PRODUCTIVITY THROUGH GOAL SETTING

by

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ABSTRACT

Forty percent of the economically active people in South Africa are unemployed and the majority of the population suffer high levels of deprivation and violence. Political unrest has been a major cause of this situation but, assuming a peaceful political settlement, the main solution to the crisis is to expand the economy and, by so doing, create jobs and a higher standard of living for the population in general. This can best be done by improving the current low level of productivity in the country so that goods and services can be provided which meet the needs and standards of both domestic and international consumers.

There are a variety of techniques which can be used to improve productivity but a common factor in all of these is the motivation of the managers and workers involved in producing the goods and services. However, although employee motivation plays a fundamental role in productivity improvement, there has been very little motivational research carried out in South Africa and what little research has been done has mainly been based on content theories of motivation which generally have not been helpful in improving performance in practice. Internationally, process theories have been shown to be more successful as bases for designing and implementing productivity improvement programmes but in spite of the dire need for improved productivity in South Africa, these theories have not been researched here to any great extent. One of the process theories which has been shown to be successful in improving productivity, especially in the United States of America, is goal setting theory which has been developed mainly by Locke and Latham.

The essence of goal setting theory is that in order to motivate people to improve their performance, difficult goals should be set for them or they should be encouraged to set their own goals at a high level of difficulty. The goals should not only be challenging, but should be accepted by the workers and be stated in specific terms which are understandable to them. In addition, goal setting theory stresses that feedback should be provided to workers on a regular basis to provide information on progress made towards the achievement of the goal and to enable adjustments in performance to be made if necessary. According to this theory, the motivating force is the anticipated

satisfaction which will result from the achievement of the goal and the more difficult the goal, the greater this feeling-of-satisfaction. Early, Connolly and Ekegren (1989, 24), maintain that "Goal setting has become established as one of the most consistent and successful models of work performance."

The aim of this study is to investigate the use of goal setting as a productivity improvement technique in the South African context and to test the hypothesis that the setting of difficult goals which are acceptable to workers, will result in improved performance. While the practical aspect of the study is limited in its scope, it has been designed to explore whether the technique has merit in this context, to highlight any problem areas which might arise in its application and to indicate areas for further research.

The thesis briefly outlines the state of productivity in South Africa and some of the motivational research which has been carried out in this country. Thereafter, goal setting research is discussed in depth, including Locke and Latham's "high performance cycle" and its practical implications. Finally, the research project carried out at the University of Natal, Pietermaritzburg is detailed.

The findings of the study indicate that the workers in the experimental group accepted the concept of goal setting to the extent that most of them set goals which were higher than the goals which were assigned to them by management. In addition, the results indicate that the performance of these workers did improve as a result of the implementation of the programme. However, the subjective nature of the performance evaluation carried out does mean that a categorical claim of performance improvement cannot be made and further research is needed involving more objective measures of performance.

CONTENTS

LIST OF TABLES.   PAGE

Table No.

LIST OF FIGURES.

Fig. No.

ANNEXURES.

CHAPTER 1

INTRODUCTION

1.1   The Need to Improve Productivity in South Africa.

South Africa's economic growth rate in terms of its gross domestic product (GDP) has experienced a steady decline since the 1960s when the average rate was 6%. During the 1970s the rate dropped to an average of 3% and during the 1980s it was little more than 1% (NPI, 1991: 25). At the same time, the population has been growing steadily at a rate of about 2,7% per annum (Barker, 1992: 2) with the result that the standard of living of the population in general has been deteriorating rapidly and there has been an exceptionally high unemployment rate which currently consists of about 5,4 million people or 40% of the economically active population (Barker, 1992: 5).

In order to achieve a general improvement in the standard of living of all its people, South Africa's economy must grow and this can best be done by improving productivity. It can be argued that, apart from the political dispensation, the need to improve productivity is the main problem facing the country. Improved productivity will, in the medium to long term, lead to higher economic growth rates, reduced unemployment, a lower crime rate and an improved standard of living. Barker (1992: 61) quotes Milton Friedman as stating, "Nothing is more important for the long-run economic welfare of a country than improving productivity." In similar vein, Drucker (1980: 16) pointed out that, "Wherever there has been economic development in a country, it has been based on the purposeful management of resources for increased productivity." This is supported by the National Productivity Institute (NPI) (1991: 8) who quote Tor Dahl, president of the World Confederation of Productivity Science, as follows, "Productivity improvement is the single most important strategy for dealing with the most pressing priorities of any political entity, whether this is a city or village, a country or state, a nation or a region."

1

1.2   Productivity Defined.

Barker (1992: 61) states that productivity is the relationship between real output and the quantity of input used to produce that output. According to him, it is a measure of input efficiency, which is expressed in terms of the ratio between quantity of output and quantity of input. He explains that productivity consists of two main components; labour productivity and capital productivity. Labour productivity is the number of units of output obtained from a unit of labour input and capital productivity is the number of units of output per unit of capital input. Both of these aspects can be combined to give a composite measure of productivity termed multifactor productivity.

In their report on a strategy and action plan to improve productivity in South Africa, the President's Council's Committee for Economic Affairs (1989: 7) take a broader approach to productivity than Barker. They define productivity as "the ratio between goods and services produced in the national economy, in an industry or in an individual organisation on the one hand, and the resources used to produce them on the other hand, so as to indicate the productive efficiency with which labour, capital, materials and other inputs are combined and used to produce goods and services of a specific quality for the satisfaction of customer needs". It can be seen from this definition that the committee takes a holistic view of productivity which includes labour and capital productivity as well as the need to maintain a level of quality of products and services which is acceptable to customers. It also views productivity at both a macro and micro level. The definition includes the concepts of efficiency ("things are done right") and effectiveness ("the right things"). The latter concept of productivity is one that is not often stressed in the literature on productivity but is critical to the success of any organisation. Most business organisations have an overall goal of making an acceptable profit and the Committee for Economic Affairs came to the conclusion that this can best be done by satisfying customer needs. They state, 'The realisation grew, however, that the production of goods or services at a specified rate and of a particular quality could still be meaningless unless people were interested in buying or consuming the goods or services. Attempts were therefore made to include the concept of producing the "right things" in the definition of productivity. This requirement was accommodated by introducing the concept of

2

effectiveness.'

Efficiency productivity therefore relates to the extent to which resources are utilised in the production of goods or services while effectiveness productivity relates to the extent to which people and organisations achieve their output goals. While goals can be set to improve both efficiency and effectiveness levels, the application of goal setting in practice is concerned primarily with effectiveness productivity.

1.3 The Measurement of National Productivity.

In order to place the productivity of organisations in perspective, it helps to understand the state of productivity at a national or macro level and how this productivity is measured. The Committee for Economic Affairs explains that at the macro level, productivity is commonly expressed as either the gross domestic product (GDP) per capita or the GDP per worker but both these measures are incomplete as they do not include the productivity of capital, (President's Council's Committee for Economic Affairs, 1989: 15). Furthermore, they point out that GDP per worker is, in theory, a more accurate measure of a country's level of productivity than GDP per capita since the former excludes the unemployed sector of the population and therefore more closely relates to the productivity level of the country's workforce. However, in South Africa there is a lack of complete employment data and only estimates can be made of the actual number of people employed, particularly in the agricultural sector. For this reason GDP per capita "is often used as a proxy for GDP per worker". The NPI (1991: 9) also point out that GDP per capita is most often used as an indicator of the standard of living in a country rather than as a direct measure of productivity. The Committee for Economic Affairs (1989: 14) state in their report that, "For the measurement of national productivity the Committee has found that real output (real GDP) per employee is, despite certain shortcomings, the best available instrument."

1.4 Productivity in South Africa

Barker (1992: 63) points out that "labour productivity, as measured by real output per

worker ... increased on average by 0,5 per cent per annum during the period 1970 to 1990 in the private non-agricultural sectors." However, during that period, capital productivity declined by 2,4% per annum. In addition, Liebenberg (1993: 8) shows that labour productivity in the private sector actually declined by 1,2% in 1992 while capital productivity declined by 3,4%, thus indicating that the problem is becoming more serious.

Although labour productivity outperformed capital productivity during the period 1970 to 1990, it lagged behind the labour productivity increases experienced by the country's major trading partners with the result that South African businesses are becoming less competitive internationally. For example, the output per employee in the South African manufacturing sector increased on average by only 1,4% per annum over the period 1970 to 1989 compared to 2,8% in the USA, 5,8% in Japan, 2,2% in Germany, 3,1% in the United Kingdom and 9,3% in Korea (Barker, 1992: 65).

To compound the problem, while labour productivity has shown a slight improvement, the labour costs in South Africa have increased dramatically because of high wage increases. According to the NPI (1991: 101), during the period 1975 to 1990 South African wages increased at a much more rapid rate than those of its most important trading partners. This is indicated by the change in unit labour cost which is the relationship between wage increases and productivity changes and is obtained by dividing the average remuneration per worker by the change in labour productivity. Barker (1992: 66), points out that the unit labour costs in the Japanese manufacturing sector remained at approximately the same level in real terms during the period from 1975 to 1990 (i.e. productivity matched wage increases in Japan) and those of the UK increased by approximately 300%. However, the unit labour costs in South Africa increased by approximately 700% during the same period which indicates clearly that productivity lagged dramatically behind wage increases. While these large wage increases have reduced the wage gap created by decades of apartheid (Orpen, 1976: 24), and have attempted to maintain standards of living by matching the level of inflation, it should be kept in mind that wage increases fuel inflation if they are not accompanied by increases in productivity. In reality, if productivity does not increase in line with wages, the result is increased costs of production and higher inflation rates which place the economy at

an even greater competitive disadvantage. Therefore, the general approach which should be adopted in South Africa is to contain wages and inflation and to improve productivity.

It is clear that productivity is a major problem in South Africa and that it needs to be tackled urgently but the question remains as to how this should be done. The President's Council's Committee for Economic Affairs (1989: 251) recommend that the government should play an active part in promoting productivity. They state in their report that, "In view of the critical role that productivity plays in the very fabric of the country's social, political and economic well-being, the government should select productivity improvement as the key directive in its national economic policy. It should set a definite productivity growth objective of say 3 per cent per annum and all policy decisions should then be scrutinised and adapted in the light of this objective .....A national objective of 3 per cent growth in productivity should permeate every action of the nation as a whole: it should not only apply to the government but every businessman, worker and consumer should be committed to it." They also stress that in order for this programme to be successful, it has to be driven by the State President.

However, the national goal of improving productivity by 3% appears to be too low if one considers the population growth rate of 2.7% and the exceptionally high level of unemployment. The economy needs to grow at a rate which will not only absorb the new work seekers but will also reduce the level of unemployment. The actual growth rate required could be calculated but depends on the time span set for the achievement of full employment and an acceptable standard of living. For example, if this ultimate objective is to be achieved in 15 years, the growth rate would have to be much higher than for a 25 year period. On the other hand, the capability of the economy to grow also has to be considered in arriving at an acceptable national goal. Some countries have achieved growth rates of 7% to 9% and it appears that this is the magnitude of growth which South Africa should be aiming for rather than 3%.

It could be argued that setting national goals is not important but that conditions should be created to allow the economy to grow as fast as possible. However, the setting of goals at a national level is practised by some of the Pacific Rim counties to good effect.

5

For example, Malasia has set national economic growth goals since 1970 and achieved annual GDP growth rates of 7,6% for the period 1972 to 1981, 4,2% for 1982 to 1987, and 8,9% for 1988 to 1991 (Sulaiman, 1992: 7). Their goal for the five year period from 1991 to 1995 is to achieve an average GDP growth rate of 7,5 per cent per annum and the goal for the next five years is 7,0 per cent. In addition, they take the concept of goal setting a step further in that they have developed a vision for the country to the year 2020 by which date they plan to become a fully developed country with full employment. This vision provides the basis for the development of goals for the nation and for the various sectors of the economy.

While it is important for the Government to provide direction for the economy as a whole and to create economic, social, and political environments in which productivity can thrive, these steps will not automatically improve the productivity of organisations. Management also need to measure the productivity levels in their organisations and take steps to improve productivity where necessary. Drucker (1980: 16) was also of this opinion and stated, 'And above all we know that productivities are created and destroyed, improved or damaged, in what we call the "microeconomy": the individual enterprise, plant, shop, or office. Productivities are the responsibilities of management.'

Productivity improvement on a national scale therefore needs the active involvement of government and the management of organisations but it does not stop there. While management must accept the responsibility for improving productivity, this cannot be done without the co-operation of motivated workers. The Committee for Economic Affairs (1989: 171) stresses this point by stating in its report that "it is impossible for any organisation to achieve higher productivity without motivated workers." The key to improved productivity is therefore the level of motivation of the workers and because of this the committee invited evidence from a variety of sources on motivation methods. The methods suggested to them ranged from the elimination of managerial status symbols (such as company cars), appealing to the workers' need to achieve, the introduction of more effective pay schemes, wage incentives, share schemes, and participative management schemes such as quality circles. The report also mentions that evidence was given that meaningful goals should be negotiated with employees and that

6

they should receive recognition on the achievement of these goals. It was also pointed out to the committee that performance measures be introduced so that employees could receive feedback about their progress towards the achievement of goals.

In the recommendations contained in their report, the committee point out that "There is no single answer to the question of how workers can be motivated." They stress the need for participation in decision making and recommend the use of quality circles as part of the process. In addition, they recommend that "participation must be supported by adequate training and workers should be guided to set their own goals and objectives." (President's Council's Committee for Economic Affairs ,1989: 266). In terms of the application of goal setting, it is interesting to note that while it was suggested in the evidence presented to them that goals should be negotiated, they recommend that management guide workers to set their own goals. The reason for this difference is not given in the report but this study will throw some light on this aspect of goal setting.

The committee's recommendations regarding the setting of goals generally agree with the findings of goal setting research but there are still many questions which need to be answered, such as:

* At what level of difficulty should goals be set to ensure maximum motivation and productivity? For example, why should the national goal should be set at a 3 per cent improvement in productivity and not 7,5 per cent as in Malasia?

* What kinds of goals should be set for organisations which produce services as opposed to tangible products?

* In what terms should the goals be expressed so that everybody will understand them?

* How can commitment to the goals be achieved?

* Is worker participation in goal setting really necessary and, if so, what form should this participation take?

* Are workers in South Africa motivated by goals?

Research is clearly needed to highlight the problem areas involved and to provide answers or guidelines as to how goal setting should be implemented.

1.5 Research into Work Motivation in South Africa.

Numerous techniques have been and are used in South Africa in attempts to improve productivity, such as technological advances, employee redundancies, training, work study, and various motivational techniques including incentive schemes, job enrichment programmes and participative management schemes such as quality circles. In spite of the application of these techniques, productivity in the country still remains low and there is a serious need to investigate ways of improving it.

Research into productivity improvement has mainly been carried out in South Africa by the National Productivity Institute who have made an important contribution especially with regard to the measurement of productivity in organisations. However, research into the motivation of employees to improve productivity has been uncoordinated and inconclusive. Numerous minor research projects have been undertaken, mainly for masters theses but there have been very few major research studies conducted in the use of motivational techniques for improving productivity. Most of the research which has been carried out is based on content theories of motivation, such as those of Maslow, Herzberg and McClelland with only a small amount based on process theories such as expectancy theory and goal setting theory.

Backer (1973) summarised much of the research which had been carried out in South Africa regarding the motivation of black workers. It is evident from his summary that most of the research up until that time had been based on the theories of Maslow and Herzberg as was his own research carried out in the Eastern Cape.

8

In brief, Maslow's theory posits that people are motivated by a hierarchy of needs, starting with physiological needs, and then progressing to safety and security needs, social needs, status and esteem needs and finally, the need to self actualise. According to this theory, people have to largely satisfy each set of needs before they can move up the hierarchy and ultimately be motivated by the need to self actualise.

Herzberg's theory maintains that people who have a high level of job satisfaction will perform better than those who do not and the factors which are important in achieving job satisfaction are achievement, responsibility, personal growth in the organisation, advancement and recognition for achievement. Herzberg maintains that if these factors are not present, they will not lead to dissatisfaction but to a lack of satisfaction, i.e. job satisfaction and dissatisfaction exist on two separate continuums. The factors which, if lacking, lead to dissatisfaction are status, supervision, relationships with supervisors, peers and subordinates, company policy and procedures, job security, working conditions, and salary. Herzberg called these the hygiene factors.

Backer's research took the form of surveys which investigated the need structures of workers. He found that the predominant needs of the people interviewed were basic physiological needs followed by esteem or status needs and, according to him, this was confirmed by other researchers such as Glass and the National Institute of Personnel Research. However, his most significant finding was that "The single strongest attraction was wages." (Backer, 1973: 24).

Backer (1973: 43) points out that at that time, the Chamber of Mines was the only organisation attempting to determine employees' need structures and use this information to design personnel policies and practices. However, while one field research study which he quotes did support Herzberg's two factor theory, the other did not and Backer concludes that "Intensive experimentation with the Herzberg and Maslow techniques, though, is required before any conclusions could be drawn on the reliability and validity of these techniques for South African conditions." (Backer, 1973: 62).

In keeping with this recommendation, Backer (1985) conducted a survey amongst 2 166

9

employees in 30 organisations throughout South Africa. He found that while managers and both black and white skilled employees were satisfied by achievement and recognition, the unskilled and semi-skilled workers were satisfied by wages, promotion and organisational policies. In particular, the finding in relation to the role played by wages supports his previous findings.

Backer (1973: 42) also concludes from his initial research that the workers were mainly concerned about their lower or deficiency needs and were not "growth motivated." However, he did predict that since more black workers were progressing to higher levels in organisations and wages were generally increasing, black workers "would become more strongly motivated - even more growth motivated - as their standard of living is raised and as higher level job opportunities are created for them." He further maintained that, "It is thus likely that the pattern of work motivation of the African industrial worker will undergo notable changes in the next decade or two." Presumably he meant that as peoples' lower level needs were satisfied through wage increases, they would be motivated by their higher order needs and as a consequence of increased motivation to self actualise, productivity levels would increase. In terms of Herzberg's theory, Backer's prediction appears to be based on the assumption that improved standards of living would decrease dissatisfaction caused by inadequate hygiene factors and this would make it easier for the motivators to take effect.

We are now in a position to look back on what has actually occurred and it is obvious from the figures quoted above that Backer's prediction has not materialised in terms of a general improvement in productivity. However, it should be kept in mind that, in spite of the wage increases, standards of living have not improved and people are not now in a better position to satisfy their basic needs than they were 20 years ago. As Drucker (1980: 10) put it, "During inflation, however, the figures lie." In order for people to improve their standard of living wages must increase at a greater rate than inflation. However, as has been pointed out, if wage increases are not accompanied by productivity increases then they merely fuel inflation which tends to neutralise the positive effect wage increases.

Whereas the research based on Maslow's and Herzberg's theories is important in that it aimed at a better understanding of the motivation of workers, it investigated their need structures without reference to productivity levels. The implicit assumption was that satisfied needs would result in improved productivity and that the first step in this process is the identification of the needs of workers. However, Herzberg's approach goes further than the mere identification of needs and involves the redesign of jobs to make them more meaningful and the increase in the levels of responsibility which workers have for their work. He called this approach to productivity improvement "job enrichment". Job enrichment programmes have been implemented in South African organisations but very little scientific research has been carried out in South Africa on the effect which these programmes have on productivity. Nevertheless, Backer quotes a number of case studies where job enrichment was applied successfully with unskilled and semi-skilled workers in South African companies. (Backer, 1973: 71, 1985: 43)

While it can be accepted that job enrichment can be an effective technique for improving work performance, Backer's use of Herzberg's theory as a basis for this approach at the lower organisational levels does not appear to be supported by his research findings which show that, at this level, pay is the main motivator and not meaningful work, achievement and recognition. However, he makes the point that it is wrong to assume that, because studies show that unskilled and semi-skilled workers are mainly motivated by pay, Herzberg's theory does not apply to them (Backer, 1985: 81). He maintains that the reason why these workers do not indicate that they are motivated by meaningful work is because they have never been exposed to such work and have not experienced the satisfaction which derives from it. Unfortunately, he has no evidence to support this proposition.

From a research point of view it is difficult to determine the determinants of improved performance in job enrichment programmes. For example, the programmes involve providing workers with direct feedback on their performance (Backer, 1973: 77) and there is evidence from goal setting research that this feedback induces people to set their own goals which could become the main cause of motivation rather than the job content. An additional problem with job enrichment programmes in South Africa is that,

according to Backer (1985: 43), they also involve the "cleansing" (skoonmaak) of hygiene problems in the organisation because if this is not done there will be little likelihood of a job enrichment programme succeeding. It is therefore difficult to determine whether the improved productivity resulted from improved job design, increased job meaningfulness and responsibility, the reduction of dissatisfaction through the "cleansing" process, or the setting of goals by the workers.

In summary, Backer's research shows strong evidence that South African unskilled and semi-skilled workers are motivated by money and there is very little evidence that they are motivated by Herzberg's "motivators". Job enrichment does appear to result in improved productivity but it is not clear why it works in South African organisations and what motivational factors are involved.

Herzberg's theory has generated a considerable amount of controversy over the years especially regarding his claims that satisfaction and dissatisfaction are two separate factors and that job satisfaction leads to improved productivity. On the other hand, the probability that job dissatisfaction can inhibit productivity improvement appears to be generally accepted. Both Backer (1985: 43) and Mol (1990: 44) stress that hygiene factors can lead to dissatisfaction if they are not in order and this dissatisfaction will make it difficult to motivate workers. For example, if a company has poor working conditions, policies and practices, inconsiderate supervisors and inequitable pay structures, it is likely that the workers in that company will be dissatisfied and very difficult to motivate to improve productivity. It is difficult to imagine trying to engender a high level of motivation in the midst of grievances, disputes, strikes, high labour turnover and high absenteeism. Management should therefore determine the level of employee satisfaction or dissatisfaction in the organisation, for example by conducting an attitude survey. If it is found that there is a level of dissatisfaction amongst employees, management should take steps to minimise it so that an environment can be created which will facilitate the motivation of employees.

While this "cleansing" process could involve wage increases, it should be kept in mind that increasing wages to reduce dissatisfaction is inflationary if there is no accompanying

12

increase in productivity and under these circumstances productivity bargaining should be considered.

Orpen (1976: 68) is critical of the motivational research which had been carried out in South Africa and states, "Although some research has been done into the determinants of job satisfaction and performance among black workers in South Africa (cf. Backer 1973) it has not, in my opinion, contributed much to our understanding of the black worker." He maintains that this is mainly because the research has been atheoretical and uncoordinated and he proposes a process model which is based largely on expectancy theory and Porter and Lawler's integrated motivational model. Orpen is critical of the underlying assumption of Herzberg's model that job satisfaction leads to improved performance and maintains that, while it is possible that job satisfaction does have this effect, Herzberg's model ignores the satisfaction which results from successful work performance. Orpen therefore posits that satisfaction can be both a cause and a result of successful work performance.

Expectancy theory as proposed by Vroom (1964) maintains that motivation (M) is a function of the level of the individual's expectancy (E) that he or she can successfully perform a task, the level of instrumentality (I) or the probability that successful performance will result in a specific outcome in the form of an intrinsic or extrinsic reward, and the valence (V) or value of that reward to the person. It is expressed mathematically as follows:

$$M = V \times I \times E$$

The main difference between Vroom's expectancy model and Orpen's model is that whereas Vroom maintains that expectancy (E), instrumentality (I) and valence (V) combine in a simple multiplicative way, Orpen maintains that the product of instrumentality and valence should first be summed across all the relevant outcomes.

Orpen conducted two studies on the basis of his model. The first was carried out with 80 schoolboys and this study showed strong support for his model. He then conducted

13

a study involving 82 factory workers and used supervisory ratings as a criterion to evaluate performance. Ten supervisors were required to evaluate the workers' competence on a scale of -4 (very incompetent) to +4 (very competent). Orpen developed rating scales to measure the expectancy, instrumentality and valence of the workers. The ratings were carried out at the beginning of the six month study period and again at the end of the period.

After applying his formula, he found that expectancy attitudes measured at the beginning of the period predicted the performance at the end of the period with a correlation of 0,62. According to Orpen, the results support his model and he concludes that workers will be motivated if they desire the rewards given for good performance, if they believe that there is a relationship between rewards and performance, and if they have strong feelings of self competence which, in essence, is the claim of expectancy theory.

Orpen was apparently not convinced that the application of his or any other motivational model would achieve productivity improvements with black workers in South Africa as he later maintained that the social and political situation in the country resulted in a low level of trust between white supervisors and black workers which negated any attempts to improve productivity (Orpen, 1977). He stressed that a precondition for national productivity improvement was a political solution in the country whereby trust could be established between management and workers. If this is true, when South Africa obtains a fully democratic government motivational techniques should become more effective and should therefore receive more serious attention.

Biesheuval (1984: 155) is also highly critical of the postulates of the content theories of motivation as "there is no agreement about the needs that people seek to satisfy at work, and about the motivational patterns that result from their interaction." and "The hypothesis that most people, given the opportunity, will strive for personal growth, autonomy, responsibility and self-expression in their jobs has not been confirmed." He bases his approach to the motivation of workers and, in particular, black workers on expectancy theory and stresses that the valence of their rewards is critical. He specifically concentrates on the use of job evaluation systems to ensure that pay

14

structures are equitable and valued. However, although Biesheuval criticises the content theory approach, Backer's finding that increased wages were the greatest need expressed by workers tends to support Biesheuval's approach. Nevertheless, it has already been shown that wage increases have not resulted in productivity improvements on a national scale so this approach on its own cannot be supported. The main benefit of equitable pay structures is that they will contribute to ensuring a lack of dissatisfaction amongst workers which would create a climate which is conducive to improving motivation using other techniques.

Orpen and Biesheuval do not refer to the research which had been carried out into another content theory, McClelland's need for achievement theory. However, Boshoff, Cronje and Lange (1987: 26) maintain that the studies carried out into n Ach training in South Africa by researchers such as Thlopane (1979), Nasser, Motsepe and Levanile (1979), and Willers (1983) were not conclusive. They point out that whereas these studies do indicate that this training resulted in more positive attitudes towards achievement orientation, there was little evidence that it improves work performance. These authors felt that the inconclusive results obtained were due to inadequate research methods used and so carried out a more scientific study involving 126 first line supervisors in which the effects of n Ach training were evaluated. Using the TAT-Z projective technique they showed in their study that the achievement motivation levels of the subjects increased as did their work performance measured by performance appraisals carried out by managers.

Boshoff and Boer (1988) then carried out a similar study involving managers in a number of clothing factories and the results showed that their achievement values increased as did the labour productivity in these factories. These two studies into the effectiveness of need for achievement training showed positive results but it will be shown later that need for achievement training in fact trains people in goal setting and the positive results achieved possibly have more to do with goal setting than the need to achieve.

In his review of work motivation in South Africa, Barling (1986: 525) also questions the usefulness of content theories in improving work performance and states that worldwide,

"the emphasis on need /content theories is decreasing while the emphasis on reinforcement and goal setting is increasing." He outlines the organisational behaviour modelling (OB Mod) approach to work motivation which is based on the principles of operant conditioning and quotes a number of studies which have shown positive results when OB Mod is applied in the work situation. However, Barling points out that research has shown that people view this approach as manipulative and dehumanising and it is likely that the general application of this approach will be resisted. He concludes that, "Within the South African environment, goal setting is a viable motivational technique. Research has documented how goal setting can be effective in unionised environments, and implementing goal setting does not require considerable staffing or financial resources."

Barling implies that content theories should be abandoned and that process theories should be concentrated on to improve productivity. However, process theories and content theories deal with different aspects of the motivational process and while research into the content theories has not been conclusive, it does not mean that they have not made any contribution to the understanding of motivation. Mol appreciates that there is much to be gained from both content and process theories and in effect his approach to employee motivation is a combination of Herzberg's approach, expectancy theory and goal setting theory. However, whereas Backer and Orpen tend to concentrate on black workers and imply that they are motivated differently from other workers, Mol takes the view that black workers are motivated by the same factors as anybody else (Mol, 1988: 20). Mol does not base his opinions on detailed statistical research findings but maintains that they are well based on numerous case studies and the high demand for his consulting service is evidence of the usefulness of his advice (personal communication). He advocates the application of the "Human Resource Approach" which maintains that:

* Most people find work enjoyable if they pursue meaningful objectives.
* Most people are keen to show what they are capable of doing.
* Most people are more intelligent than their work requires them to be.
* Most people will be highly committed to their work when they are

16

entrusted with responsibility.

Mol (1990: 19)

In general, the approach stresses the proper utilisation of people in organisations through participative decision making and the development of a feeling of pride in their work. An important aspect of Mol's HR approach is the concept of a self-fulfilling prophecy which relates to managements' attitudes to workers. If managers treat their subordinates like adults they will act like adults or if they treat them as if they resent work then the probability is that they will resent working. This approach is very similar to McGregor's theory X and theory Y approach which stresses that the attitudes of managers towards their subordinates play an important role in the level of motivation of those subordinates (McGregor, 1960).

Of particular relevance to this research study is that Mol advocates a Management by Objectives (MBO) approach to goal setting in terms of identifying performance areas or key results areas, agreeing on performance criteria or "yardsticks", establishing standards of performance and agreeing on goals. These steps are almost identical to the approach used by the supporters of goal setting theory but, whereas goal setting theory advocates the setting of difficult goals, Mol maintains that easy goals should be set so that workers can more readily experience the "feeling of winning" which in turn motivates them to perform at a higher level. He states, "It is a myth in the business world that high goals motivate people. They do not. High goals that are imposed on subordinates are far more likely to demotivate them." (Mol, 1990: 117). However, while Mol is opposed to the imposition of high goals he does not comment on the situation where employees accept high goals and are committed to them nor does he distinguish between assigned goals and self-set goals. Goal setting theory advocates the setting of difficult goals only if they are accepted by the workers. The practical problem, therefore, is how to obtain worker acceptance and commitment to difficult goals.

17

1.6   Goal Setting Theory Versus other Motivational Theories.

In an attempt to justify the goal setting approach to work motivation, Locke and Henne (1986) criticise Maslow's hierarchy of needs theory as, according to them, even Maslow admits that it is not generally applicable and that some behaviour is not determined by needs at all. Another of their criticisms is that Maslow assumes that people want what they need because the need deprivation indicates what they should do. However, according to Locke and Henne "need deprivation only promotes discomfort - not knowledge of what to do about it". They also criticise the concept of self-actualization because it is vague and hecause people have potential to become thousands of different things.

One of the main criticisms of Herzberg's theory is that while it claims that job satisfaction leads to improved work performance this has not been sufficiently substantiated in practice or by research studies. Locke and Henne (1986) also maintain that this theory is no longer taken seriously in scientific circles as there has been no support for the proposition that satisfaction and dissatisfaction are two separate concepts that can be measured on separate continuums working in opposite directions.

