CHAPTER 2

SELECTION

2.1 Introduction

"Things are seldom what they seem,
Skim milk masquerades as cream"
(Gilbert 1878, HMS Pinafore act 1 as quoted in Oxford Dictionary, 1992:306).

Hall and Goodale (1986:236) start their discussion on selection with reference to Warren Lamb's techniques: *"The latest method for invading the privacy of someone's personality goes one step beyond body language. This is a way of interpreting a person's integrated body movements to come up with an action profile or body "signature". The theory is being promulgated by Warren Lamb, director of a British consulting firm that specialises in decoding these subtle body movements primarily for firms interested in recruiting and organising management teams".*

Selection is the device that determines the overall quality of an organisation's human resources. Therefore it will impact on the service and products which clients and customers receive from an organisation.

Matheson et al (2000:18) emphasise that *"claims of infallibility are equally as ridiculous as claims of fallibility"* when referring to selection tools. The key point is that selection tools, unlike, people should never stand-alone.

2.2 Definition and Description

Hall and Goodale (1986:236) explain their view on selection as "*... the process through which representatives of an organisation define a job to be filled, assess the people applying for that job, and choose the applicant with the greatest potential to perform the job successfully*". This definition is confirmed by Carrel et al (1999:174), Mondy and Noe (1996:180), Byars and Rue (2000:251), Muchinsky et al (1998:119) and Noe et al (1994:377) who emphasise that selection is choosing the person that is the best suited to a particular job.

Selection is judging an individual's compatibility to a specific position, to determine the ideal 'fit' between a person and a job. More than half of the people who resign within the first year of being employed were incorrect job placements. Currently there is no success recipe for selection. Subjectivity is an integral part of selection as there is no perfect test. The selection decision is a discriminatory decision as the employer discriminates between applicants on the bases of ability and suitability. The objective is to strive to increase the validity of measuring instruments according to Carrell et al (1995:301), Muchinsky et al (1998:119), Singer (1990:124), Corbridge and Pilbeam (1998:99), Steyn (1982:152), as well as Ivancevich (1995:119).

On the other hand Milkovich and Boudreau (1997:240) suggest that the only perfect test to determine the best applicant for a job is to hire everybody, let every applicant perform the job and then to keep the best employees, while this is highly impractical, there is in fact no selection.

Selection is viewed as a two-way process where information is provided by both the employer and potential employee. However, current practice which implies that the decision to employ is a management prerogative, is cited by Stoner and Wankel (1978:331), as well as Torrington and Hall (1991:283).

Cascio (1998:271) views selection as a process consisting of two elements eg:

- measurement, collecting information, and
- combining data in such a manner that the predictive error is minimal.

Cascio (1991:281) continues that *"in personnel selection the name of the game is prediction, for more accurate predictions result in greater cost savings (monetary as well as social)".*

DeCenzo and Robbins (1988:147) agree with Cascio that all selection exercises are prediction orientated therefore determining which applicants will be successful or not.

Selection entails decisions made about assigning individual's to specific jobs or predicting who will be more successful at a job. In order for organisations to maintain their competitive edge, the utmost care must be taken in its choice of staff according to Noe et al (2000:180) and Beardwell and Holden (1994:232).

2.3 Rationale of selection

If variability in physical and psychological characteristics were not so prevalent, there would be little need for selection of people to fill various jobs. The goal of a selection programme is to identify applicants who achieve high scores on instruments that purport to assess knowledge, skills, abilities or other characteristics that are critical to ensure job success. Yet the risk of making incorrect selection decisions is always probable. Selection errors come of two guises: selecting someone who should be rejected (erroneous acceptance) and rejecting someone who should be accepted (erroneous rejection). These errors can be avoided by using measurement procedures that are reliable and valid.

If an organisation purchases 100 new machines, it is reasonable to assume that they have been constructed identically and should therefore be identical in efficiency and production. A similar assumption cannot however, apply to a new group of employees that an organisation may employ. The reason for this is that each individual differs from another because of physical and psychological characteristics.

Justification for selection lies in the fact that in each individual is uniquely constituted. Certain differences can be identified by observation only e.g. the colour of someone's hair and eyes. However, other differences such as the individual's ability and skills that are not readily identifiable. This simple observation leads to the very important conclusion that people are not equally suited to all jobs, therefore procedures for matching people and jobs have important organisational benefits (productivity and job satisfaction) according to Arnold et al (1998:139), Muchinsky et al (1998:120).

In any organisation a particular job requires a certain number of these imperceptible qualities. To determine whether a person will function successfully in the particular job, one of two approaches can be followed, i.e.:

- place the individual in the job and see if he or she can manage or
- use selection techniques to determine the non-predictable qualities and place the individual according to her or his qualities.

The first approach is clearly a trial-and-error approach. However, if it is not successful, it can lead to exceptional problems for the organization, as well as for the individual, one of these is financial loss for the organization. The individual could influence the work group negatively. In the second approach, an assessment is made to determine to what extent a particular individual satisfies the requirements for a specific job. (Nieuwoudt et al, 1999:36).

If selection techniques satisfy particular requirements, the prediction can be made accurately within the determined parameters. Selection techniques are not infallible, and not accurate prediction will not always be made on the basis of the information. Flippo (1984:166) writes in this connection:
"There has not been developed as yet any test, or any battery of tests, that can fully capture the complex nature of the human being."

Generalizations cannot be made when selecting students for tertiary entrance as every tertiary institution has its own unique character, mission and vision, according to du Plessis (1988:49).

To a large degree, the effectiveness of a company depends on the effectiveness of its employees, according to Carrell et al (1995:13). Mediocre performance will result when the labour force is of a poor quality therefore recruitment and selection are critical human resource activities.

Dessler (1994:154) cites the following reasons for the importance of selection:

- a manager's performance is judged by the success of his/her subordinates;
- to provide the job performance the organisation needs to gain its objectives;
- costs involved in recruitment and staffing; and
- legal implications if not done correctly.

2.4 Value of selection

2.4.1 Organisation

Every organisation aims to increase production but decrease costs. Only through the application of scientific selection methods can an organisation be sure that the available worker source will be used maximally. The organisation needs to employ, from the available applicants, those persons

who have the particular skills required for a specific task. This will lead to increased effectiveness, which is essential for increased production.

Effective selection reduces business problems such as expenses arising from accidents, high labour turnover, training and absenteeism, which are direct consequences of maladjusted employees.

Hiring the wrong person can also cause friction among current employees, as they become resentful at having to take the rap for inept newly hired employees. Inadequate selection leads to lost time, and irritation, all of which have economic ramifications as cited in Gómez-Mejía et al (1998:159), Louw (1984:2) and Singer (1990:123).

2.4.2 Employee

Self-actualisation motivates people to work. An employee can, however, only experience self-actualisation and the accompanying happiness and satisfaction, if the work she/he performs involves all her/his potential, skills and energy. On the other hand the demands, should not be too high.

Ineffective selection results in the maladjustment of the employee with the accompanying fasctors of discontentment, boredom, restlessness, fatigue, frustration, conflict and emotional imbalance.

2.4.3 Society

It is incumbent upon organisations to utilise existing positions in such a way that the people in them are able to be maximally productive. Jobs are scarce and the creation of new jobs will largely depend on the country's ability to generate economic wealth. Society cannot afford people who languish in positions or studies in which they do not have an interest, for which they do not have the skills or abilities and in which they are not

motivated to be as productive as possible according to Jacobson (1996:30) and Brink (1999:517).

