for management to not only heed the government call for skills transfer, but also to change their mind set about investing in human capital for the benefit of their organization.

### **8.6.1.6**            *Work experience in the same job and same company categories*

The time that an employee spends with a company seems to have an important impact on his/her performance in the organisation.

The findings of the research study as indicated in Table 8.1, the p value of 0.028 for ‘6-10 years’ category of employees is less than 0.05. Therefore, there is sufficient evidence at a 5% level of significance to suggest that the population mean ‘motivation and job satisfaction scores’ for the post group is significantly larger than the population

mean for the pre- group for the '6-10 years' category. The findings, however, in all other categories reveal no significant changes.

This finding especially of respondents with more service, is consistent with the findings of Van Rensburg (2004: 66), when she mentions that Angle and Perry (1981); Brown (1969); Buchanan (1974); DeCotiis and Summers (1987); Grusky (1966); Hall, Schneider and Nygren (1970); Hrebiniak (1974); Hrebiniak and Alutto (1972); Lee (1971); Luthans, Baack and Taylor (1987); March and Simon (1958); Meyer and Allen (1984); Morris and Sherman (1981); Mowday *et al.* (1979; 1982); Porter, Steers, Mowday and Boulian (1974); Sheldon (1971) and Welsch and La Van (1981) report that the longer employees worked in an organisation, the higher their levels of commitment. This observation the researcher considers as an indication of employee motivation/job satisfaction; therefore, their commitment.

Furthermore, Mathieu and Zajac (1990) distinguish between organisational and positional tenure and indicate that organisational tenure is more closely related to commitment. Other studies have supported the distinction between positional tenure (Brief & Aldag, 1980; Mottaz, 1988) and organisational tenure (Mathieu & Harmel, 1989), and indicate a positive impact on commitment. This researcher contends that this is a clear indication of employee motivation/job satisfaction.

Table 7.11 indicates very interesting trends: respondents with 1-5 years' experience are in the majority with an average of 44%; followed by those with 11-20 years' experience, with an average of 29%; and finally, those with 6-10 years' experience, with an average of 21.3%.

The results prove that people with more work experience tend to be more satisfied, they are accustomed to the systems and operations of the organization. So improving their skills levels might enhance not only their loyalty, but also give a reassurance of their value and contribution and, by being appreciated, propel them to increase their performance.

The following section deals with marital status.

### 8.6.1.7 Marital status

The findings of this study as indicated in Table 8.1, show that respondents in divorced and single categories responded positively for both job satisfaction and organisational climate variables, even though not significantly. Similarly, Matloga's study (2005: 102) reports that the level of job satisfaction is higher for married teachers and lower for divorced and widowed teachers. Marital status has been shown to be related to commitment and an indication of job satisfaction (Hrebiniak & Alutto, 1972; Mathieu & Harmel, 1989; Mathieu & Zajac, 1990; Meyer & Allen, 1988), because married people have greater financial responsibilities towards their family, thereby increasing the need to stay with the company (Angle & Perry, 1981; Hrebiniak & Alutto, 1972; Kacmar & Carlson, 1999; Kanungo, Misra & Dayal, 1975; Knoop, 1986; Luthans *et al.*, 1987; Mathieu & Hamel, 1989; Mathieu & Zajac, 1990; Meyer & Allen, 1988; Van Rensburg, 2004: 69).

In a seminal study conducted by Gould and Welbel (1983) it was found that if both partners in a marriage are working (dual wage earners), then the man tends to be less committed to his job and thus identifies less with his organisation, compared to men whose spouses are not working. When married couples with children are working, they are more committed to their jobs than married couples without children. The reason seems to involve financial needs; that is, there is greater work commitment where financial requirements are greater. According to Lacy *et al.* (1983), married men are more committed to their work than married women if they (women), feel it unnecessary for them to work, economically.

Keeping and losing a job are very important concerns for married men in particular. It is vital therefore, that training opportunities with meaningful impact should be targeted in this work force group since their prospects to find alternatives are minimal and organizations can yield better results by investing more fully in this group.

The following section reports on the findings of Hypothesis 4.

The findings of the study from Table 8.1 above concerning Hypothesis 4, revealed that certain demographic variables affect differences in the pre- post test scores of the dependent variable, namely perception of the 'organisational climate'. Perceptions of the general organisational climate develop as individuals attribute meaning to their organisational context, based on the significance of the environment for individual values (James, James & Ashe, 1990; Neal, Griffin & Hart, 2000).

#### **8.6.1.8 Company category**

Kangis and Williams (2000:531) indicate that there is a wide range of both anecdotal and empirical evidence of what leads to business success; for example, leadership (Kotter, 1990); mergers and acquisitions (Haspeslagh & Jemison, 1991); re-engineering (Hammer & Champny, 1993); quality (Deming, 1986); and general strategy (Peters & Waterman, 1982; Ohmae, 1983; Kanter, 1992; Ansoff, 1990; Porter; 1990; Schwartz, 1992; Mintzberg, 1994). However, few have attempted to explore the *process* of the suspected link between climate and performance.

From the findings of this study as indicated in Table 8.1, only Absa Bank showed a p value of less than 0.05. Therefore, Absa revealed a significant increase; whereas no other categories of company revealed any significant changes. What can be deduced from the findings is that Absa, like many other banks, seems to have a strong prevailing human resource development climate overall, hence its results.

It clear from this finding that companies with a cohort of skilled employees, are likely to experience higher motivation levels. It is judicious for organizations to have the majority of their compliment of staff at a higher level of skills in their respective duties so that they are able to function at their maximum.

### **8.6.1.9      *Job title and qualification categories***

It is clear from Table 8.1 that both skilled and semi-skilled employee categories as an indication of a job title, are significant, with p values of less than 0.05. This is a clear indication that they have both increased their perceptions of organisational climate. With regard to qualification category, the study results report that post-matric reveals a significant increase, with a p value equal to 0.000 which is less than 0.05. This significant change does not manifest in the “below Grade 12” category.

These findings are congruent with those of Furnham *et al.* (n.d), where they report that their results showed a completely clear pattern: while there were no differences in the perceived ratings of the importance of the various dimensions, over half of the dimensions revealed significant differences in the agreement scale, showing that the more senior the person, the more he/she expressed satisfaction and contentment with the prevailing climate. This is also in accordance with previous findings by Jackosky and Slocum (1988).

Likert and Likert (1976:103), report that the analyses of the extensive data obtained by the Institute for Social Research since 1946, reveal that the organisational climate experienced by a particular work group or by a particular hierarchical level in an organisation is determined primarily by the leadership behaviour of the echelons above it. The behaviour of the leaders at the very top echelon exerts by far, the greatest influence. The capacity to exert influence on the organisational climate drops sharply by hierarchical level unless some conditioning factor such as geographical distance from top management alters the situation (Samuel, 1970).

Investing in human capital is always perceived either as a culture of an organization or an ad hoc arrangement. Studious and educated people will always want to be associated with such organizations, and any visionary leader/manager will always take cognizance of this fact in their strategic planning.

### **8.6.1.10**     *Race and language categories*

In terms of the race category, Table 8.1 shows that the Whites reflect a significant increase in organisational climate scores with a p value of 0.001. Coloureds are on the borderline of a significant increase. Afrikaans speakers revealed a significant increase with a p value equal to 0.000. Also, the most significant result of this study indicates that white Afrikaans speakers recorded a significant increase in organisational climate as compared to other ethnic groups. Regarding the language category, the results of this study indicated that pre- South Sotho category showed a p value of 0.049, which is less than 0.05. Therefore, this metric reveals significant evidence (5% significant level) of non normality.

Clearly, mother tongue and medium of communication is still a dominant factor in determining the culture of engagement in organizations in most countries. Organizations founded by a particular racial group will ordinarily consciously or unconsciously entrench the language spoken by founders irrespective of the language spoken by the majority of employees at those organizations.

### **8.6.1.11**     *Work experience in the same job category*

From the results of the study, it is clear that the category '6-10 years' of respondents, revealed a significant increase, with a p value equal to 0.023 which is less than 0.05. This significant change does not manifest itself in all the other categories. It can therefore, be inferred that the more time people spend in an organisation, the more they tend to feel a sense of ownership and loyalty. Thus there is the tendency to express satisfaction and contentment with the prevailing organisational climate. Skills training can, therefore, be used by organisations more frequently to enhance and reinforce this feeling among staff.

The following section will provide a brief summary of the main results of the study for hypotheses 1 to 4.

### 8.6.2 Summary of the main findings for Hypotheses 1-4

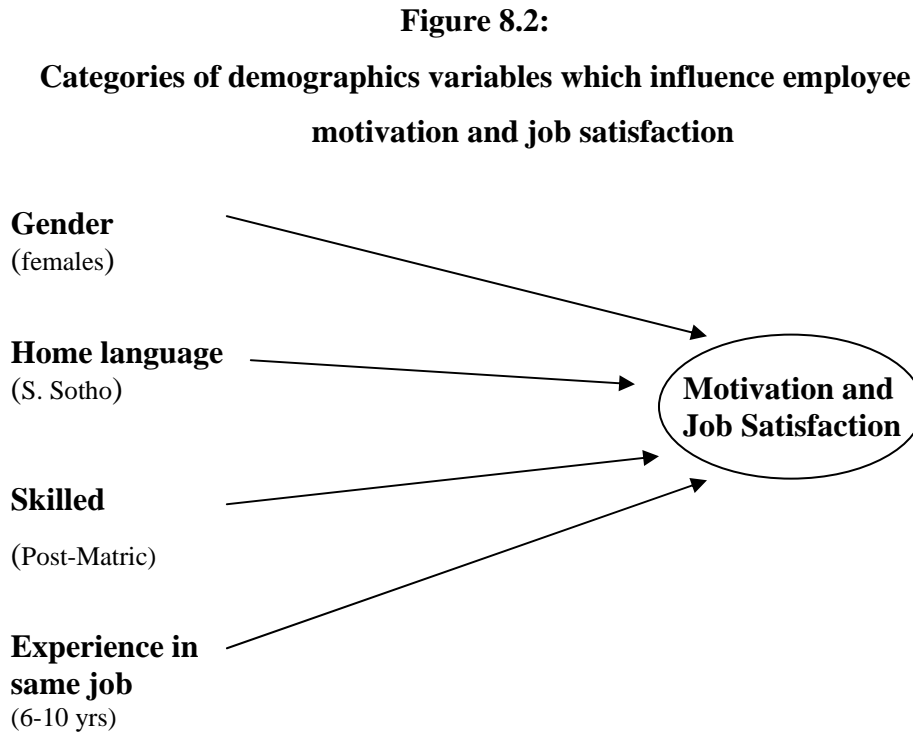
The main results of the research for hypotheses 1 to 4 can be summarised as follows:

When analysing the result of the study from Table 8.1 above, concerning both employee motivation/job satisfaction, and organisational climate, it is evident that the most common feature of their findings relates to the response of the skilled workers, which is positive in both. Thus, the study revealed a clear relationship between the two variables and training, especially as it pertains to skilled employees. Notwithstanding the essence and indications from Figure 1.1, Toulson and Smith (1994:454) similarly support evidence to suggest that the organisational climate can influence both job performance and employee satisfaction (Lawler, Hall, & Oldham, 1974). Bezuidenhout (2001:86) mentions that the organisational climate is a product of several environmental and internal organisational factors that are subject to some degree of regulation or influence by management.