While Herzberg's theory has been severely criticised as being invalid, the way it is implemented through job enrichment programmes has had a certain amount of success in improving productivity. However, it is evident that there is a certain amount of overlap between the application of job enrichment programmes and goal setting programmes. Job enrichment programmes involve:

a)   the redesign of jobs to give workers more scope for personal achievement and more challenging and responsible work,

b)   the training of workers to cope with the newly designed jobs,

c)   allowing workers more freedom to make decisions,

d)   giving direct feedback on performance and,

e)   allowing the job to expand to allow the employee to grow psychologically.

Locke and Latham, (1990: 17) point out that although Herzberg stressed that jobs should be designed to allow for peoples' growth needs, goal setting was never regarded by him as part of job enrichment. However, they maintain that in practice goal setting was introduced into job enrichment programmes through the feedback to workers of information regarding their progress at work. In Chapter 2 it will be shown that when workers are given specific feedback on their performance, they tend to set their own goals. It is possible, therefore, that productivity improvements resulting from job enrichment programmes could, in part, be the result of workers establishing their own goals which in turn motivates them to improve their performance.

Locke and Henne (1986) are highly critical of McClelland's achievement and power motivation theory and point out that the state of research into this theory is "chaotic." They explain that McClelland developed his theory mainly for entrepreneurial-type jobs and since 95% of the research which has been carried out has used managers or students as subjects, they are in effect irrelevant to the theory. They state that, "identifying the proper domain for need for achievement has taken some thirty years and several thousand studies - not a very efficient process." Nevertheless, although Locke and Henne tend to reject McClelland's approach, there is a fair amount of overlap between the application of n Ach. theory and goal setting theory.

McClelland's need theory is applied in practice by training managers to become aware of their achievement, power and affiliation needs and encouraging them to develop these in accordance with the requirements of the job. In particular, n Ach training involves:

*   Teaching the participants to think, talk and act like a person with high n
        Ach,
*   Setting higher but carefully planned and realistic work goals,
*   Giving participants knowledge about how they react when setting and
        adjusting their goals,
*   Using the group of trainees to create a team spirit which supports
        individual goal setting and the achievement of goals.
McClelland (1966: 398).

As can be seen from the above outline, need for achievement training incorporates training in goal setting and it is therefore possible that most of the benefits resulting from this approach actually derive from the goal setting aspect of the training.

In regard to the level of goal difficulty, McClelland takes a similar approach to expectancy theory in that he advocates the setting of moderate goals. McClelland explained that achievers "set moderately difficult, but potentially achievable goals for themselves, where they objectively have only a 1 in 3 chance of succeeding. In other words, they are always setting challenges for themselves, tasks to make them stretch themselves a little." (McClelland, 1966, 393).

Content theories all refer to the need to achieve in one way or another but do not indicate clearly what it is that people want to achieve. If their goals or ambitions are not related to the objectives of the organisation then it is possible that their increased motivation could actually result in decreased productivity in the work place. The implication, therefore, is that management must in some way ensure that employees are motivated to achieve goals which are compatible with the organisational goals. This is supported by Argyris (1964, 175) who makes the point that "it is necessary for the parts of organisations to be required to achieve goals that are clearly related to the organisation as a whole." Goal setting theory proposes to fill this gap.

Furthermore, whereas content theories have not proved to be consistent in predicting work performance, process theories such as expectancy theory, organisational behaviour modification and goal setting theory have been more successful in this regard.

In regard to expectancy theory, Locke and Henne (1986) state that although there is a fair amount of empirical support for the theory, it has been criticised by various researchers on a number of points. For example, Stahl and Harrell, (1981) found that there was an additive relationship between expectancy, instrumentality and valence rather than a multiplicative relationship. Locke and Henne, (1986) however, point out that there has been consistently more support for this theory when the studies have been designed to study motivation within subjects rather than between subjects. They also

quote Wanous et al. (1983) who suggest that expectancy theory should be utilised for explaining job choices rather than for explaining work motivation mainly because job choice is more under the control of the person than performance.

An important difference between goal setting theory and expectancy theory lies in the level of goal difficulty advocated by these theories. Basic expectancy theory (which ignores instrumentality and valence) maintains that easy goals should be set, Vroom's expectancy (VIE) model implies that moderate goals should be set and goal setting theory advocates the setting of difficult goals. These various approaches are depicted in the following figure taken from Locke and Latham (1990: 64).

FIGURE 1
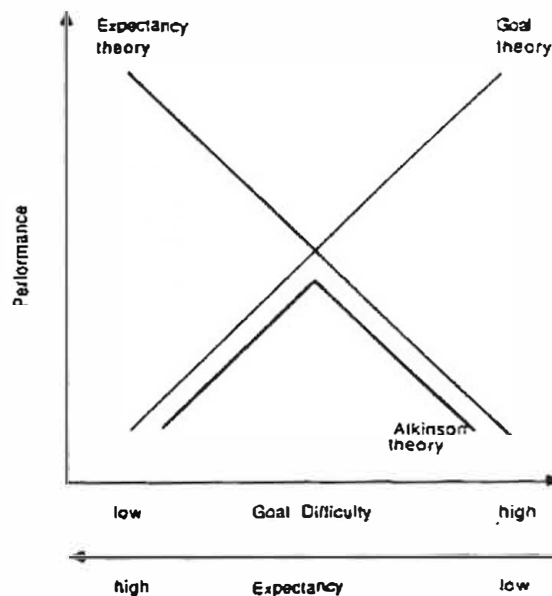
This figure depicts:

a) Basic expectancy theory, i.e. which is concerned only with the expectancy of successful performance (E) and excludes valence (V) & instrumentality (I),

b) Atkinson's (and Vroom's) theory (M = V x I x E),

c) Goal setting theory.

Basic expectancy theory maintains that the greater the expectancy of successful performance, the greater the level of motivation. Therefore, when goals are easy

21

expectancy will be high and motivation will also be high. It will be recalled that this is Mol's approach. Atkinson's theory implies that if I is kept constant, with low goals expectancy will be high and valence will be low (i.e. the rewards are low for low goals). Conversely, with high goals expectancy will be low and valence will be high. E and V therefore work in opposition to each other as goal difficulty levels change with the result that motivation is maximised when goals are moderately difficult. Goal setting theory maintains that there is a positive linear relationship between goal difficulty and performance, i.e. within limits, the higher the difficulty level of the goal the greater the level of motivation and consequent performance. The main limit which is imposed is the upper limit of the person's ability and when this limit is reached, performance levels off.

Locke and Latham (1990: 66) are aware of these contradictions in terms of the relationship between goal difficulty and motivation levels but maintain they can be reconciled in a number of ways. Firstly, they quote Garland (1984) who found that there was a positive correlation between expectancy and performance within groups but there was a negative correlation between groups , i.e. with difficult assigned goals and consequent low expectancies there was a high level of performance. Garland concluded tentatively that one variable which should be taken into consideration is the individual's personal (self-set) goal level because although low goals might be assigned by management, the employees might set their own goals at a high level. The second way of possibly reconciling the contradiction is through self-efficacy (self confidence in relation to the performance of a task). For example, Locke, Frederick, Lee,and Bobko (1984) found that "self- efficacy was related positively to performance both within and between groups; subjects with higher (personal) goals have higher self-efficacy on the average than those with lower goals. The higher the efficacy the higher the performance".

The third path to reconciliation is the relationship between goals, valences and instrumentalities. Based on Vroom's theory that the level of motivation is determined by the product, V x I x E, when the goal level is difficult then V will be high and E will be low. In this situation the low level of expectancy (E) could possibly be outweighed by the high levels of valence (V) thus resulting in a moderate to high level of motivation

22

and performance. In other words, they suggest that the effect of the valence could be stronger than the effect of expectancy, thus resulting in a positive relationship between goal level and motivation.

In an attempt to illustrate how content and process theories relate to each other, and to explain why goal setting theory has been shown to be successful, Locke and Henne (1986) developed a motivational process model which can be regarded as a precursor to Locke and Latham's "High Performance Cycle" model (Locke & Latham, 1990: 253) which is outlined in Chapter 3.

FIGURE 2

Locke and Henne's Model

Cognition (incl. expectancy, self-efficacy)

Needs ———→ Values ———→ Goals ———→ Action
                              Intentions

                              Emotions
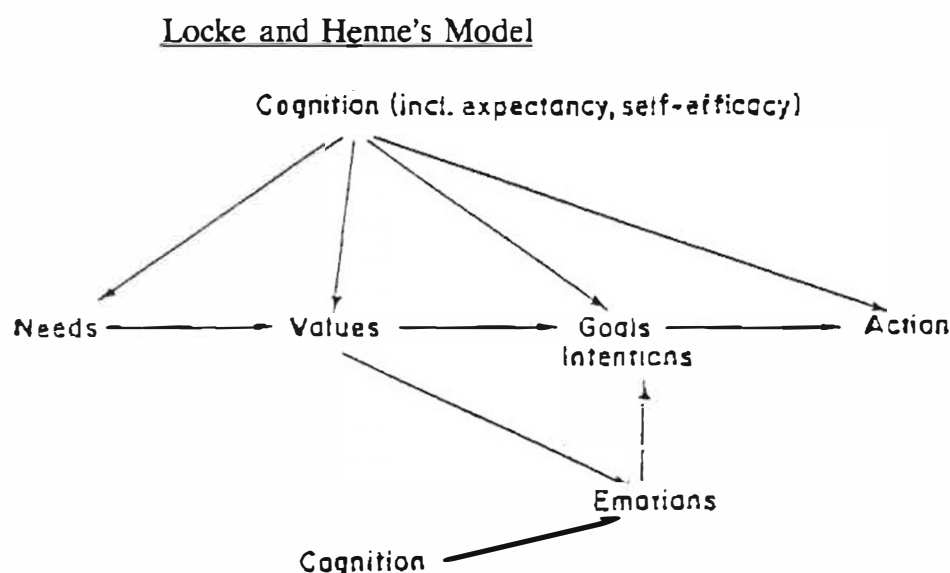
Cognition ———→

Locke and Henne, (1986).

According to this model, the first stage of the motivational process relates to individual needs, the second to peoples' values and the third to their goals or intentions while emotions and cognition are important factors in the whole process. They maintain that needs are a "fundamental motivational concept" and can be divided into two broad categories of physical needs and psychological needs. A person becomes aware of physical needs through pleasure or pain whereas psychological needs "develop gradually as the mind develops". The existence of needs does not automatically result in purposeful behaviour as the individual must understand the need which is being

23

frustrated, discover how that need can be satisfied and then take the appropriate action. Locke and Henne maintain that as a result of this indirect relationship between needs and action, and the difficulty of measuring the strengths of needs, need theories are inadequate in explaining human behaviour. "They may explain why a person has to act (if he wants to live) and why he often wants to act, but they do not account for the particular action chosen".

People differ in their values which they develop through experience and in some cases the values become subconscious. The type of actions which are selected by an individual to satisfy a particular need is influenced by that individual's values. However, values are usually fairly general and in order to actualise them, goals are required. In other words, values are translated into action through the existence of goals.

Cognition is directly related to the other concepts in the model because at each point in the process, information is provided on which decisions can be made and action taken.

According to the model, emotions also play an important part in motivation as they not only result from the actions taken by an individual but also stimulate further action. According to Locke and Henne, "emotions are a result of value (and goal) appraisals". For example, the emotion of satisfaction is experienced when an individual compares the results of his actions with his values and goals and finds that the latter have been met. They explain this further by saying that people establish standards according to which they behave and if these standards are met then satisfaction results; if the standards are not met then dissatisfaction results, i.e. both satisfaction and dissatisfaction can motivate people. The process of establishing standards can be both emotional and cognitive and stems from the values which a person has, i.e. the actual standards set are determined to a large extent by the values which the individual holds.

Locke and Henne (1986: 17) maintain that if their model is correct, goals would be more reliable predictors of action than needs or values. According to them, this is confirmed by most of the research findings. They refer to Miner (1984), who concluded that, of 30

24

organisational behaviour theories which he reviewed, goal setting theory was one of only 4 theories that were both valid and useful. They also refer to Pinder (1984), who commented that "goal setting theory has demonstrated more scientific validity to date than any other theory or approach to work motivation presented in this book". In further support of this approach, they quote Locke et al. (1981), who found that 90% of the goal setting studies which they reviewed showed that there was a positive correlation between goal level and performance.

1.7 Summary

It has been shown that there is a dire need to improve productivity in South Africa to create jobs and to improve the standard of living of the population. On a national scale the government, management of business organisations and the workers must be involved in productivity improvement but, while the motivation of all the people involved is important, the key to improving productivity lies with the motivation of the people who actually do the work.

However, the motivational research into productivity improvement in South Africa has not been successful in terms of indicating techniques which will improve productivity, probably because most of this research has been based on content theories of motivation rather than on process theories. Research has shown that process theories are more successful as a basis on which to develop motivational techniques that work and, in particular, goal setting theory appears to be very promising in this regard. The reason given for the relative success of goal setting theory is that it is behaviourally oriented and "starts where the action is", i.e. with actual performance and its end results rather than with needs or drives which might or might not be relevant to performance levels. In spite of the positive results achieved from the application of goal setting theory elsewhere in the world, no detailed field research has been conducted to investigate the application of goal setting theory in South Africa.

In the light of the urgent need to improve productivity and the evidence which shows that goal setting has been used successfully, especially in the United States of America,

it appears imperative that field research projects should be conducted into the application of goal setting in South African organisations.

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CHAPTER 2:
THE DEVELOPMENT OF GOAL SETTING THEORY.

According to Locke and Latham (1990: 11), the development of goal setting theory since the turn of the century has taken both a practical and an academic route. The practical route refers mainly to the development of Management by Objectives (MBO) while the academic or route refers to the research into the various factors which influence the effect of goal setting on the performance of individuals and groups.

2.1 Management by Objectives: The Practical Route.

Locke and Latham (1990: 14) maintain that, on the practical side, the application of goal setting can be traced back to Frederick Taylor who stressed the importance of a clearly defined task which "furnishes the workman with a clear-cut standard, by which he can throughout the day measure his own progress, and the accomplishment of which affords him the greatest satisfaction" (Taylor, 1967: 120). The payment of bonuses on the achievement of the "task" was, according to Taylor, also an important factor in the motivation of workers. (The concept of "task" as used by Taylor is very similar to the concept of a "goal" as used by goal setting theorists).

MBO was the next major development in the history of the practical application of goal setting. Locke and Latham (1990: 15) maintain that MBO can be regarded as goal setting applied at the organisational level. In other words, while goal setting is usually applied to individual employees or relatively small groups of employees, MBO involves the setting of strategic objectives for the whole organisation and corresponding sub-objectives for management. MBO is an integrated, top down approach applied almost exclusively to management while goal setting can be applied at any level in the organisation and often does not form part of a total organisational programme.

Locke and Latham (1990) and Odiorne (1967) explain that the practice of MBO started in General Motors in the United States of America in 1920 when the then chief executive, du Pont, divisionalised the company and implemented statistical and financial

controls which included indices such as return on investment (ROI). He set objectives for each of the divisional general managers in terms of these indices and measured their performance against the objectives. In 1925 Sloan, who had taken over from du Pont, set further objectives in terms of volumes, costs, prices and rates of return on capital. According to Locke and Latham (1990, 15), Sloan stated that "The guiding principle was to make our standards difficult to achieve but possible to attain, which I believe is the most effective way of capitalising on the initiative, resourcefulness and capabilities of operating personnel". They state that this statement "forshadowed" the main finding of goal setting research that difficult goals lead to improved performance, but it is not clear whether it had a direct influence on the direction which that research took. At best, it can be taken as practical support for goal setting theory.

It was Drucker who popularised MBO as an effective management style when he wrote his book, "The practice of management" in 1954. He was initially mainly concerned with the decentralisation of large corporations and saw MBO as a means of effectively managing the divisions on a "federal" basis in that it allowed for a large degree of self-control on the part of the divisional managers while their key outputs were monitored by the parent company. Drucker (1965, 126), summarises some of the main aspects of MBO as follows; "The objectives of the general manager of a decentralised division should be defined by the contribution his division has to make to the objectives of the parent company. This requires each manager to develop and set the objectives of the unit himself. Higher management must, of course, reserve the power to approve or disapprove these objectives. But their development is part of a manager's responsibility; indeed, it is his first responsibility. It means, too, that each manager should responsibly participate in the development of the objectives of the higher unit of which his is a part. To 'give him a sense of participation' (to use a pet phrase of the human relations jargon) is not enough. Being a manager demands the assumption of a genuine responsibility. Precisely because his aims should reflect the objective needs of the business, rather than merely what the individual manager wants, he must commit himself to them with a positive act of assent. He must know and understand the ultimate business goals, what is expected of him and why, what he will be measured against and how."

In this summary is incorporated a number of key factors in the goal setting process. In the first instance, Drucker stresses that objectives should be set by the manager (self-set) and not by that manager's superior (assigned). The degree of participation in goal setting has been researched to a certain extent and it will be seen below that there is no clarity on whether goals should be set participatively or not. However, in the implementation of MBO programmes each manager has the responsibility for setting the objectives for his unit but does this in group discussions with his immediate subordinates. Similarly, he participates in setting objectives for the more senior management team of which he is a member. In the practise of MBO it is quite clear that a high level of participation is required. It will be seen from the research into goal setting that the assigning of goals can also be effective if the employee accepts the goals and this, in turn, is influenced by the credibility of the person who assigns the goal.

The next aspect relating to the goal setting process which Drucker stresses is management commitment to objectives. Commitment to goals has been shown to be critical if performance is to be improved and sustained. Finally, Drucker points out that managers must understand the overall organisational goals and what they are expected to achieve as a contribution to the organisational goals. While the management of meaning has been shown to be important in the goal setting process, goal setting theory merely stresses that goals should be generally compatible within the organisation. There is perhaps insufficient stress in goal setting theory that goals should comply with the main organisational goals. If this were the case, it would be necessary, as it is in the application of MBO, to set organisational goals first and then cascade these goals down the various levels of the organisation which implies an integrated and organisation-wide approach to goal setting. This implication is important from a practical point of view as it is a departure from the traditional ways in which MBO and goal setting have been applied in practice. While Drucker made a case for setting objectives for workers, in practice MBO has been applied mainly to managers only and goal setting is usually not applied as a total organisational programme.

In terms of the level of goal difficulty, Drucker (1965: 298) stated that, "Nothing challenges men so effectively to improve performance as a job that makes high demands

on them. Nothing gives them more pride of workmanship and accomplishment. To focus on the minimum required is always to destroy people's motivation. To focus on the best that can just be reached by constant effort and ability always builds motivation. This does not mean that one should drive people. On the contrary, one must let them drive themselves. But the only way to do this is to focus their vision on a high goal."

Thus the finding of goal setting research that difficult goals lead to high levels of performance supports Drucker's approach to goal difficulty although Drucker stressed that goals should be self-set and not assigned.

Drucker (1965: 300) also stated that a worker should be kept informed of his progress towards the achievement of goals. "The worker should be enabled to control, measure and guide his own performance. He should know how he is doing without being told. The rules for procedures and information that apply to managers apply to workers as well." This statement is supported to a large extent by goal setting research which has shown strong evidence for the effect of feedback of information on performance. In addition, it is evident that Drucker promoted the application of the principles of MBO to workers and not only to managers.

Drucker (1965: 128) also pointed out that, "The greatest advantage of management by objectives is perhaps that it makes it possible for a manager to control his own performance. Self control means stronger motivation: a desire to do the best rather than just enough to get by. It means higher performance goals and broader vision." This implies that self control is a determinant of motivation and is positively correlated with it; i.e. the greater the degree of self control, the higher the degree of motivation and this in turn results in higher goals being set. Self control as a factor in the goal setting process has not been researched but it appears that it should be.

According to Odiorne (1979: 7), Drucker's writings resulted in the practice of MBO becoming widespread in the industrialised countries and consultants such as himself, Humble, McConkey and Reddin developed their own methods of applying it. Odiorne explains that by the 1980s MBO had become the dominant form of management style

in the western developed countries.

Goal setting has benefitted from MBO, especially with regard to the establishment of performance measurement criteria and methods and, on the other hand, MBO has benefitted from the very detailed research which has been carried out into the important factors involved in the goal setting process. Odiorne (1979: 13) pointed out that "Locke demonstrated that MBO really works, and without his research there might not have followed the host of other scholarly research studies that, in effect, shaped the conditions by which MBO must abide in order to succeed."

The practical application of goal setting theory and the influence of MBO on goal setting will be dealt with in more detail in Chapter 3.

2.2   The Academic Route

In relation to the academic development of goal setting theory, Locke and Latham (1990: 2) explain that they were greatly influenced by the work of Ryan (1970) who maintained that human behaviour is affected by conscious purposes, plans, intentions, and tasks. In turn, Ryan was influenced by the Wurzburg school (Kulpe, Watt and Ach), Mace and Lewin.

According to Ryan (1970: 89), the Wurzburg school of thought maintains that individuals' actions are influenced subconsciously by "tasks" which have been performed by them in the past and there does not have to be conscious deliberation in the performance of well learned tasks. Ach (1935) developed the "difficulty law of motivation" which states that as the difficulty of a task increases, there is a corresponding increase in the voluntary effort applied. As has been explained, this concept now forms the basis of goal setting theory which maintains that there is a positive linear relationship between goal difficulty and performance.

Lock and Latham (1990: 13) state that Mace (1935) conducted the first experimental studies which found that specific goals resulted in a higher level of performance than

general or "do-your-best" goals. Mace also proposed that praise, criticism, feedback, type of supervision and assigned standards influence a person's personal goals and through this, performance levels. It will be shown below that these are all important factors in the goal setting process. They also point out that Lewin stressed the role played by intentions in the motivational process and maintained that an intention to carry out a task causes a tension within the individual which is reduced when the task is completed. Ryan (1970: 96) also explains that the inclination of people to resist interruptions and to complete a task was referred to by Lewin as a "quasi-need" and by this he meant that when a person accepts a task, s/he creates a goal which has properties similar to the goal of a primary need such as hunger. Ryan rejects this concept of quasi-needs and proposes that higher order motives (e.g. needs, drives or instinct) affect performance by operating through intentions to achieve specific goals rather than by affecting performance directly.

According to Locke and Latham (1990: 2) the main issue behind the research into goal setting is that people perform at different levels when carrying out the same task. They point out that there are many reasons for this. For example, people might differ greatly in their ability, their knowledge and the strategies (methods) which they use to perform the tasks. However, another important reason is that they often have different goals and they try for different outcomes when they work on a task. Locke and Latham point out that they use the term "goal" generically to encompass "the essential meaning of terms such as intention, task, deadline, purpose, aim, end and objective. All these have in common the element that there is something that the person wants to achieve."

The academic approach to the development of goal setting theory has differed from that of many other motivational theories in that, instead of a theory or model first being proposed and then researched, extensive research into goal setting was first carried out and the theory then developed inductively on the basis of the findings. In the initial stages of goal setting research it was found that difficult goals, if accepted, provide a challenge to the individual which results in improved performance. However, the research studies always showed imperfect correlations between goal levels and actual performance levels which indicated that other factors were influencing the goal level -

performance relationship. For example, Hollenbeck and Klein (1987) pointed out that difficult goals do not always result in improved performance but when they do, the effect varies widely from a correlation of 0,03 to 0,77 which indicates that there are other factors influencing the effect which goals have on performance. Consequently, both laboratory and field studies were carried out in an attempt to identify and isolate these variables and to investigate their role in the motivational process. There has been a profusion of goal setting research studies, mainly in the USA, which have been particularly helpful in identifying a variety of factors in the goal setting process and indicating how they influence work behaviour. The following is a list of the main factors which have been researched:

a) Level of goal difficulty.

b) Ability of the worker to perform the task.

c) The extent to which the goal is accepted by the worker and the degree of commitment expressed or demonstrated by the worker in the performance of the task.

d) The degree of participation of the worker in the goal setting process.

e) Level of task difficulty (complexity).

f) The development of a strategy or plan by the worker to achieve the goal.

g) Feedback of information to the worker (or subject) on progress made towards the achievement of the goal.

h) Goal specificity, i.e. the degree to which the goal is expressed in specific rather than general terms.

i) Incentives.

j) Group versus individual goals.

k) The self-efficacy (confidence) of the worker in relation to the performance of a task.

l) The satisfaction experienced by the worker on the achievement of the goal.

m) The level and nature of supervision to which the worker is subjected.

A selected number of the studies are outlined below in approximate chronological order

to illustrate the main findings of goal setting research and how goal setting theory developed to the stage where Locke and Latham have consolidated the findings of the research in their model which they call the "High Performance Cycle".

2.3   Laboratory Studies.

The external validity of laboratory studies (i.e. their applicability in the "real" world), is often questioned and they are criticised as being artificial. However, they do have an advantage over field studies in that they usually exercise more control over variables which could influence the interrelationships between the factors under investigation and are usually more suited to investigating potential boundary variables (Fromkin and Streufert, 1976).

2.3.1 Goal Difficulty

In a study carried out by Locke (1966 d), goals were assigned to subjects over 15 trials of creative thinking tasks and a positive linear relationship between goal level and level of performance was found. Locke comments that this linear relationship did not support Atkinson's theory which predicted that "a maximum level of performance will be obtained when the probability of success is moderate (.50) and will be uniformly low as the probabilities decrease from this in both directions" (i.e. an inverse U relationship where performance increases steadily, reaches a peak and then drops off).

Locke (1968b) analyzed 12 other studies of the relationship between goal difficulty and level of performance. In order to make a direct comparison between the results of these studies, Locke expressed goal difficulty in terms of the percentage of trials on which the subjects trying for a particular goal actually beat that goal. Using this approach, he plotted performance (output) against the statistical probability of reaching the specified goals and again showed a positive linear relationship between these two variables. According to Locke, the correlation between goal difficulty and performance for all the points plotted was 0,78. Locke again compares this finding with that of Atkinson and Feather (1966) who also found an inverse U relationship between these two variables. He maintains that the reason for the inverse U relationship is that at the higher levels of goal difficulty some people reject the goal and do not in fact work towards the achievement of that goal. However, when people accept a goal they work hard at achieving that goal with the resultant linear correlation between goal difficulty and

performance. The key issue, therefore, is goal acceptance and commitment.

It is logical to assume that the ultimate upper limit to performance is dictated by the person's ability at any point in time but, in order to test this assumption, Locke (1982) designed an experiment in which 247 students were given a brain storming task (listing as many uses for specific objects as possible). Each trial lasted 1 minute and there were 14 goal levels which ranged from easy to impossible. All subjects were given a common practice trial which established their individual levels of ability and the 14 goals were assigned to them. He found that there was a positive linear relationship between goal level and performance but this relationship ceased after the goals became impossible for the subjects. At the impossible level of goals there was a significant relationship between ability and performance, i.e. when the goals were set at an extremely high level, the actual level of performance of each subject correlated significantly with their previously determined level of ability.

One of the common criticisms of setting high goals for people is that while performance might increase, the quality of work will decrease. This claim was supported by a study carried out by Locke and Bryan (1969) where it was found that errors increased as the number of problems attempted increased. However, Garland (1982) carried out a study in which 86 students were given a creativity task over 15 trials. He found that while the quantity of output increased linearly with increased goal level, this also occurred for corrected responses, i.e. the quality of the work was not significantly affected.

The laboratory experiment carried out by Louw (1983) is the only reported South African study on goal setting to this writer's knowledge. The study involved 272 students whose task was to add columns of numbers for a period of 10 minutes. There were four different levels of goal difficulty, 3 levels of goal specificity and 3 values of financial incentives. The main finding is that difficult goals did not result in increased performance. Goal acceptance was measured by means of a 2-item questionnaire which indicated that the goals were accepted by the subjects and this factor could therefore not account for the negative finding. However, it is doubtful that the levels of difficulty of the goals were valid as Louw determined them from the performance of 36 subjects who

were not part of the experimental group. The most common way of determining difficulty levels in a laboratory experiment is to use the experimental subjects to establish their own base level of performance.

A criticism of the studies on goal difficulty is that there is no clear definition in the literature of what is meant by the terms, easy, moderate and difficult. Some of the studies reviewed were criticised because a high percentage of the subjects achieved the "difficult" goal levels which indicated that in effect the goals were not difficult. Levels of difficulty are usually determined by the experimenter on the basis of results achieved in practice trials by the subjects. While this is an objective way of determining the level of difficulty, there is no generally accepted formula for determining at what point a goal becomes difficult. It also seems logical to presume that the level of perceived difficulty varies from individual to individual in accordance with their assessment of their own abilities and their level of confidence in their ability to perform at various levels of difficulty. More research needs to be carried out in this regard so that a standard approach can be adopted which will enable more valid comparisons of the results of these studies to be made.

2.3.2   Ability

It was pointed out in 2.3.1 above that ability levels set the upper limits of performance and the implication of this from a goal setting point of view is that if difficult goals are set, some people might not perform at a high level because they have reached the upper level of their ability. In addition, it should be kept in mind that performance is a function of both ability and motivation and it is possible that a person with relatively low ability but high work motivation can perform at a higher level than a person with high ability but low motivation. The roles played by ability and motivation in performance are often difficult to separate and therefore tend to make it difficult to interpret the findings of motivational studies.

Locke, Mento and Katcher (1978) report that prior to the time of their study, the results of studies on the interrelationships between ability, motivation and performance had

41

been highly inconsistent. They mention as examples the findings of French (1958) who found that a high level of ability predicted performance only when motivation was high, Fleishman (1958) and Lawler (1966) who found that motivation predicted performance only for high ability subjects, and Howard (1976) and Locke (1965) who found that there was virtually no interaction between ability and motivation.

In order to attempt to throw more light on this subject, Locke, Mento and Katcher carried out an experiment with students who were given a perceptual speed task to complete in 20 minutes. The results show that ability did predict performance in groups with similar commitment levels.

On the other band, Garland (1983) conducted a study involving 58 students who were given a creativity task to complete in one minute trials and found that ability as measured in practice trials was totally unrelated to self-set goals. However, ability was related to the actual performance levels. According to Garland, this indicates that the subjects did not take into consideration their performance levels achieved during the practice trials when establishing their personal goals. While this indicates that people set goals without taking into consideration their ability levels, it could also be because they tend to be over-confident as was found by Mowen, Middelmist and Luther (1981).

The determination of the effect of motivation on performance is made difficult if the level of ability is not known but one way of eliminating the effect which ability might have on the outcome of experiments is to allocated difficult goals on relatively easy tasks which are well within the limits of the ability of all the subjects.

2.3.3 Goal Acceptance and Commitment

Locke and Latham (1990: 125) state that commitment "refers to one's attachment to or determination to reach a goal, regardless of where that goal came from". In most cases the concept of commitment includes acceptance of goals as it is presumed that acceptance is a necessary precondition for commitment.