2.4.3.1 Micro-level

A happy, satisfied employee will display a positive attitude to life, which rubs off on his/her family, friends and colleagues.

Ineffective selection could lead to dismissal or resignation, both of which may result from the unsuitability of the employee for the job he/she occupies. The employee loses her/his job, her/his social status and becomes a burden to society.

2.4.3.2 Macro-level

The economic costs of maladjustment of employees are transferred to society by the organisation in the form of increased prices for products manufactured and services rendered. These result in increased inflation, rising living costs and a decline in the standard of living.

Efficient selection leads to optimal utilisation of limited resources of labour and capital in order to maximise the production of goals and services. Unemployment with the accompanying unused labour input leads to a loss in production (Muchinsky, 1993:172).

2.5 Scientific selection

A scientific character is the main requirement for effective selection. A distinction can therefore be made between scientific and unscientific selection methods. There are a large number of unscientific selection methods that are used, by many organisations even today, in spite of the enormous development in the field of personnel selection and administration. The uncritical acceptance of such selection methods leads to unfairness towards employees, and loss to the organisation.

Examples of such unscientific techniques are the prediction of individual *suitability for a post using intuition, prejudice, stereotyping, and* first impressions of the personnel manager.

A taxi corporation could refuse, to employ Italians as a result of their alleged predilection to accidents, while another corporation, hardly a mile further on, gladly employs Italians, but not Irishmen, because of their predilection to accidents. The popularity of pseudo-scientific selection methods such as graphology, phrenology and physiognomy (based on the alleged relationship between characteristics and personality characteristics), may be an indication of the need for more exact selection methods. The validity and the accompanying effectiveness of the above-mentioned methods are highly acceptable (Nieuwoudt, 1999:47).

Scientific selection implies the use of experimental validated methods of selection of which the prediction efficiency is known. A scientific selection method is therefore expected to be valid, reliable and based on three kinds of information, i.e.:

- Knowledge of the demands that a particular post requires of the employee and the abilities the individual must have at his disposal to satisfy these requirements;
- Knowledge of the qualities and abilities of the different applicants applying for a post, to determine which applicant's characteristics correspond best to the requirements of a particular post; and
- Knowledge of the success of the prediction made during selection. (This implies a standard of work success on the basis of which may be judged if the *successful applicant is also successful in the work situation).*

Arnold et al (1998:164) are of the opinion that more than one selection techniques should be used to ensure accurate prediction.

2.6 Designing a selection model

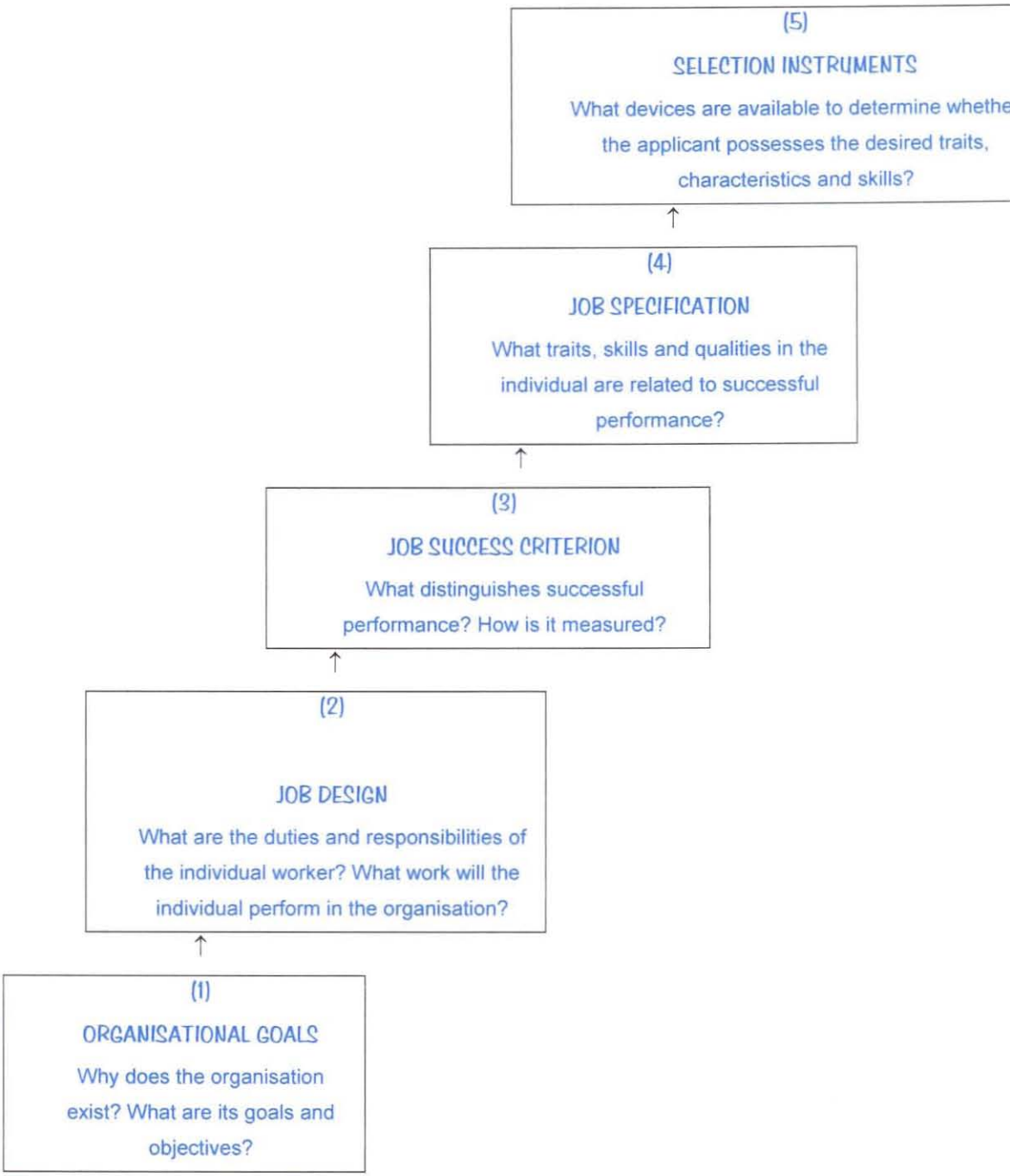
In the selection of measuring instruments, cognisance must be taken of any diversity in the work group to be evaluated, as well as of the criteria set out by the organisation if the new incumbent is to be successful. Solomon (1993:102) mentions that:

"Any test is of course biased by its maker – it can't be otherwise. Still, any test is legitimate for what it tests. The individual using the results merely has to have the perspective to use that information responsibly and understand what he or she is testing for."

Solomon (1993:102) continues to propose steps to be taken and aspects to keep in mind when diversity testing is done. Whatever the objective, in the final analysis, a specific person is assessed for a specific job in which she has to perform specific tasks. The nature of the tasks will determine the areas of testing and the test(s). The testing should also indicate the potential for integration into the workplace, so that both diversity and production are promoted and maintained. Tests should not weed out particular cultures. In fact, recruiters have difficulty in finding enough cultures to draw from.

When compiling a selection programme a number of steps can be listed. These steps usually follow a fixed order and determine the success and validity of the procedure that follows. The accuracy and methodology of the main steps will determine the eventual validity, reliability and success of the selection programme according to Nieuwoudt et al (1999:40), Stoner and Wankel (1978:332), Dessler (1994:157), Armstrong (1995:392) as well as Hall and Goodale (1986:239). Figure 2.1 describes the basic steps in a selection process.