One of the study's most significant finding for both variables, is that, those employees who received more training are more motivated and have an increased perception about their organisational climate than those who received less or no training at all. This discussion will however, be elaborated on in more detail under Hypotheses 5 and 6. So, the two core variables of this research (that is, motivation and job satisfaction and organisational climate) are both related to demographic characteristics.

Figures 8.2 and 8.3 serve as integrative hypotheses for motivation/job satisfaction and organisational climate respectively. In conclusion, the categories of demographic variables that led to a significant increase in the dependent variable "employee motivation and job satisfaction" consisted of skilled workers, females, respondents from the South Sotho language group, those who had post-Matric qualifications and respondents with 6 – 10 years' experience in the same job.

The results are illustrated graphically in Figure 8.2.

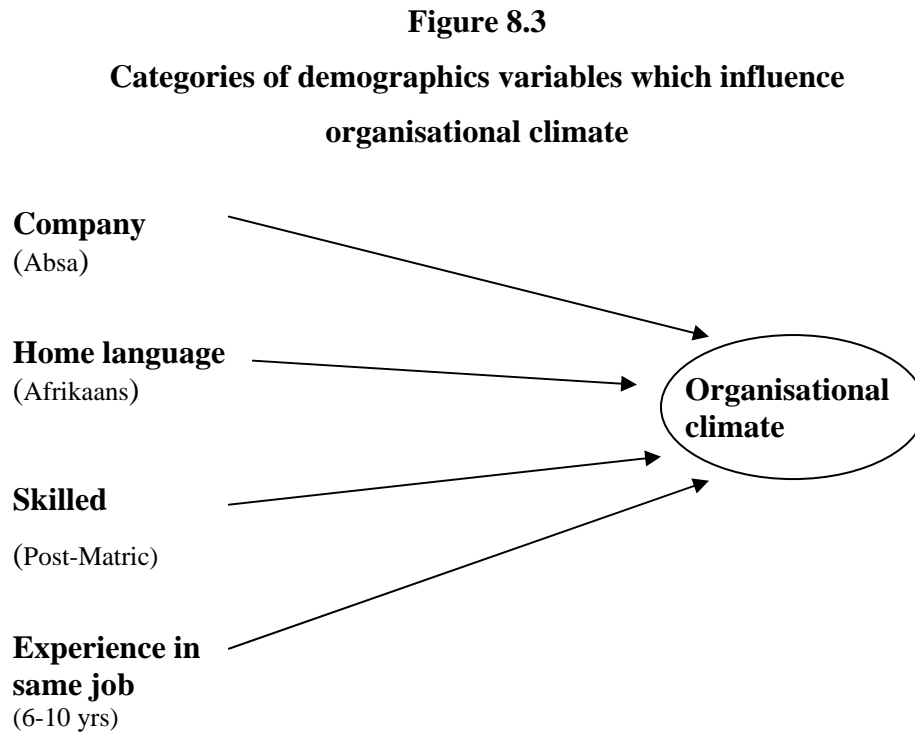


In conclusion, it can safely be inferred that the categories of demographic variables that led to a significant increase in the dependent variable 'organisational climate' consisted of skilled workers, Absa employees, white respondents, Afrikaans-speaking and post-Matric respondents and those with 6 – 10 years' experience in the same job.

Only semi-skilled respondents led to a significant decrease in organisational climate. From the study conducted by Wood and Sella (2000:461), putting semi-skilled employees especially through training might not be an easy job. Their findings revealed that a significant number of existing employees with only limited formal education and many years of service might feel threatened by the (training) process. It should be recognised that the former apartheid system resulted in grossly unequal access to education and training, perpetuating serious labour-market distortions (Horwitz & Franklin, 1996:12). They further report that it is precisely this same group who are most likely to be critical of the training initiative, seeing it as little more than a managerial attempt to force employees to work harder. There is little doubt that some

formal certification would do much to alleviate employee mistrust in this area (Wood & Sella, 2000:461).

The results are illustrated graphically in Figure 8.3.



The next section focuses on the discussion of hypotheses 5 to 8.

### 8.6.3 Discussion of Hypotheses 5 to 8

The study now focuses on the discussion of the hypotheses, namely hypotheses 5 to 8 outlined below:

#### **Hypothesis 5:**

*Hypothesis 5 concerns associations between frequency of training and group pre- and post tests scores on the “employee motivation and job satisfaction” measuring instruments.*

H5: Scores on the “employee motivation/job satisfaction” measuring instrument do significantly differ across various categories of frequency of training.

H5<sub>0</sub>: Scores on the “employee motivation/job satisfaction” measuring instrument do not significantly differ across various categories of frequency of training.

#### **Hypothesis 6:**

*Hypothesis 6 concerns associations between frequency of training and group pre- and post tests scores on the organisational climate measuring instrument.*

H6: Scores on the “organizational climate” measuring instrument do differ significantly across various categories of frequency of training.

H6<sub>0</sub>: Scores on the “organizational climate” measuring instrument do not significantly differ across various categories of frequency of training.

#### **Hypothesis 7:**

*Hypothesis 7 concerns associations between frequency of training and group pre- and post tests scores on the effectiveness of training measuring instrument.*

H7: Scores on the “effectiveness of training” measuring instrument do differ significantly across various categories of frequency of training.

H7<sub>0</sub>: Scores on the “effectiveness of training” measuring instrument do not differ significantly across various categories of frequency of training

**Hypothesis 8:**

*Hypothesis 8 concerns associations between frequency of training and group pre- and post test scores on the self-rated performance measuring instrument.*

H8: Scores on the “self-rated performance” measuring instrument do differ significantly across various categories of frequency of training.

H8<sub>0</sub>: Scores on the “self rated performance” measuring instrument do not differ significantly across various categories of frequency of training.

**8.6.4 Summary of Hypotheses 5 to 8**

Because the study adopted the pre- post-training scenario, it is worth noting that the above Hypotheses 5 to 8 were based on the following descriptives; namely, that 98% of respondents had experienced training in the last 18 to 24 months (cf. Table 7.85).

**Table 8.4**  
**Summary results of Hypotheses 5 to 8**

	Descriptive Construct Mean Scores and p values from Hypotheses 5 to 8		
	Once	Two or more Times	P value
<b>Motivation/Job Satisfaction</b>	97.25	109.96	0.000
<b>Organisational Climate</b>	52.536	56.78	0.000
<b>Effectiveness of Training - P</b>	162.5	172.48	0.124
- NP			0.313
<b>Self Performance - P</b>	32.82	32	0.164
- NP			0.222
P - Parametric			
NP - Non Parametric			

Furthermore, of those respondents who received training, 65% (No = 340) had been trained once; 30% trained twice (No = 157); and 4.6% (No = 24) trained three or more times in the last eighteen months (cf. Table 7.86). The summarised results of the four above hypotheses are outlined in Table 8.4 above.

Based on the findings of this study, as can be seen from the Table 8.4 above, the first two constructs, namely Motivation/Job Satisfaction, and Organisational Climate, reflect that for a staff member who receives training twice or more times, it can be safely inferred that his/her levels of motivation/job satisfaction together with his/her levels of organisational climate will be significantly higher than a staff member who received training only once in the last 18 months. Neal *et al.* (2000) concurs with this finding when they say that the organisational climate is thought to exert a strong impact on individual motivation to achieve work outcomes (Brown & Leigh, 1996). They further report that general organisational climate has also been found to influence knowledge and skills by increasing participation in activities such as training (Morrison, Upton & Cordery, 1997).

#### **8.6.4.1 Summary of the main findings of Hypotheses 5 to 8**

What is evident from the findings of the study as indicated in Table 8.4 is that the impact of the frequency of training on the following four constructs can be summarised as follows:

##### **8.6.4.1.1 *Employee Motivation/Job Satisfaction***

The results of the study as indicated in Table 8.4 shows that respondents who received training two or more times revealed a significantly higher score toward this construct than those who received training only once. This finding supports Hypothesis five of this study. The significance of training on motivation is further indicated in the literature as follows. Other variables often mentioned in association with the activating properties of motivation are effort (Wallbank, 1980) and persistence (Petri, 1991). Cronje *et al.* (2206:222) take the argument a step further by saying that without a well-trained and motivated workforce, organisations cannot be successful.

Kappelman and Prybutok (1995:15) report that their study shows that giving workers an empowering opportunity, albeit insignificant in relation to its impact on the overall change process, can have a significant effect on that employee's motivation and satisfaction and, to some extent, on the overall success of the TQM programme and of the organisation. This finding strongly suggests that big dividends can come from a purposeful search for additional opportunities for worker empowerment.

It is evident from the findings that the more frequent organizations invest in human capital empowerment the more assured quality performance can be predicted. A happy workforce is the most productive workforce.

#### **8.6.4.1.2**      *Organisational climate*

The findings of this study indicate that respondents who received training two or more times revealed a significantly higher score toward this construct than those who received training only once. This finding supports Hypothesis six of this study. It was also earlier indicated in this study that the general organisational climate has also been found to influence knowledge and skills by increasing participation in activities such as training (Morrison, Upton & Cordery, 1997). The underlying hypothesis in this case is that training can improve the employees' perception of the organisational climate; an indication that both variables have a reciprocal influence on each other.

Clearly, a continued skills transfer ensured that employees associate this practice with culture of the organization, and because it encourages them to produce optimally they are satisfied with the treatment they receive from their organization.

#### **8.6.4.1.3**      *Effectiveness of training*

In an era of insecure employment contracts, many employees emphasise their loyalty to the firm and the fact that, in the past, they enjoyed a relatively high degree of job security. Certainly, there is little doubt that sub-contracted workers cannot serve as a basis for distinction (Pfeffer, 1994:6-16), and that a firm's reliance on a score of loyal and skilled workers underpins its success (cf. Kaplan, 1991:54). However, there was

some evidence to suggest negative commitment among older employees – that they remained loyal to the firm in the absence of alternatives, rather than for any intrinsic satisfaction.

The result of the research study shows that although effectiveness of training is higher for those respondents receiving more training, the change is not significant. This finding covers Hypothesis 7 of this study. The findings of the study conducted by Kappelman and Prybutok (1995: 14) on the relationship between worker satisfaction and training, indicates that the correlation between TQM training and satisfaction with training was 0.096 ( $p < .262$ ), while the correlation between empowerment and satisfaction with training was .236 ( $p < .005$ ), nearly 150 percent larger.

Training for the sake of training has the potential of yielding undesirable results. Perception for attending training for compliance is likely to bear no fruits in terms of productivity. Deliberate and measurable training results must always be weighed against expected performance. So training needs to be effective and meaningful if it is to impact on employee performance.