In order to investigate the role played by goal acceptance, Erez and Zidon (1984) carried out a study with 140 technical students who were given a perceptual speed test to determine the effect of goal acceptance on the relationship of goal difficulty to performance. This study shows a positive linear relationship between performance and goal difficulty where the goals were accepted but a negative linear relationship where the goals were rejected. The authors conclude that these results support Locke's (1968) claim that the lack of acceptance of goals is a possible explanation for Atkinson's inverted U curve model, i.e. the decrease in performance found in some studies when goals become difficult could possibly be attributed to a lack of acceptance.

Earley (1985) conducted a laboratory experiment with 96 college students who were given a class-scheduling (time-table) task. This experiment showed that the more information which was provided about the task, the greater was the acceptance of the goal. Although they do not mention it, this finding supports the "tell and sell" method advocated by Locke and Latham (1984).

Hollenbeck, Williams and Klein (1989) conducted a study into the possible antecedents of commitment to difficult goals and investigated the effects of goal "publicness" (where a person has publicly committed himself to a goal), goal origin (the person who originated the goal), need for achievement and locus of control. They found that these variables accounted for a substantial portion of the variance in goal commitment. Their main findings were that commitment was higher when goals were made public, when locus of control was internal and when the subjects displayed a high need for achievement, particularly when the goals were self-set.

Tubbs and Dahl (1991) conducted an experiment with 125 students who were given a computer data entry task. In order to evaluate the construct validity of commitment measures, 4 commonly used formats of self reporting on commitment were used. They found that there was a high inter-correlation between the 4 formats (mean $r = 0,82$) but point out that it was still not clear whether they provided good assessments of "motivational force". By this they imply that commitment is a force or drive to achieve a certain goal. In addition, they maintain that self reports of goal commitment should

be viewed with caution and that the variances between personal (self-set) and assigned goals is probably a more direct measure of goal commitment. If employees do not adopt the assigned goal they will probably set their own goal and the difference between this personal goal and the assigned goal is therefore the measure of their commitment to the assigned goal.

Commitment plays a critical role in the goal setting process and methods for achieving goal commitment in practical applications must be considered as vital components for any goal setting programme. It can be deduced from these studies that in order to achieve acceptance and commitment to goals, workers should be provided with sufficient information to help them to understand why the goals have been assigned or need to be self-set and that once accepted, the goals should be made public. Furthermore, the measurement of commitment should not be done by requesting workers to indicate their commitment, for example on a rating scale but should be done by comparing assigned goals (where available) with self-set goals.

2.3.4   Assigned / Participative / Self-set goals

The methods by which goals are set are not regarded as determinants of motivation and performance on their own but are important in obtaining acceptance and commitment to goals.

One technique to gain employee commitment to goals is to have them participate in the setting of the goals. However, when goals are set participatively, it is possible that they might not be in agreement with the organisational goals and if so, management is then obliged to persuade the employees to change their goals. In order to ensure that employees' goals do correspond to the organisational goals when they are originally set, management often negotiate the goals and the levels of goal difficulty with the employees. This process of participation or negotiation often takes an excessive amount of time and can therefore be counter productive in the short term. In order to overcome this disadvantage, it could be more time and cost effective if management decide on the goals and then assign them in such a way that they are acceptable to employees. The

44

following studies are aimed at determining whether such assigned goals are as effective as participatively set goals in improving performance.

Locke (1968) reviewed a number of studies on participation in decision making and its effect on performance and concludes that where participation does have a positive effect on performance, it typically occurs in cases where the participants have set goals. However, there should be a distinction between participation in general decision making and participation in the goal setting process as it is important to know to what extent workers need to be involved in setting goals.

Erez and Arad (1986) carried out a study involving 96 part-time Israeli students who were divided into groups of 6 and given the task of acting as personnel managers to evaluate job application forms against specific job requirements. Sub-groups were formed to obtain an experimental factorial design of 2 x 2 x 2 which consisted of a high and a low level of three factors: involvement in goal setting, group discussion and information sharing. The goal was set in terms of the number of applications correctly evaluated in 30 minutes. The results show that performance quantity (physical output), incidental learning, goal acceptance, group commitment and satisfaction were significantly higher in those subjects who participated in the group discussions than for the others. Involvement in goal setting is shown to significantly affect both performance quantity and quality as well as work attitude whereas the process of sharing information in goal setting is found to have a significantly positive effect on performance quality but not on performance quantity. They maintain that one reason why these results contradict the findings of Latham et al. (1982), is that in the Latham studies participation was dyadic, whereas in the Erez and Arad study 6 people were involved in each group. They suggested that "the social factor is important for facilitating the motivational effect of involvement in goal setting". The study therefore supports participation in goal setting for small groups of people. According to them, this result was supported by other studies carried out by Erez, (1986); Erez and Earley, (1987); and Erez, Earley and Hulin, (1985).

On the other hand, Latham, Erez and Locke (1988) point out that numerous studies,

including many field studies, have shown that there was very little difference between the effect of participation in goal setting and the assigning of goals. They therefore designed four experiments aimed at resolving this dispute. The main finding arising out of these experiments was that whereas Erez used only a tell method when assigning goals (i.e. an abrupt instruction), in most other studies goals were assigned to the subjects or workers using a "tell and sell" method. The tell only method resulted in lower levels of acceptance and commitment and therefore lower levels of performance. In her conclusion, Erez suggests that another difference might be that her studies were carried out in Israel where communal decision-making is more prevalent than in the United States with the result that the subjects of Erez's study would be more inclined to reject the tell method than subjects in the USA. This suggestion is accepted by both Locke and Latham.

In summary, there is no conclusive evidence that participation results in improved performance through increased goal acceptance and commitment. It appears that the management style which workers are used to should determine the approach to be adopted in setting goals. For example, if the workers are used to a highly autocratic management style, it is possible that the use of a participative style to set goals might not be effective because the workers would not know how to participate effectively and also might distrust management. This could well be true in the South African context if one keeps in mind Orpen's contention mentioned above that there is a low level of trust between management and workers in South Africa. On the other hand, if there is a low level of trust in a particular organisation, it is probable that goal setting will not be effective regardless of the method used. Nevertheless, the Committee for Economic Affairs (1989: 266) recommend that a participative style should be adopted and quote quality circles as an example where participation has been found to be effective in South Africa.

2.3.5 Task Difficulty.

According to Campbell and Ilgen (1976), task difficulty refers to the degree of complexity of the work method and should not be confused with the level of difficulty of the goal.

For example, the task of flying an aeroplane is more difficult (complex) than driving a car whereas the goal of winning an international car or aeroplane race is more difficult than the goal of winning a club race.

In order to investigate the interrelationship between these variables, they carried out a study using 82 chess-playing undergraduates and a 3 x 3 factorial design with easy, moderately difficult and difficult chess problems (the task) as well as easy, moderately difficult and difficult goals. They found that subjects given more difficult (complex) tasks, did not perform very well in the initial trials but subsequently out-performed the subjects in the moderate and easy task groups. These authors maintain that the subjects in the high task difficulty plus high goal difficulty group underwent a faster learning process which helped them in the performance of their tasks in later trials. The statistical analysis confirmed that difficult goals and difficult tasks both resulted in higher levels of performance, and they concluded that task difficulty and goal difficulty had an additive effect on performance. However, while difficult goals cause improved performance through motivation, the improved performance found with difficult tasks could also derive from the learning effect.

Huber (1985) refers to the abovementioned study carried out by Campbell and Ilgen (1976). She criticises their study because the test problems allocated to the subjects involved only 3 chess moves at the difficult task level whereas experienced chess players often play games requiring an average of 50 moves or more. Huber's study used 128 students who were allocated a heuristic computer task and assigned goals ranging from very easy to very difficult. According to Huber, the result shows that both goal and task difficulty affected not only task performance but also the arousal of the subjects and their perceptions of task complexities. This study found that "when the task was difficult, the setting of a difficult goal led to significantly lower performance". She also found that the setting of difficult goals could result in high levels of anxiety which in turn could result in lower levels of performance. In addition, the decrease in performance in difficult goal conditions is attributed to changes in the strategies used by the subjects. Huber proposes that the setting of difficult goals may not be effective when a heuristic, rather than algorithmic, solution is needed.

The evidence indicates that goal setting is not effective when tasks are difficult because the people performing those tasks have to develop strategies to perform the task successfully. However, the study carried out by Campbell and Ilgen indicates that once the strategy has been developed, goal setting is effective. One conclusion which can be drawn from this is that workers have to be competent in performing a task before goal setting can be effective and therefore training should first be give before goal setting is implemented.

2.3.6 Task Strategy

The term "task strategy" is used very broadly in the goal setting literature to refer to task planning, methods of working or techniques used to perform a task. It was shown in 2.2.5 above that the development of task strategies is promoted when goals are set but that in the initial stages the time taken to develop the strategies can delay the achievement of goals, especially when tasks are difficult. The role played by the development of task strategies has been investigated in a number of studies.

For example, Locke, Shaw, Saari and Latham (1981) and Smith, Locke and Barry (1985) found that assigning goals to individuals led them to develop high quality plans to achieve their goals. In particular, Smith et al. studied the behaviour of business students in an organisational simulation, and found that their performance was positively related to planning when the planning focused on specific goals, was very detailed and considered all the relevant variables. They make the point that the provision of relevant information improves the planning function and thereby improves the individual's performance. Specific goals facilitate this process because they provide detailed and relevant information about the task.

These findings were supported by two more studies by Smith, Locke and Barry (1985). The first study involved students who were given a business simulation tasks and the other study consisted of a survey which assessed goal setting, training, energy expended and task planning for workers in a service organisation. The results of these studies show that goals influenced performance through increasing the individual's effort,

persistence, planning and organising for a task.

Huber's finding (see 2.2.5 above) that when the task was difficult, difficult goals resulted in significantly lower performance was supported by the results of three laboratory experiments carried out by Earley, Connolly & Ekegren (1989) in which students were requested to make predictions about the stock market prices of 100 companies. The subjects were grouped according to the various goal conditions and also the type of task strategies. In the first two studies the subjects were required to make their predictions on the basis of unclear and incomplete information which necessitated the development of a task strategy. However, in the third study, they were provided with the strategy in the form of an algorithm according to which they were to make predictions. It was found that in all cases the do-your-best goal group was better or at least equal to the specific, difficult goal groups in terms of performance. According to Early et al., these results support the hypothesis that the setting of specific and difficult goals is not effective where problems are complex and strategies have to be developed to arrive at solutions. They proposed that goal setting is effective with simple and moderately complex tasks because it helps the person to focus on the task strategy but when the complexity of the task is high in that there is a large variety of alternative strategies which could be used to solve the problem, the setting of difficult goals does not enhance performance. They also point out that these studies in fact were not concerned with output (quantity) but rather accuracy (quality) of performance because the subjects were required to make accurate predictions about stock market trends.

Since research results indicate that goal setting is not effective when tasks are difficult, it can be argued that the technique should only be used with simple or moderately difficult tasks and therefore it is probable that goal setting will not be successful with managerial jobs. However, it should be kept in mind that a person who is highly trained and experienced in a complex task is likely to find it easier than a person who is not, i.e. ability, learning and self efficacy can also play a role when applying goal setting to difficult tasks. Huber's criticism of Campbell and Ilgen's study might therefore not be entirely justified as the subjects in their study were possibly novices at chess and might well have found the task difficult. In conclusion, the concept of difficulty should

49

therefore be termed "perceived difficulty" in relation to both goals and tasks so as to stress that difficulty must be seen from the point of view of the person performing the task and not from the experimenter's or the manager's viewpoint.

2.3.7 Feedback

Feedback is the information provided to subjects about the performance levels which they have achieved. The term "feedback" is often used in the goal setting literature interchangeably with the terms "knowledge of results" (KOR or KR) and "knowledge of score" (KS). In attempting to achieve a goal, a person needs signs, clues and information which indicate whether the person is "on track" and, if not, behaviour can be adjusted to make sure that the goal is achieved.

During the 1960s, the studies on work motivation tended to concentrate on the extent to which feedback to the subjects of information on their performance levels affected their subsequent performance. However, while these studies showed that feedback does result in improved performance, it became evident that goal setting combined with feedback results in even higher levels of performance. In general the studies investigated the effects of feedback without goals, goals without feedback and feedback with goals. For example, Locke (1966 a) explains that Fryer (1964) found that the mean performance scores of a group of people who had set their own "levels of aspiration" (goals) was significantly greater than the mean scores of the group which received feedback alone (i.e. no goals were set). Locke, reanalysed Fryer's results and confirmed his conclusions.

Fryer's study was followed by a laboratory experiment conducted by Locke and Bryan (1966b) which consisted of allocating to 70 university students a complex computation task. The students were divided into three groups. The first group was allocated a difficult goal with no feedback, the second group was given feedback on their total performance but were not assigned goals and the third group were given neither feedback nor goals. In addition, the second and the third groups were told to do their best, i.e. specific goals were not set. The results of the experiment showed that the

group with difficult goals and no feedback achieved substantially higher performance than the other two groups which indicates that goal setting had a greater effect on performance than feedback.

In order to investigate the interaction between goal setting and feedback in more detail, Locke (1967) carried out an experiment where he separated the effects of feedback and goal setting. In this experiment he used the task of simple addition of a series of three two-digit numbers. The subjects were divided into four groups, those with difficult goals and feedback, those with difficult goals and no feedback, those with do-best goals and feedback and finally with do-best goals but no feedback. The results supported the proposition that subjects with both difficult goals and feedback performed better than subjects with difficult goals but no feedback.

Locke and Bryan (1967) conducted another experiment to test the proposition that feedback affects performance through its effect on goal setting. This study differed from the others in that the subjects were given a questionnaire at the end of the experiment and asked to indicate which goals they were in fact trying to achieve. It was found that subjects who were given feedback tended to set higher goals than those who were not.

Locke and Bryan (1969), carried out an additional experiment to investigate the relationship between feedback, goals and performance. They assigned 40 subjects a simple addition task and designated them to 4 groups of 10 so that the experimenters could control for feedback and goal level. The results of this experiment support the hypothesis that feedback affects performance through the mediation of goal setting. However, this conclusion applies only to the number of problems attempted by the subjects and not to the accuracy of the answers to these problems as the results showed that subjects in the difficult goal groups made more errors in their calculation than those in the easy goal group. Locke and Bryan try to explain this by saying that it is obvious that the difficult goal groups would make more errors than the others because they were under more pressure and were "trying to speed up at the expense of accuracy". This aspect of accuracy was glossed over by the experimenters but it has serious implications where quality of work is important as it could mean that the setting of difficult goals

51

could result in high levels of errors.

Cummings, Schwab, and Rosen (1971) designed a study specifically to investigate how past performance and the form of the feedback impacted on the levels of the goals which are set. Eighty students were given two sets of simple addition tasks and feedback on performance level for the first trial was given only in terms of each individual's performance and not in relation to a group average. The students were divided into four groups. Group 1 was given corrected feedback, group 2 incomplete feedback, group 3 no feedback and group 4 erroneous low results (i.e. they were advised that 50 % of the number actually completed were correct). Subjects were required to indicate their goals before commencing each trial. Regression analysis showed that 26 % of the differences in the goals which were set by the subjects for the second trial was accounted for by the differences in previous performance while feedback accounted for 18 % of that variance. These authors commented, however, that it should be kept in mind that only about half of the total variance was accounted for (i.e. by previous performance and feedback) and they suggest that additional determinants such as the need for achievement, competence, aspiration levels and the meaningfulness of the tasks could also have an influence on the level of goals which were set. They also point out that the result of the study seems to indicate that, in practice, feedback may have very little effect if performance goals are not clarified.

Erez (1977) refers to studies carried out by Locke and others where they conclude that goals mediate the effect of feedback on performance. According to her, their experiments did not adequately test whether feedback is a necessary condition for goals to affect performance. The experiment which she carried out involved 86 students who were divided into 2 groups and allocated number comparison tasks. Both groups were given a practice trial after which the experimental group was given feedback on their performance. The experimental group therefore had feedback with goal setting whereas the control group was only exposed to a goal setting situation. Both groups were asked to report their goal intentions for stage 2 of the study. The results indicate that there was a significantly higher variance in individual goal setting for the experimental group than for the control group, i.e. it showed that feedback with goal setting was more

effective than goal setting alone. Furthermore, stage 2 performance for all the subjects was higher than stage 1 performance but it is shown that when the effect of feedback was controlled, goals were more strongly related to performance. Erez concludes that feedback is a necessary condition for goal setting to result in increased levels of performance.

The study by Erez was followed up by a similar study by Strang, Lawrence and Fowler (1978). In this study 150 female students were given the task of solving 56 arithmetic problems in groups which either received or did not receive explicit feedback under easy or challenging goal conditions. It was found that "subjects receiving KR under challenging goal assignment significantly increased their computational speed at no apparent cost in accuracy". They concluded that their experiment supported the finding by Locke (1968) and by Erez (1977) that feedback may be a necessary "complement to assigned goals in facilitating performance".

In summary, there is sufficient evidence to show that feedback is critical in the goal setting process and that in order to ensure that goal setting programmes are effective, feedback systems should be designed, implemented and maintained.

2.3.8 Goal Specificity.

Goal setting research has found that goals which are expressed in specific terms are more effective than goals which are expressed in general terms.

Bryan and Locke (1967) conducted an experiment with 20 students who were grouped into those with a low self-reported motivation to perform a particular task and those with a high self-reported motivation. The low motivation group was given specific goals to achieve while the high motivation group was instructed to "do your best". The results showed that after 2 trials the group with specific goals performed at the same level as the "do best" group. These authors concluded that specific goals can serve to increase motivation to perform a task.

Bryan and Locke conducted 7 other similar experiments and the results of all 8 experiments were analyzed by Locke (1968). He found that in six of these studies the subjects trying for specific, difficult goals performed at a significantly higher level than subjects who had been assigned do-your-best (general) goals.

The evidence indicates that goals which are stated in specific terms such as to produce 110 units per hour or reduce waste by 10 % within 2 months are more effective than general goals such as "do your best". This implies that, in order for goals to be specific, they should be expressed in quantitative terms. However, it should be kept in mind that merely stating specific numbers will not be effective if the workers do not understand the meaning of the units and the implications of the goals. For example, a goal of improving profit before tax by 5% by the end of the year probably will not have much impact on most employees unless it is explained exactly how the profit is obtained and what sub-goals each employee should set to achieve this organisational goal. Similarly, a goal of achieving 100 tons output per week will not be effective if the workers cannot visualise a ton of the product.

2.3.9 Incentives

Incentives are widely used in practice to motivate employees to achieve high levels of performance and in some cases they are combined with goals whereas in others they are not. In order to investigate the relationship between goal setting, incentives and performance, Locke and Bryan (1968) carried out a laboratory study in which 127 subjects were requested to give uses for specific objects (brain storming). The subjects were allocated to groups with varying conditions of assigned goals, self-set goals, no goals, all-or-none incentives, no incentives and piece rate incentives. The incentive in this experiment was cash. In all, 5 experiments were carried out and it was shown that when the goal level was controlled, the level of the incentive did not affect performance. The results also show that all-or-none incentives (payment only when a specific goal is achieved) were more effective than piece rate incentives (payment per unit of output without reference to goals) in improving performance. The authors maintain that in an all-or-none incentive situation the specific level of performance which has to be achieved

for the incentive to be paid is in effect a goal and they believe that the goal is the mechanism which produces the high level of performance. However, they also make the point that one cannot interpret from this that all-or-none incentive schemes are necessarily more effective than piece rate systems as it depends on the level of the goal set for the all-or-none incentive in comparison with the self-set goals which are typically established when piece rate incentive systems are applied. According to Locke (1968), incentives encourage workers to accept tasks and to set goals and they improve performance by improving the commitment of individuals to the achievement of goals.

Terborg and Miller (1978) conducted an experiment with 60 students who were paid to work individually on a two hour construction task. These subjects were assigned one of three goal-setting conditions, i.e. no goal, quantity goal, quality goal, and one of two pay conditions i.e. piece rate or an hourly rate. Effort, direction of behaviour and quantity and quality of performance were measured and the results showed that quantity performance was significantly greater in the piece rate payment condition than in the hourly rate payment condition. However, although quality of performance was influenced by the levels and types of goals set, it was not influenced by the type of payment. Further analysis shows that goal setting influenced motivation and performance independently of the method of payment. The indication is, therefore, that a piece rate incentive scheme combined with goals is more effective than an hourly rate payment system with goals.

Mowen, Middlemist and Luther (1981) also point out that in many goal setting studies researchers found a positive, linear relationship between assigned goal levels and performance but in others performance was found to decrease at high goal levels. They propose that one possible mediator which could explain these divergent findings is the form of incentive pay system which is used. They conducted a laboratory experiment with 124 students who were assigned an arithmetic task with varying goal levels and either a piece rate or bonus incentive condition. The piece rate incentive scheme rewarded the students for all the correct responses, whereas the bonus scheme rewarded them only when they achieved the specified goal.

The results of this experiment show that when the piece rate system was used, the subjects' performance was significantly higher when the goal was set at a difficult level than when it was set at an easy level. On the other hand, when the bonus system was used, difficult goals resulted in lower levels of performance than moderate or low goals. Mowen et al. argue that the success of goal setting when combined with a piece rate incentive scheme can be attributed to the continual reinforcement which the subject or worker receives while working towards the difficult goals. In the bonus scheme situation, if the level of performance or goal at which the bonus is paid is set too high the subjects could become demotivated when they realise that even for a reasonably high level of performance they will not be compensated.

2.3.10 Group Versus Individual Goals

When people work in groups it is often difficult to separate the contribution which each individual member of the group makes to the overall performance of the task or tasks performed by the group. The question therefore arises as to whether groups of people or teams can be motivated to perform better through setting difficult goals.

Mitchell and Silver (1990) quote Locke and Latham (1984, 37) as stating that where tasks are inter-dependent, "the optimal strategy, of course, is to set goals for the group as well as for each individual in the group". These authors maintain that this proposition had not been adequately explored and they therefore decided to investigate it.

Ninety-six students were given a tower building task and worked in groups of three. The subjects were not allowed to talk to each other during the trials which lasted 15 seconds each. Initially all groups were allowed 5 practice trials from which their ability levels were determined. They were then allocated one of four goal conditions which were: individual goal, group goal, individual plus group goal and no goal. The subjects then completed 10 experimental trials after which they were requested to complete a questionnaire covering co-operation, competition, goal acceptance, goal commitment and goal difficulty as well as a question relating to the strategy which they developed during

the trials.

The results of this study support the proposition that group plus individual goals result in high performance when people work inter-dependently. The results also show that "an interdependent task will prompt co-operative strategies, and these strategies will result in greater feelings of co-operation, more co-operative behaviour, and higher performance, as long as an individual goal is not set by itself. The individual goal alone produced competitive feelings, strategies, and behaviours and resulted in significantly lower performance than when a group goal was set or people had no specific goal". In their conclusion the authors maintain that where both individual goals and group goals are set, the individual goal should facilitate the attainment of the group goal.

2.3.11   Self-efficacy

Bandura (1982: 122) defines self-efficacy as a judgement of "how well one can execute courses of action required to deal with prospective situations" and maintains that there is a strong positive correlation between self-efficacy and task performance. In practice, self-efficacy is measured by asking the subjects to indicate the probability of their achieving a certain goal or standard. It therefore reflects their self confidence in relation to their capability of performing a specific task. In addition, it will be seen in the outline of the next laboratory study that self efficacy is measured in much the same way as expectancy, i.e. subjects are requested to estimate the probability of achieving a certain level of performance or goal. The similarity of these two concepts in practice therefore introduces an overlap between expectancy theory and goal setting theory.

Locke, Frederick, Lee and Bobko (1984) maintain that up until the time of their study, very little research had been carried out on the joint effects of self-efficacy, goals, and task strategies on performance. They therefore conducted an experiment to investigate these relationships with 209 students from an introductory management course whose task was to list uses for common objects. The results of this experiment show that there was a "very powerful effect of self-efficacy even with ability and past performance controlled". Self-efficacy was found to affect goal level, task performance, goal

commitment and the choice of the subjects to set a specific rather than a general goal. Locke et al. maintain that the results clearly show that self-efficacy and performance are reciprocally related and that training in task strategies has a positive effect on self-efficacy. Furthermore, these authors maintain that these findings indicate that goal setting theory could possibly be integrated with the key elements of Bandura's social cognitive theory through the use of self-efficacy as the major integrating mechanism.

One of the main concepts in Bandura's theory is that amongst people with high levels of self-efficacy, below-standard performance results in a feeling of dissatisfaction which motivates the person to strive harder to achieve the standard (Bandura, 1986). Bandura and Cervone (1986) refer to the findings of studies carried out by Bandura and Cervone (1983) and Locke, Cartledge and Knerr, (1970) which show that the higher the self-dissatisfaction with below-standard performance, the greater the subsequent effort to achieve the standard. In order to investigate the relationship between self-efficacy, performance / standard discrepancy and performance, Bandura and Cervone (1986) carried out a study with 88 Psychology students who were allocated the task of operating an ergometer which involved pushing and pulling two arm levers. The subjects were assigned a challenging goal and the feedback was manipulated to indicate to them that their performance was markedly, moderately or minimally short or in excess of the goal. The subjects then recorded their perceived self efficacy, self evaluation and self-set goals after which their performance was again measured as an indicator of their motivation. It was found that perceived self-efficacy and self-set goals were significantly related to performance over a wide range of discrepancy levels. According to Bandura and Cervone, the results support the theory that perceived negative discrepancies between performance and goals creates self-dissatisfaction which motivates the person to apply greater effort to achieve the goal. The results also show that the greater the perceived self-efficacy, the greater the self-dissatisfaction.

As with most laboratory studies, the trials did not last for long periods and the question still remains as to whether this effect will apply for tasks which have a much longer duration, e.g. for a number of months.

One implication of these results is that managers and supervisors should train their subordinates and encourage and support them so that their self-efficacy will improve. However, this presumes that their self-efficacy is low. Where workers are over-confident and over estimate their chances of success, it is possible that they could become demotivated if they do not succeed.

One study conducted by Mowen, Middelmist and Luther (1981) found that subjects in moderately difficult goal conditions were over-confident of their estimation of success. Mowen et al. point out that a number of studies have shown the effect of over-confidence. They quote the example of Slovic, Fischhoff and Lichtenstein's (1977) review of behavioural decision theory where they note that in most tasks, except those that involve making beyesian inferences, people tend to be over-confident. Mowen et al. recommend that field research should be designed to investigate the implications of over-confidence in the work place. However, this possibility should be kept in mind when goal setting programmes are introduced and, if necessary, managers should try to ensure that goals are not unrealistically difficult.

2.3.12 Satisfaction

Herzberg's two factor theory was probably the first theory to attempt to explain job satisfaction comprehensively. He maintained that increased employee satisfaction in relation to job related factors would result in improved work performance but a mass of research on this theory has been inconclusive. Goal theory, on the other hand posits that the successful achievement of goals results in satisfaction, the failure to achieve a goal results in dissatisfaction and both this type of satisfaction and dissatisfaction act as motivators under certain conditions. A distinction should therefore be made between the broad concept of job satisfaction, which is usually measured as an attitude towards job related factors, and the narrower concept of personal satisfaction which is experienced in relation to goal achievement.

In a study carried out by Umstot et al. (1976) it was found that where job enrichment was combined with goal setting, there was no increment in job satisfaction. These

subjects indicated that this had occurred because of feelings of constraint resulting from the assignment of goals. On the other hand, Carroll and Tosi (1970), Umstot et al. (1976), Locke and Bryan (1967) and Bryan and Locke (1967) found that assigning goals for boring tasks tended to alleviate the boredom in performing those tasks.

Mossholder (1980) briefly outlines some of the few studies which investigated intrinsic motivation in the goal setting process. For example, Amabile, De Jong and Lepper (1976) carried out a laboratory study in which subjects were required to perform an enjoyable work game and found that when deadlines were imposed, they showed significantly less interest in the task than subjects who operated under conditions without deadlines. Carroll and Tosi (1970) found in a field setting that managers who had high levels of interest in their work reacted negatively towards goal setting. In another study (1968) these same authors found that the managers who were exposed to goal setting felt that they had been unduly constrained.

Mossholder conducted an experiment which involved 80 students who were given either an interesting or boring assembly task. The interesting assembly task consisted of assembling a whole model car whereas the boring task consisted of repetitive assembly of parts of the car. He found that when specific and difficult goals were assigned to subjects involved in the interesting task, there was a reduction in the intrinsic motivation with respect to that task. He came to a general conclusion that it is possible that "the nature of the task can moderate the impact of externally mediated goals in worksetting".

In summary, it appears that where people are highly interested in their jobs and have a high level of job satisfaction, the setting of difficult goals could decrease performance. However, setting difficult goals where tasks are monotonous and boring could increase job satisfaction. The nature of the job should therefore be taken into consideration when introducing a goal setting programme.

2.3.13 Supervision

Supervisors play a critical role in ensuring that the output and quality levels of their

subordinates are maintained at acceptable levels and the way they do this varies from supervisor to supervisor. However, in terms of the implementation and maintenance of goal setting programmes, they should ensure that the goals which are set are in agreement with organisational goals, the subordinates accept the goals, are committed to them and have the ability to achieve them. Furthermore, it appears that supervisors can help to improve their subordinates' self-efficacy and to overcome obstacles in the way of goal achievement, i.e. they should adopt a supportive role with their subordinates when attempting to improve productivity.

Latham and Saari were concerned with the importance of supportive supervisory styles and refer to Lickert's (1967) proposition that where a subordinate perceives the superior to be supportive (primarily interested in building and maintaining the subordinate's sense of personal worth), "the better will be the effect of the supervisor's behaviour on the subordinate's performance" (Latham and Saari 1979, 151). In order to test this proposition, they conducted an experiment with 90 students who were randomly assigned to one of 6 groups in a 2 x 3 factorial design where the conditions consisted of supportive versus non-supportive authority and one of three goal conditions i.e. participative, assigned or do-best. In the supportive condition the experimenter was very friendly, reassuring and offered encouragement and assistance to the subjects whereas in the non-supportive condition the experimenter behaved in a rude and abrupt manner. The results show that higher goals were set in the supportive condition than in the non-supportive condition and where higher goals were set, performance was higher. However, the correlation between supportiveness and performance was not significant and according to these authors this indicates that supportiveness may not have an independent effect on performance, i.e. supportiveness has a positive effect on performance through goal setting. They maintain that this is consistent with goal setting theory and state that "supportiveness appears to be important primarily because it gives subordinates and supervisors the confidence to set high goals, which in turn lead to high levels of performance".

Latham and Saari point out that this lack of a direct relationship between supportiveness (friendly, reassuring and helpful) and performance could be a result of a low level of

external validity for the results of this experiment. They propose that this is probably the case because of the short duration of the trials and in support of their argument, point out that Likert (1967) stresses that managerial styles might take a number of years to have an effect on the performance of individuals in an organisation.