FIGURE 2.1: BASIC ELEMENTS IN THE SELECTION PROCESS.



(Source: Carrell et al, 1995:305)

Figure 2.1 illustrates the elements in the selection process according to Carrell et al (1995:305):

- Organisational goals

  The hiring policy of the organisation is determined by the goals of the organisation. The choice is between employing the best person for the job at all costs or paying low salaries and not being concerned with labour turnover and employee satisfaction. A balance between cost and employee satisfaction must be established.

- Job design

  Job design determines the responsibilities and duties of each job.

- Job success criterion

  In order to distinguish between successful and unsuccessful employees, job success must be measurable.

- Job specifications

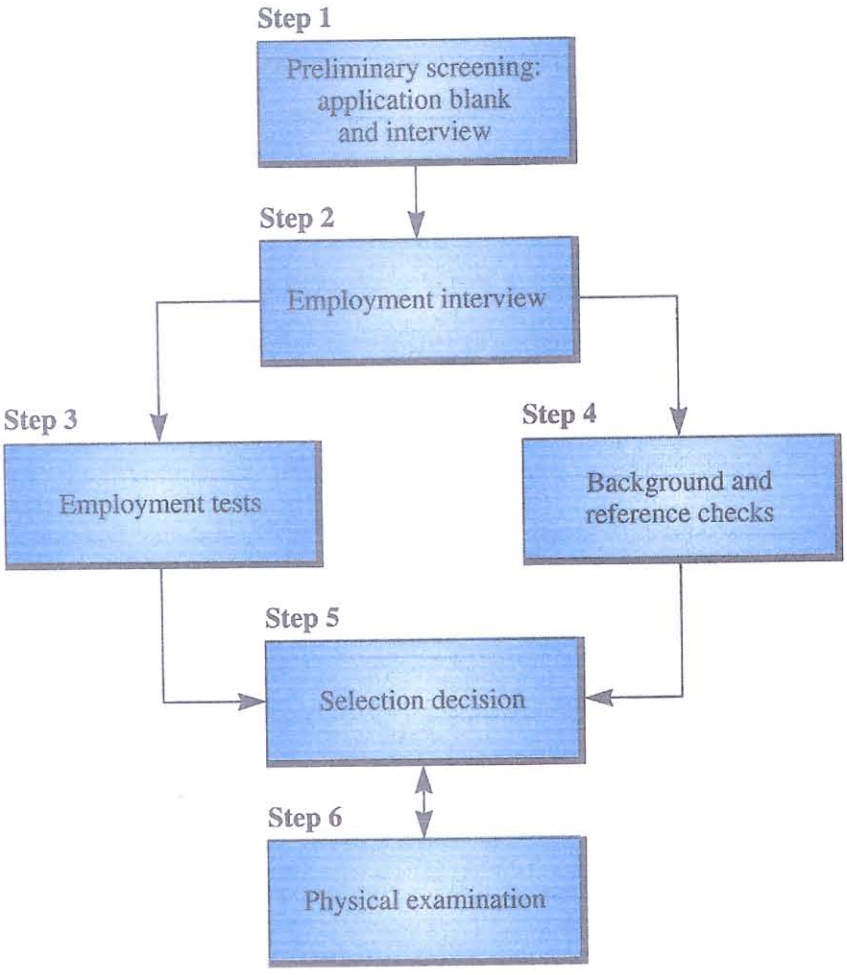
  Job specifications include a comprehensive description on the basis of the job description of the minimum requirements viz knowledge, skills and abilities a worker must have at his/her disposal to perform the specific work successfully. The requirements of the job description and specification become the predictors or standards of success.

- Selection instruments

  The last element is choosing the selection instruments eg interviews and tests.

In the selection procedure various methods can be used to gather significant information about an applicant, which can then be compared to the job specifications. Though there is no standard procedure a popular method is depicted in Figure 2.2:

FIGURE 2.2: TYPICAL SELECTION PROCESS.



(Source: Ivancevich, 1995;229)

- Initial or preliminary interview

Its object is the elimination of the unqualified applicants. If the applicant appears to have some chance of qualifying for existing job vacancies, he/she is given an application blank to complete.

- Application blank

Factual information such as qualifications, personal details and previous experience is obtained.

- References

The purposes are to obtain information about past performance of the applicant and to verify accuracy of information given on the application blank.

- Psychological testing

Certain tests are used to evaluate the applicant's personality, competence and skills against the job specifications.

- Interviewing

This is probably the most widely used method of selection. A substantial amount of subjectivity, and therefore unreliability, can be expected from the interview when used as a tool of evaluation.

- Physical examination

A physical examination is conducted to determine the applicant's physical abilities and to prevent communicable diseases from entering the organization.

➢ Criteria of work success

Before the efficiency of the tests can be determined, the present workers, on whom the tentative tests were performed, must be classified as successful and unsuccessful workers.

This division occurs according to the standard known in Business Psychology as the "criteria of work success" which must, if not already available, be prepared.

➢ Tentative validation of the test programme

The tests, chosen or prepared, are now validated according to the criteria of work success. Tentative validation is needed to -

- determine the prediction value (correlation) of the various predictors (tests);
- eliminate (intercorrelation) tests that measure the same factors or abilities as other tests in the test programme;
- find a basis for the allocation of weight for the test (by comparison of regression);

- determine the criteria to separate successful from unsuccessful workers.

➢ *Compilation of tests in a test battery*

According to the results obtained from the tentative validation, importance is attached to the chosen tests with regard to their prediction ability. The tests are then combined in a test programme known as a test battery to which applicants are subjected.

➢ Cross-validation

After the tentative selection programme has been prepared its validity must be established by applying it to a new sample. Such an independent determination of prediction validity is known as cross-validation.

Cross-validation involves the application of the process through which the selection programme is temporarily found valid in view of control, to a new sample (a group of applicants).

The motivation for the cross-validation of a selection programme is two-fold, viz-

- to determine whether the standards, or some of the standards, that possess prediction value according to the tentative validation programme, are not random;
- to determine whether the selection programme will maintain its effectiveness when it is applied to a new independent test group.

The process of cross-validation involves the following:

- subjection of all qualifying applicants to the test battery;
- separation of potential good and poor workers according to the test results;
- appointment of all the applicants, successful as well as unsuccessful, according to the test results;

- application of work success criteria to the appointed applicants after the expiry of an adaptation period and the separation of good and poor workers according to the criteria results;
- determination of the prediction validity of the test results by comparing them to the results obtained from the application of the work success criteria.

If it is found in the cross-validation that a high correlation exists between the prediction of work success (according to test results) and actual success (according to the results of the criteria application) the selection programme can be accepted as being valid.