#### **8.6.4.1.4**      *Self-rated performance*

According to Salas and Cannon-Bowers (2001:478), this construct which is directly linked with self-efficacy, has been widely studied during the past decade. The findings are consistent: self-efficacy, whether one has it beforehand or acquires it during training, leads to better learning and performance. Self-efficacy (the belief that one can perform specific tasks and behaviours) is a powerful predictor of performance, as has been shown time and time again (e.g. Cole & Latham, 1997; Eden & Aviram, 1993; Ford, Smith, Weissbein, Gully, & Salas, 1998; Mathieu, Martineau & Tannenbaum, 1993; Martocchio, 1994; Martocchio & Webster, 1992; Mathieu *et al.*, 1992; Quinones, 1995; Mitchell, Hopper, Daniels, George-Falvy & James, 1994; Phillips & Gully, 1997; Stevens & Gist, 1997; Stajkovic & Luthans, 1998).

Self-efficacy also mediates a number of personal variables including job satisfaction, organisational commitment, intention to quit the job, the relationship between training and adjustment in newcomers (Saks, 1995), and the relationship between

conscientiousness and learning (Martocchio & Judge, 1997). Self-efficacy has also been shown to have motivational effects (e.g. Quinones, 1995), to influence training reactions (Mathieu *et al.*, 1992), and to dictate whether trainees will use training technology (Christoph, Schoenfeld Jr. & Tansky, 1998).

From the findings of this study as indicated in Table 8.4, it is evident that this construct reveals a p value of 0.164, which is also not statistically significant. However, it is well established that self-efficacy enhances learning outcomes and performance. Salas and Cannon-Bowers (2001:478) maintain that a research need that still remains is to expand what we know about self-efficacy at the team level. Whereas a few studies have investigated collective efficacy in training (Guzzo, Yost, Campbell & Shea, 1993; Smith-Jentsch, Salas & Brannick, 2000), considerably more work is needed to better understand the mechanisms of collective efficacy in learning as a means of raising team performance. Moreover, it might be useful to consider the use of self-efficacy as a deliberate training intervention (i.e. developing training targeted at raising self-efficacy), as well as desirable outcomes of training (i.e. as an indicator of training success).

It is significant that another approach is explored, maybe, management by objectives (MBO) by organizations to maximize performance of their employees. It is imperative that employee performance is not only management/supervisor's responsibility, but a collective exercise by both management and employees. Accountability of one's performance must rest with the employees themselves, and rewards distributed in accordance with the accomplishment of predetermined performance targets.

The next section looks at the remaining hypotheses of this study.

### 8.6.5 Discussion of Hypotheses 9 to 13

The following section focuses on the discussion of Hypotheses 9 to 13. These hypotheses are listed below:

The summarised results of all the hypotheses analysed is outlined below:

**Hypothesis nine:** “Effectiveness of training scores significantly correlate with scores on the “employee motivation/job satisfaction” measuring instrument”.

The final model (Pearsons Correlation Coefficient = 0.426 and  $R^2 = 42.6\%$ ) which is significant (cf. Tables 7.101 to 7.106) reads as follows  $Y = 76.123 + 0.153$  Effectiveness of Training. (All coefficients are also significant within Table 7.107). All assumptions were tested and found to be satisfactory.

The model extracted from Hypothesis nine reveals that 42.6% of the variation in ‘motivation/job satisfaction’ can be explained by the model extracted and with only the knowledge of the ‘effectiveness of training score’. What is also interesting is that if the effectiveness of training score increases by one, the motivation/job satisfaction score will increase by 0.153. In addition, this result reveals that there is a strong positive correlation between these two variables, meaning that knowledge of the ‘effectiveness of training’ score can go a long way to predicting the level of ‘motivation/job satisfaction’. This finding supports Hypothesis 9.

**Hypothesis ten:** “Effectiveness of training scores significantly correlate with scores on the “organizational climate” measuring instrument”.

The final model (Pearsons Correlation Coefficient = 0.339 and  $R^2 = 33.9\%$ ) which is significant (cf. Tables 7.108 to 7.112) reads as follows  $Y = 46.763 + 0.044$  Effectiveness of Training. (All coefficients are also significant within Table 7.112). All assumptions were tested and found to be satisfactory.

This research study reveals that the model from Hypothesis nine is stronger than the model extracted for Hypothesis ten. Nevertheless, there is still a significantly strong positive correlation between ‘effectiveness of training’ and ‘organisational climate’ and with knowledge only of the former, the model explains away 33.9% of the variation in the latter. This finding supports Hypothesis 10.

**Hypothesis eleven:** “Effectiveness of training scores significantly correlate with scores on the “self-rated performance” measuring instrument”.

The p value of 0.007 (cf. Table 7.118) is not less than 0.05; therefore, there is enough evidence to reject the possibility of the normality of the residuals. Furthermore, based on this assumption being violated, this model is ignored in any further study.

**Hypothesis twelve:** “Aggregated scores on effectiveness of training, perceptions of organisational climate, and self-rated performance measuring instruments, significantly correlate with scores on the employee motivation measuring instrument”

The final model – third model - ( $R^2 = 63.9\%$ ) which is significant (cf. Tables 7.119 to 7.121) reads as follows:  $Y = 4.254 + 1.337 \text{ Organisational Climate} + 0.094 \text{ Effectiveness of Training} + 0.294 \text{ Self-Performance}$ . (All coefficients are also significant within Table 7.121). All assumptions were tested and found to be satisfactory.

It is the researcher’s contention that the models extracted from Hypotheses 12 and 13 reveal a myriad of important information.

The third model extracted from Hypothesis 12 explains away 63.9% of the variation in the dependent variable, namely ‘motivation/job satisfaction’. This is a large proportion of the variation and as such, this model should be thoroughly analysed. This  $R^2$  is done with the knowledge of the three independent variables; namely, Organisational Climate, Effectiveness of Training and Self-Performance. Moreover, by studying the coefficients of the model and by increasing organisational climate by one unit, motivation/job satisfaction (the dependent variable) are increased by 1.337 units.

Similarly, for effectiveness of training, an increase in one unit, results in an increase in the dependent variable by 0.094; and by 0.294 for an increase in one unit of self-rated performance. This gives an indication of how fluctuations in these independent variables affect the score of the dependent variable. This finding supports Hypothesis 12.

This is an important finding, because it not only concurs with Figure 1.1, but also validates its underlying hypothesis, which argues that it is through effective training transfer that employee motivation and perception of organisational climate can increase, ultimately resulting in improved individual performance. Training thus becomes the moderator for employee motivation and organisational climate.

**Hypothesis thirteen:** “Aggregated scores on effectiveness of training, employee motivation/job satisfaction and ‘self-rated performance measuring instruments significantly correlate with scores on the perceptions of organisational climate measuring instrument.”

The final model – second model extracted - ( $R^2 = 59\%$ ) which is significant (cf. Tables 7.123 to 7.125) reads as follows:  $Y = 32.045 + 0.194 \text{ Motivation/Job Satisfaction} + 0.014 \text{ Effectiveness of Training}$ . (All coefficients are also significant within Table 7.124). All assumptions were tested and found to be satisfactory.

In the case of the second model from Hypothesis 13, this model explains away 59% of the variation in the dependent variable, namely ‘organisational climate’. This is also a large proportion of the variation and as such, this model should be thoroughly analysed. This  $R^2$  is done with the knowledge of the three independent variables; namely, motivation/job satisfaction, Effectiveness of Training and Self-rated Performance. In addition, by studying the coefficients of the model and by increasing motivation/job satisfaction by one unit, increases in organisational climate (the dependent variable) by 0.194 units are evident. Similarly, for effectiveness of training, an increase in one unit results in an increase in the dependent variable by 0.014. This finding supports Hypothesis 13.

The next section focuses on a discussion of the final empirical, predictive model of individual performance.

## 8.7 A FINAL EMPIRICAL AND PREDICTIVE MODEL OF INDIVIDUAL PERFORMANCE

This section presents the results of the second part of the primary research question; in other words, whether the postulated model of relationships (cf. Figure 1.1) between the dependent and independent variables exist (De Klerk, 2001:222). It is evident that if the different models as displayed here under in various figures are combined, the final empirical model will emerge from the data.

It is worth noting that statistically, the discussion below involves statistical models and more specifically, regression models. The study has already investigated a few of these models. The discussion begins with the investigation of the model of 'self-performance' as the dependent variable and organisational climate, motivation/job satisfaction and effectiveness of training as the independent variables, as portrayed in Figure 1.1.

The study now investigates the model of 'self-rated performance' as the dependent variable and motivation/job satisfaction as the independent variable.

**Table 8.5(a)**  
**R Square Statistics for Model of Self-rated performance as the dependent variable and Motivation/job satisfaction as the independent variable**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.180	.032	.030	6.303

**Table 8.5(b)**  
**Anova F Test Statistic for Model of Self-rated performance as the dependent variable and motivation/job satisfaction as the independent variable**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	671.238	1	671.238	16.898	.000
	Residual	20140.008	507	39.724		
	Total	20811.246	508			

**Table 8.5(c)**  
**Regression model results for the model of Self-rated performance as dependent variable and motivation/job satisfaction as independent variable**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	27.917	1.149		24.302	.000
	Motivation and Job Satisfaction	.045	.011	.180	4.111	.000

As can be seen from the above Tables 8.5(a-d), although the model is significant with a p value of 0.000 from Tables 8.5(d), the R Square value is only 0.032 from Table 8.5(b), which is extremely low and explains only 3.2% of the total variance. As a result, this model is not investigated further.

As can be seen from the Table 8.6 below, the correlation coefficients between the variables outlined, although significant, are extremely low.

**Table 8.6**  
**Correlation coefficient between Self-rated performance (dependent variable) and motivation/job satisfaction (independent variable)**

		Self Performance	Motivation and Job Satisfaction
Self Performance	Pearson Correlation	1	.181
	Sig. (2-tailed)		.000
	N	518	518
Motivation and Job Satisfaction	Pearson Correlation	.181	1
	Sig. (2-tailed)	.000	
	N	518	526

The next section focuses on the model of “self-rated performance” as the dependent variable and organisational climate as the independent variable.

**Table 8.7(a)**  
**Correlation coefficient between Self-rated performance (dependent variable)**  
**and Organisational climate (independent variable)**

		Self Performance	Organizational Climate
Self Performance	Pearson Correlation	1	.153
	Sig. (2-tailed)		.001
	N	518	510
Organizational Climate	Pearson Correlation	.153	1
	Sig. (2-tailed)	.001	
	N	510	518

**Table 8.7(b)**  
**R Square Statistics for Model of Self-rated performance as the dependent**  
**variable and Organisational climate as the independent variable**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.153	.024	.022	6.325

**Table 8.7(c)**  
**Anova F Statistic for Model of Self-rated performance as the dependent variable**  
**and Organisational climate as the independent variable**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	490.369	1	490.369	12.257	.001
	Residual	20323.131	508	40.006		
	Total	20813.500	509			

**Table 8.7(d)**  
**Regression model results for model of Self-rated performance as dependent**  
**variable and Organisational climate as independent variable**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.758	1.664		16.084	.000
	Organizational Climate	.106	.030	.153	3.501	.001

As can be seen from the above Tables 8.7(a-d), although the model is significant with a p value of 0.001 from the Table 8.7(d), the R Square value is only 0.024 from Table 8.7(b), which is extremely low, explaining only 2.4% of the total variance. As a result, this model is not investigated further.