2.3.14 Summary of Findings of Laboratory Studies.

The most supported findings are that difficult, specific goals if accepted, result in increased performance (Locke & Bryan, 1968; Locke, 1968; Garland,1982) and the relationship between goal difficulty and performance level is positive and linear up to the point where goals become impossible (Locke, 1982), after which performance levels off as goal difficulty increases.

The level at which the goals become impossible depends to a large extent on the level of ability of the person performing the task, i.e. when a person reaches his or her ability limit, increased motivation will not increase the level of performance. (Locke, Mento & Katcher, 1978; Locke, 1982). The studies which have been carried out on goal commitment show that it is a critical factor in the motivational process to the extent that without goal commitment, difficult goals will not result in improved performance. (Erez & Zidon, 1984; Early, 1985; Hollenbeck & Klein, 1987; Hollenbeck, Williams & Klein; Tubbs & Dahl, 1991). Ways of obtaining goal commitment are to make the goals public, ensure that the originator of assigned goals is trusted and viewed as an authority figure and help to improve the self esteem of the workers.

When people accept specific, difficult goals they tend to develop strategies to achieve those goals (Locke et al., 1981; Smith et al., 1985; Early Wajnaroski & Prest, 1987). However, when the task is difficult, the time spent on searching for a strategy tends to lower performance levels (Campbell & Ilgen,1976; Huber, 1985).

Feedback was found to be an important component in the goal setting process. Locke and Bryan, (1966 b) found that the effect which goals have on performance is greater than the effect of feedback on performance. However, when feedback is combined with

goal setting, the effect is greater than with goal setting on its own (Locke, 1967). In addition, when feedback is provided, higher goals tend to be self-set than without feedback (Locke & Bryan, 1967). Both Erez (1977) and Strang et al. (1978) came to the conclusion that feedback is a necessary condition for goal setting to be effective.

The role played by participation in the goal setting process remains inconclusive because there have been many conflicting findings. However, some studies (e.g. Latham, Erez & Locke, 1988) have found that assigned goals are as effective as participatively set goals if the experimenter "sells" the goal to the subjects.

The studies on goal setting and incentives have shown that incentive schemes with goals tend to be more effective than incentive schemes without goals. Goals should therefore be built into incentive schemes to ensure the maximum effect. (Terhorg & Miller, 1978; Mowen, Middelmist & Luther, 1981).

Mitchell and Silver (1990) found that where tasks are interdependent, both group and individual goals should be set to achieve high levels of performance and the individual goals should conform to the group goals.

Self-efficacy is one of the few personal factors which has been shown to affect the goal setting process. For example, Locke, Frederick, Lee and Bobko (1984) and Bandura and Cervone (1986) found that self-efficacy had a very strong effect on performance through goal setting and was shown to have a strong influence on goal commitment.

As regards work satisfaction, it has been shown (Mossholder, 1980) that the imposition of time goals or deadlines can result in dissatisfaction, particularly for managers who have a high interest in their work. However, other studies (Carrol & Tosi, 1970; Umstot et al., 1976; Locke & Bryan, 1967; Bryan & Locke, 1967) have shown that assigned goals lead to the alleviation of boredom and so increase the job satisfaction of people performing boring tasks.

Goal setting research has found that more difficult personal goals are set in a supportive

supervisory condition than in a non-supportive condition and that supportiveness has a positive effect on performance through goal setting (Latham & Saari, 1979).

2.4 FIELD STUDIES.

The main question which should be asked about goal setting is, "Does it result in productivity improvements in the real world?" The following field studies indicate that goal setting does result in productivity improvements in organisations provided that certain conditions apply.   The studies are outlined not only to illustrate some of the main findings, but also to highlight various practical aspects in the implementation of goal setting programmes.

2.4.1 Supervision and Goal Setting.

It was pointed out in 2.2.13 above that one of the roles of supervisors or managers is to ensure that work goals set by their subordinates are in agreement with the organisation's goals and then to support them in such a way that they actnally achieve those goals. The laboratory studies indicated that supportive supervision not only facilitates the improvement of productivity through goal setting but is a critical and necessary part of the whole goal setting process.

In order to investigate the effects of goal setting and supervision on worker behaviour Ronan, Latham and Kinne (1973) carried out a study with 292 pulpwood producers in the Southern United States to differentiate the effective from the ineffective producers in terms of their production output, labour turnover, absenteeism and injury rates. Questions were asked about their supervisory practices, attitudes towards employees as well as various demographic variables. The results of this study show that the producers who set high production goals and remained on the job site to oversee their employees had high levels of productivity and low levels of injury rates. In addition, there was a high correlation with the degree of training given by the supervisors, the extent of instructions and explanations given, the use of varied methods of payment and the amount of military experience which the supervisors had.

64

A larger correlational study involving 892 producers was then carried out and the results confirmed the findings of the first study. Specifically, the results showed that producers who stayed on the job with their men and set production goals had the highest output per man-day. In addition, those producers who set production goals but did not exercise close supervision had high levels of labour turnover and those producers who worked with their workers but did not set production goals tended to be generally less effective. In summary, these authors found "that productivity was related to setting production goals when this behaviour was accompanied by other supervisory practices and attitudes. In effect, goal setting alone was not sufficient to ensure high productivity". This finding indicates that employees need someone to help them to remain focused on the goal, encourage them to achieve goals and overcome obstacles in the way of goal achievement. The question of the Hawthorne effect also arises here, i.e. to what extent is supervisory attention a factor in the improvement of performance. While this factor cannot be ruled out completely, the Ronan et al. study shows that supervisor presence plus goal setting was more effective than supervisor presence without goal setting.

Ronan et al. comment that the results of their study supported Locke's (1966) hypothesis that for supervision to be effective it should include the establishment of specific performance goals. They make the point that the findings "provide rudimentary support for the management by objectives philosophy advocated by Drucker (1965) and Odiorne (1965) in that they stress the need for and the interaction of supervision and goal setting." However, management by objectives as proposed by Drucker and Odiorne involves the setting of objectives through negotiation between the superior and the subordinate and is basically participative goal setting but in this study the management assigned the goals which is not strictly MBO practice.

2.4.2 Feedback and Goal Setting.

Latham and Kinne (1974) decided to test the findings of the Ronan et al. study outlined in 2.3.1 because it was purely correlational in nature and there had been no attempt to manipulate the independent variables. Their study was designed to determine the effect of goal setting on the performance of pulpwood workers. Twenty producers and their

65

crews were matched according to crew size, output, geographic location, operating methods etc. and then divided into a control group and an experimental group. Each crew consisted of a power saw operator, trimmers and loaders. Both the control group and the experimental group received training in goal setting but whereas the control group was advised that the study involved investigating the effects of injuries, absenteeism and labour turnover on production, the experimental group was told that the main purpose was to investigate goal setting and were trained in goal setting principles. Production tables drawn up to establish production goals took into account the variables which could possibly affect production such as tree size and stand conditions.

The goals were set on a weekly basis in accordance with the tables and the workers were told to regard them as minimum levels of acceptable performance. It was stressed that there would be no penalties if they did not achieve the goal. In order to provide feedback, tally meters were provided to the saw operators to enable them to keep an accurate record of the number of trees which they cut down. This record kept them informed of their progress towards their goals.

The results show that over a period of 12 weeks the experimental crews achieved a significantly higher output than the control crews. Latham and Kinne conclude that goal setting led to an increase in productivity of the experimental group as well as the individual saw operators in that group. Another finding was that absenteeism was significantly lower in the experimental group than in the control group which implies a higher level of interest and commitment amongst the workers in the experimental group than the control group. Latham and Kinne (1974) and Locke and Latham (1984: 13) maintain that this study controlled adequately for the Hawthorne effect as the degree of attention received by the control and the experimental groups was the same. According to them, the results show that the improved performance was as a result of goal setting and not the Hawthorne effect.

Latham and Baldes (1975) carried out a field study to determine the "practical significance" of Locke's theory of goal setting. They also studied employees in the

timber industry but in this case concentrated on the transportation operations. Six logging operations each with six trucks and six drivers were involved in the study. The main problem in these operations in relation to transport was that the drivers were transporting far less than the legal limit for their trucks (i.e. the trucks were not being fully utilised). In conjunction with the drivers' union it was decided to set a goal of achieving 94% of legal truck net weight which was regarded as a difficult but attainable performance goal. It was also agreed with the union that there would be no penalties if the goal was not achieved and that there would be no additional payment to the drivers if the goal was achieved. According to Latham and Baldes, the union then lost interest in the exercise because it did not believe that the drivers would respond to goal setting.

Since the actual load weights being transported had not been accurately recorded in the past it was necessary to establish a base line of performance. Records were kept for three months prior to goal setting during which period truckers achieved roughly 60% of truck net weight. Goal setting was then introduced and within two months there was an increase in production to about 80% which then decreased to about 70% before increasing again to be maintained approximately at the goal level of 94% for at least 5 months while the study continued. These authors point out that the reason for the decrease to 70% was that the drivers were testing whether any action would be taken against them if output decreased. They also maintain that it is unlikely that the feedback rather than goal setting could have resulted in the dramatic increase in performance because the drivers had been aware of the truck weights prior to goal setting. According to them, "this finding supports Locke's (1968) contention that the mere presence of KOR does not increase performance unless it is used by the individual to set a specific hard goal". They do state, though, that goal setting may have led to an increased awareness of the truck weight information. Latham and Baldes also rule out the possibility that formal inter-group competition had an effect because it was not encouraged by offering rewards and none of the drivers was identified as a "winner". Similarly, the "Hawthorne Effect" is also ruled out by these authors because the attention given to the drivers before and after goal setting was approximately the same. This could be questioned because the goal setting intervention must have introduced some changes

67

in the attention received by the drivers from management.

Kim and Hammer (1976) refer to a number of field studies carried out by Latham and others where it has been shown that goal setting has led to productivity improvements. They point out that, in general, the feedback effect was discounted because the performance information was available to the employees concerned prior to goal setting (i.e. feedback was routinely provided before goal setting was introduced but this did not result in improved performance on its own). However, according to them, these studies do not evaluate whether goal setting on its own, i.e. without feedback, would have resulted in improved performance because in all cases goal setting was superimposed on existing feedback conditions.

In order to investigate the inter-relationship between feedback and goal setting in more detail, Kim and Hammer carried out a study involving 113 blue-collar workers involved in building equipment maintenance, vehicle maintenance, building maintenance, cleaning and stocking. They established three objective performance measures which were cost performance, absenteeism, and safety, and one subjective performance measure of service which involved foreman ratings of the quality of service provided in these areas. The rating scale consisted of 10 items for each category of work (e.g. floors, washrooms and grounds) and, where applicable, the items were weighted according to their performance in that work situation. On all rating scales the maximum score was 100 and the overall goal set was 83 points out of 100.

In addition to these productivity measures, an attitude survey was carried out to determine the levels of satisfaction with promotion potential, present pay, work on the present job, people on the present assignment and supervision. Weekly objectives were then established and assigned to the employees for each of the 25 work groups.

In order to study the effects of feedback, the total group was divided into four sub-groups. Group 1 received extrinsic feedback only, i.e. the foreman gave verbal feedback to the employees once a week in terms of their previous week's performance and during the week had informal discussions with the workers about their performance. Group 2

received intrinsic (self generated) feedback only, where the workers rated themselves on a weekly basis. Group 3 involved formal goal setting on a weekly basis and they were given formal feedback on their previous week's performance, the employees carried out self ratings which were formally discussed at a weekly meeting in addition to informal feedback by the foreman. Group 4 received goal setting instructions only.

The results show that a combination of goal setting and feedback resulted in a higher level of performance than goal setting alone on the criteria of cost and safety performance. In addition, where extrinsic (generated by someone else) and intrinsic feedback (generated by the employee) was provided, costs were reduced to the greatest extent. As regards the subjective ratings, it was found that service improved generally but the greatest amount of improvement occurred with external plus internal feedback conditions. The measures of employee satisfaction indicated that goal setting alone improved job satisfaction as much as formal feedback.

In summary, the results show that goal setting alone did enhance performance without formal feedback but when self-generated plus supervisory-generated feedback was added, the performance improvement was greater.

These studies tend to imply that feedback of information is independent of any other factors in the goal setting process and ignore the possible effect which the activity of feeding back information has on the superior / subordinate relationship. In cases where the feedback is generated by the superior, as in the study carried out by Kim and Hammer (1976), it is likely that the introduction of a feedback system leads to an increase in the interaction between the superior and the subordinate. This possible change in the level of interaction means that supervisory supportiveness and participation in decision-making are factors which could affect performance through feedback. In addition, both feedback and increased supervisor / subordinate interaction probably introduce a learning process which could have a positive effect on performance.

69

2.4.3 Incentives

Latham and Locke (1975) carried out a correlational field study with wood harvesting crews (N = 379) where the criterion used for goal setting was output per man-hour. In the summer months the timber mills were often over-supplied with timber and had to introduce quotas with the result that if producers could not meet their quotas in time or could not supply on specific days during the week, they could possibly lose income. There was therefore pressure on them to cut and deliver timber as quickly as possible.

The records were reviewed and it was found that the output per man-hour of the crews who worked on quota systems was significantly greater than those who did not. Since all the crews were on piece rate incentive schemes, these authors conclude that the results support Taylor's view "that piece work incentive systems which are based on reaching a specific hard task or goal yield higher output than piece rate systems not tied to such goals". They state furthermore that, "completing the work in fewer days would not only allow more leisure time (and a chance to earn extra money in other jobs), but could reduce costs through lowered fuel and maintenance expenses. Recruiting might also be less difficult, and turnover and absenteeism might drop. The above applications need not, of course, be confined to the logging industry"

2.4.4 Group Goals, Feedback and Incentives.

Pritchard, Jones, Roth, Steubing and Ekeberg (1988) carried out a relatively long term (23 months) study to determine the "effects of group feedback, goal setting, and incentives on organisational productivity". This study was carried out at an airforce base in the United States and involved employees in the communications and navigation department as well as the material storage and distribution (MS&D) branch. The former was a maintenance section which repaired electronic equipment and the latter involved the receiving, storage, issue, collection and delivery of stores items and the inspection of these items.

These authors designed a new method of measuring productivity which they termed the,

"Productivity Measurement and Enhancement System" (ProMES). In effect, this system establishes standards of performance in such a way that they can be directly compared across different types of operations. Examples of the "indicators" are :

* Percentage of repair demand met.
* Percentage of items that did not function on installation.
* Number of units awaiting maintenance.
* Number of aircraft parts that had not been inspected by the end of the day.
* Time taken to receive materials.
* Time taken to issue materials.
* Time taken to collect and deliver goods and materials.

The procedure followed was initially to implement the measurement systems and to establish a baseline of performance. This initial stage lasted 8 months for the MS & D Branch and 9 months for the Maintenance Branch. Thereafter, feedback was given to the employees in each unit and consisted of computer-generated reports which were provided monthly. This feedback period lasted for 5 months after which goals were established and added to the feedback for a further period of 5 months. Finally, an incentive scheme was introduced and added to the feedback and goal setting in each unit for another 5 months. Goals were established on a participative basis involving both the incumbents and supervisors and were reviewed on a monthly basis after the feedback reports had been issued. The incentive was also chosen on a participative basis and it was decided that time off would be given to employees in each unit when that unit achieved specified levels of productivity. In other words, incentives were earned at specified levels of productivity.

These authors comment that management and employee attitudes towards the system were initially very mixed but once the system had been developed, they were very positive. For example, managers requested that the system be installed in other units of the organisation.

As regards productivity levels achieved in this programme, there was an improvement of 50% over baseline productivity during the feedback phase, a further 25% improvement during the goal setting phase but only a 1% additional improvement during the incentive phase. Furthermore, the high level of productivity achieved by the COMM/NAV department lasted for at least another 10 months after the research team left. However, the system lasted only 5 months in the MS & D branch after the researchers left mainly because a recently appointed manager allowed the system to discontinue. The authors conclude that goal setting added to feedback but that incentives did not make a significant contribution to productivity improvement. The reason for the lack of any significant effect by incentives could be that the level of performance achieved by goal setting and feedback had reached a level which was difficult to improve on. However, they acknowledged that "adding feedback could easily have lead to informal goal setting and probably did" which supports the theory that feedback improves performance through goal setting.

2.4.5 Participation.

In 1.4 above it was mentioned that the Committee for Economic Affairs recommended that organisations should adopt a participative management style and that goals should be negotiated between workers and managers. However, there is substantial evidence which indicates that the assignment of goals by management is as effective as participative goal setting under certain circumstances.

One study which investigated the effect of assigned goals versus participatively set goals was that carried out by Latham and Yukl (1975). They conducted a field study to determine the effects of assigned versus participative goal setting when applied to educated and uneducated groups of logging crews. Twenty-four educationally disadvantaged crews with an average education of 7,2 years and 24 crews with an average education of 12,9 years were assigned to a do-best, assigned or participative goal condition over a period of 8 weeks. It was found that the participative goal setting condition for the educationally disadvantaged workers resulted in significantly higher levels of performance than the other goal conditions.

This study has reference to South African labour as the majority also have a low level of education but there are probably many differences between this labour force in the United States and South African labour which could mean that these findings are not valid for the South African labour situation. Latham and Yukl point out that they did not control for variations in levels of mechanisation amongst the crews nor for varying site and tree conditions so these results therefore have to be treated with caution.

Latham and Yukl (1976) conducted a ten week study involving 41 typists to determine the effects of assigned versus participative goal setting on performance and job satisfaction. Twenty typists were in the participative goal setting condition and 21 typists were in the assigned goal conditions. The criterion for productivity was the weighted sum of the lines typed during the week divided by the number of hours worked. The output was weighted in order to reflect differences in the difficulty level of the typing jobs. The results show that significant productivity improvement did occur in both goal setting conditions during the last five weeks of the study and that there was no significant difference between the performances of typists in the participative goal setting group as opposed to the assigned goal setting group. However, it was found that job satisfaction declined slightly in both goal setting conditions. The authors point out that the lack of productivity improvement in the first five weeks of the study was probably because the company had frozen all vacancies and the typists were worried about losing their jobs. After the first five weeks they felt more secure because there had been no layoffs in the company and it had been made clear to them that they would not be adversely affected by the programme. It was found that at this stage commitment to the goals increased as did output levels. They point out that this explanation of what occurred is consistent with the finding by Oldham (1975) that higher levels of performance were obtained from subjects who perceived their supervisor to be dependable and trustworthy. This finding is also consistent with Orpen's proposition that the lack of trust between black workers in South Africa and white managers will make it very difficult to motivate the workers to improve productivity (Orpen, 1977).

Yukl and Latham (1978) also carried out a field study involving 41 typists who were allocated to two goal conditions i.e. assigned goals and participative goal setting. Their

73

performance was measured in terms of lines typed per hour and per week. In order to determine the level of goal difficulty, their pre-goal setting performance levels were determined and used as a basis for setting goals. In addition to this, measures were developed for goal acceptance, goal instrumentality, self-esteem, need for independence, need for achievement and internal-external locus of control. The main findings of this study were that:

- Difficult goals led to higher performance levels than easy goals.
- The higher the level of performance prior to goal setting, the higher the goal which was set for subsequent performance.
- There was a tendency when participative goals were set, for people with high need for achievement and an internal control orientation to set more difficult goals.
- People with high self-esteem tended to achieve greater performance improvements with goal setting.

Latham, Mitchell and Dossett (1978) carried out a study involving 76 engineers and scientists who were involved in either participating in the setting of goals or were assigned a specific behavioural goal during their performance appraisal. In this case, participative goal setting was found to result in the setting of more difficult goals than where goals were assigned. The authors point out, however, that the subjects' perceptions of goal difficulty were not significantly different in the two conditions.

They also maintain that "the importance of employee participation in goal setting remains equivocal". They point out that participation can contribute to increased performance through influencing goal difficulty but, on the other hand, goal specificity and goal acceptance can be achieved equally well by assigning goals.

These authors overlooked the possibility that one reason for these inconclusive results could be the way in which participation is operationalised. The studies vary in the way they have sought participation which may well be a major factor contributing to the variations in the results. More details should be given in the studies about how

participation was obtained so that more detailed analyses and more accurate conclusions can be drawn. In addition, more information is required on the extent to which task complexity affects the participation process. For example, participation in setting goals in the relatively routine task of typing might not influence performance as much as where a complex managerial task is involved.

In order to further investigate the effects of assigned versus participatively set goals Dossett, Latham and Mitchell (1979) carried out a study in which goal difficulty was held constant. Sixty clerical personnel were assigned to participative, assigned and do best goal conditions on a clerical test involving simple addition and subtraction tasks. The learning effect was eliminated by the simplicity of the task and the goal conditions were held constant or controlled by initially establishing the participative goals and then assigning goals which were equal to those. The method of participation was to initially allow the subjects to set their own goals individually after which they were discussed with the test administrator and adjusted to ensure that the goal would be difficult but attainable. (The question arises here as to whether this is participation or manipulation). The results show that with goal difficulty held constant, there was no significant difference in the performances achieved by the individuals in the assigned goal and participative goal conditions.

They then carried out a second study using performance appraisals as a technique to set goals. Over an 8 month period it was shown that assigned goals resulted in higher levels of performance and goal acceptance than did participatively set goals. Dossett et al. suggest that the reason for this might be that since the subjects were older women who had long service in the company, they were "conditioned" to working with assigned goals and that they tended to place more importance on goals assigned by management because of their respect for authority.

In summary, these authors state that "these results suggest that when goal difficulty is held constant, assigned goals can be as effective, if not more effective than participatively set goals".

2.4.6   Satisfaction.

Umstot, Bell and Mitchell (1976) conducted a study to determine the comparative effects of job enrichment and goal setting on job satisfaction and productivity with clerical workers.   The job was enriched by providing the workers in the enrichment group with a high level of choice in terms of the methods which they could use and which specific tasks they could perform.   In addition, they were provided with background information about the job to make it more meaningful.   The non-enrichment group was not provided with such choice or information.   Both these groups were then divided further into assigned goal and non-goal groups.

The results of this study show that job enrichment had a major impact on job satisfaction but very little effect on productivity.   On the other hand, goal setting had a major impact on productivity with less of an impact on satisfaction.   The second part of the study involved swopping the individual workers from enriched jobs to non-enriched jobs and from goal conditions to non-goal conditions and the results were confirmed.

Ivancevich (1976) conducted a field experiment involving 122 sales people to investigate the effects of goal setting on performance and job satisfaction.   The sales people were divided into 3 groups each with a goal setting condition i.e. participative, assigned and no goals and the first 2 groups were trained in goal setting.   Performance and satisfaction were measured prior to training to provide a base line and then 6 months, 9 months and 12 months after training.   Significant improvements in performance and job satisfaction were found for both the participative and assigned goal setting groups in terms of both performance and satisfaction.   These improvements lasted for about 9 months but were not evident 12 months after training.   This study supports the proposition that it is not so important how goals are set but that they are in fact set.   It also shows that the effects of goal setting tend to deteriorate over time which implies that goal setting interventions in organisations should be repeated from time to time. If one presumes a steady deterioration over a year then it seems reasonable to propose that repeat interventions should be carried out at least once a year to maintain the improvements which have been achieved.

2.4.8 Summary of Research Findings

The field studies carried out into goal setting predictably have not been as controlled as the laboratory studies but have supported the findings of the latter to a large extent.

For example, the field studies have supported the findings of the laboratory studies that goals plus feedback result in improved performance in the workplace on condition that the goals are accepted (Latham & Kinne, 1974; Latham & Baldes, 1975; Kim & Hammer, 1976; Latham & Yukl, 1976; Komaki et al., 1980; Chhokar & Wallin, 1984; Pritchard et al., 1988). The source of the feedback was shown by Kim and Hammer (1976) to influence performance in that the best results were obtained where feedback generated by the employees was combined with feedback generated by management.

Management and supervisory support have proved to be very important in the successful implementation of goal setting programmes (Ronan et al., 1973; Latham & Baldes, 1975; Pritchard et al., 1988; Latham & Yukl, 1976). This support is necessary to help subordinates to focus on their goals and to overcome obstacles as well as to ensure that measurement and feedback systems are properly implemented and maintained.

Incentives were found by Terborg (1976) to act independently of goals, i.e. incentives did not encourage the setting of goals. However, where goals are combined with incentives, especially when the piece rate system was used, there was a significant improvement in performance. This was supported by the study carried out by Latham and Locke (1975). Pritchard et al. (1988) show that incentives had very little effect on performance but it should be kept in mind that in their study incentives were applied when performance was already at a high level which was probably difficult to improve on.

The studies, outlined above, on participation in goal setting generally show that the assigned goals are as effective as participatively set goals provided that the employees are aware of how the goals have been set and why they have been set at the specified level which supports the "tell and sell" method of goal setting advocated by Locke and Latham (1984).

Yukl and Latham (1978) found that high levels of self esteem correlated significantly with performance levels. This was supported to a certain extent by the study carried out by Hollenbeck and Williams (1987) who found that self focus affected the level at which goals were set.

The studies have shown contradictory findings on the effect which goal setting has on satisfaction. For example, Latham and Yukl (1976) found in their study with typists that satisfaction decreased when goal setting was introduced but it was explained that this could have been due to their feelings of job insecurity resulting from recent redundancies. On the other hand, Ivancevich (1976) found that participatively set and assigned goals both led to increased satisfaction.

Locke and Latham (1990: 243) point out that experimental field studies have not been conclusive in their findings about the relationship between goal setting and job satisfaction probably because of the different research techniques used. On the other hand, they maintain that correlational field studies have consistently shown positive relationships between job satisfaction and various positive aspects of goal setting such as goal specificity, participation, management support, feedback, rewards and the increased level of communication between management and workers. They conclude that, "Goal setting enhances satisfaction when it leads to or is associated with attributes or conditions of the job that are generally valued, and it undermines satisfaction when it leads to or is associated with the absence of these factors or the presence of disvalued job attributes."

The level of goals set by people was found by Hollenbeck and Williams (1987) to have a strong relationship with past performance, probably through their self efficacy.

It can be seen that there is a high level of agreement between the findings of the laboratory studies and those of the field studies, i.e. the former have a high level of external validity which means that the laboratory findings should be taken seriously when designing and implementing goal setting programmes in practice.

2.5 META-ANALYSES.

The above brief review of selected laboratory and field studies has served to illustrate the nature and scope of some of the well quoted studies as well as the techniques used in goal setting. There have, however, been hundreds more of these studies carried out and the findings of the following meta-analyses are outlined here to provide a more complete picture of the results of goal setting research.

2.5.1 Locke, Shaw, Saari, and Latham (1981)

Locke, Shaw, Saari and Latham (1981) conducted a meta-analysis in which they found that of the 110 laboratory and field studies which they reviewed, 99 (90%) had results which showed a positive correlation between specific, challenging goals and level of performance. However, the extent of the correlations varied substantially and these authors found that individual differences in ability, the extent of feedback of information relating to progress towards the goal, rewards (such as money), the supportiveness of the experimenter or manager and the extent of acceptance of assigned goals all play a part in explaining the variations in the effectiveness of goal setting. In addition, no significant correlations were found between individual differences such as personality traits and the effects of goal setting. This is attributed to almost exclusive use in the studies of assigned goals as opposed to self set goals or goals arrived at through participation. They conclude that need for achievement and self-esteem were likely to be the "most promising individual difference variables".

The studies analyzed by them appeared not to have investigated the effect of self-efficacy which falls into the category of "individual differences". If such studies were included, (e.g. Bandura 1977; Locke et al.,1984; Bandura & Cervone, 1986) they would have found that self-efficacy does play an important role in the goal setting process. Locke et al.'s review is nevertheless very comprehensive and also identifies goal specificity, the direction of attention resulting from goal setting, persistence, strategy development, commitment and goal choice as being important factors. In highlighting the various determinants, this study lays the foundation for the "High Performance Cycle" to be

developed later by Locke and Latham (1990).

2.5.2   Tubbs (1986)

Tubbs (1986) reports on a meta-analysis which he carried out on 87 studies, which he considered to be well controlled, to estimate the amount of empirical support for the major postulates of goal theory as outlined by Locke (1968) and Locke, Shaw, Saari and Latham (1981). Using a statistical technique proposed by Hunter et al. (1982) to control for variations in the studies, he found that there was general support "for three of the major goal setting propositions: goal difficulty, goal specificity, and participation in the goal setting process". (i.e. participation has no effect). However, Tubbs' analysis shows that studies based on self reports from the subjects were not as reliable as more direct measures. He concludes that studies using these different approaches should therefore be classified separately and that, "Although survey methodology has provided the opportunity for many of the large-scale industrial applications of goal setting, the trend towards less supportive findings should be kept in mind".

2.5.3   Mento, Steel and Karren (1987)

Mento, Steel and Karren (1987) conducted a meta-analytic study of research conducted between 1966 and 1984 on the relationship between goal setting variables and task performance. Two main groups of studies were analyzed, those which compared the effect of difficult goals with that of easy goals and those which compared specific and difficult goals with general, "do-best" goals, or no goals.   In their introduction they referred to an analysis of the results of field studies carried out by Locke, Feren, McCaled, Shaw and Denny (1980) which showed that where goal setting was combined with a wide variety of incentives, an average improvement of 46% in productivity was obtained, and an average of 16% improvement in productivity where goal setting was applied without incentives.

Mento et al. used the same statistical technique used by Tubbs et al., to determine the magnitude of the goal difficulty and goal specificity to performance relationships as

aggregated across all the studies. In addition, they used multiple regression analysis to determine the potential moderating effects of the study setting (laboratory or field), the type of study (experimental or correlational), level of education, feedback and incentives. As part of their study, they carried out an analysis of 6 studies using a different technique to investigate the effects of feedback and participation in goal setting where specific, difficult goals had been set.

The results of these analyses show that goal difficulty and goal specificity were strongly related to task performance across a wide variety of tasks and both laboratory and field settings. According to Mento et al., "if there is ever to be a viable candidate from the organisational sciences for elevation to the lofty status of scientific law of nature, then the relationships between goal difficulty, specificity / difficulty, and past performance are most worthy of serious consideration". Furthermore, they show that the goal difficulty and goal specificity effects were stable across the type of study (experimental or correlational), the educational level of the subjects and differing feedback and incentive conditions. They also show that there was no significant difference in the effect of goal setting in the laboratory and field experiments which supports the claim that the findings of laboratory experiments on goal setting generally have external validity.

The results from the supplemental analysis strongly support coupling feedback with specific, difficult goals. According to them, "both knowledge and motivation, it would seem, are necessary for enhanced performance". In this analysis the results of 2 of the 6 studies show that assigned goals were more effective than participative goals. However, the results of the other 4 studies show that participatively set goals were more effective than assigned goals. The authors found that the effectiveness of participatively set goals versus assigned goals was inconclusive and that more research needed to be done in this regard.

As a by-product of the analyses, Mento et al. calculated that the improved performance obtained from setting difficult goals was equivalent to a productivity increase of 11,6 % and for goal specificity the improvement was equivalent to an increase in productivity of 8,9 %. In addition, they found that when specific, difficult goals were combined with

feedback, the improvement in performance equated to a 17,5 % increase in productivity.