- Follow-up study

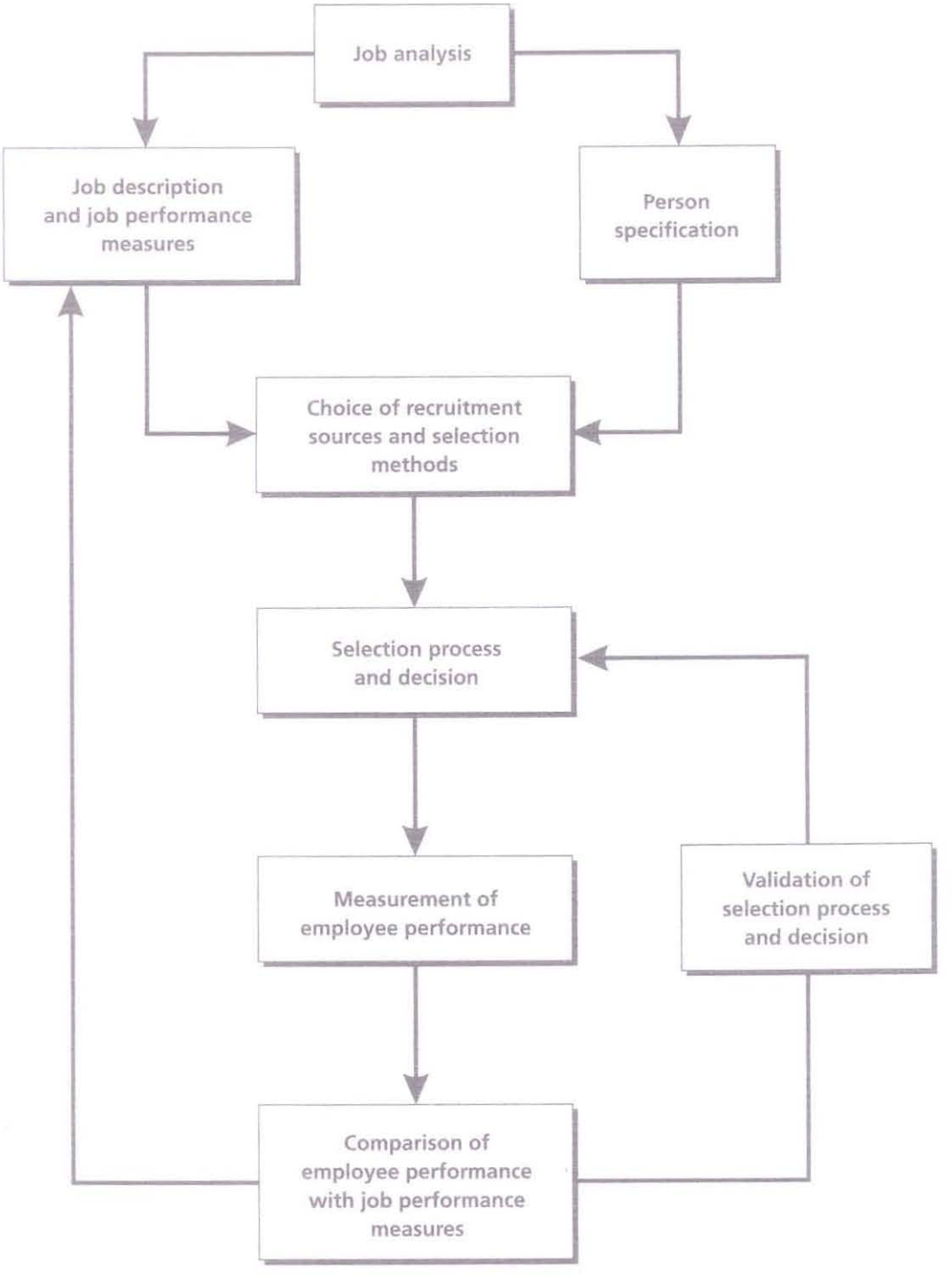
Although the follow-up study cannot be seen as a step in the compilation of a selection programme, it is an important aspect of the selection process that is often ignored.

The follow-up study is a periodic evaluation of the selection programme to determine whether it is still valid.

Follow-up studies are necessitated by the phenomenon that factors determining success in the work situation do not remain constant. Fluctuations in the worker pool may entail adaptations or the need for improvement can necessitate changes.

Figure 2.3 illustrates an example of the validation of the selection process.

FIGURE 2.3: VALIDATING THE SELECTION PROCESS AND DECISION.



(Source: Corbridge and Pilbeam 1998:103)

2.7 Selection decisions

Singer (1990:334) reports the types of errors that can be made during selection:

- rejecting an applicant who would have been successful - a false negative;
- selecting an applicant who fails - a false positive;
- selecting an applicant that should be hired - a true positive; and
- rejecting an applicant that should not be hired - a true negative.

The ultimate purpose of a selection procedure is its contribution to hiring successful employees.

Cherrington (1995:260) illustrates in Figure 2.4 the three factors that influence the usefulness of a predictor and gives an explanation:

- The selection ratio is defined by the following formula:

$$\text{Selection ratio} = \frac{\text{number of applicants hired}}{\text{total number of applicants}}$$

- The selection ratio indicates how many applicants are hired. This ratio will be 1,00 if everyone that applies is hired. If only one out of five applicants is hired the ratio will be 0,200.

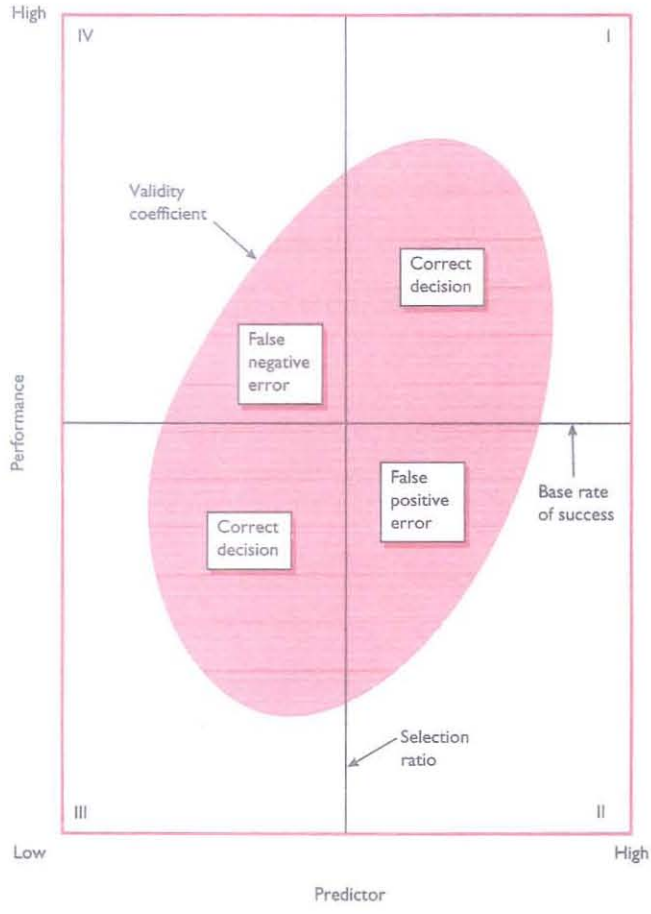
- Validity coefficient

  The validity coefficient is the correlation coefficient between the predictor and criteria.

- Base rate of success

  The base rate of success indicates the percentage of successful employees if they were to be hired at random without the use of a new predictor.

FIGURE 2.4: ASSESSING THE USEFULNESS OF A PREDICTOR.



(Source: Cherrington, 1995:261)

Apart from criterion-related validity, which is discussed in chapter three, Figure 2.5 lists a number of other features that must be considered when choosing selection methods. The expenses associated with selecting the wrong applicant are considerable, not only for the applicant but for society as well.

Irrespective of the method used for a selection decision, it must meet five criteria according to Arnold et al (1998:165) as reflected in Figure 2.5.

FIGURE 2.5: MAJOR EVALUATIVE STANDARDS FOR PERSONNEL SELECTION PROCEDURES.