As can be seen from the Table 8.7(a-d) above, the correlation coefficients between the variables outlined, namely self-rated performance (dependent variable) and organisational climate (independent variable), although significant, are extremely low.

Finally, the model of 'self-rated performance' as the dependent variable and effectiveness of training as the independent variable is investigated below.

**Table 8.8(a)**  
**Correlation coefficient between Self-rated performance (dependent variable)**  
**and effectiveness of training (independent variable)**

		Self Performance	Effectiveness of Training
Self Performance	Pearson Correlation	1	.125
	Sig. (2-tailed)		.005
	N	518	517
Effectiveness of Training	Pearson Correlation	.125	1
	Sig. (2-tailed)	.005	
	N	517	525

**Table 8.8(b)**  
**R Square Statistics for Model of Self-rated performance as the dependent**  
**variable and effectiveness of training as the independent variable**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.125	.016	.014	6.328

**Table 8.8(c)**  
**Anova F Statistic for Self-rated performance as the dependent variable and**  
**effectiveness of training as the independent variable**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	325.093	1	325.093	8.119	.005
	Residual	20621.944	515	40.043		
	Total	20947.037	516			

**Table 8.8(d)**  
**Regression model results for Self-rated performance as dependent variable and Organisational climate as independent variable**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	30.662	.709		43.234	.000
	Effectiveness of Training	.011	.004	.125	2.849	.005

As can be seen from the above tables, although the model is significant with a p value of 0.005 from the Table 8.8(d), the R Square value is only 0.016 (Table 8.8(d)), which is extremely low, explaining only 1.6% of the total variance. As a result, this model is not investigated further.

Finally, all the individual correlation coefficients between all the variables are outlined in the table below. As can be seen, all are low, bar those between motivation/job satisfaction, organisational climate and effectiveness of training; all the models which have been investigated in previous analyses.

**Table 8.9**  
**Correlation coefficients between all the constructs (variables)**

		Self Performance	Effectiveness of Training	Motivation and Job Satisfaction	Organizational Climate
Self Performance	Pearson Correlation	1	.125	.181	.153
	Sig. (2-tailed)		.005	.000	.001
	N	518	517	518	510
Effectiveness of Training	Pearson Correlation	.125	1	.426	.339
	Sig. (2-tailed)	.005		.000	.000
	N	517	525	525	517
Motivation and Job Satisfaction	Pearson Correlation	.181	.426	1	.580
	Sig. (2-tailed)	.000	.000		.000
	N	518	525	526	518
Organizational Climate	Pearson Correlation	.153	.339	.580	1
	Sig. (2-tailed)	.001	.000	.000	
	N	510	517	518	518

In addition, the model of 'effectiveness of training' as the dependent variable and organisational climate, motivation/job satisfaction and self-performance as the independent variables is investigated.

**Table 8.10(a)**  
**R Square Statistics for Model of Effectiveness of training as the dependent variable and motivation/job satisfaction and organisational climate as independent variables**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.434	.188	.186	63.927
2	.446	.199	.196	63.553

**Table 8.10(b)**  
**Anova F Statistic for Model of Effectiveness of training as the dependent variable and motivation/job satisfaction and organisational climate as independent variables**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	479560.6	1	479560.600	117.349	.000
	Residual	2071923	507	4086.633		
	Total	2551483	508			
2	Regression	507752.2	2	253876.110	62.856	.000
	Residual	2043731	506	4038.994		
	Total	2551483	508			

**Table 8.10(c)**  
**Regression model results for Effectiveness of training as dependent variable and motivation/job satisfaction and organisational climate as independent variable**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	42.179	11.651		3.620	.000
	Motivation and Job Satisfaction	1.207	.111	.434	10.833	.000
2	(Constant)	9.662	16.901		.572	.568
	Motivation and Job Satisfaction	.997	.136	.358	7.315	.000
	Organizational Climate	.997	.377	.129	2.642	.008

As can be seen from the above Tables 8.10(a-d), although both the models extracted are significant with a p value of 0.000 from the Table 8.10(d), the R Square value is only 0.188 and 0.199 from Table 8.10(b), which are both low, explaining a small amount of the total variance. As a result, these models are not investigated further.

The following section sets out the recommendations of the research study.

## **8.8 RECOMMENDATIONS**

The primary purpose of the research study was to investigate the impact of skills development training on employee motivation/job satisfaction, perception of the organisational climate and individual performance. In order to realise this aim, a literature review was undertaken and it served as bedrock for the empirical research. On the basis of the research findings, therefore, the following recommendations are made:

### **8.8.1 Recommendations to the organisations**

- The implementation of the developed model which can measure “the effectiveness of training” especially within lower-level employees across sectors.
- Companies must begin to recognise the importance of monitoring the effectiveness of any training programme they put their employees through, especially for lower-level employees, and not just comply with the various South African legislative requirements. The tendency to simply add up numbers of workers who have undergone training, without linking it to business strategy, could be a futile exercise and defeat the purpose of training.
- Companies need to note that the constructs ‘employee motivation/job satisfaction’ and ‘organisational climate’ increased significantly across the categories of demographics of skilled workers and post-Matric respondents, even though the scores of these same categories were the highest of all

categories within their demographic at the pre-test stage (reference with tables). This highlights the importance of training and reinforces the need to train workers to be more skilled, as the constructs 'employee motivation/job satisfaction' and 'organisational climate' seem to increase exponentially as workers become more skilled.

- Organisations should take note that more frequent training has a significant positive effect on motivation/job satisfaction as well as on the organisational climate. The need for more frequent training programmes within these organisations is strongly recommended by the researcher.
- Recognise the importance and relationship thereof of effectiveness of training for both motivation/job satisfaction as well as for the organisational climate. Workers are the most important assets of any business. Similarly, the climate as fundamentally determined by middle and top management of organisations is critical to a healthy and pleasant work environment. A positive organisational setting is one in which human resources are valued, communication is open and dialogical, decision making is participatory, and motivational conditions for individual achievement are present. Top management of organisations should seek to create working environments with these characteristics.
- Recognise that employee motivation and organisational climate interact and can do so positively or negatively. They should therefore be closely monitored to ensure a positive working environment.

Future research suggestions will be discussed next.

### **8.8.2 Recommendations for future research**

Emanating from this study, the following are suggested for future research:

- A comparison between public and private sector lower-level employees to generalise a predictive model of the present study.

- Given the findings of the study, there is still a large amount of unexplained variance. Work-related variables such as autonomy and task characteristics could be included.
- Further research to include the consequences of individual performance to gain a holistic picture of the concept of individual performance.
- The inclusion of the effect of various legislation to obtain an improved predictive model of individual performance.
- Test a non-recursive model of performance/turnover in which motivation/job satisfaction and organisational climate are shown to have reciprocal causation, using the two most significant antecedent variables in this study.
- Although the validity and reliability of the designed effectiveness of training measuring instrument were executed and tested across various sectors, it is also essential to test it within non-profit and government organisations, for its final validity and reliability to be confirmed.
- It is also suggested that this study is expanded on and implemented within the organisations studied to monitor and measure the various constructs within a quasi experimental design.

## **8.9 THE VALUE CONTRIBUTION OF THE RESEARCH STUDY**

- In the case of the effectiveness of training questionnaire, the study made a significant theoretical contribution because the instrument constructed for this study, was statistically proven to be reliable and valid.
- The theoretical model in Figure 1.1 was used as a departure point to test certain key relationships in the model empirically. The results of the study indicated

that certain models were significant and worth considering and other models were not.

- It seems that perceptions of the effectiveness of training have a significant bearing on the needs, aspirations and ambitions of respondents. This concept needs to be taken seriously when predicting individual performance in the South African context.
- The benefits of concentrating time, money and energy on improving the skills level of lower-level employees are immeasurable. Reduced number of work-related accidents, shorter lead time on performance, possible improved morale and commitment to the organisation, and finally increased bottom-line, are the likely rewards organisations in this country can enjoy.
- A highly skilled and competent workforce is not only beneficial to the individual employee and to the organisations' shareholders, but also contributes to the general economic growth of the country. So, a paradigm shift towards the improvement of the skills levels of lower-level employees becomes a moral and socio-economic imperative for all sectors of South African society, especially both the private and public sectors.
- It is essential that organisations also link human capital investment, particularly in lower-level employees, with organisational strategy so that harmony and measurable results can be realised.
- There should be re-engineering and re-alignment of SETAs with educational imperatives, so that they serve a complementary role to compensate for shortfalls of education. For example, they could emphasise increased hands-on approach, and experiential training, something that could help to deal with the concerns of both the employers and the government's social upliftment programmes, especially those relating to skills transfer.

- The impact of HIV/AIDS education has to be addressed urgently if production is to be sustained. It is reported that older people will play an important part in future in organisations given the fact that HIV/AIDS has an impact on the workforce and specifically on younger people (Walbrugh & Roodt, 2003).
- The external validity of the findings was established by the fact that this study was conducted across different organisations in similar contexts.

### **8.10 LIMITATIONS OF THE RESEARCH STUDY**

The following limitations need to be taken into cognisance in this study.

- The focus of this study was fundamentally on the lower-level employees of the organisations that participated in this study. Therefore, generalisation of the findings will be limited to this category of employees only.
- The exclusion of the impact of legislation such as Skills Development Acts and the Labour Relations Act and their effects on individual performance is a possible limitation. This exclusion leaves the predictive model of individual performance incomplete.
- Even though the size of the present study is reasonably acceptable, the companies representing various sectors in this study, are very small in size. This makes the findings with respect to each company not representative of their respective sectors, but serves merely as an indication.
- Despite the sample size of this study being this huge, only the antecedents of employee motivation and job satisfaction and organisational climate were included, and not the consequences of employee motivation and job satisfaction and organisational climate. As a result of exclusion of consequences, a more holistic picture of individual performance was not possible.

- The researcher was unable to provide for a control group as it was practically impossible to find a group of companies that were prepared to halt training of their employees over the study period.
- The researcher was unable to identify the same respondent during the pre and post tests due to conditions by the organisations involved that provided for respondents' confidentiality.

### **8.11 SUMMARY AND CONCLUSION**

Despite the legislation requirement imposed on business organisations to play their part in addressing the huge skills shortage crippling the economic performance of the country, staff training has and will continue to be a prominent factor in the modern workplace. Unfortunately, it seems that State initiatives to promote greater formal recognition for 'life-long learning' and the transferability of skills have very little impact on actual practices within the bulk of South Africa's workplaces (Wood & Sella, 2000:461).