2.5.4 Wright (1990)

Wright (1990) examined the way in which goal difficulty was operationalised in the studies analyzed by Mento et al., i.e. the way in which the studies were carried out in terms of whether the goals were assigned, self-set or based on performance improvement. He found that 26% of the variance in the effect sizes was accounted for by the differences in the research methods.

2.6 Locke and Latham's High Performance Cycle

Locke and Latham (1990) present a model which, according to them, illustrates the findings of goal setting research in terms of the roles played by the various factors in the goal setting process. This model not only helps to summarise the mass of research information available but also provides a basis for further research.

Locke and Latham (1990) maintain that when people explain their behaviour they generally introspect and attribute the behaviour to some purpose which they have. While acknowledging that subconscious needs, desires and drives play a part in motivation, these authors concentrate on the conscious or cognitive processes, "In purposeful action, it is the individual's idea of and desire for the goal or end that causes action. The idea serves as the efficient cause, but the action is aimed toward a future state". They are influenced by the model developed by Locke and Henne (1986) and outlined in 1.6 above, that there are three levels at which human action can be explained: goals and intentions at the first level, motives or values at the second, and needs at the third. The domain of goal setting theory is confined mainly to the first level of explanation but goes into the second (values) to a certain extent. Cognitive factors, especially feedback and expectancy / self-efficacy and, to an increasing degree, task strategies, play a major role in the theory.

82

FIGURE 3

The High Performance Cycle.

Moderators
Ability
Commitment
Feedback
Task Complexity
Situational Constraints

Rewards
Non-contingent Rewards

Demands
Challenge,
high goals on meaningful, growth-facilitating tasks or series of tasks
plus
high self-efficacy

Performance (hard or soft measures)

Contingent Rewards (Internal, external)

Satisfaction

Mediators
Direction
Effort
Persistence
Task Specific Strategies

Consequences
Commitment to organization and willingness to accept future challenges

Locke and Latham (1990: 253)

The Demands

According to Locke and Latham, the model starts with demands being made on the individual in the form of goals. These goals can be assigned by others, set through management / worker participation, or set by the worker (self-set goals). If the goals are difficult, i.e. challenging to the individual, the probability that they will result in a high level of performance is increased.

83

Locke and Latham indicate in their model that tasks should be meaningful and growth-facilitating which implies that jobs should be enriched. They do not elaborate on this aspect and it appears that they have bowed to Herzberg's theory in this instance or at least to the concept of job enrichment. It was pointed out in Chapter 1 that while there is no conclusive evidence that Herzberg's theory is valid, positive results have been achieved with the application of job enrichment programmes but this could be the result of providing feedback which encourages people to set their own goals. It is doubtful, therefore, whether the inclusion of job enrichment concepts in the goal setting process is fully justified. In terms of the findings of goal setting research, the concept of meaning should rather be related to the goal in this model because unless the worker understands why the goal needs to be set and achieved, it is unlikely that s/he will accept the goal and be committed to it. Management therefore need to explain the purpose of any goal setting exercise and this will also assist in gaining the acceptance of the goal and commitment to it.

Self-efficacy is seen as a demand because the higher the self-efficacy, the greater are the self-imposed demands on the individual, i.e. the higher the goals which are set or accepted.

The model is incomplete as it does not take into consideration the specificity of goals although this aspect has been shown to be critical in the goal setting process. The research has shown that goals should be stated in specific, quantifiable terms rather than in general or "do your best" terms. This aspect should therefore be introduced as a characteristic of the goal much as goal difficulty is. The demands should therefore be stated as "high, specific goals on meaningful, growth-facilitating tasks."

The Moderators

Ability, commitment, feedback, task complexity and situational constraints have the effect of limiting the improvement in performance which can be brought about by goal setting. Essentially, the higher the levels of ability, commitment and feedback, and the lower the levels of task complexity and situational constraints, the greater will be the effect on

performance of goal setting.

It is not clear whether Locke and Latham refer to ability as an innate potential to perform at a certain level given the required training or as a level of competence which can be improved by training. However, it probably refers to both.

According to goal setting theory, an individual's ability to perform a task will provide an upper limit at which performance will level off. The level of ability will also influence a person's self-efficacy and the level of self-set goals in that the higher the person's ability, the higher the level of self-efficacy and the higher the level of goals set.

The level of commitment to the achievement of the goal also limits the level of performance. When commitment is low, difficult goals will not lead to improved performance. Locke and Latham (1990: 257) point out that when goals are assigned by superiors who are seen to possess legitimate power or authority, high levels of commitment are usually achieved. Hollenbeck, Williams and Klein (1989) found that publicness, i.e. making goals known to others, also increased the commitment of the worker to the goal.

Feedback has been conclusively shown to play a very important role in the goal setting process and is a moderator to the extent that if feedback of results is not received by the worker, the effect of goal setting is minimised. Feedback must therefore he regarded as an integral part of the goal setting process. Locke and Latham (1990: 259) maintain that

"The joint benefit of goals and feedback is attributable to their fulfilling different but crucial functions: goals direct and energise action, while KR (knowledge of results) allows the tracking of progress in relation to the goal."

Task complexity moderates performance as research has shown that the more complex the task, the less effect goal setting will have on performance and this is attributed to the increased complexity of the task strategies which have to be adopted (Campbell & Ilgen, 1976; Huber, 1985). However, task complexity or difficulty should be seen from the point of view of the worker because what is difficult to one person may be easy to another. In addition, training will help workers who find tasks difficult to cope with

them after which goal setting should be more effective.

Situational constraints refer to constraints in the work place such as faulty equipment, low quality raw materials, poor layout of the work area and delays in the supply of inputs such as raw materials and component parts. In many instances they will not have any control over the constraints and they will impose definite limitations to performance. However, in some situations the workers may be able to overcome these constraints and, in effect, goal setting will stimulate them to do so.

The Mediators

These are "mechanisms by which goals actually affect performance", i.e. they describe typical behaviour patterns of a person when the "demands" and "moderators" are effective. Locke and Latham maintain that "virtually all individuals learn at an early age that they perform better on a task if they pay attention to it, exert effort on it, and persist at it over time than if they do not." The effect that goals have - especially specific goals - is to focus attention on the performance of the task and away from irrelevant activities, and by so doing, result in higher levels of performance. Generally people will apply more effort when the goal is difficult than when it is easy, but this depends on the extent of their commitment. Persistence, "which is really directed effort extended over time", is also highly dependant on commitment to the goal concerned.

Goals can affect performance indirectly through the development of effective task strategies. When confronted with difficult goals people tend to review existing methods and consider new methods of achieving them. As pointed out by these authors, one of the strategies which could be utilised when confronted with difficult output goals is to reduce quality. From a practical point of view, management must be aware of this possibility and ensure that quality goals are also set to at least maintain quality at an acceptable level.

Performance.

The model indicates that performance can be measured in terms of "hard" information or "soft" information. Hard measures are objective in that they can easily be seen, heard, touched etc. and are therefore generally more reliable than soft measures which are subjective and subject to personal biases, prejudices and standards. Examples of hard measures are; number of products produced per day, tons of product produced per day, and number of acres planted per day. Examples of soft measures are those which evaluate customer satisfaction in relation to services rendered and quality of products, company image, and the interpersonal relations of managers. These measures are usually in the form of some type of rating scale.

Rewards

Rewards have an important role to play in the High Performance Cycle because they can reinforce the motivational effects of challenging goals. If the performance is successful in terms of achieving the goal, it results in contingent rewards. Contingent rewards are those which have a direct relationship to the level of performance and are in the form of internal and external rewards. Internal rewards are psychological rewards which are experienced when a goal is achieved or substantial progress has been made towards the achievement of a goal and they include a sense of achievement, pride in accomplishment and feelings of success and efficacy. External rewards are those which emanate from sources external to the worker such as incentive payments, recognition, and promotion.

Non-contingent rewards are those which are not directly related to performance but are received as a result of holding a job such as monthly salary, fringe benefits and long service awards. Since they are not directly related to performance, they are not depicted in the model as being in the mainstream of the motivational process but are indirectly related to it in that they encourage the worker to remain with the organisation.

Satisfaction.

An important point regarding this model in relation to satisfaction is that the achievement of goals leads directly to satisfaction which differs from Herzberg's approach which maintains that job satisfaction leads to improved performance. However, it should be kept in mind that the two approaches refer to different types of satisfaction. Herzberg refers to job satisfaction while Locke and Latham refer to self-satisfaction.

Locke and Latham (1990) point out that Locke (1965c) found that high goals may lead to less-experienced satisfaction than low goals, since the former are attained less frequently. He concludes that the greater the number of successes experienced, the greater is the satisfaction which is in agreement with Mol's approach to goal setting (Mol 1990: 43). This is somewhat contradictory to the approach of setting difficult goals as it implies that in practice, it is important not to make goals difficult so that satisfaction can be experienced more frequently and thereby increase motivation.

However, Locke and Latham (1990: 232) point out that Lewin (1958) proposed that it is possible that workers can accept very difficult goals and will actively work towards them but in fact will be satisfied by a performance which meets or exceeds their personal standards which could be at a lower level than the goal. This satisfaction could be increased or reinforced when the goal is reached. In goal setting terminology, they state that individuals may have a minimum goal below which they would not like to perform and a maximum goal which they would like to achieve and satisfaction is experienced above the minimum goal level.

In addition, the dissatisfaction resulting from the non-achievement of a difficult goal could also motivate a person with a high level of self-efficacy. Therefore, the need to set moderate goals to ensure more frequent feelings of satisfaction is not justified in all situations.

The model does not explicitly refer to self-dissatisfaction as a motivator in the process as it is effective only when self-efficacy is high but it is explained by Locke and Latham

that it is an important determinant of performance and it should therefore probably be shown as a precursor to performance in the model.

Consequences

According to Locke and Latham, satisfaction has an indirect influence on performance which will occur only if the satisfaction leads to increased commitment to the organisation and a willingness to accept future challenges. (In addition, satisfaction will only lead to further performance if the factors which impact on motivation prior to performance are present and positive).

In summary, Locke and Latham (1990: 108) maintain that the research findings indicate that specific, challenging goals lead to higher performance than other types of goals because they:

"1. Are associated with higher self efficacy (whether the goals are assigned or self-set)

2. Require higher performance in order for the individual to feel a sense of self-satisfaction.

3. Entail less ambiguity about what constitutes high or good performance

4. Are typically more instrumental in bringing about valued outcomes

5. Lead individuals to expend more effort

6. Stimulate individuals to persist longer

7. Direct attention and action better, and activate previously automatized skills

8. Motivate individuals to search for suitable task strategies, to plan, and to utilize strategies that they have been taught."

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CHAPTER 3

THE IMPLEMENTATION OF GOAL SETTING PROGRAMMES.

3.1 The Identification of Productivity Problems.

Prior to the implementation of any productivity improvement programme it is important to determine whether a productivity problem in fact exists in the organisation and, if so, management should define the nature and the extent of the problem. Productivity improvement programmes are, after all, only the means to solve problems and are not ends in themselves. When this has been done, the decision can be taken regarding the type of programme which would be most appropriate.

If management cannot readily identify the productivity problems using their existing management information systems, productivity indices need to be developed for the organisation, standards set and actual productivity levels measured. The productivity problems sbould be defined by the difference between the actual productivity levels and the productivity standards set by management while the priorities should be determined by the implications of the problems to the organisation such as high costs or loss of income.

Productivity measurement not only helps to define the productivity problem in specific terms but also to set criteria for the measurement of employee performance. Examples of sophisticated methods of measuring productivity are the Resource Allocation Strategist (REALST) system marketed by the National Productivity Institute (NPI) and the ProMes system developed by Pritchard et al. (1988). However, organisations can also develop their own systems whereby they measure those aspects of performance which are important to the success of the organisation.

In 1.2 above it was pointed out that there are two types of productivity, efficiency productivity and effectiveness productivity. Management should, therefore, consider both aspects when trying to define the problem in the organisation. Productivity should be considered not only in terms of whether the resources of the organisation are being

105

utilised efficiently but also whether the overall objectives of the organisation are being met. This often involves defining or redefining these objectives before the extent to which they are being met can be determined and it is here that MBO is particularly useful. In essence, MBO necessitates that the outputs of the organisation as a whole as well as the parts of that organisation are defined, measured and assessed.

3.2 The Determination of Employee Dissatisfaction.

Once management have decided that productivity improvement is necessary and in which areas of the organisation it should occur, the appropriate method of improving productivity needs to be selected. As was pointed out in 1.5 above, there are a variety of methods which can be applied such as mechanisation, employee redundancies, training, method improvement and employee motivation programmes. Assuming that management come to the conclusion that productivity should be improved through improved employee motivation and performance, it is important to assess whether the organisation is suitable for the implementation of such programmes, especially in terms of employee attitudes, i.e. the extent to which job dissatisfaction exists in the organisation.

Mol (1990: 44) and Backer (1985: 43) point out that if there is a high level of employee dissatisfaction in the organisation, employee motivation programmes will probably not be successful. They stress that management should try to eliminate dissatisfaction resulting from defective hygiene factors as much as possible within financial and resource constraints to facilitate the implementation of motivational techniques. Locke and Latham (1984, 1990) ignore this aspect as do the proponents of MBO, Odiorne, Humble and Reddin. Drucker (1965: 296) states that satisfaction is "inadequate as motivation" and that dissatisfaction could cause an employee to resign or to become bitter and move into opposition to the company and to management. However, in this publication, he does not stress the need to reduce dissatisfaction in order to facilitate the motivational effect of challenging goals.

One way to determine whether dissatisfaction exists in the organisation is to carry out

an attitude survey. If the survey indicates that employee attitudes are positive towards the organisation, management, and working conditions, it can be assumed that there is a reasonable chance that a motivational programme such as goal setting will be effective. However, if the attitudes are negative, i.e. there is a level of dissatisfaction, then the reasons for the dissatisfaction should be investigated first and the necessary action taken to reduce it before a motivational programme is introduced.

3.3   The Systems Approach and Goal Setting

It was pointed out in 2.1 above that the practical path in the development of goal setting theory relates to the practice of Management by Objectives which concentrates mainly on managers' outputs and the setting of objectives in output terms. According to Odiorne (1979: 42), "The major impetus for making MBO as widespread as it is today .... has been the rise, even the ascendancy, of the systems approach." He goes on to add, "management by objectives is a system that begins by defining outputs and then applies these output statements as criteria to judge the quality of activity (behaviour) and to govern the release and effectiveness of the inputs." While the application of goal setting in practice essentially takes an MBO approach, the setting of goals in output terms is not explained clearly in the goal setting literature and therefore needs elaboration.

Systems theory maintains that any organism or organisation can be regarded as a system which has the overall objective of surviving and developing. The system has inputs which it converts through a transformation process (or series of activities) into outputs and in order for it to survive and develop it needs feedback of tangibles (such as money) or of information. Within the system are various elements or subsystems working together to convert the inputs into outputs. These subsystems operate in such a way as to provide inputs to each other so that the total system operates effectively. Furthermore, most systems are open systems in that they interact dynamically with the environment, i.e. they not only adjust to the changing demands of the environment but also influence and change the environment through their interaction with it.

As an example, if we apply this concept to a manufacturing organisation, the inputs are

107

raw materials, money, manpower, management, information (such as technical information and customer requirements), and machinery. The outputs are the products, and services supplied to the customers. The conversion processes are all those activities involved in the production and delivery of the outputs.

Feedback to the organisation comes in a variety of forms and from a variety of sources. It includes money (revenue) and information from the market place about the products. This feedback is critical to the survival of the system as without money being generated, the organisation would become bankrupt and without timeous information, management would not be able to react quickly enough to changing circumstances. Examples of information fed back to the organisation are customer complaints, information about products returned by customers, sales volumes and product shelf life. In order to evaluate the degree of success (or failure) of an organisation, management must compare the information fed back to them against set goals such as forecast sales volumes and revenues.

The various departments or divisions within an organisation can be regarded as subsystems each with their inputs from and outputs to other departments. Furthermore, the departments also consist of elements which consist of individual employees or teams of employees. Each employee can be regarded as a system as well, not only from a biological, but also from a work point of view in that they are expected to produce certain outputs from the inputs provided.

As with the whole organisation, the departments and individual workers require feedback and standards to monitor their performance and to maintain their effectiveness. From an individual employee's viewpoint, it is important to define clearly the expected outputs, the standards or goals against which those outputs will be evaluated and to provide feedback to facilitate ongoing evaluation. The necessary inputs in terms of tools, equipment, materials, information and training must also be provided if employees are to achieve the set goals.

While the primary goal or objective of an organisation is to survive, there are many other

purposes for the existence of organisations. They might exist to provide a service to society, to satisfy the interests of their members or, as most businesses do, to make profits through the satisfaction of customer demands. Nevertheless, all organisations produce (or should produce) outputs. In business organisations, the outputs are products and/or services which must be supplied at the required quality, quantity, price and time in order to satisfy customer demands. The organisational system therefore does not start with the inputs or the process but with customer demands and then obtains inputs and processes them in order to provide outputs which meet those demands.

This systems approach applies equally to the various departments and individuals within the organisation. The outputs from a department or an individual employee form the inputs to other individuals and departments and should comply with their requirements. Those departments and individuals who receive the products and services can be regarded as the "internal customers" or "users" of the supplying department. For example, the finished goods warehouse is the customer of the production department which in turn is the customer of the engineering, personnel and administration departments as well as the department supplying the raw materials. Although the engineering, personnel and administration departments do not necessarily provide physical outputs in terms of raw materials and products, they do provide services which must meet with the requirements of the user department.

According to Odiorne (1979: 44), the problem in many organisations, is that the employees, including management, "are caught in the activity trap" - they become obsessed with the processes, i.e. the work methods or techniques. They lose sight of the objectives (or perhaps never had sight of them) and concentrate on performing the task as efficiently as possible. While efficiency is obviously important, if the employees do not contribute towards the overall objectives of the organisation (i.e. are not effective), it is feasible that increased efficiency could be to the detriment of the company. For example, increased production efficiency could result in increased stocks of finished goods which are not in demand and therefore will not be sold. (It will be recalled that the Committee for Economic Affairs referred to in 1.2 stressed the importance of meeting customer demands when they explained the concept of effectiveness).

As a further example, an accounting department could be very efficient at producing reports but if this information is not required and used by management it is ineffective in that it is merely costing the company money and is not contributing to its objectives.

3.4   The Application of Management by Objectives.

Humble (1970: 4) lists the steps involved in implementing an MBO programme as follows:

* State the company's strategic and tactical plans.
* Clarify each manager's key results and performance standards.
* Agree on a job improvement plan for each manager.
* Develop an organisation structure which provides managers maximum freedom and flexibility to operate.
* Provide management control information [feedback] in a form, and at a frequency which makes for more effective self-control and better and quicker decisions.
* Use systematic performance reviews to measure and discuss progress towards results.
* Develop management training plans.
* Develop effective selection, salary and succession plans.

It can be seen from these steps that MBO is a top-down approach which concentrates mainly on management effectiveness and presumes that managers will ensure the effectiveness of the workers under their control. On the other hand, goal setting is an approach to managing worker effectiveness which can be integrated with an existing MBO programme. Another way of looking at it is that goal setting provides a means of extending MBO throughout the organisation.

It was mentioned in 2.1 above that probably the main contribution which MBO has made to goal setting is the development of performance criteria and indices for setting goals and evaluating performance. These two aspects will therefore be dealt with here in some detail.

In the first instance, the outputs of an individual worker or department have to be determined and these are either in the form of products or services. Secondly, criteria and indices have to be established according to which performance is to be measured. Measurement methods or procedures must then be installed to provide feedback on performance. For example, the output of the pulpwood workers mentioned in the studies carried out by Latham and Baldes (1975), was cut timber and the criterion against which they were measured was truck utilisation. The index applied was the number of tons of timber loaded on each truck expressed as a percentage of legal truck net weight. The goal was to obtain 94% of truck utilisation.

Another example is provided by the study carried out by Yukl and Latham (1978) on typists. In this study, the outputs of the typists were defined as typed words and the criterion used was the number of lines of typing. The index applied was the number of lines of typing per hour or per week. In this case, a series of goals were set ranging from easy to difficult.

In general, performance indices relate to four main categories: quality of work, quantity of work, time taken to carry out the work and costs. For example, in the Pritchard et al. study outlined in 2.4.4 above some of the indices used were; percentage of repair demand met, number of units awaiting maintenance, time taken to receive materials, number of parts not inspected each day and time taken to issue materials. These indices were mainly related to the quantity of work and time taken to complete the work whereas an index related to quality of work was the percentage of items that did not function on installation. However, it can be seen that the last index is expressed in quantitative terms which illustrates that quality of work can be measured in quantitative terms.

However, it is sometimes difficult to express the outputs of people who provide services in terms of units produced or not produced. Nevertheless, they do (or should) produce outputs which can be measured and which contribute to the success of the organisation. For example, a sweeper does not produce a product but is responsible for cleaning a certain area (say ten offices) in a specified time (say one day) and to a specified level

of cleanliness. Therefore the output of the cleaner can be expressed in terms of the area cleaned per day to a specified standard of cleanliness.

The problem now exists of measuring the degree of cleanliness. In some organisations where hygiene is critical, such as laboratories and food processing plants, swabs are taken from work surfaces and by using a microscope, the degree of contamination is measured by counting the number of undesirable microbes per square centimetre. This would be the ultimate measure of cleanliness which is highly quantifiable but in most applications that high degree of cleanliness is not required and can be adequately assessed by normal observation. In this type of situation specific criteria need to be established according to which cleanliness will be assessed. For example, criteria for cleaning offices could be the degree of shine on the floors, the amount of litter on the floors and the extent to which walls are marked (dirty). The goal could be to ensure that floors should shine brightly at all times, there will be no litter on the floors and there will be no dirt marks on the walls. If the cleaners were assessed on these criteria on a scale of 1 to 10 and they achieved this goal at all times they would be rated at 10 out of 10. However, since it is virtually impossible for the cleaners to achieve this very high level of performance constantly, a rating of 8 out of 10 might be considered difficult to achieve, acceptable to the workers and satisfactory to management. Therefore, a goal of achieving 8 out of 10 might be set for the cleaners. An example of this approach was that used by Kim and Hammer (1976) where a subjective or soft measure of foreman ratings of quality of service was used. With the general criterion of cleanliness, there were ten items for each area of work such as floors, washrooms and grounds and the goal set was 83 points out of 100 on the rating scale.

While supervisor ratings are often used to evaluate performance, they are sometimes inaccurate because of rating errors such as central tendency, personal bias and varying personal standards of the raters. In order to improve on the objectivity of evaluation, other methods can be used in conjunction with or in place of supervisor ratings. One method which can be used is to request the customers or users of the service to evaluate the service as they are primarily interested in the outputs delivered and not in the process used. (This approach was mentioned by the President's Council's Committee for

112

Economic Affairs (1989: 7) who pointed out that the best way to achieve a profit is to ensure customer satisfaction). A simple example of this would be to ask the people who use the service to rate its quality on a scale of 1 to 10 and if a sufficient number of users or customers evaluate the service, their combined evaluations should be reliable and valid.

This concept can also be used within an organisation where one department provides services to other departments. One of the main objectives of the service department would be the satisfaction of the user departments and their attitudes could also be measured on a rating scale.

3.5 Guidelines for Setting Goals in Practice.

Locke and Latham (1984: 27) list the following key steps in setting goals:

a) "Specify the general objective or tasks to be done".

According to Locke and Latham, it is necessary to decide on the main objectives of the job for which goals are to be set, such as reducing costs, increasing sales and improving customer service. Once this has been done the details of the tasks involved should be specified. In order to do this, they recommend that a job description framed either in output or behavioural terms should be drawn up, indicating the various tasks to be performed, the outcomes expected from the employee, deadlines to be met and to what extent the job is linked with other jobs in the organisation.

b) "Specify how the performance in question will be measured".

The measurement method should be related to the outcome specified such as the number of errors made by a typist and the number of trips made by truck drivers. Further examples related to the objectives mentioned in the first step are actual costs of production per month, the daily value of sales and customer ratings of the

service they receive.

Locke and Latham state that these "work outcomes" are measured in terms of quantity, time and money. The concept of quality is included in that of quantity as it is measured in terms of the number or errors or rejects. However, with some jobs it is difficult to measure individual output either because the implementation of measurement systems would be too expensive or because the outcomes involve an integrated team effort. In such cases team or departmental outputs must be defined and measured.

c)   "Specify the standard or target to be reached"

They use the terms standard, target and goals synonymously which could lead to confusion. This author regards a standard of performance as a norm which has been established over time and a goal can be set at a level which is higher, lower or equal to the standard. Locke and Latham point out that where work study standards exist, they can be used as a basis for establishing goals for employees but where such standards do not been exist, it might be advisable to use their previous performance levels as a basis for establishing standards and for setting goals. In addition, standards can be set by external organisations (such as the South African Bureau of Standards).

According to Locke and Latham, once the measurement method has been determined, specific goals for each type of output or behaviour must be specified. For example, "producing 60 units per hour, attaining a 1% lower reject rate, completing the project by May 1, answering all customer queries within 24 hours, increasing profits by 10%, increasing sales by 25%, cutting costs by 3% etc." If behavioural observation scales are used then a target score on the rating scale for each critical behaviour should be spelt out. For example, there might be ten critical behaviours in the performance of a job and the employee's performance can be rated on a scale of 1 to 10 for each of these behaviours. The maximum

114

score in this case would be 100 and the goal could be set to achieve a score of 90 out of 100. An example of this method was quoted in the field study carried out by Kim and Hammer, (1976). Locke and Latham make the point that the formulation of a goal in this way satisfies the criterion of specificity which is important in setting goals. However, it should be kept in mind that a high level of specificity does not necessarily mean a high level of objectivity and in some cases steps need to be taken to ensure a satisfactory level of objectivity.

Whereas goal setting research indicates that goals should be set at levels which are challenging to the employee, Locke and Latham recommend that the average performance level achieved previously by the employees should be established as their goal as they are likely to accept this level. They state, "most employees consider their average previous performance (or that of the group or plant) to be a fair and reasonable goal. There is the chance that such a goal will be less than maximally challenging, but this may be more than offset by its ready acceptance" (Locke & Latham, 1984: 31). In situations where goals are being set for new jobs or where no previous record has been maintained, Locke and Latham maintain "goal setting becomes a matter of judgement based on the best knowledge available". The judgement can be that of the superior or could be a joint decision made by both the superior or the subordinate.

Locke and Latham also state that some organisations have established MBO programmes, but that these programmes normally are only applicable to management in the organisation. They believe that this type of concept should be extended to non-supervisory personnel as well, i.e. a more integrated approach to MBO and goal setting.

d)   "Specify the time span involved".

It is important to spell out clearly the time limitation for the achievement of goals. For example, the production of 100 units per day or the completion of a

115

particular project or task by a certain date and time. Locke and Latham point out that as one progresses up the hierarchy of an organisation, the time spans tend to be more long term. However, where goal setting is applied to employees in the lower level of an organisation, the time spans are more likely to be short, i.e. weekly or daily.

e)   "Prioritize goals".

Where a number of goals exist it is important to ensure that employees understand and accept the priorities of these goals so that if there is any goal conflict or time restriction, they will automatically concentrate on the high priority goals.

f)   "Optional step: rate goals as to difficulty and importance".

Locke and Latham provide a simple formula which helps to quantify the goal levels in terms of difficulty and importance. Using a weighting for the factors of importance and difficulty it is possible to arrive at a final score for employee performance on each goal. According to them, this system has the advantage that where one employee has an easy goal, the achievement score will be lower than for an employee who has a difficult goal and these scores could then be used to develop some type of overall performance evaluation or as the basis for an incentive scheme. This system is similar to the ProMes system designed by Pritchard et al. (1988).

g)   "Determine co-ordination requirements".

It is possible that goals set for one individual or group of individuals might conflict with those set for other individuals or groups of individuals such as departments within an organisation. When goals are set throughout an organisation or in a number of its departments it is important to co-ordinate the goals to ensure that there are no conflicts which could have a negative effect on

the organisation. An example of goal conflict is where a sales department has the goal to sell 1 000 units per day and that of the production department is to produce 800 units per day.

The point is made that where group goals are set, it might be advisable to simultaneously establish individual goals for people within the group in order to eliminate the phenomenon called "social loafing". The method proposed is to use peer ratings on the performance of individual group members.

According to Mol (1990: 109), the process of goal setting consists of four steps:

a)   "Identifying the performance areas"

These "areas" are called key result areas by MBO practitioners and are those aspects of a job which are critical to its overall effectiveness and relate to the main outputs of the job. This step is therefore very similar to Locke and Latham's first step.

b)   "Agreeing on the yardsticks"

The term "yardsticks" was used by Drucker to denote the criteria according to which the performance of a worker should be determined such as costs, sales and customer satisfaction.
There is therefore an overlap between Mol's and Locke and Latham's second steps.

c)   "Establishing the historical performance levels"

This refers to the previous performance levels achieved by the workers and is usually expressed as the average performance over a period of time. This step is incorporated in Locke and Latham's third step of establishing targets.

117

d) "Agreeing on the goals"

> This step is the same as Locke and Latham's third step of setting targets
> but also includes their fourth step of specifying the time span involved.
> According to Mol, the time span is an integral part of a goal. For
> example, a goal statement "to reduce costs by 10%" is not complete unless
> a target date is stated.

Mol's four steps therefore generally coincide with Locke and Latham's first four steps but in their steps e, f, and g, Locke and Latham go into more detail than Mol in terms of dealing with multiple goals. However, the main difference in the two approaches to goal setting is that, while Locke and Latham recommend that goals be set at the level of the average previous performance, Mol recommends that goals be set at a higher level than the previous average so that productivity can be improved and not merely maintained.

Locke and Latham's approach to goal difficulty would be appropriate if the previous average level of performance was difficult to achieve and the objective of the goal setting exercise was to maintain an already high level of performance. However, if the previous average level of performance was relatively easy to achieve, the possible motivational effect of difficult goals would be lost and there would be no productivity improvement unless the assigned goal was rejected and higher personal goals were set. Rather than setting goals at levels which can be achieved relatively easily and are therefore acceptable to the workers, it would probably be more effective to concentrate on methods of gaining worker acceptance and commitment to difficult goals.

Drucker (1965: 298) maintains that average output figures should not be used to set standards as workers will tend to "consider the standard as normal" and good workers might feel that they should not outperform their coworkers or might lose respect for management for setting low standards. He advocates that workers be allowed to set their own objectives without reference to standards. According to him, the main guide to setting objectives should be the output levels expected of workers in terms of meeting

the organisational objectives.