1. Discrimination

The measurement procedures involved should be provided for clear discrimination between candidates. If candidates all obtain similar assessment (ie scores, if a numerical system is used), selection decisions cannot be made.

2. Validity and reliability

The technical qualities of the measurement procedures must be adequate.

3. Fairness/adverse impact

The measures must not discriminate unfairly against members of any specific subgroup of the population (eg ethnic minorities).

4. Administrative convenience

The procedures should be acceptable within the organisation and capable of being implemented effectively within the organisation's administrative structure.

5. Cost and development time

Given the selection decisions (eg number of jobs, number of candidates, type of jobs) involved, the costs involved and the time taken to develop adequate procedures need to be balanced with the potential benefits. This is essentially a question of utility.

(Source: Arnold et al, 1998:165)

2.7.1 Selection strategies

Guion (1991) as mentioned in Muchinsky et al (1998:128) emphasises that selection strategies assist with the decision because personnel selection always contains an element of judgement that no statistical procedure can eliminate.

After all the information has been collected, a selection decision is made and usually three methods are used according to Cherrington (1995:230):

- clinical judgement

refers to a subjective decision about the most suitable applicant after an informal examination of the information about applicants

- weighted composite

statistically combining weighted information into a composite score

- multiple cut-off

a sequential process where applicants must achieve satisfactory levels at each successful step.

Selection strategies are different in respect of complexity and the assumptions made about the relationships between predictors and criteria. Cascio (1998:202) identifies five different approaches towards selection, viz:

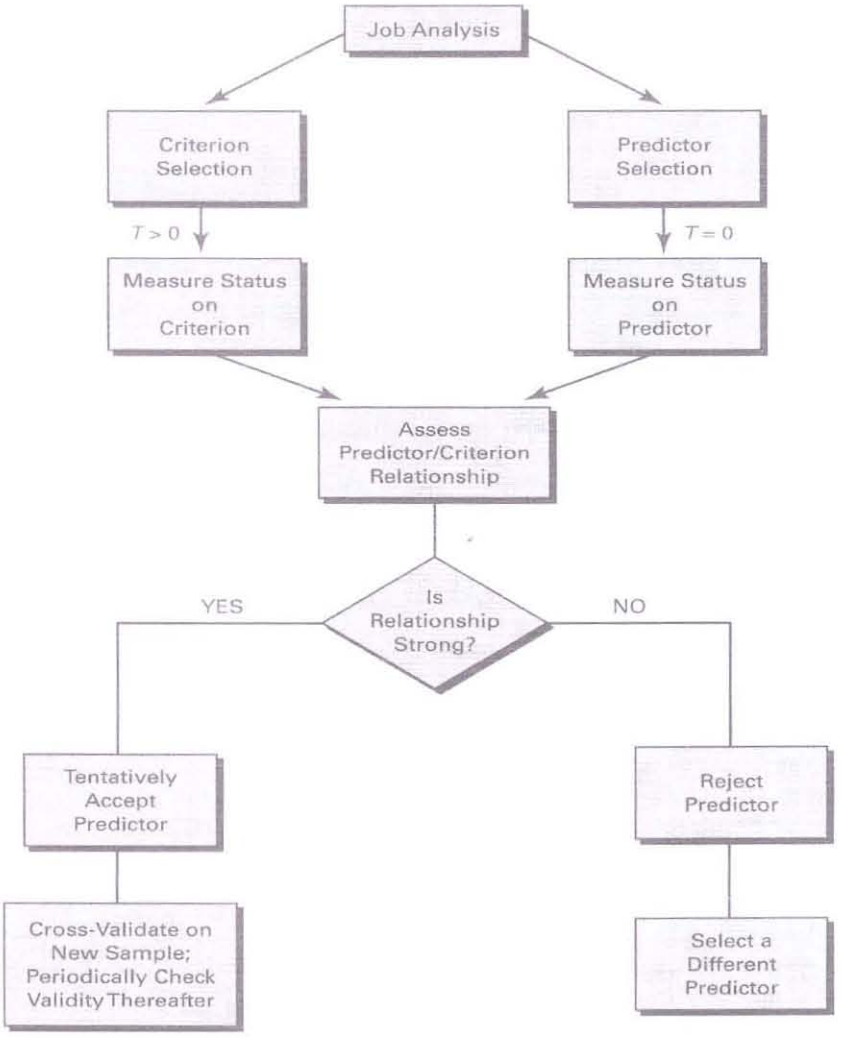
- Traditional approach
- Efficiency of linear models
- Moderator variables
- Suppressor variables
- Alternative prediction models

2.7.1.1 Traditional approach to selection

Figure 2.6 illustrates Cascio's (1998:203) traditional approach to selection. The job analysis is the cornerstone of the selection process and is embodied in a job description and job specification. Simultaneously criteria and predictors (eg aptitude, ability etc) are selected. The predictor

measures are administered to all applicants and is not used to make selection decisions at this time and the results are kept. The measurement of the criterion status takes place at a later stage (T>0). After the measures of the criterion and predictor become available the form and strength of the relationship between predictor and criterion can be determined. If the relationship is strong, the prediction will be more accurate and the predictor will be accepted provisionally pending the outcome of a cross-validation study on a different sample of applicants.

FIGURE 2.6: TRADITIONAL MODEL OF THE PERSONNEL SELECTION PROCESS.



(Source: Cascio, 1998:203)

2.7.1.2 Efficiency of linear models in selection

The general linear model (y = a + bx) is the basis of simple and multiple linear regression models. These models are used by decision-makers in a variety of contexts e.g. during an interview where various pieces of information are gathered and different weights are allocated in order to predict job success. (Cascio, 1998:204).

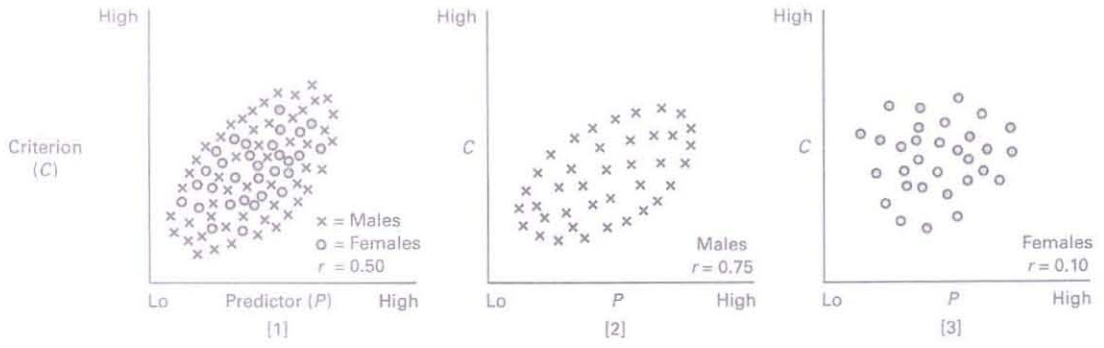
Dawes and Corrigan (1974) as mentioned in Cascio (1998:204) conclude that:

"a wide range of decision-making contexts have structural characteristics that make linear models appropriate. In fact, in some contexts linear models are so appropriate that those with randomly-chosen weights outperform expert judges!"

2.7.1.3 Moderator variables

When the relationship between a predictor and a criterion (r_{x1y}) varies as a function of classification on some third variable x_2, differential predictability exists and x_2 is termed a moderator variable. If the scoring patterns of job success of males and females differ, then gender is a moderator variable. Figure 2.7 illustrates this situation.