The fundamental purpose of this study was therefore, to explore indepth the impact of skills development training on employee motivation/job satisfaction, perception of organisational climate and individual performance, and to establish a modified predictive model for individual performance.

The underlying contention of this study is that training can enhance the effort and ability of an individual to perform through the manipulation of certain variables, which are employee motivation and the perception of the organisational climate. This hypothesis is consistent with Porter and Lawler's (1968) inference that performance is moderated by abilities, skills, competencies and traits. Through the literature review, it was revealed that there is evidence to suggest that the organisational climate can influence job performance and employee satisfaction (Lawler, Hall, & Oldham, 1974), an indication of the inherent relationship between the identified independent and dependent variables of this study.

In conclusion, using a pre-test-posttest research design with a large sample, the study has indicated empirical support for the positive effects of training on the motivation, job satisfaction and perceptions of organisational climate of surveyed employees. And, although the empirical evidence did not support a clear relationship between training and self-reported improvements in performance, the findings are important in that they have shown with some degree of confidence, the efficacy of training frequency in enhancing employee attitudes to work and perceptions of the organisation as a whole.

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# **ANNEXURES**

**ANNEXURE A:**

**Letter of request to conduct a study**

**Attention: Mr. Kobus van Rensburg**

Interstate Busline - Bloemfontein

20 September 2004

Dear Mr. van Rensburg

**RE: REQUEST TO UNDERTAKE A RESEARCH AT YOUR COMPANY**

Following our telephonic discussion this afternoon, I have the pleasure of furnishing you with all the information concerning my request.

I am a busy furthering my studies at the University of Kwazulu-Natal (formerly known as University of Natal). Studying towards a Doctor of Business Administration (DBA).

The purpose of my study is to determine the impact of training on the performance of employees. It is a known fact that companies put their employees through some sort of training, it be in-house training or outside the company training. But very few companies monitor the performance of these employees after receiving this training, whether it has improved or not. Especially the lower level employees, those regarded as skilled and semi-skilled.

I therefore, wish to request permission to carry out this research at your company. And because I am looking at about 800+ lower level employees, your company will form part of three or four other companies participating in this study. Meaning that, I am looking at about 250 – 350 employees from your company alone, as for logistical and practical realities of successfully executing this task, is something I will love to discuss face to face with you Sir/Madam at the time most convenient to you.

Data gathered in this survey will be treated with *strictest confidentiality* and presented only in a summary form without the name or affiliation of the respondent being mentioned. I intend to start with data collection as soon as I have received your permission to do so. Showing my gratitude for your support and cooperation, it is my intention to make the final results of my study to all participating companies, however, the reporting on the results will not be company specific, but general in nature.

I will be very much glad if my request can receive your favorable response, and be more than willing to clarify and answer any questions you might have.



Yours faithfully

Tshedi Naong (08295 78343)

Private Bag X20539  
Bloemfontein  
9800

Humanitas Building  
Mankweng 1  
BLOEMFONTEIN  
9801

Tele/Fax  
051-5073320

051-5072271

Mail/E-Pos  
[retori@tfs.ac.za](mailto:retori@tfs.ac.za)

**ANNEXURE B:**

**Questionnaire covering letter together with  
permission received from participating  
companies**

Questionnaire Covering Letter (A)

**RETROSPECTIVE**

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS**

Dear Respondent,

**DBA Research Project**  
**Researcher:** MN Naong (082 9578 343)  
**Supervisor:** Prof. David Coldwell (031 260 2595)

I, **MN Naong** an DBA student, at the Graduate School of Business, of the University of Kwazulu Natal. You are invited to participate in a research project entitled "**Impact of skills development training on employee motivation, perceptions of organizational climate and individual performance**". The aim of this study is to develop a model for companies that will best indicate how training can aid the process of improving individual performance at work, increase their motivation levels and perceptions of organizational climate, and ultimately achieve increase and improve their production capacity.

Through your participation I hope to understand the impact of training on productivity. The results of the survey are intended to contribute to the body of knowledge on the relationship between training and performance. Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 15 to 20 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's signature

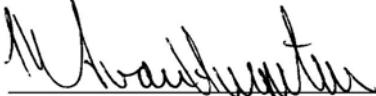


Date 16 May 2008

**CONSENT**

I, **Andre van Huyssteen, Provincial Manager: ABSA Human Resources**, hereby confirms that permission is granted to Mr. Naong to conduct research on "**Impact of Skills Development Training on Employee Motivation, Perceptions of Organisational Climate and Individual Performance**".

I further wish to confirm that the results of the research related to ABSA Bank will be held in confidence and a copy of which would be made available to Line Managers of the participating Business Units.



**Andre van Huyssteen**  
**Provincial Manager: ABSA Human Resources**

15/5/08  
Date

Questionnaire Covering Letter (B)
-----------------------------------

## RETROSPECTIVE

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS**

Dear Respondent,

**DBA Research Project**  
**Researcher:** MN Naong (082 9578 343)  
**Supervisor:** Prof. David Coldwell (031 260 2595)

I, **MN Naong** an DBA student, at the Graduate School of Business, of the University of Kwazulu Natal. You are invited to participate in a research project entitled "**Impact of skills development training on employee motivation, perceptions of organizational climate and individual performance**". The aim of this study is to develop a model for companies that will best indicate how training can aid the process of improving individual performance at work, increase their motivation levels and perceptions of organizational climate, and ultimately achieve increase and improve their production capacity.

Through your participation I hope to understand the impact of training on productivity. The results of the survey are intended to contribute to the body of knowledge on the relationship between training and performance. Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 15 to 20 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

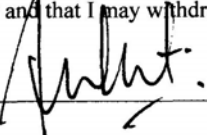
Investigator's signature  Date 13 MAY 2008

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**CONSENT**

COUNTRY - B.R.D

I KUM FERREIRA the undersigned have read and understand the above information. I hereby consent to participate in the study outlined in this document. I understand that participation is voluntary and that I may withdraw at any stage of the process.

Participant's signature  Date 12/05/08

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## Questionnaire Covering Letter (C)

### RETROSPECTIVE

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS**

Dear Respondent,

**DBA Research Project**  
**Researcher:** MN Naong (082 9578 343)  
**Supervisor:** Prof. David Coldwell (031 260 2595)

I, **MN Naong** an DBA student, at the Graduate School of Business, of the University of Kwazulu Natal. You are invited to participate in a research project entitled "**Impact of skills development training on employee motivation, perceptions of organizational climate and individual performance**". The aim of this study is to develop a model for companies that will best indicate how training can aid the process of improving individual performance at work, increase their motivation levels and perceptions of organizational climate, and ultimately achieve increase and improve their production capacity.

Through your participation I hope to understand the impact of training on productivity. The results of the survey are intended to contribute to the body of knowledge on the relationship between training and performance. Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 15 to 20 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's signature \_\_\_\_\_



Date \_\_\_\_\_

9 May 2008

#### CONSENT Interstate Bus Lines

I MARIETA VAN NIEKERK the undersigned have read and understand the above information. I hereby consent to participate in the study outlined in this document. I understand that participation is voluntary and that I may withdraw at any stage of the process.

Participant's signature \_\_\_\_\_



Date \_\_\_\_\_

09/05/2008

Questionnaire Covering Letter (D)
-----------------------------------

## RETROSPECTIVE

**UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS**

Dear Respondent,

**DBA Research Project**  
**Researcher:** MN Naong (082 9578 343)  
**Supervisor:** Prof. David Coldwell (031 260 2595)

I, **MN Naong** an DBA student, at the Graduate School of Business, of the University of Kwazulu Natal. You are invited to participate in a research project entitled “**Impact of skills development training on employee motivation, perceptions of organizational climate and individual performance**”. The aim of this study is to develop a model for companies that will best indicate how training can aid the process of improving individual performance at work, increase their motivation levels and perceptions of organizational climate, and ultimately achieve increase and improve their production capacity.

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If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 15 to 20 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's signature \_\_\_\_\_



Date \_\_\_\_\_

9 May 2008

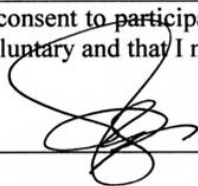
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**CONSENT**

SASKO

I J Erasmus the undersigned have read and understand the above information. I hereby consent to participate in the study outlined in this document. I understand that participation is voluntary and that I may withdraw at any stage of the process.

Participant's signature \_\_\_\_\_



Date \_\_\_\_\_

09/05/2008

## Questionnaire Covering Letter (E)

### RETROSPECTIVE

UNIVERSITY OF KWAZULU-NATAL  
GRADUATE SCHOOL OF BUSINESS

Dear Respondent,

**DBA Research Project**

**Researcher:** MN Naong (082 9578 343)  
**Supervisor:** Prof. David Coldwell (031 260 2595)

I, **MN Naong** an DBA student, at the Graduate School of Business, of the University of Kwazulu Natal. You are invited to participate in a research project entitled "**Impact of skills development training on employee motivation, perceptions of organizational climate and individual performance**". The aim of this study is to develop a model for companies that will best indicate how training can aid the process of improving individual performance at work, increase their motivation levels and perceptions of organizational climate, and ultimately achieve increase and improve their production capacity.

Through your participation I hope to understand the impact of training on productivity. The results of the survey are intended to contribute to the body of knowledge on the relationship between training and performance. Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you about 15 to 20 minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's signature



Date

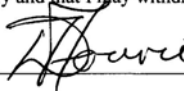
9 May 2008

**CONSENT**

S.A TRUCK BODIES

I D F Fourie the undersigned have read and understand the above information. I hereby consent to participate in the study outlined in this document. I understand that participation is voluntary and that I may withdraw at any stage of the process.