In recommending their steps for setting goals, Locke and Latham and Mol appear to take for granted that the goals will be assigned but in practice, management might decide to negotiate the goals with the workers, to involve them in deciding on the level of the goals or to allow them to set their own goals. Nevertheless, while there is a general tendency towards worker participation in decision making, the studies have shown that assigning goals is effective in terms of gaining worker acceptance as long as the goals are "sold" to the workers and they trust the person conveying the goals. If management decide on the goals and assign them, management should ensure that the workers understand why the goals need to be set, why the goals are being set at the level decided (particularly if difficult goals are set) and what the organisation, and the workers will gain from the achievement of the goals.

Another aspect which must be considered prior to the implementation of the goals is whether group or individual goals should be set. It must be kept in mind that while performance must be measured, it is sometimes difficult to measure individual performance where people work in groups. In such cases it might be more practical and meaningful to the workers to set group goals and implement measurement methods which provide information about the performance of the group as a whole. According to Locke and Latham (1984: 37) and Mitchell and Silver (1990), the most effective way of setting goals for groups is to set both individual and group goals where it is possible but if this is done management must ensure that the individual goals are in agreement with the group (and organisational) goals.

3.6 The Application of the Findings of Goal Setting Research.

Locke and Latham's High Performance Cycle is not intended to be a comprehensive motivational model as it concentrates on the cognitive aspects of motivation and does not deal with needs and drives. It is rather a model which attempts to integrate the considerable findings of goal setting research and depicts most of the factors which should be taken into consideration when designing, implementing and evaluating a goal

119

setting programme. In this section the practical implications of the model will be briefly outlined.

a)   The Demands

Goal setting theory states that challenging goals should be set but there is some confusion as to how this should be applied in practice. As has been pointed out, Locke and Latham as well as Mol maintain that if goals are set at a difficult level, the level of satisfaction experienced on the achievement of the goal might be high but will possibly not be experienced often which could reduce the motivational effect of goals. They state that it might be more effective to set the goals at a moderate level in practice so that the workers experience less satisfaction more often which will possibly have a more beneficial effect. On the other hand, where people set minimum and maximum goals, this argument is not necessarily valid as in this case they will experience satisfaction above their minimum goal level.

The essence of goal setting theory is that, where goals are accepted, there is a linear relationship between goal difficulty and performance to the point where the upper level of ability is reached and at this point, performance levels off. The implication of this is that if workers accept difficult or even impossible goals or set their own goals at a difficult level, they will perform at the highest level that their abilities will allow. The key to maximising performance therefore appears to be that workers should be persuaded to accept difficult goals or to set their own goals at a difficult level (as is advocated by Drucker, 1965: 298). The problem of self-satisfaction not being experienced often with difficult goals is therefore not necessarily valid in all cases and if management want to improve performance they should ensure that challenging goals are set and concentrate on creating conditions in which these goals will be accepted and strived for over long periods of time. Management should also be aware that difficult goals can result in frustration and dissatisfaction and they should therefore not rely on goals to do all the motivational work but should support and encourage workers in their attempts to achieve the goals.

120

Self-efficacy can be improved through training in the tasks and through encouragement and support. Management therefore have a responsibility to ensure that employees are well trained and should adopt a supportive style of management to ensure high levels of self-efficacy.

b)   The Moderators.

The ability of the workers should be taken into consideration when setting goals and, where appropriate, they should be trained in the tasks. This can be done either before the goals are set or after. An advantage of setting goals before training is that they help to focus the learning efforts of the trainees.

Management should do all they can to ensure that the workers accept the goals and are committed to them. This can be done by explaining in detail why it is necessary to achieve the goals, both from the organisation's and the workers' points of view. This is supported by the study conducted by Earley (1985) which showed that the more information which people are given about a task, the greater is the acceptance of the goal.

In addition, Hollenbeck, Williams and Klein (1989) found that commitment was higher when goals were made public so management should possibly publish the levels of performance achieved by the workers, for example, on a notice board. However, it is possible that this publicity could place some of the workers under undue pressure so if this is done, it should be discussed with the workers before hand to gain their acceptance of the system. While participation in the setting of goals can result in acceptance and greater commitment, there is no conclusive evidence which shows that this is necessarily the case. On the other hand, the "tell and sell" method of gaining acceptance and commitment to goals has been shown to be effective if the person assigning the goals is accepted and respected as an authority figure.

It is also critical for the acceptance of and commitment to goals that employees do not feel threatened as a result of the introduction of a goal setting programme. Lathan and Kinney (1974) and Latham and Baldes (1975) found it important to reassure the workers

that no disciplinary action would be taken against them if they did not achieve their goals. While disciplinary action for misdemeanours should continue to take place in accordance with organisational policy, no disciplinary action should be taken or threatened if a person performs at an acceptable level but does not achieve a difficult goal. In addition, management should make sure that employees understand this approach or policy.

Umstot, Bell and Mitchell (1976) and Ivancevich (1976) found that the goal setting effect deteriorated after about a year. which indicates that commitment to goals does tend to decrease over time. Consequently, management should monitor the commitment of employees to goals and introduce additional interventions if commitment and performance start decreasing.

Feedback has been shown to be a critical part of the motivational process and effective systems must be designed to provide workers with performance related information. This information should be specific and should relate to the employees' performance outcomes and goals.

It could be argued that the goals should be set first and then the appropriate feedback systems implemented (if they don't already exist). The problem with this approach is that the design and implementation of effective systems can take months and if the goals are set first and the feedback system then designed and implemented, the feedback might not be immediately available which will reduce the effectiveness of the goal setting.

The information provided to employees should be specific and relate to the goals which have been set. For example, if the goal is to reduce waste by 10%, the workers must be advised of the percentage of waste created each day, week etc. and should not only be provided with production figures so that they have to calculate the percentages themselves.

Where complex tasks are involved, management should ensure that employees are trained in the appropriate task strategies or methods. If training is not carried out

122

employees will probably spend an inordinate amount of time investigating and developing work strategies which will make it difficult for them to achieve the goals in the short term. If management do not train the workers but rely on them to develop their own strategies, they should allow them time to do this when setting the goals.

It is clear that management have a responsibility to the workers to help them in removing situational constraints. They can do this by giving the workers authority to make changes in the work place, by reacting speedily to worker requests to overcome constraints or by proactively removing the constraints which they are aware of.

c)   Performance measures.

Performance measures have to be implemented in order to set specific and meaningful goals and to provide feedback on performance to the workers. While hard measures are generally more accurate and reliable, there are many situations where soft measures have to be applied in spite of their subjectivity. However, steps can be taken to improve the reliability of soft measures such as requiring a large number of people to evaluate the performance in question. In this way the negative biases would theoretically tend to balance out the positive biases and the greater the number of people carrying out the evaluation, the greater the reliability and validity of the measurement.

d)   Rewards

The achievement of goals, especially difficult goals, results in a degree of self-satisfaction which in itself is an intrinsic reward. Therefore goal-setting has a built in system of rewards but in practice this is probably insufficient to ensure the long term positive effect of challenging goals. Workers will probably expect to receive extrinsic rewards when they achieve difficult goals and while these rewards can be psychological in the form of recognition from a superior or from peers, it is also probable that they will expect to receive monetary rewards, particularly if the achievement of the goals has resulted in benefits to the organisation. If these rewards are not forthcoming it is probable that performance will decrease.

The reward system therefore needs to be seriously considered by management to maintain motivation and performance at a high level but the cost of reward systems must be weighed against the possible benefits.

Reward systems can take the form of performance appraisal systems which indicate the level of salary or wage increases or of incentive or bonus schemes which are linked to the achievement of goals. Where incentive schemes already exist in organisations but productivity is still low, management should evaluate the schemes to determine why they are not effective. One reason why they are ineffective could be that they do not incorporate goals. Goal setting research has shown that schemes which do not incorporate goals tend to be less effective than schemes which do incorporate goals. Goal setting combined with incentive schemes also has the advantage that the incentive helps to increase employee commitment to the goals but management should ensure that the incentive scheme is viable in that the improved performance at least compensates for the cost of the incentives.

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CHAPTER 4
THE GOAL SETTING RESEARCH PROGRAMME AT THE UNIVERSITY OF NATAL, PIETERMARITZBURG

As has been outlined above, there is a wealth of information on the application of goal setting as a technique for improving worker performance. However, most of this information stems from the United States of America and very little is available on the application of goal setting theory in South Africa. It can be safely assumed that South African labour is generally quite different from labour in the USA in terms of level of education, communications, union activity, culture, politics, the social environment, and productivity levels. It is therefore not a foregone conclusion that goal setting will work with South African labour. In addition, it was pointed out in Chapter 1 that Orpen (1977) felt that the political and economic climate in South Africa were not conducive to successful motivational programmes for workers, and this might still be the case.

It was therefore decided to conduct a pilot study at the University of Natal, Pietermaritzburg to investigate whether goal setting could be applied successfully in a South African environment and to help to overcome an apparent productivity problem with workers at the University.

4.1 Aims of the Study.

The aims of the study are to determine whether goal setting can be applied successfully with workers at the University of Natal, to identify problems which could arise in its implementation and to make suggestions for further research.

4.2 Hypothesis

The hypothesis is that the setting of difficult goals, if accepted by the workers will lead to improved performance.

4.3   Background Information.

Following discussions between a representative of Consul Ltd. and the university executive about the possible introduction of the 100 Club incentive scheme, the Department of Business Administration was requested to investigate the feasibility of using this scheme to improve the productivity of University workers.   A preliminary investigation showed that it was difficult at that stage to define the productivity problem as no specific measures of work performance existed.   In addition, a calculation was made of the cost of the incentive scheme proposed by the 100 Club for the employees on both the Pietermaritzburg and Durban campuses and this amounted to about R200 000 p.a.   On the other hand, no estimate could be obtained of the possible financial benefits which could be derived from this scheme.   The problem did exist, however, that senior university executives often received complaints about the low level of productivity of the estates maintenance workers.   In effect, the main measures of productivity were the number and the severity of complaints received by senior university staff members but these complaints were not recorded in a way which could be meaningfully analyzed. In addition, the management at the Pietermaritzburg campus felt that there was an absentee problem amongst the workers which could be solved by implementing an incentive scheme such as the 100 Club.

It was, however, decided that an incentive scheme would not be introduced at that stage because the extent of the perceived productivity problem was not clear and the potential savings of such a scheme could not be determined.   In addition, it was not clear whether adequate criteria and measurement methods could be developed for an incentive scheme in this non-production oriented environment.

It was agreed with senior University management that the productivity problem would have to be more clearly defined and that this would involve the establishment of criteria, measurement methods, setting standards of performance and finally evaluating actual performance against the standards set.   Since these steps would also form the basis of a goal setting programme, it was decided to research the feasibility of implementing a goal setting programme to improve employee performance.   It appeared from the

129

literature that a goal setting programme would probably result in improved performance but, in addition, there would be the advantage that the programme could be used as a basis for implementing an incentive scheme at a later date if it was found to be justifiable.

It was decided that the research would take the form of a pilot study to be carried out in the Estates Division of the University in Pietermaritzburg. This division is headed by the Estates Manager and provides a maintenance and minor construction service to the whole campus. The specific departments which provide the services are;

* grounds maintenance,
* cleaning,
* vehicle maintenance,
* electrical maintenance,
* plumbing,
* painting,
* carpentry,
* building maintenance and,
* air conditioning maintenance.

Most of the complaints received by senior management about poor performance related to the cleaning and grounds maintenance workers. In response to the complaints about the cleaning services, management planned to introduce an external cleaning service to assist the cleaning department and this department was therefore not considered suitable for carrying out the research. On the other hand, there were no plans to change the organisation of the grounds maintenance department and since it was considered a priority area for productivity improvement, it was proposed that a pilot study be run with workers in this department. The grounds maintenance department employed 44 workers who were divided into 4 teams of ten workers and each team had a supervisor who reported to the horticulturalist. The horticulturalist was in overall charge of the department and reported to the Estates Maintenance Manager. During the period under consideration the division had a total of 221 employees including management.

130

While the proposal appeared reasonable, it was decided that before a decision could be taken about a pilot study, more information was needed to define the productivity problem in more detail.

4.4. Defining the Productivity Problem.

In the first instance, it was decided to concentrate on effectiveness productivity as explained in 1.2 above and an MBO approach was therefore adopted. In keeping with this approach, the outputs of the division were defined as services offered to other faculties and divisions and the overall objective of the division was to provide an acceptable service in terms of quantity, quality, time and cost.

It was then decided to measure the extent of the productivity problem by requesting the "internal customers" or "users" to evaluate the services offered by each department in the division according to a set of critical criteria. The form of the assessment was to be a questionnaire which would also provide the basis for determining the effectiveness of any interventions aimed at improving productivity. In other words, if the user survey indicated that a productivity problem in fact existed, an intervention would be implemented and the survey conducted again at a later stage. Any differences in the evaluations of the services rendered should give an indication of the effectiveness of the intervention.

It was appreciated that the survey would be subjective but if a sufficient number of users responded, on average any biases, prejudices and variations in personal standards should be minimised. The users of the services provided by the Estates Division were the heads of other divisions, deans, deans of buildings, department heads, professors and other University officials who had authority to request service from the Estates Division.

In conjunction with the management of the estates division, a form was designed (Annexure A) on which the users would be requested to indicate their ratings of the service given by each of the departments in the division according to the following criteria:

131

- Quality of work
- Quantity of work
- Scope of work
- Response time
- Time taken to complete work
- Co-operation of Estates management
- Co-operation of other Estates Personnel.

"Scope of work" refers to the extent to which the departments were able to offer a full service i.e. to carry out all the work required of them as opposed to using outside contractors. The "response time" was the time taken from the date of any request being made for service to the date on which that service was started. Cost was not included in the survey as senior management kept a strict control on costs and the workers were not in a position to influence costs noticeably.

Management appreciated that only quality of work, quantity of work and time taken to complete work were strictly output criteria but felt that the other criteria should be included as they related to many of the complaints which had been received and they wanted to determine the extent of the problems. For example, some of the users had complained that the workers and management were uncooperative.

4.5   First User Survey

The first user survey was conducted in August 1991. Seventy five users were requested to complete the evaluation form and 56 responded. The rating scale used was:
1 = very poor, 2 = poor, 3 = acceptable, 4 = good and 5 = excellent.

TABLE 1

FIRST USER SURVEY
(ALL CRITERIA)

DPT.	AVERAGE SCORE
CLEANING	2.9
GARDENS MAINT.	2.9
VEHICLE MAINT.	3.1
ELECT. REPAIRS	4.1
PLUMBING REPAIRS	3.7
PAINTING	3.5
CARPEN-TRY	3.2
BUILDING REPAIRS	3.0
AIR CON MAINT.	3.3
MINOR CONST.	3.1

(See annexure B for the detailed results of the first user survey).

In the first instance, the results confirmed the opinions of management that the two main problem areas regarding effectiveness productivity were the cleaning and garden maintenance departments. It can also be seen from the detailed results in annexure B that for all the criteria listed, the average ratings were acceptable to good, however, the critical criteria which should be evaluated in terms of outputs were quality, quantity and completion time. While the other criteria were considered by management to be

133

important in the performance of the various services, they did not represent true outputs and were rather related to the processes involved in providing the outputs. The results achieved on the survey for the three output criteria are as follows:

TABLE 2

FIRST USER SURVEY (OUTPUT CRITERIA ONLY)

SECTION	QUALITY	QUANTITY	COMPLET-ION TIME	AVERAGE
GROUNDS MAINT.	3.1	2.5	2.6	2.7
CLEANING	2.8	2.6	2.6	2.7
VEHICLE MAINT.	3.4	2.5	3.0	3.0
ELECT. REPAIRS	4.2	3.8	4.0	4.0
PLUMBING REPAIRS	3.7	3.4	3.6	3.6
PAINTING	4.0	3.1	3.3	3.5
CARPEN-TRY	3.5	2.9	3.0	3.1
BUILDING REPAIRS	3.3	2.8	2.6	2.9
AIR CON MAINT.	2.7	3.2	3.5	3.1
MINOR CONSTR.	3.5	2.6	2.8	3.0

This confirmed to an even greater extent that the main productivity problems existed in the first two departments. In addition, the analysis shows that the services rendered by the cleaning and grounds maintenance departments were unacceptable and the two criteria on which they were particularly unacceptable were quality of work and time taken to complete the work. Obviously these two criteria are closely related as the

134

amount of work performed has to be expressed in terms of the time available.

Management decided that since only the electrical maintenance department had received a rating of "good" and all the other ratings indicated unacceptable or acceptable service, a productivity improvement programme was warranted. Management maintained that the services offered by all the departments should be rated at least as good. It was therefore agreed that a pilot study should be carried out to improve employee motivation and performance and that the grounds maintenance department should form the experimental group for the study.

4.6   Employee Attitudes.

Having defined the productivity problem to a large extent and having taken the decision that it was necessary to improve the productivity of the organisation, the next step was to determine whether the work force was suited to a motivational programme by conducting an attitude survey.

In chapters 1 and 3 it was pointed out that if the hygiene factors in an organisation are not in order, it is likely that the labour force will be dissatisfied and it will therefore probably be difficult to introduce an effective motivational programme. It was therefore considered important to establish the status of these attitudes prior to the introduction of the programme. The purpose of the survey was not to measure attitude changes as a result of the introduction of goal setting but to determine prior to the introduction of such a programme whether there was any dissatisfaction amongst the employees which could cause the programme to fail.

A survey of a sample of 74 employees in the Estates Division was conducted by way of structured interviews conducted by a trained interviewer in Zulu using a 96 item questionnaire (see annexure C). The questionnaire was designed to determine their attitude towards their jobs, their superior, the University as an employer, their co-workers and their self-esteem. The construct of self-esteem as used in this attitude survey was derived from Korman (1968 and 1970) who assumed that "one's self-esteem

135

or self-evaluation is the extent to which he sees himself as a competent, personal, need fulfilling individual" and consists of a "chronic level of self-esteem" which is fairly consistent across situations and "self perceived competence concerning a particular task or job at hand" (section 3.2.11). While Korman's concept of task related self-esteem is very similar to Bandura's concept of self-efficacy, the latter was not used at this stage because it is measured by requesting the individual to estimate the probability of achieving a specific goal and since at that stage no specific goals had been set, it was in fact impossible to measure self-efficacy.

The construct of self-esteem as used in this study was therefore divided into "general self-esteem" and "work related self-esteem" and the items used in the questionnaire were selected from a questionnaire developed by Werbeloff (1985). Werbeloff in turn based his questionnaire on the Janis-Field scale (Eagly, 1967) for general self esteem and Wagner and Morse's (1975) scale for work-related self esteem. He modified the items used by the other researchers as he felt that many of them were poorly worded and too technical in nature. This writer modified a number of Werbeloff's items for a similar reason, keeping in mind the target population for this research study. The items in this questionnaire relating to job satisfaction were taken from a questionnaire developed by Brayfield and Rothe (1951) and used by Cummins (1984) to measure the job satisfaction of workers in a chemical factory in Natal. According to Cummins (1984, 80) this section of the questionnaire had a product moment reliability co-efficient of 0,77, which is acceptable, and had a high product moment correlation between scores with the Hoppock Index of job satisfaction (Brayfield and Rothe, 1951).

The items obtained from Werbeloff and Cummins accounted for 48 of the 96 items on the questionnaire used in this study. The balance were developed by this writer and were worded in such a way as to ensure an equal number of negative and positive statements. A Likert scale ranging from 1 (low) to 5 (high) was used for the recording of the responses. The sample group of 74 employees was selected to ensure that it was representative of the workforce of the division and the gardens maintenance department in terms of gender, department and age groups. Within these subgroups the workers were chosen at random. The results of the survey are summarised in the table below.

136

TABLE 3

SUMMARY OF RESULTS OF ATTITUDE SURVEY

SECTION	QUESTION NUMBERS	AVE. RATING/5 ALL DEPTS.	AVE. RATING/5 GDNS. MAINT.DPT.
1. General self esteem	1 - 18	4.2	4,0
2. Job satisfaction	19 - 38	3.5	4.0 ·
3 Attitude towards supervisor	39 - 54	3.8	4.0
4. Attitude towards University as an employer	55 - 70	3.8	4.0
5. Attitude towards co-workers	71 - 84	3.8	4.0
6. Work related self esteem	85 - 96	3.5	3.7

As can be seen from the above table, attitudes for the whole sample were on average moderately positive for each section of the questionnaire excepting general self esteem which was strongly positive and the attitudes of the 13 employees interviewed from the gardens maintenance department were generally very positive.

Of the 74 employees interviewed, 68 recorded an average of 4 out of 5 and the other 6 respondents an average of 3 out of 5 for all the items. An analysis of the average scores achieved per item by all the respondents showed that ten items had an average score of 2 and one item an average score of 1. The average scores obtained for these items are set out in the following schedule.

TABLE 4

ITEMS ON ATTITUDE SURVEY WHICH RECEIVED LOW SCORES

Item No.	ITEM	AVE. SCORE ALL DEPTS	AVE. SCORE GDNS MAINT
3	How often do you worry about whether people like to be with you?	2	1
4	How often do you feel self conscious?	1	1
12	How often do you worry about how well you get along with other people?	2	2
22	It seems that my friends in other companies are more interested in their jobs.	2	2
25		2	3
	I am often bored with my job.		
27		2	2
	Most of the time I have to force myself to go to work.		
33		2	2
	Each day of work seems like it will never end.		
38		2	2
	It seems that my friends and other workers in the company are more interested in their jobs.		
54		2	2
	My boss never checks on my work.		
92		2	3
	I often feel that I am never getting anything done at work.		
93		2	3
	I always go home feeling that I did not accomplish much.		

The scores were adjusted according to whether the statements were negative or positive

so that a score of 1 or 2 indicates a negative attitude in the area covered by the items. The low scores on items 3, 4 and 12 are related to general self esteem. However, the rating of 4.2 for self esteem for all respondents and 4.0 for the garden maintenance respondents indicates that this is not a general problem for these employees.

The low scores on item 54 indicates a low level of direct supervision which could cause problems in the ongoing implementation of the programme as research has shown that direct and supportive supervision is required in goal setting programmes (see 3.1.14 above). The low scores on items 22, 25, 27 33 and 38 indicate a fairly high level of boredom with the work which acts in favour of goal setting as it has been shown that the setting of goals tends to relieve boredom (Carrol and Tosi, 1970a; Umstot et al., 1976; Locke and Bryan, 1967; and Bryan and Locke, 1967). The low scores on items 92 and 93 indicate a certain amount of frustration in relation to the jobs being performed by all respondents but this does not appear to be a problem in the gardens maintenance department.

4.7   Stability of the Labour Force.

As a check on the attitude survey, it was also decided to assess the level of absenteeism and labour turnover in the division.   Many studies have shown that there is a relationship between the level of job satisfaction, labour turnover and absenteeism. For example, Vroom (1964, 99) carried out an evaluation of research into the determinants of job satisfaction and came to the conclusion that labour turnover and absenteeism are negatively related to job satisfaction, i.e. the higher the level of job satisfaction, the lower the level of labour turnover and absenteeism.

Furthermore, management were under the impression that there was an absentee problem in the division and if this was correct, it could also indicate supervisory or other work related problems.

139

4.7.1 Absenteeism

An analysis of the attendance records of the workers in the Estates Division from January 1990 to June 1991 was carried out whereby all unauthorised absence and sick leave of three days or less was totalled for each department. Sick leave was included in the calculation of absenteeism because management maintained that workers were in the habit of absenting themselves from work for one to three days at a time and claiming sick leave, all sick leave of three days and less was included in this analysis. The total number of man-days lost in this way was then divided by the total number of man-days available for that period and expressed as a percentage as shown in the table below.

TABLE 5

Absenteeism: 1 January 1991 to 30 June 1992		
	ALL DEPTS	GDNS MAINT
Ave. number of employees.	196	44
Number of days lost from absence	1089	180
Number of days available	68 621	16 740
Absentee percentage	1.6	1.1

These absentee figures should be compared to a norm to determine whether they are at an acceptable level or not. Unfortunately, absentee figures are not readily available in South Africa on a centralised basis (neither the HSRC nor the NIPR publish these statistics). However, the Bureau of National Affairs (BNA) in the USA does publish such statistics and while their validity in the South African context is questionable, they do provide a basis for assessing the labour turnover and absenteeism in South Africa.

The absentee statistics published by the BNA for the fourth quarter of 1988 range from 1,6 % in manufacturing to 2,5 % in health care, with an average of 1,8 % for all companies (Heneman et al. 1989, 182). The absentee rates published by the BNA are calculated in the same way as those quoted above for the Estates Division excepting that

140

the BNA figures include absences of up to four days as opposed to three days as was the case in this study. For a direct comparison, the BNA figures should therefore be reduced slightly. The absentee rate of 1,6 % for the Estates Division is therefore slightly higher than the average rate quoted by the BNA. On the basis of this comparable level of absenteeism, it was concluded that the level of absenteeism in the Estates Division was not excessive.

This shows that the original assumption of a high absentee rate was incorrect although there was a small number of employees in this division who did have a high absentee rate. It appears that the absentee problems caused by these individual employees gave management the impression that the total labour force had an absentee problem.

4.7.2 Labour Turnover

Labour turnover was not identified as a problem by management but since it is a critical measure of labour stability, the following figures were obtained:

TABLE 6

Labour Turnover: 1 July 1990 to 30 June 1991		
	ALL DEPTS %	GDNS MAINT %
Number of terminations	16	5
Average labour strength	196	44
Labour turnover percentage	8.2	11.4

The labour turnover figures quoted by the BNA range from 9.6 % p.a. for manufacturing to 20.4 % p.a. for health care with an all-companies average of 13.2 %. The labour turnover figures of 8.2 % and 11.4% for this period are therefore relatively low and combined with the low absentee rate indicate a stable labour force.

4.7.3 Conclusions Relating to the Labour Situation in the Estates Division.

The above analyses show that the employees generally had positive attitudes towards the organisation and this is supported indirectly by the low levels of absenteeism and labour turnover of the labour force. There was therefore no job dissatisfaction which could be detected. The attitude survey showed that there were indications of boredom and possibly a feeling of a lack of achievement in the work situation, both of which should act in favour of a goal setting programme. In addition, there were no indications of job insecurity or a lack of trust in management which could have had a negative effect on a goal setting programme as was illustrated in the field studies carried out by Latham and Baldes (1975) and Latham and Yukl (1976). (In the first mentioned study the truck drivers involved reduced their loads deliberately to test whether they could trust management and only after they found that no disciplinary action followed did they increase the loads to the goal level. In the second study, the lack of an increase in performance for the first five weeks of the goal setting programme was attributed to a lack of trust of management because of a recent redundancy programme).

The main factor indicated by the survey which could possibly act against the success of the programme was the lack of direct supervision experienced by the employees although the general attitudes of the employees towards their superiors was positive.

On the basis of the generally positive attitudes of the workers and the stability of the labour force, it was decided that the labour situation in the department would probably be conducive to the implementation of a goal setting programme and if the programme failed it would be a result of problems with its design and implementation and not because of any dissatisfaction experienced by the workers.

Steps were then taken to design and implement the programme.

4.8   Research Design.

In essence, the research design consisted of four main steps which were:

i) Evaluate the performance of all the departments in the division by conducting a user survey (as explained in 4.5 above).

ii) Introduce the goal setting programme using the gardens maintenance department as the experimental group and the other departments as control groups.

iii) After one year conduct another user survey to re-evaluate the performance of all the departments and at the same time conduct structured interviews with the workers in the experimental group to determine their opinions about the goal setting programme and obtain specific information in relation to the various goal setting factors.

iv) Compare the results of the two user surveys and analyze the responses to the interviews to determine the effect of the goal setting programme.

The design of the study therefore had two main aspects. The one was the design of a field study to determine the effect of the goal setting programme and the other was the practical implementation of a goal setting programme in accordance with MBO practice, Locke and Latham's steps for setting goals and the findings of goal setting research studies.

The main research issues in the design of the study will now be outlined in the sequence of the decisions which had to be taken in its implementation and the goal setting factors which had to be considered. This will be followed by an outline of the practical implementation of the goal setting programme where the details such as the actual goals will be explained.

4.8.1 Control and Experimental Groups

There were three main options for establishing experimental and control groups. The one option was to use the grounds maintenance department on the Pietermaritzburg

campus as the experimental group and the grounds maintenance department on the Durban campus as the control group but it was decided that there were too many differences between the groups such as management style, the size of the departments and the nature of the work. For example, the rainfall is much higher in Durban and necessitates a different approach to grass cutting there than in Pietermaritzburg. These differences would make it difficult to obtain a meaningful interpretation of the results.

Another option was to use two of the four garden maintenance teams on the Pietermaritzburg campus as control groups and the other two as experimental groups, much in the way that Kim and Hammer (1976) designed their study (see 2.4.2 above). However, while this design did have merit, it would have been very difficult to implement because the teams were rotated on an irregular basis and it would have been difficult to relate the user survey to individual teams. In addition, since the garden maintenance workers associated closely, especially at lunch times, management felt that applying goal setting to two teams and not the others could lead to discontent because of unequal treatment or could result in the control group applying pressure on the experimental group not to improve performance. There was also the possibility of a Hawthorne effect in that, as with the Western Electric illumination study, the control group could also react to the intervention by improving performance.

The decision was therefore taken to use the whole garden maintenance department as the experimental group and the other departments as control groups. This was considered adequate as all the departmental heads reported to the Estates Maintenance Manager who applied a uniform management style, albeit somewhat authoritarian, to the division as a whole and all the departments were subject to the same policies, procedures, systems and routines. For example, each departmental head was required to attend a regular weekly meeting at which he had to report on events in his department, the same disciplinary procedure was applied throughout, and all the managers responded to a centralised system of work requests.

An additional advantage of this third arrangement of control and experimental groups was that the garden maintenance workers very rarely came into contact with the workers

in the other departments (at least during working hours) and it was unlikely that the goal setting programme would influence the other workers in any way.

In order to determine the extent of homogeneity of the labour in the various departments, an analysis was carried out of their ages, years of service with the university, gender, educational levels and home language.

a) Age

TABLE 7

AGE ANALYSIS OF WORKERS.

DEPT.	YOUNG-EST	OLDEST	AVE. AGE
CLEANING	20	54	32
GARDENS MAINT.	24	64	38
VEHICLE MAINT.	26	60	36
ELECT. REPAIRS	23	59	39
PLUMBING REPAIRS	26	54	36
PAINTING	27	57	38
CARPENTRY	24	62	40
BUILDING REPAIRS	28	59	37
AIR CON. MAINT.	26	57	37
MINOR CONST.	25	58	34

b) Years of Service.

TABLE 8

SERVICE ANALYSIS OF WORKERS

DEPT.	SHORT-EST SERVICE	LONGEST SERVICE	AVE. SERV-ICE
CLEANING	1	16	5.6
GARDENS MAINT.	1	24	6.8
VEHICLE MAINT.	3	15	8.1
ELECT. REPAIRS	4	18	7.2
PLUMBING REPAIRS	3	12	8.3
PAINTING	1	22	8.7
CARPENTRY	2	23	7.6
BUILDING REPAIRS	1	14	5.3
AIR CON. MAINT.	2	18	7.1
MINOR CONST.	1	14	4.9

c) Gender

TABLE 9

GENDER ANALYSIS

DEPT.	PERCENT-AGE MALES
CLEANING	33
GARDENS MAINT.	94
VEHICLE MAINT.	100
ELECT. REPAIRS	100
PLUMBING REPAIRS	100
PAINTING	100
CARPENTRY	100
BUILDING REPAIRS	100
AIR CON. MAINT.	100
MINOR CONST.	100

d) Education (years of schooling).