FIGURE 2.7: SCATTERPLOTS ILLUSTRATING THE EFFECT OF GENDER AS A MODERATOR VARIABLE.



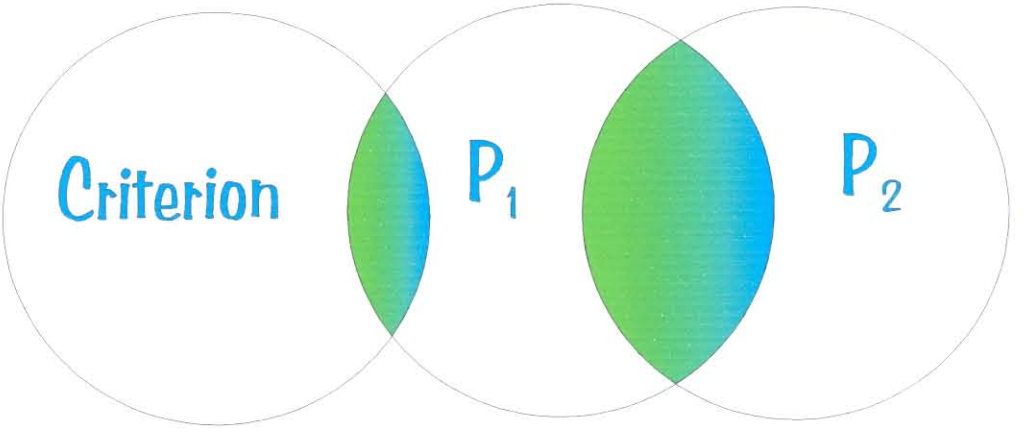
(Source: Cascio, 1998:205)

2.7.1.4 Suppressor variables

Supressor variables are related to moderator variables although they bear little or no direct relationship to the criterion that can affect the predictor-criterion relationship. Supressor variables are characterised by a lack of association with the criterion ($r_{Ys} = 0$) and high correlation with one or more predictors as illustrated in Figure 2.8. Cascio (1998:206) explains the operation of a suppressor variable as follows:

"In computing regression weights (w) for P_1 and P_2 using least squares procedures, the suppressor variable (P_2) receives a negative weight (i.e., $\hat{y} = w_1P_1 - w_2P_2$): hence, the irrelevant variance in P_2 is 'suppressed' by literally subtracting its effects out of the regression equation."

FIGURE 2.8: OPERATION OF A SUPPRESSOR VARIABLE.



(Source: Cascio, 1998:206)

2.7.2 Alternative prediction models

The following alternative prediction models are identified by Cascio (1998:207), Cherrington (1995:258) and Muchinsky (1993:165):

2.7.2.1 Simple regression

Breakwell et al (1995:362) refer to the selection decision as actually predicting who will be successful in the job, and this prediction is addressed by a class of multivariate methods known as regression procedures. As an example of simple regression the prediction of school achievement from IQ will be considered, refer to Figure 2.9.

FIGURE 2.9: SCATTER PLOT OF IQ AGAINST SCHOOL ACHIEVEMENT.

(Source: Breakwell et al, 1995:363)

In Figure 2.9 the relationship is positive, thus an individual with a high IQ score will most probably achieve high marks in school. The regression line is calculated in such a manner that the distance from the points to the line is minimised. If the IQ (X) of a potential individual is known, the school achievement score (Y) can be estimated by using the following formula:

$$Y = X\beta + \alpha$$

To predict the dependent variable optimally, β is a weight applied to the predictor variable and α is a scaling parameter to transform the scale of the of the predictor variable to that of the criterion variable (IQ score to scholastic achievement). An absolute correlation coefficient of 1,00 will result in all the points in the plot lying on the regression line and in a perfect

accurate estimate. Thus, whenever the correlation is less that 1,00 some inaccuracy occurs in prediction.

The correlation between IQ and scholastic achievement can also be presented as a ball of variance as illustrated in Figure 2.10.

FIGURE 2.10: SCHEMATIC REPRESENTATION OF A CORRELATION BETWEEN TWO VARIABLES.

(Source: Breakwell et al, 1995:364)

The overlap between IQ and scholastic achievement is 0,60 and the squared correlation (0,36) represents the overlapping or proportion of covariance between the two variables.

2.7.2.2 *Multiple regression*

When a given dependent variable is affected simultaneously by several independent variables, multiple regression analysis is applied. (Babbie, 1998:413). Given predictors $X_1, X_2, X_3, \ldots X_n$, the particular values of these predictors will vary widely across individuals, but the statistical weightings of each of the predictors will remain constant.

One of the advantages of this model is the minimizing of errors in prediction by combining predictors optimally in order to yield the most efficient estimate of criterion status. However, when the assumptions of multiple regression are untenable, then a different strategy must be applied for example the multiple cut-off approach.

2.7.2.3 Multiple cut-off

The multiple cut-off selection strategy is not limited by the problem of compensating predictors or linear relationship between predictors and criterion. This method assumes that a minimal amount of ability on all predictors is needed for job success and minimal passing score cut-offs are set for each predictor. Any applicant who scores below the cut-off on any predictor is rejected and all those scoring above the cut-off are accepted. Having a high score on one predictor does not compensate for having a low score on another predictor (McCormick and Ilgen, 1992:148).

2.7.2.4 Compensatory selection

In the compensatory selection process all applicants who pass the initial screening are submitted to all the selection techniques. For example all students applying for a course and adhere to the basic admission requirements of a senior certificate will then do all the different tests.

The advantages are that applicants are compared on the basis of all the selection information before a decision is made. One person can score low on a specific test and high on another, which benefits the applicant. For example a very nervous applicant with low self-confidence may receive low scores on the interview, but performs very well on the aptitude and internal locus of control test. A very high score might offset the low score in one area in another area (McCormick and Ilgen, 1992:148)

On the other hand the disadvantage of this process is its high cost, as a large number of candidates must undergo the complete selection procedure before a final decision can be made.

2.7.2.5 *Multiple-hurdles selection*

The multiple-hurdles approach requires the applicant to cross each hurdle and unsuccessful applicants are rejected after each hurdle. The applicant's matric subjects could be weighted and if the score is above the cut-off mark, the applicant will move on to the first test. The applicant has to cross every hurdle to be successful.

Muchinsky et al (1998:132) describe the multiple-hurdle approach to selection as using different evaluations in the selection process. They starts with the elimination of the obvious non-starters or least qualified people and continue evaluating the remaining applicants.

The advantages of this approach are:

- Not everybody is subjected to the total selection process;
- More accurate prediction - more evaluations will ensure better quality and confidence in selection and the odds of a false positive's surviving multiple evaluations are much lower than those who have survived one evaluation;

On the other hand the major disadvantage is the time and cost involved.

2.8 Selection in a 'new' SA

2.8.1 Introduction

Tustin (1992:1) mentions that *"organisations have the right even to be fairly stupid in their employment practices as long as they are stupid fairly"*. Tustin maintains that South Africa currently experiences the problem of being expected to develop personnel selection procedures in a non-racial

society, and making predictions of performance for multi-cultural groups, while there is very little empirical South African research available to facilitate the decision-making process.

Taylor (1992: 6) refers to selection in South Africa:
"at this time in South Africa's history, when attempts are beginning to be made to redress the sins of apartheid and the disadvantagement that it caused or intensified for so many people..... fairness is such a relative concept. One person's fair is another's foul".