Participant's signature



Date

9 May 2008

## **ANNEXURE C:**

**A detailed questionnaire used for  
pre- and post- data collection**

# PRE AND POST-TRAINING QUESTIONNAIRE

## SECTION A : BIOGRAPHICAL DETAILS

1. Gender:	Male		Female		<input type="checkbox"/>		
2. Race:	African				<input type="checkbox"/>		
	Coloured				<input type="checkbox"/>		
	Indian				<input type="checkbox"/>		
	White				<input type="checkbox"/>		
	Other, please specify .....				<input type="checkbox"/>		
3. Age:	21 – 25		41 – 45		<input type="checkbox"/>		
	26 – 30		46 – 50		<input type="checkbox"/>		
	31 – 35		51 – 55		<input type="checkbox"/>		
	36 - 40		56 and above		<input type="checkbox"/>		
	4. Home language:	South Sotho				<input type="checkbox"/>	
English					<input type="checkbox"/>		
Afrikaans					<input type="checkbox"/>		
Xhosa					<input type="checkbox"/>		
Zulu					<input type="checkbox"/>		
Other, please specify .....					<input type="checkbox"/>		
5. Marital status:	Married		Single		Divorced/separated		<input type="checkbox"/>
6. Job title:	Please specify: .....				<input type="checkbox"/>		
7. Qualifications:	Below grade 12				<input type="checkbox"/>		
	Post matric				<input type="checkbox"/>		
8. Did your company give you training to improve your work in the last 18 months?	Yes		No		<input type="checkbox"/>		
9. How many times did you receive such a training in the last 18 months?	One time				<input type="checkbox"/>		
	Two times				<input type="checkbox"/>		
	More than three times				<input type="checkbox"/>		
10. Work experience in the same job:	1 – 5 years				<input type="checkbox"/>		
	6 – 10 years				<input type="checkbox"/>		
	11 – 20 years				<input type="checkbox"/>		
	21 and above				<input type="checkbox"/>		
11. Work experience within the same company:	1 – 5 years				<input type="checkbox"/>		
	6 – 10 years				<input type="checkbox"/>		
	11 – 20 years				<input type="checkbox"/>		
	21 and above				<input type="checkbox"/>		

## SECTION B: PERFORMANCE RELATED ISSUES

### PART 1: MOTIVATION AND JOB SATISFACTION

#### QUESTIONNAIRE ITEMS: 'PERMOT'

#### (PERCEIVED EXTENT OF INDIVIDUAL MOTIVATION AND JOB SATISFACTION')

The following questions ask about your own feelings regarding your motivation and job satisfaction.

Please rate your own current motivation and job satisfaction in each of the following areas: do so by circling the number that best represent your opinion, for example 2

5 = 'strongly agree'; 4 = 'agree'; 3 = 'neither agree nor disagree'; 2 = 'disagree';  
1 = 'strongly disagree'

Please circle the number that best describes your opinion regarding the following: 'work itself'	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1. My work has become very stimulating.	5	4	3	2	1
2. My work is now quite challenging.	5	4	3	2	1
3. I have started enjoying my work.	5	4	3	2	1
4. I now understand my work better.	5	4	3	2	1
5. I have now being allowed to decide on the method for doing my work.	5	4	3	2	1
6. I now feel that my work is of value in my department/section.	5	4	3	2	1
7. I feel that I now master my job.	5	4	3	2	1
<b>Please explain why do you feel this regarding your work-related behaviour:</b>					
_____					
_____					
Please circle the number that best describes your opinion regarding the following: 'Responsibility'	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1. I have now started feeling in control of my work.	5	4	3	2	1
2. I feel that I have a degree of authority in my work.	5	4	3	2	1
3. I feel that I have been given more responsibilities for my work.	5	4	3	2	1
<b>Please explain why do you feel this about your responsibility:</b>					
_____					
_____					
Please circle the number that best describes your opinion regarding the following: 'Payment'	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
1. I am happy with the amount of pay I am getting.	5	4	3	2	1
2. My salary is satisfactory in relation to what I do.	5	4	3	2	1

3. I earn the same as other people in a similar job.	5	4	3	2	1
4. I earn more than other people in a similar job.	5	4	3	2	1
5. The basis of payment, for example, overtime payment, is reasonable.	5	4	3	2	1
6. Salary increases are decided on a fair manner.	5	4	3	2	1
<b>Please explain why do you feel this about your payment:</b>					
_____					
_____					
<b>Please circle the number that best describes your opinion regarding the following: 'Advancement'</b>	<b>Strongly agree</b>	Agree	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. I now feel that everyone has an equal chance of promotion at this company.	5	4	3	2	1
2. Staff are promoted in a fair and honest way.	5	4	3	2	1
3. I feel my current job has status.	5	4	3	2	1
4. I now feel that my job affords me a high-quality personal life.	5	4	3	2	1
<b>Please explain why do you feel this about 'Advancement' in your job:</b>					
_____					
_____					
<b>Please circle the number that best describes your opinion regarding the following: 'Growth'</b>	<b>Strongly agree</b>	Agree	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. My company offers me the chance to continue to learn new skills.	5	4	3	2	1
2. I feel that employees are encouraged to develop themselves in this company.	5	4	3	2	1
<b>Please explain why do you feel this about 'Growth' in this job:</b>					
_____					
_____					
<b>Please circle the number that best describes your opinion regarding the following: 'Recognition'</b>	<b>Strongly agree</b>	Agree	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. I feel that my efforts are being appreciated.	5	4	3	2	1
2. I now feel that I receive recognition for my work.	5	4	3	2	1
3. I have started receiving constructive criticism about my work.	5	4	3	2	1
<b>Please explain further why do you feel this about 'recognition':</b>					
_____					
_____					
<b>Please circle the number that best describes your opinion regarding the following: 'working conditions'</b>	<b>Strongly agree</b>	Agree	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. I now got the opportunity of mixing with my					

colleagues and to communicate on aspects of our work.	5	4	3	2	1
2. I am never overworked.	5	4	3	2	1
3. I now feel that my working hours are reasonable.	5	4	3	2	1
<b>Please explain why do you feel this about your working conditions:</b> _____ _____					
<b>Please circle the number that best describes your opinion regarding the following: 'My leader/supervisor'</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. I work under a friendly boss.	5	4	3	2	1
2. He/she gets easily satisfied.	5	4	3	2	1
3. I feel that he/she will support me if there are problems.	5	4	3	2	1
4. My supervisor can be convinced and persuaded.	5	4	3	2	1
5. My supervisor is a warm-hearted person.	5	4	3	2	1
<b>Please explain why do you feel this about your 'leader/supervisor':</b> _____ _____					
<b>PART 2: ORGANIZATIONAL CLIMATE</b>					
QUESTIONNAIRE ITEM : 'PERCLI'					
(PERCEIVED ORGANIZATIONAL CLIMATE)					
<b>Please circle the number that best describes your opinion regarding the following:</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Neither agree nor disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>
1. I feel that confidence and trust is generally shown by management towards their subordinates.	5	4	3	2	1
2. People feel free to talk to management about problems in their jobs.	5	4	3	2	1
3. Subordinate's ideas are encouraged and used constructively by management.	5	4	3	2	1
4. Fear, threats and punishment is mainly used by management to get subordinates to do their work.	5	4	3	2	1
5. In this company encouragement and material rewards are used to get employees to work well	5	4	3	2	1
6. All employees feel a sense of responsibility here for achieving organizational goals.	5	4	3	2	1
7. A strong sense of cooperative teamwork exists in this organization.	5	4	3	2	1
8. There is poor <b>upward</b> communication in this	5	4	3	2	1

company.					
9. Subordinates usually accept communications from management trustingly.	5	4	3	2	1
10. Management are generally unaware of the problems faced by subordinates.	5	4	3	2	1
11. Decisions in this company are mostly made at the top.	5	4	3	2	1
12. Subordinates are much involved in decisions concerning their work.	5	4	3	2	1
13. The way decisions are made here decreases employees' motivation.	5	4	3	2	1
14. In general, company goals and objectives are established by participation between management and subordinates.	5	4	3	2	1
15. Resistance to company policies from certain elements of the work force, is common in this organisation.	5	4	3	2	1
16. Responsibility is widely delegated among employees in this organisation.	5	4	3	2	1
17. Formal control of management is undermined by people without formal authority.	5	4	3	2	1
18. Budget setting, performance appraisals and other methods of control are generally used for policing and punishment rather than guidance and reward in this company.	5	4	3	2	1
<b>Please explain why do you feel this about the 'organizational climate':</b>					
_____					
_____					

### PART 3: EFFECTIVENESS OF TRAINING

**Instructions:** You are required to evaluate the **training** you have received recently, by **circling** one number that best represents/describes your opinion or feeling regarding this training. Your evaluation should be based on a scale of 1 to 10, where **1** represents the **lowest rating**, **5** an **average rating** and **10** an **excellent rating**.

<b>Item/s</b>		<b>Definitely Not</b>									<b>Definitely</b>
Rn1	The training was well organised	1	2	3	4	5	6	7	8	9	10
Rn2	The goals of the training were clearly communicated to trainees	1	2	3	4	5	6	7	8	9	10
Rn3	The training was conducted in an interesting way.	1	2	3	4	5	6	7	8	9	10
Rn4	The training was relevant.	1	2	3	4	5	6	7	8	9	10
Rn5	The training addressed my individual needs.	1	2	3	4	5	6	7	8	9	10
Rn6	The training was informative.	1	2	3	4	5	6	7	8	9	10
<p><b>Any comments:</b> .....</p> <p>.....</p>											
L7	I am feeling more confident in my work after receiving training.	1	2	3	4	5	6	7	8	9	10
L8	I am feeling more capable at my job after receiving training.	1	2	3	4	5	6	7	8	9	10
L9	I better understand the value of team-work since receiving training.	1	2	3	4	5	6	7	8	9	10
L10	I better understand my role within the company since receiving training.	1	2	3	4	5	6	7	8	9	10
L11	I better understand the value of time management since receiving training.	1	2	3	4	5	6	7	8	9	10
L12	I feel that training has provided me with valuable workplace skills.	1	2	3	4	5	6	7	8	9	10
<p><b>Any comments:</b> .....</p> <p>.....</p>											
B13	The training has made me more tolerant of my colleagues.	1	2	3	4	5	6	7	8	9	10
B14	The training has made me more tolerant towards authority.	1	2	3	4	5	6	7	8	9	10
B15	Since receiving training, I am more cooperative towards my colleagues.	1	2	3	4	5	6	7	8	9	10
B16	I am more able to handle conflict at work since receiving training.	1	2	3	4	5	6	7	8	9	10
B17	I now take more challenging tasks at work since receiving training.	1	2	3	4	5	6	7	8	9	10
B18	Since receiving training, I am more understanding of my work colleagues.	1	2	3	4	5	6	7	8	9	10

<b>Any comments:</b> ..... .....												
Rs19	The quantity of work output from my section has increased since receiving training	1	2	3	4	5	6	7	8	9	10	
Rs20	My team has consistently being producing better results since receiving training.	1	2	3	4	5	6	7	8	9	10	
Rs21	All individual members of my unit are exceeding their set targets since receiving training.	1	2	3	4	5	6	7	8	9	10	
Rs22	The level of team-work within my unit has improved since receiving training.	1	2	3	4	5	6	7	8	9	10	
Rs23	The quality of my unit's outputs has improved since receiving training.	1	2	3	4	5	6	7	8	9	10	
Rs24	The overall performance of my unit has increased since receiving training	1	2	3	4	5	6	7	8	9	10	
<b>Any comments:</b> ..... .....												
<b>NB: The four levels of Kirkpatrick's model : Level 1 – reaction (Rn); Level 2 – learning (L); Level 3 – behaviour (B); and Level 4 – results (Rs)</b>												

## SECTION C: SELF-RATED PERFORMANCE

### QUESTIONNAIRE ITEMS : 'SELPERF'

#### (EMPLOYEES' SELF-RATED PERFORMANCE')

Please think about your job, and how well you are currently doing it. The following questions ask about your own feelings regarding your work performance.