TABLE 10

EDUCATIONAL LEVELS OF WORKERS.

DEPT.	LOWEST LEVEL	HIGHEST LEVEL	AVE.
CLEANING	4	10	7.7
GARDENS MAINT.	5	12	7.9
VEHICLE MAINT.	8	11	9.1
ELECT. REPAIRS	8	12	9.8
PLUMBING REPAIRS	6	10	7.6
PAINTING	6	8	7.1
CARPENTRY	8	11	9.2
BUILDING REPAIRS	6	10	8.6
AIR CON. MAINT.	9	10	9.6
MINOR CONST.	6	8	6.9
AVERAGE			8.4

e) Language Group.

TABLE 11 LANGUAGES SPOKEN

DEPT.	ZULU SPEAKING %
CLEANING	86
GARDENS MAINT.	84
VEHICLE MAINT.	100
ELECT. REPAIRS	92
PLUMBING REPAIRS	100
PAINTING	86
CARPENTRY	100
BUILDING REPAIRS	78
AIR CON. MAINT.	100
MINOR CONST.	86

From these schedules it can be seen that the labour forces in the various departments were fairly homogeneous excepting the cleaning department which had a far greater proportion of women than the other departments and the lowest average age. It is difficult to say with any confidence what the significance is of the gender difference between the cleaning labour force and that of the others but the main point is that apart from this gender difference, the gardens maintenance labour force is very similar to the others on all the criteria.

Perhaps the one fact which is important is that the labour force in the division had an average of 8.4 years of education which is probably low in comparison with the general levels of education in developed countries. On the other hand, it indicates that the employees had a reasonable level of education (standard 6 on average) and therefore should be able to understand simple written instructions or records such as feedback systems in a goal setting programme. It could be argued that the low level of education might reduce the goal setting effect as the employees would be less likely to understand the concepts involved than educated people. While this could be the case for these employees, it should be kept in mind that Mento, Steel and Karren found in their meta-analysis that the effects of goal setting were not influenced by different levels of education (see 2.5.3 above).

4.8.2 Group Versus Individual Goals.

It was decided to use group goals rather than individual goals as the team members tended not to specialise in their work but often exchanged the tasks they carried out, thus making it very difficult to measure individual performance.

4.8.3 Measures of Performance (soft/hard).

A method of evaluating the performance of the workers had to be developed which, because of the nature of the work done, would be a "soft" measure but should be as objective as possible. The usual method of performance evaluation is for the superior to carry out performance evaluations, but as has been pointed out, this method is subject to biases, prejudices and varying personal standards. It was, therefore, decided that the main measure of performance would be the user survey but that this would be supplemented with a performance evaluation to be conducted by the departmental manager (the Horticulturalist). It was presumed that the user survey would be more objective and reliable than the management evaluation because of the large number of users involved, because they were less likely to have personal biases for or against the workers, and because they would tend to focus on the outputs.

4.8.4 Goal Specificity.

It was decided that rating scales should be used to measure performance, to set goals and to provide feedback to the workers. A scale of 1 (low) to 5 (high) was decided on as the discrimination between the levels (1, 2, 3, 4 & 5) would be easy and the scores therefore more reliable than, for example, if a scale of 1 to 10 was used. The goals could therefore be set in terms of a score on the rating scale which, according to Locke and latham (1990), satisfies the requirement of specificity for soft goals.

4.8.5 Level of Goal Difficulty.

It was pointed out in 3.6 above that Locke and Latham (1984) advocated that goal difficulty should be set at the level of the previous average performance to make it easier to obtain goal acceptance but that Mol (1990) and Drucker (1965) favoured setting higher goals to improve productivity. As the main purpose of goal setting is to improve performance, the latter approach was adopted in this study, ie. a goal would be set which was higher than the previous performance level.

4.8.6 Participative / Assigned Goals.

In Chapter 2 it was pointed out that the research into whether participative goal setting is more effective than the assigning of goals, or vice versa, has been inconclusive. However, it appears that these two methods can both be effective under certain conditions. One condition which was highlighted by the study carried out by Latham, Erez and Locke (1988) is that the system used should be similar to the management style to which the workers are accustomed. This also has implications from a research point of view as, if the management style is changed, it would be difficult to distinguish the effect of goal setting from the effect which the change in management style could have on the workers. On the other hand, Latham and Yukl (1975) found that educationally disadvantaged timber workers achieved significantly higher performance levels when goals were set participatively than when they were assigned. The average number of years of education of the disadvantaged group in their study was 7.2 years which is

similar to the 7.9 years of schooling of the gardens maintenance workers (see Table 10 above). This finding therefore supports a participative approach to goal setting with the gardens maintenance workers.

However, another aspect which had to be considered was that if participative goal setting was used, it would, by its very nature, increase the contact between management and workers and would thus increase the possibility of a Hawthorne effect, i.e. the additional attention leading to improved performance. On the other hand Locke and Latham (1984) and Latham, Erez and Locke (1988) point out that, if goals are assigned, a "tell and sell" method should be adopted to ensure goal acceptance and commitment and this could also introduce a Hawthorne effect.

On balance, it was decided to assign goals as this approach was more in keeping with the benevolent, autocratic management style adopted by the management of the division and by keeping the explanation to the workers as brief as possible, the Hawthorne effect would be minimised. Management also found this approach more acceptable as it would have a minimal effect on the work output of the department.

However, one problem with assigning goals is that people might reject them and set their own goals which might be lower or higher than the assigned goals. A relevant question was therefore included in the structured interviews to determine the self-set goals and the extent to which they varied from the assigned goals.

4.8.7 Goal Acceptance and Commitment.

Having decided to set a challenging goal for the workers, it was critical to ensure that they accepted the goals and were committed to them. It was therefore decided that a presentation should be give to the workers which would explain the concept of goal setting, the outcome of the user survey, why it was important for the university for the workers to achieve to achieve high levels of performance and what the workers could gain from achieving difficult goals.

As goal commitment is a critical aspect of the goal setting process, it was also decided that worker commitment to the goals should be measured. Tubbs and Dahl (1991) stressed that self reports of goal commitment are not reliable measures and they maintained that the difference between self-set goals and assigned goals is the best way of measuring commitment to assigned goals. It had already been decided to include a question in the structured interview to determine the level of self-set goals so the level commitment could be determined from this information at the end of the study.

4.8.8 Feedback

Feedback has been shown to be very important in the goal setting process and a system therefore had to be devised to provide this feedback. As has already been explained, the systems which are implemented to measure performance also provide the information to be fed back to the workers. The first measurement system which was implemented was the user survey and the results of the two surveys would have to be fed back to the workers. However, since the two surveys were 12 months apart, the frequency of the feedback was inadequate and an additional system had to be used. This additional system was to be based on the Horticulturalist's performance evaluation (See annexure D for the Horticulturalist's evaluation form).

4.8.9 Ability.

It was pointed out in 2.3.2 above that the level of ability sets the upper limit to individual performance but this is not critical where tasks are easy. The various tasks routinely carried out by the garden maintenance workers were regarded by management as being relatively simple and since only 3 of the workers in the garden maintenance department had less than one year's service and these three were in different teams, by far the majority of the workers should be capable of improving their performance. Furthermore, the Horticulturalist maintained that all of the workers under his control were easily capable of performing their tasks if they were motivated to do so. Ability was therefore not considered to be a potential limiting factor and no attempt was made to formally assess the abilities of the individual workers.

4.8.10   Task Strategy

Research has found that the setting of goals sometimes leads to the development of strategies or changes in work methods which enable the worker to achieve the goal. It was not expected that the workers involved in the study would change their strategies substantially as a result of goal setting, mainly because the tasks were fairly simple. However, it was decided that a question should be asked in the structured interview about any changes which might have been introduced.

4.8.11   Incentives.

Although the study was initiated by the idea of an incentive scheme and it was possible to introduce an inexpensive incentive scheme, it was decided not to introduce any incentives with the goal setting programme as this would have made it difficult to distinguish the effect of the goals from the effect of the incentives. It was further decided to tell the workers that the only way in which they could benefit financially was through more generous wage increases but this could not be guaranteed. It was also decided to explain to them in the presentation that their main incentive would be a feeling of achievement when they achieved their goals.

4.8.12   Self-efficacy.

Self-efficacy is measured by asking workers to indicate on a rating scale what they consider their chances to be of achieving a specified goal. Since it had been decided to set group goals, this type of measure was considered to be meaningless as the workers would only be able to indicate their rating for the team as a whole and not for themselves as individual members of the team. It was therefore decided not to measure self-efficacy in this study.

The attitude survey did measure work related self esteem which was found to be fairly strong but this concept differs from that of self-efficacy and in any case was only measured for 13 of the workers in the gardens maintenance department.

4.8.13 Satisfaction.

It was decided to include a question on satisfaction resulting from the achievement of goals in the interview at the end of the study.

4.8.14 Supervision.

A supervisor's or manager's role in the goal setting process is to ensure that goals are set by or for the workers; to ensure that they accept the goals and are committed to them; to design feedback systems and provide regular feedback; and to encourage and support the workers in their attempts to achieve the goals. Therefore, if goal setting programmes are to be successful over a long period of time, supervisors and managers should be trained in goal setting skills. An example of this is the field study conducted by Latham and Kinne (1974) in which the logging crew supervisors were trained in goal setting. However, if this were done in this research study, it would have been difficult to distinguish the effect of the goal setting from the effect of the changes in supervisory style and could also have introduced a Hawthorne effect. Consequently, it was decided not to train the managers and supervisors in supportive supervisory styles.

In order to determine whether any changes in management style did occur, it was decided to include an appropriate item in the interviews at the end of the study.

4.9 The Implementation of the Goal Setting Programme.

It has already been pointed out that the productivity problems in an organisation should be defined prior to the implementation of a goal setting programme and it has been explained how this was done in this study. However, neither Locke and Latham nor Mol stress the need to carry out this step. This does not mean that they are not aware of this step but that they presume that managers have already carried it out before deciding to introduce a productivity improvement programme. This is probably a risky assumption as managers might be trying to solve problems which in fact do not exist or might apply the wrong solution to a productivity problem because they have not defined the problem

accurately. For example, the correct solution for improving productivity might be to train the workers and not a motivational programme. This might be the case if new technology has been introduced, the majority of the workers are new to the organisation or the tasks are difficult and no training has been carried out before.

However, the implementation of a goal setting programme with the gardens maintenance workers was considered to be appropriate because no new technology had been introduced or was planned to be introduced, the workers had an average of 6.8 years service and were considered to be experienced in their jobs and because most of the complaints referred to a lack of work ethic amongst the work force.

It was therefore decided to proceed with the implementation of the goal setting programme and to use the steps recommended by Locke and Latham as a basis for planning the programme.

In 3.6 above it was pointed out that Locke and Latham's first four recommended steps in setting goals agree to a large extent with Mol's steps but that Locke and Latham also recommended steps to deal with multiple goals. Since multiple goals were not planned in this study, only the first four steps which Locke and Latham recommended were used as guidelines. The way in which these steps were applied will now be explained but it should be kept in mind that they only refer to how goals should be set and not to the full implementation of a goal setting programme. For example, they do not include the establishment of a feedback system nor an explanation of how goal acceptance and commitment should be obtained. It was therefore important to ensure that the goal setting programme also took into consideration the findings of goal setting research outlined above.

4.9.1 Step 1: Specify the General Objectives or Tasks to be Done.

In defining the productivity problem, it was decided that the general objective of each of the departments in the Estates Maintenance division at the university was to provide services to the users and, according to the management of the division, these services

156

should be seen to be good by the users. In order to accomplish this overall objective, the departments had to carry out specific tasks. Locke and Latham (1984, 27) recommend that these tasks be listed or, in their terminology, detailed job descriptions should be drawn up. In accordance with this recommendation, the Horticulturalist listed the main tasks which should be carried out by the gardens maintenance teams and they are as follows:

> Watering.
>
> Cutting grass.
>
> Removing refuse.
>
> Attending to flower beds.
>
> Cleaning of storm water drains.
>
> Controlling tools and equipment.
>
> Attending to plants in the nursery.
>
> Reporting of damage in the gardens.
>
> Cleaning pathways and parking areas.
>
> Removing the plant growth on buildings.

4.9.2 Step 2: Specify How the Performance in Question will be Measured.

In the study conducted by Pritchard et al. (1988) a number of objective criteria were used to measure performance, such as percentage of repair demand met, number of units awaiting maintenance and time taken to issue materials. However, it should be kept in mind that systems had to be established to measure these aspects of performance. In the case of the gardens maintenance department, it would have been very difficult to implement such systems and even if they were implemented, they would probably have been expensive to maintain on a continuous basis. The systems in the Pritchard et al. study were allowed to lapse when new management took over and one wonders if this was the result of unjustifiable costs.

In the study carried out by Kim and Hammer (1976) (see 3.3.2 above) the performance measures were costs, absenteeism, accident rates and a subjective measure of service rendered by the various service departments. However, absenteeism (or conversely,

157

attendance) and accidents rates are not work outputs and can at best be regarded as indirect measures of work performance. This does not imply that goals should not be set for improving absenteeism and accident rates but that these goals will not be directly related to performance. Nevertheless, absenteeism has been shown not to be a problem in the Estates Division and accident rates were not considered to be a problem by management. As has been discussed, the subjective measures of the services rendered in the Kim and Hammer study are applicable to this study as they are true measures of outputs.

The main performance evaluation system used in the study at the university was the user survey described above but since this was only to be used once more after twelve months, an additional system was designed so that the Horticulturalist could evaluate the performance of the workers on a weekly and monthly basis. In addition, this system would provide the workers with regular feedback on their performance.

The responsibility of the Horticulturalist was to evaluate the performance of the grounds maintenance teams in each of these areas on a scale of 1 (very poor) to 5 (excellent) on the basis of the output factors of quantity, quality of work and time taken to complete the work. A composite score would be given by the horticulturalist for all three factors. (see annexure D for the form used for the assessment). It was planned that he should evaluate the jobs completed by the teams on a weekly and a monthly basis.

This approach is supported by Mol for situations where performance is difficult to measure quantitatively. He states "In such cases the manager's subjective evaluation must be expressed in terms of a rating, for example, a point out of 10. This form of measurement is not ideal, but it is certainly better than no measure at all." (Mol, 1990, 112).
As has been pointed out, a scale of 1 to 10 was considered to be too subjective as it is difficult to distinguish between successive scores, e.g. between a score of 6 and 7, whereas the distinction between scores on a five point scale are easier and likely to be more reliable.

4.9.3 Step 3: Specify the Standard or Target to be Reached.

It was pointed out in 3.6 above that standards are norms which are usually established on the basis of historical performance levels and that goals or targets can vary from these standards.   In practice, the standards or previous performance levels (or, to use Mol's terminology, the historical levels) are taken into consideration when establishing goals. In this study the basis on which the goals were set consisted of the results of the first user survey for the gardens maintenance department which are as follows:

TABLE 12
RESULTS OF THE FIRST USER SURVEY FOR THE GARDENS MAINTENANCE DEPARTMENT.

Quality	Quantity	Compl. Time	Ave. Score
3.1	2.5	2.6	2.7

If Locke and Latham's (1984) approach of setting the goal at the average level of previous performance was adopted in this study, it would mean that the goal would have to be set at a rating of 2.7 out of 5 which would be unacceptable to the management of the division and the users, seem ridiculous to the workers, and would not result in any improvement in productivity.   Furthermore, the approach is not in accord with the findings of goal setting research.   Therefore, goal setting theory and Mol's and Drucker's approach was adopted and a goal was set by management of 4 out of 5 which was 48% higher than the user rating of 2.7.   This goal was considered to be difficult but achievable since the electrical repairs department had already achieved this rating. It was also considered to be a challenging goal which could be understood by the workers and accepted by them.

The task then remained for management to explain the goal setting programme and the goals in such a way that they were meaningful and acceptable to the workers.

159

4.9.4   Step 4: Specify the time span involved.

The time span for the user survey was 12 months while the time spans for the Horticulturalist's evaluations was one week and one month.

4.9.5   Feedback Systems.

Now that specific and difficult goals had been established, the next step was to decide on the feedback system. (Although this activity is discussed by Locke and Latham (1984 & 1990), they do not list it as a step).

It was decided that the garden maintenance workers would be formally advised of the Horticulturalist's evaluations on a monthly basis by recording the ratings on a schedule on their notice board in their tearoom. The schedule would indicate the average scores achieved by each team for the previous month. While this feedback method was convenient, the main reason for publicising the scores in this way was to attempt to increase the commitment of the workers to the goal and was in accordance with Hollenbeck, Williams and Klein's (1989) finding that publicness helps to increase goal commitment.

In addition to the monthly notice, the Horticulturalist agreed to carry out an informal evaluation at least once a week when he conducted his routine inspections of the work carried out by the garden maintenance teams. He would then advise the supervisors of each team verbally of the score he allocated for each job and why he had allocated the score, i.e. he was to point out to the supervisors where the teams had done well and where they needed to improve. The feedback was therefore to be specific, not only in terms of the scores but also in terms of what the workers had to do to improve their scores. The rule that he should advise the supervisors of the scores and not the workers directly was made to ensure that there was a minimal change in management / worker contact and in management style so that any Hawthorne effect should be minimised. According to the Horticulturalist, the only difference in this style of managing the department was the allocation of a score as it was his normal practice to point out to the

160

supervisors where they should improve their work performance and they normally conveyed this information to the workers. It was decided at this stage to include a question in the interviews at the end of the study which would test for any changes in management style.

4.9.6   Explanation of the Programme to the Supervisors. Employee Representatives and Workers.

Goal setting research has shown that in order to achieve improved performance, it is critical to obtain employee acceptance of and commitment to goals, especially assigned goals. In order to do this, it was decided to communicate the principles of the programme and the details of the goal to the supervisors first and then to the workers.

a)   Presentation to Management, Supervisors and Employee Representatives.

A meeting was first held with the management, supervisors and employee representatives to explain the concept of goal setting, the details of the programme and the goal (employees were not represented by a trade union at that time). The concept of goal setting was explained by using an example of a soccer game as an analogy. Through an interpreter, the writer asked those present if they would enjoy running up and down a nearby field for an hour. Predictably, the response was very negative. They were then asked if they would enjoy running up and down the field if they had a ball to kick around. After some hesitation, the response was also negative. Finally, they were asked why it was that people enjoyed playing soccer which essentially involves running around a field and kicking a ball. A brief discussion ensued and it was decided that the reason for the enjoyment was the feeling of satisfaction or, as they expressed it, the "kick" or "winning feeling" the players experienced when they or their team scored a goal. To stress tbe point, they were asked what would happen if the goal posts were removed during the game and they responded that there would be no game and consequently no enjoyment. They agreed that the key to the game was the existence of goal posts.

It was then pointed out to them that many people work in situations where there are no

161

goal posts, i.e. where they are not sure of what they have to achieve. As a result, they do not enjoy their work and feel frustrated with their seemingly purposeless efforts. There was general agreement with this amongst those present. It was further explained that the objective of the goal setting programme was to establish work goals so that people would not only know what they had to achieve but would also feel satisfied when they did achieve the goals. The programme would therefore make their work more enjoyable and meaningful.

At this point the user survey conducted earlier was explained to them and the scores achieved by each of the departments were read out. It was stressed that no action would be taken against those employees or groups of employees who achieved relatively low scores but it was hoped that they would be able to improve their scores by the time of the next survey.

The rating scale of 1 to 5 was then discussed and it was explained that the main goal for the department was to achieve a rating of 4 out of 5 on the next user survey to be conducted in 12 month's time.

At this stage some of the employees asked what they would be paid for achieving the goals and it was explained that it was not possible to guarantee any specific payment but the achievement of goals would make it easier to justify more reasonable annual increases. Some of the workers also questioned what would happen to them if they did not achieve their goals and it was explained to them that as long as they continued to achieve reasonable levels of performance, as they had done in the past, no action would be taken against them.

At this point it was pointed out to them that 12 months is a long time for the workers to wait to be told how they were progressing and so the Horticulturalist would evaluate the performance of the teams on a weekly and monthly basis and would advise the supervisors of his evaluations to give them and the workers more regular feedback. It was stressed that the supervisors should convey feedback provided by the Horticulturalist to the workers verbally but that the monthly scores would be published on the notice

boards.

Those present were then asked if they accepted the programme and the goal. There was unanimous acceptance of the programme and the goal of achieving a score of 4 out of 5 by those present. The supervisors were then asked to consider the programme and the goal as it would be discussed with them again at another meeting to be held later.

b)   Discussions with Gardens Maintenance Team Supervisors.

A meeting was then held between the Horticulturalist, the team supervisors and the writer to explain the evaluation criteria, scoring system and the goals in more detail and to give them an opportunity to ask questions or point out difficulties. After the discussion, the supervisors again indicated verbally that they agreed with the programme in principle and accepted the goal of 4 out of 5.

c)   Presentation to the Workers.

Following the meeting with the supervisors, a combined meeting was held with them and all the workers in the Gardens Maintenance Department. A similar presentation to that which was initially given to the supervisors and representatives was given to this group but this time the Horticulturalist made the presentation to give the programme a stamp of authority.

Initially, some of the workers reacted negatively to the presentation mainly because they felt that they were being asked to work harder without receiving additional pay. It was explained to them that there would definitely not be any bonus scheme attached to this programme at that stage but that if the performance of the teams did improve, it would make it easier for the Horticulturalist to justify reasonable annual increases. It was stressed that there could be no guarantee of any additional remuneration. The supervisors became involved in the discussions and eventually no further objections were received. All the workers indicated by show of hands that they accepted both the programme and the specific goal of achieving a score of 4 out of 5 on the user evaluation

163

and the Horticulturalist's performance evaluations. (After the meeting it was decided to check this goal acceptance after 12 months in the planned interviews). This discussion lasted approximately one hour and involved a high level of participation from the workers. Goal acceptance was therefore not easily achieved and did involve a certain amount of "selling", as Locke and Latham put it.

4.9.7 Implementation of the Feedback Systems.

The programme was commenced immediately after the meeting with the workers and the supervisors were advised verbally at least once a week by the Horticulturalist of his assessment of the performance of the teams and the scores which he had allocated to each team for the work they had completed. This information was then conveyed to the workers by the supervisors as arranged. In addition, an evaluation was carried out once a month by the Horticulturalist of the performance of each team for the previous month and the scores were recorded by him on the schedule in the workers' tearoom. In order to monitor the programme, the writer met with the Horticulturalist once a month to view the scores and to determine whether the weekly feedback was still being given. As far as could be determined from the Horticulturalist, the feedback was given as arranged. At no stage did the writer communicate again with the supervisors or workers except to greet them occasionally.

4.9.8 Second User Survey.

Twelve months after the programme was introduced the second user survey was conducted and 52 out of a possible 80 users responded. The results of this survey are discussed in section 4.10 below.

4.9.9 Structured Interviews.

Also twelve months after the commencement of the programme, all the gardens maintenance workers were interviewed in Zulu on the basis of a questionnaire (see annexure E) and their responses to each question were recorded and analyzed.

164

4.10   Results of the Surveys and Interviews

4.10.1 User Surveys. (See annexure F for the detailed results of the second user survey)

TABLE 13

AVERAGE SCORES OF THE TWO USER SURVEYS.

DEPART-MENT	AVERAGE SCORE, All CRITERIA SURVEY 1	AVERAGE SCORE All CRITERIA SURVEY 2	AVE. SCORE QUAL, QUANT, TIME SURVEY I	AVE. SCORE QUAL, QUANT, TIME SURVEY 2
Gardens Maint.	2.9	3.5	2.7	3.3
Air Con. Maint.	3.3	3.8	3.1	3.8
Cleaning	2.9	3.2	2.7	3.0
Building Repairs	3.0	3,3	2.9	3.2
Minor Const.	3.1	3.3	3.0	3.2
Vehicle Maint.	3.1	3.3	3.0	3.1
Carpentry	3.2	3.4	3.1	3.3
Painting	3.5	3.6	3.5	3.6
Plumbing	3.7	3.8	3.6	3.7
Electrical Repairs	4.1	4.2	4.0	4.1

TABLE 14

DIFFERENCES BETWEEN THE AVERAGE
SCORES OF THE TWO SURVEYS

DEPT.	PERCENT. DIFFERENCE SURVEY 2/1 All CRITERIA	PERCENT. DIFFERENCE SURVEY 2/1 QUAL, QUANT, TIME
Gardens Maint.	20.7	22.2
Air Con. Maint.	15.2	20.2
Cleaning	10.3	12.5
Building Repairs	10.0	9.2
Minor Const.	6.6	9.0
Vehicle Maint.	6.5	5.6
Carpentry	6.3	4.3
Painting	2.9	4.8
Plumbing	2.7	2.8
Electrical Repairs	2.4	3.3
Ave. All Departments	8.4	9.4
Ave. Control Departments	7.0	8.0

The second column of figures is included as these three output criteria formed the basis of the horticulturalist's evaluation as is mentioned in 4.9.2 above and are closely related

to the concept of effectiveness productivity. It can be seen that the order of magnitude is approximately maintained between the two sets of figures except that the evaluation of the air conditioning service showed a substantial increase of 20.2 % for the three output criteria as compared to 15.2% for all seven criteria.

The main purpose of the survey was to determine the effect of goal setting on the performance of the gardens maintenance workers and the improvement in the scores for this department by 20.7% and 22.0% in comparison to the scores obtained for the other departments indicates that goal setting did have a positive effect on performance as assessed by the users of the services of that department.

It should be kept in mind that the assessment of performance in this study was subjective and they are therefore suspect to a certain extent. However, the management of the division, including the Horticulturalist and the team supervisors, maintained that there had been a noticeable improvement in performance during the 12 month period and that this score was a fair representation of that improvement.

Since no goal setting programmes had been implemented in the other departments, the increased ratings for the air conditioning service (15.2% and 20.2%) was attributed to a planned maintenance programme which had been introduced during that year. The improvement for the cleaning service (10.3% and 12.5%) was attributed to the introduction of an external cleaning service in some areas of the campus.

The positive effect of the planned maintenance programme also supports the theory that the setting of goals helps to improve productivity as it involved the establishment of target dates by which specific air conditioning units had to be serviced. Target dates for specific tasks are, in effect, goals. The head of the air conditioning department was provided with a chart which indicated the maintenance plan for the year and during the year the chart was marked to show which jobs had been completed. The chart was discussed at the weekly management meetings after which the head of the air conditioning department showed the chart to the artisans and other workers. From a goal setting point of view, specific goals were assigned by management and regular

167

feedback was given to the employees in the department. It appears that the target dates (goals) were accepted by the workers and from the survey results it appears that they were committed to achieving the goals. However, as the planned maintenance programme was not investigated in detail, there is no indication whether the targets were regarded by the employees as being difficult. Nevertheless, the main ingredients of a goal setting programme were present and they appear to have been effective.

4.10.3 HORTICULTURALIST'S EVALUATIONS

The evaluations carried out by the Horticulturalist were based the criteria of quality, quantity and completion time and at the end of each month were recorded in writing and published on a notice board. The scores achieved out of 5 by each gardens maintenance team (A,B,C,D) on the monthly evaluations are indicated in the schedule below:

TABLE 15

HORTICULTURALIST'S EVALUATIONS.

	SEP 91	OCT	NOV	DEC	JAN 92	FEB	MAR	APR	MAY	JUN	AVE
A	3.0	3.5	3.0	3.5	3.5	3.0	4.0	3.5	3.0	3.5	3.4
B	3.5	4.0	4.5	4.0	4.0	4.5	4.0	4.5	3.5	4.5	4.1
C	3.5	4.0	3.0	4.0	3.5	4.0	3.5	4.0	4.0	3.5	3.7
D	3.5	3.5	4.0	3.0	3.5	4.0	3.5	3.5	4.0	3.5	3.6
Ave	3.4	3.8	3.6	3.6	3.6	3.4	3.8	3.9	3.9	3.8	3.7

There was an apparent difference in the average performance of the 4 teams during the 10 month period and Team B achieved the goal of 4 out of 5 for 8 of the ten months, Team C for 5 months, Team D for 3 months and Team A for 1 month. It can be seen that the ratings for each team did not vary much over that period but the average rating for all the teams increased from 3.4 to 3.8 in the second month, dropped to 3.6 for 3 months, dropped again to 3.4 and then increased to 3.8 and 3.9 for the last 4 months. Therefore, on average, there was a consistently high performance over the last 4 months although the goal was not achieved by the department as whole, i.e. on average.

The Horticulturalist's rating system differs from the user rating system in that the former relies on the judgement of one person and the latter on over fifty people. The Horticulturalist's evaluation is therefore more open to subjective biases than the user evaluation and it is possible that the differences in the Horticulturalist's scores for each team were contaminated by personal biases. However, in an attempt to ensure objectivity, the writer met with the Horticulturalist at the end of each month to check on progress and to stress that the evaluations should be objective and that he should justify his ratings to the supervisors. As far as could be determined at the time, the Horticulturalist was carrying out the ratings as objectively as he could and he was explaining his ratings to the supervisors.

While the two rating systems do differ in the manner in which the ratings were conducted, both systems were based on the same criteria of quality, quantity and time taken to complete the work and are therefore comparable to a certain extent. Assuming that the two sets of ratings are comparable on this basis and that the Horticulturalist's ratings were objective, the second user evaluation of 3.3 could be compared with the Horticulturalist's average rating for the total period of 3.7 which indicates that he was possibly more lenient than the users.

However, it should be kept in mind that the main purpose of the Horticulturalist's evaluations was to give feedback to the supervisors and the workers on their progress to ensure that they remained focused on the overall goal of achieving a second user rating of 4.

4.10.4 Results of Interviews with Gardens Maintenance Workers.

A year after the implementation of the goal setting programme, 42 of the 44 gardens maintenance workers were interviewed on the basis of a questionnaire to determine their opinions about the programme. The interviewer was a senior African student who was trained by the writer to conduct standardised interviews. The questionnaire (see annexure E) was designed by the writer and consisted of 27 questions which covered various aspects of the goal setting programme and, in essence, served two purposes. The

one purpose was to provide more information about the goal setting process and the other was to determine the extent to which the programme had been implemented as planned.