With the quick changes in South Africa's labour situation it is to be expected that labour unions and individual employees will continuously question the fairness of present selection techniques.

The issue of fairness in testing relates to a concern for securing equality of opportunity for all, which is often interpreted as selecting those individuals who are most likely to be successful.

This Utopian idea can never be anything but an illusion according to Tustin (1992:2), because people are unique individuals in a societal make-up. The differences in attitudes, perceptions, values and socio-economic status will endure for as long as procreation continues. Yet, some of these differences between people can be addressed and, like the South African experience so clearly illustrates, middle ground can only be attained if all parties are willing to strive towards such attainment.

One obstacle in the way of this middle-ground attainment will remain the incredible differences that exist between people in terms of their abilities, aptitudes, personality traits, developmental opportunities, cultural backgrounds and employment potential.

In the Utopia of Equality, everybody will be equally endowed with talents; therefore everyone will occupy the same position, without any

discriminatory impediment. In the harsh reality of the Real World, however, people are not equal and can never be equal: neither in their human qualities nor in their personal development in the various strata of societal life, Taylor (1992:7).

The world discriminates between groups, nations and countries while societal structures discriminate between people. Discrimination is a fundamental and instinctive trait of the human race: To compare one to the other constantly and to find a way to choose only one.

Simultaneously, man has an incredible thirst for knowledge, discovery and invention. From the most basic of survival activities man created work for himself and others, all the time expanding it more and more, creating greater and more awesome structures and technology. The more complicated, the greater the operating skills required; the greater the skills, the more complicated the emerging demands; the greater the demands, the greater the costs, until finally man has to find substitutes to curtail the fruitless expense of gut-feel mistakes in the placement and full utilisation of employees.

Needless to say, in psychometry man has found one such a substitute, which, when used properly in conjunction with other methods of evaluation, does provide a tool to achieve the objectivity of selecting (in a scientific manner at least to some extent) the best person for the job on hand. The necessity for selecting the right person for the task became imperative in the two World Wars. Today, modern man cannot afford to be selective.

Economic realities force organisations to pay special attention to the economic viability of an enterprise and its systems. Political and labour demands place heavy burdens on an already faltering economy, forcing many organisations to close their doors after decades of providing whole communities with a livelihood. Surviving organisations are hard pressed to pursue effective and efficient management practices actively, while

simultaneously they strive to preserve the community, of which they form an inseparable part, by creating and maintaining employment opportunities.

The necessity of developing new test material is often seen as the panacea to the problems of modern industry's largely political problems. Perhaps in one's eagerness to find new, more fair, more equitable and more 'culture-free' tests, one has overlooked the many possibilities opened in the work of giants who went before current researchers. In a time when it has become fashionable to scorn psychometrics because it discriminates between people, people are losing an important aspect of being human: the uniqueness of every person as a separate entity working in unison with other equally separate entities, yet achieving a common goal representative of the sum of all those unique contributions made by the members of the group who set themselves that goal.

2.8.2 Selection at tertiary institutions

At tertiary institutions (eg technikons, universities, colleges) there are frequently more applicants than available vacancies as confirmed by Van der Vyfer (1984:1), Brink (1999:518), Gourley (1992:71), Engelbrecht (1993:1) as well as Singh (2000:5).

In addition not all applicants are likely to be successful in terms of academic success. In situations such as these, selection typically takes place on the basis of a selection instrument according to Smit (1992:1) and Zaaiman et al (1998:97).

Huysamen (1996:8), Gourley (1992:70), van der Vyfer (1984:1), and Huysamen (2000:146) predict that the applicants for admission to tertiary institutions will increase considerably in future. The likelihood of increasing State funding to tertiary institutions is diminishing. Stricter selection will therefore have to be applied.

After the abolition of separate tertiary institutions and job reservation for the various South African population groups, applicants with diverse academic backgrounds are competing for admission to the same tertiary institutions or for the same job vacancies. In view of the generally poorer quality of the school training that some of these groups have been exposed to, competing on an equal footing has placed members from such groups at a disadvantage (Bokhorst et al, 1992:59; Zaaiman et al, 1998:96; Botha and Cilliers, 1999:144; and Huysamen, 1999:132).

The recreation of tertiary institutions as institutions of the people, orientated towards addressing the process of knowledge manipulation for social change. Instead of nurturing cultural privileges and keeping institutions inaccessible or purely elitist to the majority of the population, laws are promulgated by Khotseng (1992:92).

Zietsman and Gering (1985:3) and Huysamen (1996:8) argue for greater representation of subgroups that have received inferior school training n the years of apartheid.

However, if selection tests are abolished, there is the real danger that we may resort to procedures that are even more biased than valid tests according to Tenopyr (1981:1125).

Bokhorst et al (1992:60) and Louw et al (1998:149) have expressed concern about tertiary institutions using a selection system which:

- concentrates on the prediction of academic success only, while proficiency with regard to a specific career should be emphasised; and
- is based on school achievement as the only predictor of success.

Mitchell and Fridjhon (1987:559) maintain that the mark obtained by a student at a tertiary institution is not a measure of excellence, but rather an indication of his ability to achieve educational objectives (unique to the specific institution) and this reflects the ability to optimise the relationship

between knowledge and assessment. In addition, there is no indication that successful matriculants possess those skills necessary for success on a tertiary level.

As students meet the entry requirements they have the expectation that they will be successful in their studies, consequently their hopes are dashed when they discover that the brand of secondary education does not prepare them adequately for tertiary education as mentioned in Bargate (1999:139).

A shocking dropout rate of students was reported by Gourley (1992:71) as well as Bargate (1999:139) and serious questions need to be raised when a higher education system selects the best 120 000 students and then have more than 30 000 fail in their first year. Out of a total of 600 000 students in higher education the annual drop-out figure is more than 100000 according to Van Rensburg (2000:1).

2.9 Selection at technikons

Based on mission statements Technikons are seen as leaders in technical and technological education, therefore the pursuit and maintenance of the highest educational standards are of prime importance as mentioned in Louw et al (1998:151) and Engelbrecht (1993:24).

As a result of the career-focused orientation of Technikons the best academic achiever will not be be successful in a specific career according to van der Vyfer (1984:3).

In South Africa the past decade's sweeping political changes and the recent publication of documents like the "National Curriculum Framework for Future Education and Training" - draft document and "The Size and Shape" - document has urged tertiary institutions to re-evaluate their policies and methods used for student selection and access as reported by Botha and Cilliers (1999:144) as well as van der Walt (2000:4).

2.10 Selection and diverse cultures

Diversity and multicultural issues are not unique to South Africa, Turner et al (1999:27) report that inequities based on racial and ethnic differences continue to exist in the Midwest and therefore is an urgent need to re-examine the issues of recruitment.

Petersen and Novick (1976:3) indicate that more complex analyses are required in order to eliminate the cultural unfairness of some models of selection.

The Employment Equity Act as cited by Thomas and Robertshaw (1999:90) specifically states that the use of selection tests can be justified if the tests are scientifically proved to be:

- valid;
- reliable;
- applicable to all employees; and
- not biased against any employee or group.

Doubts have been expressed about the use of school results as a sole predictor for academic admission when blatant discrimination within the educational system has been evident in the past, Zietsman and Gering (1985:3), Bokhorst et al (1992:64) and Huysamen (2000:146).