Please rate your own current work performance in each of the following areas, do so by circling the number that best represent your answer, for example, 2

- 1 = 'below standard'
- 2 = 'acceptable standard'
- 3 = 'good'
- 4 = 'exceptional'

Performance issues	Exceptional	Good	Acceptable standard	Below standard
1. Commitment to safety.	4	3	2	1
2. Co-operation with my fellow workers and supervisors.	4	3	2	1
3. Technical knowledge of my job.	4	3	2	1
4. Quality of my work.	4	3	2	1
5. Quantity of my work.	4	3	2	1
6. Initiative: coming up with new ideas of how to do my work.	4	3	2	1
7. Being careful not to waste the company's resources.	4	3	2	1
8. Being reliable in my work.	4	3	2	1
9. Communicating with my fellow workers and supervisors.	4	3	2	1
10. Being on time (punctual) in my work.	4	3	2	1

**THANK YOU FOR YOUR TIME, SUPPORT  
AND CO-OPERATION!!!**

**ANNEXURE D:**

**A thank you letter  
sent to all participating companies**

<b>EXPRESSION OF GRATITUDE</b>
--------------------------------

To : Andre van Huyssteen  
ABSA Bank  
Manager: People Management: Central Region

From : Mr. Tshedi Naong

13 May 2005

**RE: THE PROCESS OF COLLECTION OF DATA FOR MY STUDIES**

I wish to express my sincere appreciation for the support and co-operation I received from your reputable company and its personnel.

From my very first meeting with Mr. van Huyssteen, his understanding, unqualified support and willingness to lend his helping hand became evident. It wasn't easy through out, but his willingness to assist, made this possible.

This kind of cooperation and support was definitely a *breath of fresh air* for me, seeing that some of the companies gave me a run around before they could finally agree to participate in my research study. For that reason, I will forever be indebted to your company and management. This company is definitely fortunate to have someone of the calibre of Andre, he is indeed a valuable asset to this company, with him on hand there is no way this company can go wrong.

I will forever treasure this support, and as promised, I am going to furnish your management with the findings of this study, no matter how long it might take me to complete this project, and *please hold me to my word*.

Once again, my greatest gratitude to your company and management.

Yours faithfully,

Tshedi Naong  
DBA – student: University of Kwazulu-Natal

082 9578343  
mnaong@cut.ac.za

## **ANNEXURE E:**

### **Correlations**

<!-- Text used as the document title (displayed in the title bar). -->

# Correlations

## Notes

<b>Output Created</b>		03-MAR-2006 07:40:19
<b>Comments</b>		
<b>Input</b>	<b>Data</b>	D:\My documents\Charlie\Temp\Businesses\Active\Statistical Consulting\Clients\Students\DBA\GSB\Tshedi\Data\Effectiveness of Training\02022006.sav
	<b>Filter</b>	<none>
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	<b>N of Rows in Working Data File</b>	43
<b>Missing Value Handling</b>	<b>Definition of Missing</b>	User-defined missing values are treated as missing.
	<b>Cases Used</b>	Statistics for each pair of variables are based on all the cases with valid data for that pair.
<b>Syntax</b>	CORRELATIONS /VARIABLES=r1 r2 r3 r4 r5 r6 l7 l8 l9 l10 l11 l12 b13 b14 b15 b16 b17 b18 rs19 rs20 rs21 rs22 rs23 rs24 /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE .	
<b>Resources</b>	<b>Elapsed Time</b>	0:00:00.32

## Correlations

		RN1	RN2	RN3	RN4	RN5	RN6	L7	L8	L9	L10	L11	L12	B13	B14	B15	B16	B17
RN1	<b>Pearson Correlation</b>	1	.808 (**)	.583 (**)	.628 (**)	.668 (**)	.758 (**)	.823 (**)	.727 (**)	.676 (**)	.605 (**)	.604 (**)	.594 (**)	.611 (**)	.514 (**)	.547 (**)	.416 (**)	.345 (*)
	<b>Sig. (2-tailed)</b>		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.005	.023
	<b>N</b>	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RN2	<b>Pearson Correlation</b>	.808 (**)	1	.590 (**)	.613 (**)	.629 (**)	.712 (**)	.785 (**)	.709 (**)	.634 (**)	.428 (**)	.634 (**)	.564 (**)	.643 (**)	.568 (**)	.595 (**)	.405 (**)	.339 (*)
	<b>Sig. (2-tailed)</b>	.000		.000	.000	.000	.000	.000	.000	.004	.000	.000	.000	.000	.000	.007	.026	
	<b>N</b>	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RN3	<b>Pearson Correlation</b>	.583 (**)	.590 (**)	1	.736 (**)	.761 (**)	.574 (**)	.657 (**)	.531 (**)	.397 (**)	.502 (**)	.349 (*)	.385 (*)	.435 (**)	.450 (**)	.442 (**)	.535 (**)	.403 (**)
	<b>Sig. (2-tailed)</b>	.000	.000		.000	.000	.000	.000	.008	.001	.022	.011	.004	.002	.003	.000	.007	
	<b>N</b>	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RN4	<b>Pearson Correlation</b>	.628 (**)	.613 (**)	.736 (**)	1	.638 (**)	.719 (**)	.739 (**)	.628 (**)	.516 (**)	.473 (**)	.461 (**)	.510 (**)	.440 (**)	.526 (**)	.556 (**)	.440 (**)	.454 (**)
	<b>Sig. (2-tailed)</b>	.000	.000	.000		.000	.000	.000	.000	.001	.002	.000	.003	.000	.000	.003	.002	
	<b>N</b>	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RN5	<b>Pearson Correlation</b>	.668 (**)	.629 (**)	.761 (**)	.638 (**)	1	.735 (**)	.614 (**)	.520 (**)	.496 (**)	.588 (**)	.404 (**)	.469 (**)	.587 (**)	.362 (*)	.389 (**)	.395 (**)	.595 (**)
	<b>Sig. (2-tailed)</b>	.000	.000	.000	.000		.000	.000	.000	.001	.000	.007	.002	.000	.017	.010	.009	.000



B16	Pearson Correlation	.416 (**)	.405 (**)	.535 (**)	.440 (**)	.395 (**)	.342 (*)	.535 (**)	.458 (**)	.470 (**)	.371 (*)	.389 (**)	.316 (*)	.384 (*)	.396 (**)	.490 (**)	1	.380 (*)
	Sig. (2-tailed)	.005	.007	.000	.003	.009	.025	.000	.002	.001	.014	.010	.039	.011	.009	.001	.	.012
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
B17	Pearson Correlation	.345 (*)	.339 (*)	.403 (**)	.454 (**)	.595 (**)	.523 (**)	.411 (**)	.260	.513 (**)	.450 (**)	.391 (**)	.590 (**)	.642 (**)	.380 (*)	.408 (**)	.380 (*)	1
	Sig. (2-tailed)	.023	.026	.007	.002	.000	.000	.006	.092	.000	.002	.010	.000	.000	.012	.007	.012	.
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
B18	Pearson Correlation	.383 (*)	.388 (*)	.349 (*)	.413 (**)	.237	.543 (**)	.610 (**)	.637 (**)	.732 (**)	.488 (**)	.739 (**)	.612 (**)	.502 (**)	.752 (**)	.814 (**)	.478 (**)	.416 (**)
	Sig. (2-tailed)	.011	.010	.022	.006	.127	.000	.000	.000	.000	.001	.000	.000	.001	.000	.000	.001	.005
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RS19	Pearson Correlation	.489 (**)	.361 (*)	.490 (**)	.398 (**)	.415 (**)	.465 (**)	.521 (**)	.307 (*)	.407 (**)	.421 (**)	.406 (**)	.359 (*)	.547 (**)	.379 (*)	.414 (**)	.445 (**)	.520 (**)
	Sig. (2-tailed)	.001	.018	.001	.008	.006	.002	.000	.046	.007	.005	.007	.018	.000	.012	.006	.003	.000
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RS20	Pearson Correlation	.476 (**)	.386 (*)	.463 (**)	.429 (**)	.413 (**)	.471 (**)	.569 (**)	.461 (**)	.451 (**)	.401 (**)	.423 (**)	.352 (*)	.483 (**)	.509 (**)	.549 (**)	.433 (**)	.492 (**)
	Sig. (2-tailed)	.001	.011	.002	.004	.006	.001	.000	.002	.002	.008	.005	.021	.001	.000	.000	.004	.001
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RS21	Pearson Correlation	.377 (*)	.277	.364 (*)	.173	.330 (*)	.192	.301 (*)	.090	.211	.242	.103	.051	.284	.068	.164	.225	.403 (**)
	Sig. (2-tailed)	.013	.073	.016	.266	.031	.217	.050	.567	.174	.118	.512	.747	.065	.666	.293	.148	.007
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RS22	Pearson Correlation	.391 (**)	.412 (**)	.382 (*)	.406 (**)	.211	.357 (*)	.506 (**)	.490 (**)	.520 (**)	.243	.491 (**)	.328 (*)	.267	.523 (**)	.597 (**)	.491 (**)	.425 (**)
	Sig. (2-tailed)	.010	.006	.012	.007	.174	.019	.001	.001	.000	.117	.001	.032	.084	.000	.000	.001	.004
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RS23	Pearson Correlation	.113	.115	.341 (*)	.110	.171	.027	.127	.045	.079	.226	.105	.077	.105	.194	.167	.241	.211
	Sig. (2-tailed)	.471	.462	.025	.481	.272	.865	.418	.775	.613	.145	.501	.622	.502	.213	.284	.119	.174
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
RS24	Pearson Correlation	.495 (**)	.513 (**)	.496 (**)	.567 (**)	.375 (*)	.606 (**)	.578 (**)	.579 (**)	.663 (**)	.481 (**)	.642 (**)	.531 (**)	.394 (**)	.578 (**)	.636 (**)	.404 (**)	.486 (**)
	Sig. (2-tailed)	.001	.000	.001	.000	.013	.000	.000	.000	.000	.001	.000	.000	.009	.000	.000	.007	.001
	N	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43

\*\* Correlation is significant at the 0.01 level (2-tailed).