Summary of Responses:

a)   Acceptance of the programme   (Questions 1 & 2)

The programme (which includes the goal) was strongly accepted as an average rating of 4.2 out of 5 was recorded.

b)   Commitment to the programme   (Questions 3 & 27)

95 % of the employees reported that they wanted to continue with the programme which indicates a high level of commitment to it.

c)   Use of the soccer game to explain the programme. (Q 4)

Their average rating for their evaluation of the soccer game as an example to explain the concept of goal setting was 3,7 on the scale of 1 to 5 .

d)   Assigned goals. (Q 5)

84% reported that the assigned goal was 4 out of 5. The balance reported that they did not know or could not remember.

e)   Goal understanding. (Q 6)

74% reported that they understood the goal when it was first explained to them.

f)   Level of difficulty of assigned goal. (Q 7)

The average rating of the level of goal difficulty was 2,5 on a scale of 1 to 5 which meant that they perceived the goal of 4 out of 5 to be relatively easy.

g)   Self-set goals. (Q 8)

71 % stated that the actual (self-set) goal that they were working towards was 5 out of 5.

h)   Frequency of feedback (Q 9)

	Positive Responses
Monthly and weekly	74%
Monthly only	12%
Weekly only	10%
No feedback	4%

i)   Nature of feedback (Q 10)

	Positive Responses
Verbal and in writing	74%
In writing	12%
Verbally	14%

j)   Efficacy of feedback. (Qs 11, 12, 13)

84% reported that they thought the feedback method was good and the balance were either non-committal or wanted daily feedback. 100% reported that it was important for them to know how they are doing at work and the main reason given (48%) as to why feedback is important was that they want to know when they are working incorrectly so that they can rectify their work.

171

k)   Supervisor / subordinate relationships. (Q 14)

On average, the relationships with their supervisors were rated as 4.4 out of 5 which indicates a very positive relationship and 19% (8) of the respondents stated that their supervisors encouraged them to achieve the goals.

l)   Change in supervisor / subordinate relationships. (Q15)

29 % (12) reported a change in their relationship with their supervisor and the changes indicated were:

* helped me more (3)
* told me about the goals (7)
* more friendly (2)

m)   Programme's effect on work method / strategy. (Q 16)

None of the workers reported any changes in work methods as a result of the programme.

n)   Change in work strategy by worker. (Q 17)

None of the workers reported that they had changed their work methods.

o)   Situational constraints. (Q 18,19,20)

No situational restraints were mentioned.

p)   Goal achievement. (Q 21)

71% reported that they achieved the goal set for them.

q)   Satisfaction on achieving the goal. (Q 21)

93% of those who had achieved the goal reported satisfaction on achieving the goal (although they expressed this in a variety of ways).   7% (2) reported that they felt nothing when they achieved the goals.

r)   Dissatisfaction when goal not achieved. (Q 21)

79% of all the respondents reported that they were unhappy when they did not achieve the goals.

s)   Work related self confidence (Q 22)

95 % of the respondents reported that they now felt more confident about their work at the end of the programme.

t)   Involvement of the researcher. (Q23)

57% were positive about the involvement of the researcher and the balance were neutral.

u)   Supervisory encouragement. (Q 24,25)

64% stated that they received encouragement from their supervisors and 82% stated that they felt that it was important for the supervisor to encourage them.

v)   Attitude towards lack of financial incentives. (Q 26)

24% commented that the ratings should be linked to wage increases or prizes.

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CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 The Need for Research into Goal Setting.

In Chapter 1 it was pointed out that productivity improvement is one of South Africa's most pressing problems and although a variety of techniques have been applied to improve productivity, they have not had a noticeable impact on productivity in general. It can be argued that productivity should be improved through technological advances which also create more jobs in the long run. However, while these advances are inevitable and the nature of jobs will change, they will still involve people and in the final analysis productivity depends on the efficiency and effectiveness of these people which, in turn, depends to a large extent on their motivation. The motivation of managers and workers is therefore a critical aspect of productivity but the literature search discussed in Chapter 1 shows that the motivational research which has been carried out in South Africa has been based mainly on content theories of motivation which have not been shown to be successful in improving productivity. On the other hand, process theories have been shown to be more successful but Orpen was the only person who carried out any serious research based on these theories in South Africa. The research which he carried out was based on expectancy theory his results do show that this approach has merit. In Chapter 2 the research into another process theory, goal setting theory, was discussed in detail and it was shown that it can be successful in improving performance under certain conditions. However, no field studies into the application of goal setting have been reported in South Africa. Therefore, one conclusion which can be derived from Chapters 1 and 2 of this study is that more research into the application of goal setting as a technique for improving productivity should be carried out in South Africa.

5.2   Conclusions Based on the Study at the University of Natal

5.2.1 Performance

The results of this study show that the users of the services of the Estates Maintenance Division perceived that there was an improvement in the gardens maintenance service of 22.2% when the three output criteria of quantity, quality and time were considered and of 20.7% when all seven criteria were considered. These results are considerably higher than the average increases in the evaluations of the control groups (departments) of 7% and 8% respectively. Furthermore, they can be compared to the finding of the meta-analysis conducted by Mento, Steel and Karren (1987) that when difficult goals are combined with feedback, performance increased on average by 17,5%

As was pointed out above, it appears that the increase in the evaluations for the air conditioning service of 15.2% for all seven criteria and 20.2% for the output criteria were probably the result of the planned maintenance programme which was introduced shortly after the goal setting programme started with the gardens maintenance workers. The evaluation of the performance of the cleaning service increased by 10.3% for all criteria and 12.5% for the output criteria and it was pointed out that these perceived increases were probably as a result of the external cleaning service which was introduced during the twelve months under consideration. The only other increases which were of a reasonable magnitude were for the building repair service of 10% and 9.2% respectively and 9.0% for the minor construction service on the output criteria. However, no changes were introduced in the last two departments while the study was in progress and there are therefore no obvious explanations for these increases.

The subjective nature of the evaluation method used does mean that the scores are probably not highly accurate as a measure of actual performance but it should be kept in mind that the main objective of the division was to achieve "customer" satisfaction and from this point of view, the results of the survey can be regarded as being acceptably accurate. Nevertheless, even if the score of 22.2% is reduced by 20% to 17.8% as an allowance for subjectivity, this lower increase in output performance is still acceptable.

If it is accepted that the average evaluation of over 50 people in each of the user surveys is reasonably objective then the conclusion can be drawn that there was a noticeable improvement in performance and that the implementation of the goal setting programme was probably the cause of this improvement. On the other hand, the goal of 4 out of 5 was not achieved and from this point of view, the programme can be regarded as being unsuccessful. However, it should be kept in mind that the goal of 4 was 48% higher than the first user evaluation score of 2.7 for the three output criteria and was probably set at too high a level to start off with.

5.2.2 Acceptance of and Commitment to the Programme.

The responses to the structured interview indicate that the programme as a whole was strongly accepted by the workers and since 95% of them indicated that they wanted to continue with the programme, it can be concluded that they were committed to it. Furthermore, the rating of 3.7 out of 5 for the example of the soccer game which was used to explain the principles of goal setting shows that it was helpful in gaining commitment. (The fact that most of them remembered the example is probably a commendation in itself).

5.2.3 The Goal.

The most significant results in relation to the goal is that the average rating of the difficulty of the goal of 4 was 2.5 out of 5 (f) which can be interpreted as easy, and 71% of the respondents stated that the actual goal which they were working towards was 5 out of 5. The claim that their goal was 5 was not as a result of a misunderstanding about the assigned goal as 84% stated that the assigned goal was 4 out of 5 (d) and 74% claimed that they understood the goal when it was first explained to them (e). The goal of 5 out of 5 therefore appears to have been a self-set goal but what is not clear is whether this goal was set jointly by the members of each team or whether each worker set the goal independently. Nevertheless, most of the workers were actually working towards a difficult goal which, if taken together with the performance increase, to a large extent supports the claim of goal setting theory that difficult goals, if accepted, lead to

181

improved performance.

The reason for the self-set goal of 5 could be because the workers wanted to please the Horticulturalist or that they did not understand the implications of the goals in terms of operationalising them. On the other hand, Mowen, Middelmist and Luther (1981) found that subjects with moderately difficult assigned goals tend to be overconfident (see 2.3.11 above). It is feasible, therefore, that the goal of 5 out of 5 could be ascribed to overconfidence. However, to counter this argument, after a number of months of obtaining a maximum score of 4 out of 5 from the Horticulturalist the workers should have overcome this tendency. It appears more likely that the assigned goal of 4 was the minimum goal and the self-set goal was the maximum goal. This is supported by the statement by 71% of the workers that they had achieved the goal of 4 (p) which could have been done either on the weekly or the monthly evaluation.

5.2.4 Goal Commitment.

Tubbs and Dahl (1991) maintain that self-reports of goal commitment are unreliable and that the best way to measure commitment to assigned goals is to determine the difference between assigned and self-set goals. If their approach were adopted here, it would appear that the goal of 4 was rejected by most of the workers as they were committed to the goal of 5. However, if they had a minimum goal of 4 and a maximum goal of 5, it is possible that they not only accepted the minimum goal but were more committed to it than the maximum goal. In view of the statement by 93% of the respondents that they experienced a feeling of satisfaction when they achieved the goal, it is likely that they were committed to both the goal of 4 and 5 but to varying degrees.

5.2.5 Feedback

The results (h) indicate that 74% of the workers received feedback both monthly and weekly while 4% (2) received no feedback for the period. In addition, 14% (7) of the workers did not receive the monthly feedback, apparently because they did not have tea or lunch with the others in the tea room. It can be concluded that the feedback system

182

was applied reasonably well as 96% of the workers received feedback of one form or another, most received both types of feedback and most respondents reported that they valued the feedback which they received (j). Nevertheless, the feedback could have been improved with the possible result that the assessed performance could have been higher.

5.2.6 Supervisor/ subordinate Relationships and the Hawthorne Effect.

The results of the interviews conducted at the end of the 12 month study period confirmed the finding of the original attitude survey that the supervisor / subordinate relationships were very positive (k). In addition, 29% (12) of the workers noted a change in their relationships with their supervisors and these reported changes indicate that supervisor attention could have been responsible for a certain amount of the increase in performance, i.e. it is possible that there was a Hawthorne effect. However, 7 out of these 12 respondents indicated that the change they noticed was that the supervisor told them about their scores and the other 5 stated that the supervisor helped them more or was more friendly. The change in relation to telling them about the scores does not strictly relate to changes in the degree of attention which they received but the other 5 responses do and represent 12% of the workers. In addition, 10 of the 12 workers stated that they were working towards a goal of 5 out of 5.

While it appears that worker perceptions of changes in the amount or style of supervision is limited to 12 workers, it could be argued that the Hawthorne effect on these 12 could have been responsible for part of the 22.2% improvement in performance. However, a counter argument is that a number of steps were taken to reduce any possible Hawthorne effect and they are:

*   Goals were allocated and not arrived at through worker participation, thus minimising management / worker contact during the goal setting phase.
*   The presentations to the workers were kept to a minimum.
*   The feedback system was designed to fit into the Horticulturalist's normal routines as closely as possible.
*   No training was given to the supervisors to change their supervisory styles.

* The Horticulturalist maintained that there was very little change in his management style and the time it took him to give feedback. (This was also a condition of his when he agreed to introduce the programme, i.e. that it would not take up much of his time).

In addition to these steps, it seems likely that if there was a Hawthorne effect, it would probably have diminished after a two to three months so that its effect, if any, would have been negligible during the second half of the study period.

The field study conducted by Latham and Kinne (1974) is also relevant here as they controlled adequately for the Hawthorne effect and showed clearly that the improved performance was a result of goal setting and not the Hawthorne effect.

Therefore, while a small Hawthorne effect is possible in this study, it is unlikely that it would have influenced the performance of the whole department to any noticeable degree over the whole 12 month period and, more especially, towards the end of this period. Nevertheless, the main aim of this study was to determine whether a goal setting programme could be implemented successfully with South African workers and this has been shown to be the case. If the success of the programme is due to a certain extent to the Hawthorne effect, supervisory attention must be accepted as being one of the factors involved in the goal setting process as it probably is in any other motivational technique.

5.2.7 Task Strategy.

No changes in task strategy during the study period were reported which is probably a reflection of the low level of task complexity.

5.2.8 Situational Constraints.

No situational constraints were reported which could have inhibited performance.

5.2.9 Satisfaction.

The interviews indicated that 93% of those who achieved the goals experienced a feeling of satisfaction and it can be assumed that this feeling did play a part in the motivation of the gardens maintenance workers.

5.2.10 Work Related Self Confidence

95% of the workers stated that they felt more confident about their work at the end of the goal setting programme which indicates that goal setting and more specifically, the achievement of goals, helps to improve work related self confidence. However, since only 71% of the respondents stated that they actually achieved the goal at some stage (and not 95%), it must be concluded that other factors were also involved. One other factor could be that goal setting helps to clarify the demands of the job and this increased clarity in conjunction with feelings of achievement could have resulted in the high level of work related self confidence.

Since the concepts of work related self confidence and self-efficacy are very similar, this finding also tends to support the contention that self-efficacy and goal setting have a reciprocal relationship, i.e. goal setting is not only facilitated by high self-efficacy but it also helps to improve self-efficacy.

5.2.11 Incentives

There appeared to be no strong feeling about the lack of incentives in the programme but 24% of the respondents did comment that the ratings should be linked to wage increases or prizes. These could have been put forward as suggestions or could have been requests for more money but considering Backer's (1973) finding that wages were the main motivator for workers, a stronger reaction could have been expected. On the other hand, the attitude study conducted at the beginning of this study indicated that the workers in this organisation were satisfied with their working conditions and this attitude probably also extended to their wages.

Whatever the reason for the low level of the responses about money, it indicates on the one hand that goal setting programmes can be implemented without being linked to incentive schemes but on the other, linking goal setting to incentives could result in higher performance or in the performance being sustained for longer periods of time.

5.2.12 Duration of the goal setting effect.

Twelve months after the commencement of the programme the workers were still very much in favour of the programme and, according to the Horticulturalist's and the users' evaluations, were performing at more than satisfactory levels. This indicates that the goal setting effect would probably have continued for longer than 12 months which is longer than the duration of tbe effect in the study by Ivancevich (1976). However, Ivancevich maintains that additional interventions are required after about a year and this could have been the case in this study if it had continued for a longer period of time.

5.2.13 Summary of conclusions.

In summary, the results of this study show that the employees accepted and were committed to difficult goals (although they might not have appreciated just how difficult they were), and the goal setting programme as a whole resulted in improved performance. While the actual cause of the performance improvement cannot be proved categorically from the results of this study, the general conclusion can be made that goal setting theory can be applied successfully to workers in South Africa.

5.3 Recommendations for Further Study.

5.3.1 Training in Goal Setting

Each step in the design and implementation of goal setting programmes is critical to their success. However, very few managers have the necessary knowledge and skills required to do this and it is therefore necessary to train them in all the steps and in the management of the system on an ongoing basis. While Mol is actively involved in this

type of training, no research has been carried out in South Africa into the effectiveness of training in goal setting. An important area for further research is therefore the training of managers in goal setting.

5.3.2 The effect of job satisfaction / dissatisfaction on the goal setting process.

Both Mol (1990) and Backer (1973) stress that worker dissatisfaction resulting from inadequate hygiene factors can prevent motivational programmes from being effective or at least, can make it difficult for them to be effective. This aspect was included in this study and it was found that virtually no dissatisfaction existed amongst the labour force. However, no research has been carried out to investigate the role of dissatisfaction in motivational programmes. If Mol and Backer are correct, then productivity improvement programmes using motivational techniques should not be introduced in organisations where there is a high level of dissatisfaction or, as Backer suggests, they should be introduced at the same time as programmes aimed at improving the hygiene factors. This is therefore an area which needs to be researched in more detail.

5.3.3 Hard performance measures.

This study used "soft" or subjective measures of performance to investigate the effectiveness of goal setting which made it difficult to come to definite conclusions about any performance changes. More research should be done in organisations where "hard" or objective measures can be applied so that the results are more clear and less questionable.

5.3.4 Participative Goal Setting.

In this study goals were assigned and "sold" but Latham and Yukl (1975) found that a participative approach to goal setting was more effective than assigning goals to educationally disadvantaged workers (see 2.4.5 above). This could mean that if a participative approach had been adopted in this study, the performance of the workers might have improved to a greater extent than it did with assigned goals.

187

Keeping in mind the generally low level and quality of education of South African workers, research should be conducted into the comparative effectiveness of assigning goals and setting them participatively.

UNIVERSITY OF NATAL : PIETERMARITZBURG

MEMORANDUM

To: From: Mr D.M. Beaven
                                              Deputy Registrar and
                                              Director Campus Affairs

User Survey : Estates Division

We are constantly striving to provide an above average service on
this campus and to this end I would appreciate it if you would
complete and return the attached evaluation form by
Where you are not in a position to evaluate the service, indicate
with an X.

Quality of work refers to the quality as you perceive it e.g. was
the work completed and were the repairs effective.

Quantity refers to situations where the number of items
repaired/serviced/provided is important.

Scope of work - extent to which a comprehensive service is pro-
vided.

Response time - time taken from date of request to date work is
commenced.

Time taken to complete work - in comparison with the
estimated/quoted time or your estimate of how long the service
should have taken.

Grounds maintenance - refers to grass cutting, cleanliness of
grounds and general upkeep of gardens etc.

Thank you for your co-operation.

D.M. Beaven

EVALUATION OF SERVICE PROVIDED BY THE ESTATES DEPARTMENT, UNIVERSITY OF NATAL, PIETERMARITZBURG

Please rate the services provided by the Estates Department on the following scale:

X - Don't know	1 - Very poor
2 - Poor	3 - Average
4 - Good	5 - Very good

Consider services provided during the last six months.

Services	Quality of work	Quantity of work	Scope of work	Response time	Time taken to complete work	Co-operation of Estates management	Co-operation of other Estates personnel
1. Cleaning							
2. Grounds Maintenance							
3. Vehicle Maintenance							
4. Electrical Repairs							
5. Plumbing Repairs							
6. Painting							
7. Carpentry							
8. Building Repairs							
9. Air Conditioning							
10. Minor Construction Work							

Date: _____

Department: _____   Signature: _____

ESTATES DIVISION: FIRST USER SURVEY.

SECTION	A QUAL	B QUANT	C SCOPE	D RESP. TIME	E COMPL TIME	F MGT. COOP	G PERS. COOP	AVE. TOTAL	AVE. A,B,E
CLEANING	2.8	2.6	2.7	3.0	2.6	3.4	3.5	2.9	2.7
GROUNDS MAINT.	3.1	2.5	2.9	2.7	2.6	3.3	3.4	2.9	2.7
VEHICLE MAINT.	3.4	2.5	2.3	3.9	3.0	3.5	2.8	3.1	3.0
ELECT. REPAIRS	4.2	3.8	4.0	3.9	4.0	4.0	4.5	4.1	4.0
PLUMBING REPAIRS	3.7	3.4	3.7	3.5	3.6	4.0	4.1	3.7	3.6
PAINTING	4.0	3.1	3.3	3.0	3.3	3.8	3.9	3.5	3.5
CARPEN-TRY	3.5	2.9	3.3	2.9	3.0	3.5	3.5	3.2	3.1
BUILDING REPAIRS	3.3	2.8	3.3	2.3	2.6	3.2	3.5	3.0	2.9
AIR CON. MAINT.	2.7	3.2	3.0	3.4	3.5	3.7	3.7	3.3	3.1
MINOR CON-STRUCTN	3.5	2.6	3.3	2.5	2.8	3.3	3.7	3.1	3.0

UNIVERSITY OF NATAL : PIETERMARITZBURG

EMPLOYEE QUESTIONNAIRE

This questionnaire is part of a study designed to learn more about employee attitudes and opinions in the work situation. The questionnaire was compiled by the Department of Business Administration of the University.

You are assured that all responses you make to the items are <u>absolutely confidential.</u> The completed questionnaires will be summarised so that <u>individuals cannot be identified.</u> While we ask you to write your name on the answer sheet, this information is needed for research purposes only and the information about your individual response will not be disclosed by the researcher.

A report summarising the findings of the research will be given to management and your employee representatives.

Please realise that this is <u>not</u> a test - <u>there are NO "correct" or "wrong" answers</u> and no answer is any "better" than any other. It is of great importance to the research that your answers reflect your true attitudes and opinions.

Thank you for your co-operation.

SECTION I   INSTRUCTIONS

In this section you are required to answer a number of questions about yourself.

Item 1 of section 1 is:

1.   How often do you have the feeling that there is nothing you can do well?

Section 1 on your answer sheet appears as follows:

Section					
Item Number	Very Often	Fairly Often	Occasionally	Fairly Seldom	Very Seldom
1	a	b	c	d	e
2	a	b	c	d	e
3	a	b	c	d	e
4	a	b	c	d	e

If you wish to respond "OCCASIONALLY", you would place your cross in the column marked "OCCASIONALLY" as follows:

Item Number	Very Often	Fairly Often	Occasionally	Fairly Seldom	Very Seldom
1	a	b	X	d	e

Similarly, if you wish to answer "VERY SELDOM", you would place a cross over the letter 'e' in the column marked "VERY SELDOM".

Please answer questions 1 to 18 in this section in this way.

SECTION 1

1. How often do you have the feeling that there is nothing you can do well?

2. How often do you feel that you have handled yourself well at a social gathering?

3. How often do you worry about whether other people like to be with you?

4. How often do you feel self-conscious?

5. How often do you have the feeling that you can do everything well?

6. How often are you troubled with shyness?

7. When you talk to a group of people how often are you pleased with your performance?

8. How often are you comfortable when starting a conversation with people whom you don't know?

9. How often do you feel inferior to most of the people you know?

10. How often do you feel that you are a successful person?

11. Do you ever think that you are a worthless individual?

12. How much do you worry about how well you get along with other people?

13. In a discussion with other people how often do you feel sure of yourself?

14. How often do you feel that you dislike yourself?

15. How often do you feel sure of yourself when among strangers?

16. How often do you feel confident that some day the people you know will look up to you and respect you?

17. Do you ever feel so discouraged with yourself that you wonder whether anything is worthwhile?

18. In general, how often do you feel confident about your abilities?

SECTION 2   You are now required to continue with Section 2.

In this section you will find statements about your feelings towards your work, your superiors (boss) the University and your

co-workers. For these items you must indicate the degree to which you agree or disagree with each statement.

Your answer sheet appears as follows:

Section 2					
Item Number	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
19	a	b	c	d	e
20	a	b	c	d	e
21	a	b	c	d	e
22	a	b	c	d	e

If you wish to respond "UNCERTAIN", you would place a cross over the letter 'c' in the column marked "UNCERTAIN".

Similarly, if you wish to respond 'DISAGREE", you would place a cross over the letter 'd' in the column marked "DISAGREE".

There are 78 items in this section, please answer them all.

SECTION 2

19.   There are some conditions concerning my job that could be improved.

20.   My job is similar to things I like to do in my spare time.

21.   My job is usually interesting enough to keep me from getting bored.

22.   It seems my friends in other companies are more interested in their jobs.

23.   I consider my job rather unpleasant.

24.   I enjoy my work more than my leisure time.

25.   I am often bored with my job.

26.   I feel well satisfied with my present job.

27.   Most of the time I have to force myself to go to work.

28.   I am satisfied with my job for the time being.

29.   I feel that my job is less interesting than others I could get.

30.   I definitely dislike my work.

31.   I feel that I am happier in my work than most other people.

32.   Most days I am enthusiastic about my work.

33.   Each day of work seems like it will never end.

34.   I like my job better than most other workers do.

35.   My job is pretty uninteresting.

36.   I feel real enjoyment in my work.

37.   I am disappointed that I ever took this job.

38.   It seems that my friends and other workers in the company are more interested in their jobs.

39.   I am very happy with my boss.

40.   My boss always listens to my suggestions.

41.   I feel I am always discussing my personal problems with my boss.

42.   I never discuss my work problems with my boss.

43.   My boss is a very hard person.

44.   My boss is very strict.

45.   My boss gives very clear instructions.

46.   My boss always gives me time off when I ask for it.

47.   I am afraid of my boss.

48.   I wish I had another boss.

49.   My boss is always there when I need him.

50.   I get on very well with my boss.

51.   My boss sets a very poor example.

52.   My boss is not a good leader.

53. My boss understands my job very well.

54. My boss never checks on my work.

55. The University maintains very poor discipline amongst employees.

56. The University offers good career prospects.

57. Most employees at the University are looking for another job.

58. The University of Natal, Pietermaritzburg is an excellent employer.

59. The University looks after its employees very well.

60. I would never recommend anybody to work at the University.

61. I would not like my children to work for the University.

62. The University provides very good employee benefits.

63. Most employees don't like the way the University is run.

64. The University pays its employees more than most other employers in the Pietermaritzburg area.

65. The university has a very good procedure for handling grievances.

66. The University is very well run.

67. Most employees hate working at the University.

68. The planning of work at the University is very poor.

69. The University is a highly regarded educational institution.

70. The University doesn't seem to know where it is going.

71. I get on very well with my co-workers.

72. I discuss my personal problems with my co-workers.

73. I have many arguments with my co-workers.

74. I often meet my co-workers after work.

75. I never discuss my work problems with my co-workers.

76. My co-workers are my friends.

77. My co-workers and I form a good team.

78. I do not trust any of my co-workers.

79. My co-workers make my life difficult at work.

80. I always check with my co-workers before doing anything at work.

81. I don't like any of my co-workers.

82. My co-workers don't know what they are supposed to do at work.

83. I know my co-workers say bad things about me.

84. I often help my co-workers with problems at work.

85. When we do a good job at work we all feel good about it.

86. I hate working with my co-workers.

87. Sor times when I'm supposed to be in control at work I feel more like someone else is controlling me.

88. I do not know as much about my job as I should.

89. Anybody wishing to succeed in my job would do well to follow my example.

90. I can solve any problems in my job satisfactorily.

91. If anyone in my job can find the answer, I'm the one.

92. I often feel that I'm not getting anything done at work.

93. I always go home feeling that I have not accomplished much.

94. I feel thoroughly familiar with my job.

95. I honestly believe I have all the skills necessary to perform my job well.

96. This job makes me tense and anxious.

ESTATES MAINTENANCE DIVISION

Horticulturalist's Evaluation of Gardens Maintenance

Team: .....Evaluation Period: ....

Evaluate performance on quantity and quality of work
and time taken to complete work.

EVALUATION CRITERIA	SCORE
Watering	. . . . .
Cutting grass	. . . . .
Removing refuse	. . . . .
Attending to flower beds	. . . . .
Cleaning storm water drains	. . . . .
Controlling tools & equipment	. . . . .
Reporting damage in gardens	. . . . .
Attending to plants in nursery	. . . . .
Cleaning pathways & parking areas	. . . . .
Removing plant growth on buildings	. . . . .
TOTAL :	

Signature: .... Date: ....

GOAL SETTING PROGRAMME QUESTIONNAIRE

Department: .... Date: ....

1. When the programme was first explained to you, did you:

   Strongly disagree with it.   ....

   Disagree with it a bit.   ....

   Not bother with it one way or the other.   ....

   Agree with it a bit.   ....

   Strongly agree with it.   ....

2. If you disagreed with it, why did you do so? ....

   ....

   ....

   ....

3. What do you think of this programme now? ....

   ....

   ....

   ....

4. Did you find that the example of the soccer game:

   Helped you a lot to understand the programme.   ....

   Helped you a bit to understand the programme.   ....

   Did not mean anything to you.   ....

   Did not help you to understand the programme.   ....

   Actually confused you about the programme.   ....

5. What was the goal you were asked to achieve at work?

   ....

6. When the goal was first explained to you, did you understand it:

   Very easily ......fairly easily ......just a little ...... not at all ....

7. When this goal was first explained to you, did you think it would be:

   Very easy ......fairly easy ...... average difficulty ....

   fairly difficult....... or very difficult ......to achieve?

8. What goal did you set for yourself? ....

   ....

   ....

9. How often did your supervisor tell you how you were doing at work after the programme started? Once every:

Day......Week.....2 Weeks ......Month ...... Never ......

10. In what way did he tell you about how you were doing?

....

....

11. Do you think that this is a good way to explain your progress to you? ...... If "no", why not?..

....

12. Do you think that knowing about how you are doing at work is important? ....

13. If "yes", why do you think it is important? ....

....

....

....

14. How do you get on with your supervisor? ....

Very badly ......Badly..... Neither badly nor well ...... Well.....
Very well.....

15. Did the programme change the way in which you get on with you supervisor in any way? .....

If yes, in what way? ....

....

....

16. Did the programme change your work in any way? ....

If "yes", in what way? ....

....

....

17. Did you change anything in the way you work as a result of the programme? .....If "yes", what did you change?

....

....

18. Was there anything which prevented you from achieving your goal? .....
    If "yes" what was it? ....
    ....
    ....

19. Did you tell your supervisor about any work problems when the programme was
    explained to you? .....If "yes" what did you tell him about? ....
    ....

20. Did he do anything about it? ....

21. Did you achieve the goal which was set for you? ....
    If "yes", how did you feel when you achieved the goal?..................
    ....
    ....

    If "no", why not? ....
    ....
    ....

    If "no" how did you feel about not achieving it? ....
    ....
    ....

22. Now that you have worked with the programme for some time, do you feel more
    confident about your ability to do the work?.....

23. What did you think about having Mr. Hunter from the University involved in
    the programme?...
    ....
    ....

24. Did your supervisor encourage you to achieve the goal.....................
    If "yes", how did he do this?...
    ....
    ....

25. Do you feel that it is important that you supervisor encourages you? ....
    Why? ....
    ....
    ....

26. Did you earn more money as a result of the programme?..................

    How did you feel about this? ....

    ....

27. Would you like to continue with the programme? ....

    If "no", why not? ....

    ....

    ....

ESTATES DIVISION: SECOND USER SURVEY.

SECTION	A QUAL	B QUANT	C SCOPE	D RESP. TIME	E COMPL TIME	F MGT. COOP	G PERS. COOP	AVE. TOTAL	AVE. A,B,E
CLEANING	3.1	2.6	2.9	3.3	3.3	3.6	3.8	3.2	3.0
GROUNDS MAINT.	3.5	3.2	3.4	3.4	3.3	3.9	3.8	3.5	3.3
VEHICLE MAINT.	3.4	3.0	3.8	3.5	3.0	3.0	3.3	3.3	3.1
ELECT. REPAIRS	4.2	4.1	4.2	4.0	4.1	4.2	4.4	4.2	4.1
PLUMBING REPAIRS	3.7	3.7	3.8	3.6	3.6	4.1	4.0	3.8	3.7
PAINTING	4.0	3.6	3.6	3.0	3.3	3.6	3.9	3.6	3.6
CARPEN-TRY	3.5	3.3	3.9	2.8	3.0	3.7	3.7	3.4	3.3
BUILDING REPAIRS	3.4	3.2	3.6	3.0	2.9	3.5	3.8	3.3	3.2
AIR CON. MAINT.	3.9	3.7	3.7	3.7	3.7	3.9	4.1	3.8	3.8
MINOR CON-STRUCTION	3.5	3.4	3.5	2.7	2.8	3.7	3.6	3.3	3.2