2.11 Tertiary selection in other countries

Hohne (1969:8) conducted research at the request of the Commonwealth Universities' Commission and the University of Melbourne into the prediction of academic success. All first-year students were tested using a battery of psychometric tests. Intelligence was clearly found to be an essential, but not sufficient, condition for success. Factors such as interest,

study habits, personality and socio-economic factors appear to contribute to academic success. Yet, the main criteria for entrance remain the matric examination.

The last few years have seen a revival of interest into the study methods of tertiary students in Australia because of the difficulty in predicting tertiary performance (such as motivation, attitudes and personality) much beyond the level provided by intellective variables (such as IQ and tertiary entrance tests) alone, according to Watkins and Hattie (1981:384).

High-school matriculation scores continues to be the best predictor of success in all faculties but more so however in science, than in arts according to Biggs (1978:273) at the University of Newcastle.

According to Huysamen (1996:8) the most popular selection model, used by tertiary institutions in the United States, is a statistical prediction model consisting of school performance and entrance examinations combined in a multiple hurdles model. The representation of the selected group is investigated and if not fully represented the requirements is diminished.

The validity of school grades for predictions have scrutinised by McClelland (1973:2) and he concludes that researchers have in fact had great difficulty demonstrating that grades in school are related to any other behaviours of importance, other than doing well on aptitude tests, which are used for admission to tertiary institutions.

Tests have tremendous power over the lives of young people by labelling some of them as 'qualified" and others as 'less qualified' for college in the United States. Until recently these tests have served as a very efficient device for screening out black, Spanish-speaking and other minority-group applicants to college. Being a tertiary institution graduate gave one a qualification that opened up certain higher-level jobs, but the poorer

students did as well in life as the top students as reported by McClelland (1973:1).

Perna (2000:120) reports that differences in social class and race/ethnicity exists in the amount of cultural and social capital available, as well as the ability to convert this capital into educational attainment.

The association of African universities and the World Bank's report on universities in Africa (1998:6) concludes as follows:

- the quality of education in Africa has declined significantly;
- the balance between enrolments and resources must be maintained; and
- admission to universities should be made on a selective bases in order to reduce the injudicious use of resources.

2.12 Potential

Potential, together with other measurement instruments, requires investigation in order to create a more justifiable, valid and trustworthy selection instrument. Potential, as a psychological concept, is that which has been missing from earlier perceptions of man about man. It is not something which will remain constant long enough for scientists to establish it as an indisputable fact, because by its own definition it is changeable through its openness to mediation. Potential has to do with process, not product, with change, not stability; with human interaction, not individual genetic endowment. Potential is not a thing, but an operation...a course of action.... a series.....a journey ..... an ongoing experience!

Saunders (1995:7) defines potential as:
"possible, but not actual; having the capacity for existence, but not yet existing."

Take two children, each with the same 'mental horsepower'. Suppose that one is the offspring of relatively well-off educated parents (person A), who give him Lego and Meccano sets to tinker while he grows up. As an adolescent, he helps his father service his car. The other child is the offspring of poor parents who grew up in the country and he receives little education (person B). This child has received no toys as presents, nor has he ever got to look at an engine, because there were no motor vehicles in the family. Suppose that both children eventually pass matric (the son of the richer father probably having attended a better school). They then approach the HSRC (Human Science Research Council) for vocational guidance. One test is a test of mechanical insight. Almost certainly, person A who has had experience with mechanical toys and with engines will obtain considerably better results.

Is it fair to use such a test? Especially at this juncture in South Africa's history, when attempts are beginning to be made to redress the sins of apartheid and the disadvantages it caused or intensified for so many people? This question is not an easy one to answer, as fairness is such a relative concept. Certainly, person A who has had experience with mechanical equipment will be more readily trainable in a mechanical field. Thus, if the training institution is interested in improving its first-time pass rate and in reducing the load on lecturers, then it will be better to select person A who has had mechanical experience and done well on the mechanical insight test. However, such an approach certainly does not address the social inequalities and inequities of the past.

Person B, from the disadvantaged background, may well benefit from a programme of compensatory inputs and may even reach a level of mechanical skills comparable to that of the individual from the advantaged background. But obviously the challenge is greater. If the policy of educational institutions is not only to get the highest pass rate for the least teaching input, but rather to help redress the injustices of the past, then it should consider person B as well. But how is the educational institution to

know whether person B will benefit from additional inputs 'to bring him up to speed'? It is essential to think creatively in devising selection measures, since the conventional tests will probably not answer the questions which will need to be answered as move into a new era in this country, where fairness will be the watchword, but competence - or potential to attain it - is important according to Taylor (1992:12).

Taylor (1992:2) defines learning potential as the:
"capacity to acquire new concepts and skills, of a fairly cognitive nature, given cognitive meditation, teaching interventions and other feedback intended to promote learning."

Taylor (1992:2) identifies two important facets to learning potential:

- transfer - the capacity to apply knowledge and skills to problems which are new and to use feedback to improve performance; and
- automatisation – the process of becoming proficient and quick at doing a particular intellectual task.

2.13 Legislation

The Employment Equity Act, Act no 55 of 1998 clearly defines the requirements that any selection instruments should possess and states that:
"Psychological testing and other similar assessment of an employee are prohibited unless the test or assessment being used-

- *has been scientifically shown to be valid and reliable;*
- *can be applied fairly to all employees; and*
- *is not biased against any employee and group."*

De Jong and Visser (2000:17) state that the diversity of the South African population may lead to opinions that certain selection techniques impact adversely on members of different population groups, therefore objective

selection practices are a necessity. Boolsen and Theron (1996:7) emphasise the importance of fairness in selection.

2.14 Conclusions

In this chapter selection was investigated by a detour from basic selection in an organisation and then selection in tertiary institutions is the centre of focus.

Both in South Africa and abroad human resource management practice, policy and philosophy and therefore selection as well, are mainly determined mainly by the culture of the country. Countries that share similar cultures as classified by Hofstede and Laurent (in Gibson et al, 1997:63) clearly share similar human resource practices and selection methods.

Labour and employment legislation of countries that share similar cultures appear to be compatible as well.

Tertiary institutions in the United States are confronted with the problem of a declining number of applicants therefore they concentrate on marketing rather than on selection. This is confirmed by reports in the United Kingdom as well.

Models of other countries cannot be cloned and used in South Africa where the number of applicants is increasing and selection has become crucial. Culture, mileu-deprivation and inferior schooling should be considered and models must be adapted to fulfil South Africa's needs.

Saunders (1995:7) reflects that too many South African researchers and academics value the American research regarding test fairness unduly highly. Taking into consideration the vast differences in context between

that country and South Africa, this research should be treated with circumspection. Differences such as:

- educational advantage between blacks and whites in America are far less pronounced;
- the dimension of the problem of fairness in testing

In addition the school education system in South Africa specifically and even tertiary education encourage parrotry and focus on memory while Mpho (2000:20) refers to "empty vessel syndrome" when discussing current schooling systems.

Zaaiman et al (1998:97) cite that the Higher Education Act 101 of 1997 places the responsibility and accountability for selection of higher education students on every individual institution. Section 37 of this Act requires that admission policies be published and made available on request to ensure transparency. In addition the Bill of Rights contained in the Constitution of the Republic of South Africa 108 of 1996 prohibits unfair discrimination (directly or indirectly) against anyone on a number of grounds.

The White Paper on higher education transformation clearly states that higher education is the vehicle to achieve equity in opportunity and achievement for South African people.

The principle of equity requires fair opportunities to enter and to succeed at tertiary level and this implies fair, impartial and unbiased assessment of relevant qualities and capabilities during selection.