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

## ANNEXURE F

### Kolmogorov Smirnov Test – Motivation: Table A - J

**Table A:**  
**Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Pre-group South Sotho**

		Motivation and Job Satisfaction
N		367
Normal Parameters	Mean	97.14
	Std. Deviation	24.531
Most Extreme Differences	Absolute	.077
	Positive	.077
	Negative	-.046
Kolmogorov-Smirnov Z		1.468
Asymp. Sig. (2-tailed)		.027

**Table B:**  
**Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Pre-group English**

		Motivation and Job Satisfaction
N		11
Normal Parameters	Mean	107.45
	Std. Deviation	18.587
Most Extreme Differences	Absolute	.151
	Positive	.145
	Negative	-.151
Kolmogorov-Smirnov Z		.500
Asymp. Sig. (2-tailed)		.964

**Table C:**  
**Kolmogorov Smirnov Test for Motivation and Job Satisfaction Pre-group Afrikaans**

		Motivation and Job Satisfaction
N		109
Normal Parameters	Mean	112.72
	Std. Deviation	22.417
Most Extreme Differences	Absolute	.071
	Positive	.042
	Negative	-.071
Kolmogorov-Smirnov Z		.743
Asymp. Sig. (2-tailed)		.640

**Table D:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Pre-group  
Xhosa**

		Motivation and Job Satisfaction
N		75
Normal Parameters	Mean	98.05
	Std. Deviation	24.303
Most Extreme Differences	Absolute	.079
	Positive	.079
	Negative	-.068
Kolmogorov-Smirnov Z		.680
Asymp. Sig. (2-tailed)		.744

**Table E:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Pre-group  
Zulu**

		Motivation and Job Satisfaction
N		15
Normal Parameters	Mean	100.13
	Std. Deviation	24.204
Most Extreme Differences	Absolute	.157
	Positive	.157
	Negative	-.113
Kolmogorov-Smirnov Z		.608
Asymp. Sig. (2-tailed)		.853

**Table F:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Post Group  
South Sotho**

		Motivation and Job Satisfaction
N		363
Normal Parameters	Mean	99.38
	Std. Deviation	25.772
Most Extreme Differences	Absolute	.046
	Positive	.028
	Negative	-.046
Kolmogorov-Smirnov Z		.872
Asymp. Sig. (2-tailed)		.432

**Table G:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction Post Group  
English**

		Motivation and Job Satisfaction
N		7
Normal Parameters <sup>a,b</sup>	Mean	115.14
	Std. Deviation	22.887
Most Extreme Differences	Absolute	.194
	Positive	.150
	Negative	-.194
Kolmogorov-Smirnov Z		.514
Asymp. Sig. (2-tailed)		.954

**Table H:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Post Group  
Afrikaans**

		Motivation and Job Satisfaction
N		82
Normal Parameters	Mean	115.73
	Std. Deviation	19.168
Most Extreme Differences	Absolute	.123
	Positive	.088
	Negative	-.123
Kolmogorov-Smirnov Z		1.110
Asymp. Sig. (2-tailed)		.170

**Table I:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Post Group  
Xhosa**

		Motivation and Job Satisfaction
N		66
Normal Parameters	Mean	93.68
	Std. Deviation	24.460
Most Extreme Differences	Absolute	.072
	Positive	.056
	Negative	-.072
Kolmogorov-Smirnov Z		.586
Asymp. Sig. (2-tailed)		.882

**Table J:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction for Post Group  
Zulu**

		Motivation and Job Satisfaction
N		8
Normal Parameters	Mean	103.00
	Std. Deviation	14.755
Most Extreme Differences	Absolute	.217
	Positive	.117
	Negative	-.217
Kolmogorov-Smirnov Z		.614
Asymp. Sig. (2-tailed)		.845

## ANNEXURE G:

### Kolmogorov Smirnov Test – Organisational Climate: Tables K - T

**Table K:**  
**Kolmogorov Smirnov Test for Organisational Climate Pre- Group South Sotho**

		Organizational Climate
N		367
Normal Parameters	Mean	52.5341
	Std. Deviation	7.79507
Most Extreme Differences	Absolute	.071
	Positive	.071
	Negative	-.049
Kolmogorov-Smirnov Z		1.362
Asymp. Sig. (2-tailed)		.049

**Table L:**  
**Kolmogorov Smirnov Test for Organisational Climate Pre- Group English**

		Organizational Climate
N		12
Normal Parameters	Mean	54.4167
	Std. Deviation	5.23030
Most Extreme Differences	Absolute	.135
	Positive	.077
	Negative	-.135
Kolmogorov-Smirnov Z		.467
Asymp. Sig. (2-tailed)		.981

**Table M:**  
**Kolmogorov Smirnov Test for Organisational Climate Pre- Group Afrikaans**

		Organizational Climate
N		108
Normal Parameters	Mean	56.8056
	Std. Deviation	8.81106
Most Extreme Differences	Absolute	.095
	Positive	.044
	Negative	-.095
Kolmogorov-Smirnov Z		.985
Asymp. Sig. (2-tailed)		.287

**Table N:  
Kolmogorov Smirnov Test for Organisational Climate Pre- Group Xhosa**

		Organizational Climate
N		77
Normal Parameters	Mean	53.0909
	Std. Deviation	8.24171
Most Extreme Differences	Absolute	.088
	Positive	.088
	Negative	-.043
Kolmogorov-Smirnov Z		.770
Asymp. Sig. (2-tailed)		.594

**Table O:  
Kolmogorov Smirnov Test for Organisational Climate Pre- Group Zulu**

		Organizational Climate
N		5
Normal Parameters	Mean	49.6000
	Std. Deviation	7.79744
Most Extreme Differences	Absolute	.280
	Positive	.280
	Negative	-.165
Kolmogorov-Smirnov Z		.625
Asymp. Sig. (2-tailed)		.829

**Table P:  
Kolmogorov Smirnov Test for Organisational Climate Post Group South Sotho**

		Organizational Climate
N		358
Normal Parameters	Mean	52.6872
	Std. Deviation	8.11454
Most Extreme Differences	Absolute	.058
	Positive	.058
	Negative	-.035
Kolmogorov-Smirnov Z		1.097
Asymp. Sig. (2-tailed)		.180

**Table Q:  
Kolmogorov Smirnov Test for Organisational Climate Post Group English**

		Organizational Climate
N		7
Normal Parameters	Mean	56.0000
	Std. Deviation	8.94427
Most Extreme Differences	Absolute	.259
	Positive	.259
	Negative	-.186
Kolmogorov-Smirnov Z		.685
Asymp. Sig. (2-tailed)		.737

**Table R:  
Kolmogorov Smirnov Test for Organisational Climate Post Group Afrikaans**

		Organizational Climate
N		81
Normal Parameters	Mean	62.0988
	Std. Deviation	9.99075
Most Extreme Differences	Absolute	.087
	Positive	.087
	Negative	-.087
Kolmogorov-Smirnov Z		.785
Asymp. Sig. (2-tailed)		.568

**Table S:  
Kolmogorov Smirnov Test for Organisational Climate Post Group Xhosa**

		Organizational Climate
N		64
Normal Parameters	Mean	50.7031
	Std. Deviation	8.50897
Most Extreme Differences	Absolute	.121
	Positive	.121
	Negative	-.091
Kolmogorov-Smirnov Z		.971
Asymp. Sig. (2-tailed)		.302

**Table T:  
Kolmogorov Smirnov Test for Organisational Climate Post Group Zulu**

		Organizational Climate
N		8
Normal Parameters	Mean	55.6250
	Std. Deviation	7.04957
Most Extreme Differences	Absolute	.257
	Positive	.183
	Negative	-.257
Kolmogorov-Smirnov Z		.727
Asymp. Sig. (2-tailed)		.667

## ANNEXURE H

### Kolmogorov Smirnov Test – Motivation by frequency of training Tables V - Y

**Table V:  
Kolmogorov Smirnov Test for Motivation and Job Satisfaction by frequency of training**

How much of such training in the last 18 months		Motivation and Job Satisfaction	
Once	N		340
	Normal Parameters	Mean	97.25
		Std. Deviation	25.400
	Most Extreme Differences	Absolute	.051
		Positive	.035
		Negative	-.051
	Kolmogorov-Smirnov Z		.941
	Asymp. Sig. (2-tailed)		.339
Two or more Times	N		181
	Normal Parameters	Mean	109.96
		Std. Deviation	23.071
	Most Extreme Differences	Absolute	.090
		Positive	.045
		Negative	-.090
	Kolmogorov-Smirnov Z		1.205
	Asymp. Sig. (2-tailed)		.110

**Table W:  
Kolmogorov Smirnov Test for Organisational Climate by frequency of training**

How much of such training in the last		Organizational Climate	
Once	N	334	
	Normal Parameters	Mean	52.5359
		Std. Deviation	8.25732
	Most Extreme Differences	Absolute	.061
		Positive	.061
		Negative	-.041
	Kolmogorov-Smirnov Z	1.122	
Asymp. Sig. (2-tailed)	.161		
Two or more Times	N	179	
	Normal Parameters	Mean	56.7821
		Std. Deviation	10.25038
	Most Extreme Differences	Absolute	.095
		Positive	.095
		Negative	-.075
	Kolmogorov-Smirnov Z	1.269	
Asymp. Sig. (2-tailed)	.080		

**Table X:  
Kolmogorov Smirnov Test for Effectiveness of Training by frequency of training**

How much of such training in the last		Effectiveness of Training	
Once	N	340	
	Normal Parameters	Mean	162.50
		Std. Deviation	72.408
	Most Extreme Differences	Absolute	.176
		Positive	.142
		Negative	-.176
	Kolmogorov-Smirnov Z	3.251	
Asymp. Sig. (2-tailed)	.000		
Two or more Times	N	180	
	Normal Parameters	Mean	172.48
		Std. Deviation	66.151
	Most Extreme Differences	Absolute	.194
		Positive	.154
		Negative	-.194
	Kolmogorov-Smirnov Z	2.600	
Asymp. Sig. (2-tailed)	.000		

**Table Y:  
Kolmogorov Smirnov Test for Self-rated Performance by frequency of training**

How much of such training in the last		Self Performance	
Once	N	333	
	Normal Parameters	Mean	32.82
		Std. Deviation	6.231
	Most Extreme Differences	Absolute	.122
		Positive	.122
		Negative	-.097
	Kolmogorov-Smirnov Z	2.219	
Asymp. Sig. (2-tailed)	.000		
Two or more Times	N	180	
	Normal Parameters	Mean	32.00
		Std. Deviation	6.574
	Most Extreme Differences	Absolute	.120
		Positive	.112
		Negative	-.120
	Kolmogorov-Smirnov Z	1.604	
Asymp. Sig. (2-tailed)	.012		



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27 JANUARY 2010

MR. M N NAONG (202525899)  
GRADUATE SCHOOL OF BUSINESS

Dear Mr. Naong

PROTOCOL REFERENCE NUMBER: HSS/0412/08D  
PROJECT TITLE: "IMPACT OF SKILLS DEVELOPMENT TRAINING ON EMPLOYEE MOTIVATION,  
PERCEPTIONS OF ORGANISATIONAL CLIMATE AND INDIVIDUAL PERFORMANCE"

**EXPEDITED APPROVAL**

This letter serves to notify you that your application in connection with the above has been granted full approval through an expedited review process.

Any alterations to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study must be reviewed and approved through the amendment/modification prior to its implementation. Please quote the above reference number for all queries relating to this study.

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years

Best wishes for the successful completion of your research protocol.

Yours faithfully

  
.....  
PROFESSOR STEVEN COLLINGS (CHAIR)  
SOCIAL SCIENCES & HUMANITIES RESEARCH ETHICS COMMITTEE

cc. Supervisor (Prof. D Coldwell)  
cc. Mrs. C Haddon