The Determinants and Outcomes of
Organisational Commitment

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Many thanks and much love to my wife, Sue, and my three children, Natalie, Michelle and Annalise, who truly inspired me throughout the thesis.
The objective of this thesis is to establish the determinants and employee behavioural outcomes of the dimensions of commitment that result in organisational effectiveness. The study initially investigated the three dimensions of affective, continuance and normative commitment as conceptualised by Allen and Meyer (1990). Using confirmatory factor analyses it was found that organisational commitment was best studied by using the two dimensions of affective and continuance commitment. The two factor commitment measurement model was able to be generalised across samples of employees in the transport, insurance, manufacturing and health industries. A causal model, incorporating the dimensions of affective and continuance commitment, tested hypotheses linking these dimensions to variables representing a number of the determinants and outcomes of commitment. The determinants were perceived organisational support, job satisfaction, training opportunities and organisational tenure. The outcomes were work effort, absenteeism and turnover intention. The results of analyses using the causal model showed that job satisfaction had a causal impact on affective commitment which in turn impacted on work effort. None of the results showed that continuance commitment was causally linked to negative employee work outcomes. No causal relationship was found between organisational tenure and the dimensions of affective and continuance commitment. The findings of this study have confirmed the pioneering work carried out by Allen and Meyer who suggested that the most effective form of commitment was affective commitment.
Chapter 1

INTRODUCTION

1. BACKGROUND TO THE RESEARCH

The substantial amount of research activity that has been undertaken on the area of organisational commitment over the past two decades stems in part from its demonstrated linkage with variables that impact on organisational effectiveness (Putti, Aryee, & Phua, 1990) and the recognition that it has powerful motivational implications (Brown, 1996). It is generally accepted that having a committed workforce places an organisation in a position of competitive advantage (Meyer & Allen, 1997). Despite the increasing interest in organisational commitment, a generally accepted model of organisational commitment has yet to emerge (Somers, 1993).

Commitment is generally described as an attitudinal phenomenon giving rise to behavioural outcomes. The definition of organisational commitment framed by Porter, Steers, Mowday, and Boulian (1974) encompassed identification with and involvement in the organisation. These authors suggested that a committed employee would believe in, and accept, the organisation’s goals and values; would be willing to exert considerable effort on its behalf; and would strongly wish to maintain membership in the organisation. Organisational commitment has been
defined by Brown (1996) as “dedication to and support of the organization ... beyond that associated with job expectations and rewards” (p. 249).

Both the Porter et al. and Brown definitions are limited because they ignore those employees who become committed to an organisation because of a lack of alternatives. These employees are generally expected to do the minimum in their jobs - just enough to maintain membership in the organisation. This type of commitment has been examined from a behavioural perspective. Behavioural commitment has been defined as the “process by which individuals become locked into a certain organization and how they deal with this problem” (Mowday, Porter, & Steers, 1982, p. 26).

In their three component model of organisational commitment Meyer and Allen (1991) incorporate both the attitudinal and behavioural approaches to commitment. These researchers have constructed a commitment instrument that measures three dimensions of commitment: commitment as an affective attachment to the organisation, commitment as a felt moral obligation to remain in the organisation, and commitment as a perceived cost associated with leaving the organisation (Allen and Meyer, 1990). They termed these three forms of commitment as affective, normative and continuance commitment respectively.

The affective component of organisational commitment refers to the employee’s emotional attachment to, identification with, and involvement in, the organisation.
The normative component refers to the employee’s feelings of obligation to remain with the organisation.

The continuance component refers to commitment based on the costs that the employee associates with leaving the organisation. For example, the costs of leaving an organisation may include the loss of attractive benefits and seniority.

Somers (1995) has commented that much of the confusion about organisational commitment is traceable to definitional and measurement problems. The extensive work carried out by Meyer and his colleagues has begun to address this problem. A multi-dimensional view of employee commitment is helpful to the understanding of its impact on organisations.

Fink (1992) has commented that as more companies move the decision-making process further down the organisation hierarchy, it will be difficult for management to directly control performance. In such an environment, employee commitment will become increasingly important.

Over the last two decades a great deal of research has been carried out into the identification of the various causes and the resulting implications of organisational commitment. Fink (1992) makes the point that most commitment research examines identification with the organisation’s goals, values, and mission. There has been little research on the ways in which employees identify with their work or their co-workers, both of which could have powerful effects on employee
performance. The emerging view in the area of organisational commitment is that for an organisation to be a successful workplace, the organisation must invest in employee commitment rather than compliance (Zeffane, 1994). An important element in the achievement of effective collaboration between employers and employees may be commitment and one of the most important human resource management challenges is that of maintaining and enhancing commitment in organisations.

This study seeks to determine the commitment profiles that exist amongst employees and the relationship between commitment profiles and the determinants of job satisfaction, perceived organisational support, training opportunities and organisational tenure. The three commitment profiles that will be measured are affective; continuance; and normative commitment. The impact that these profiles have on turnover intention, work effort and absenteeism will be measured.

The types of outcomes that are generated by committed employees are often what keeps an organisation competitive (Harris, Hirschfeld, Feild, & Mossholder, 1993; Katz & Kahn, 1978). Therefore it is important for organisations to examine policies and introduce initiatives that will increase commitment. Organisations may attempt to bond employees by a range of initiatives such as employee share plans; salary packaging; superannuation above the legal minimum; organisation specific skills training; and rapid promotion. Although these initiatives might tie employees to an organisation, they may not assist in ensuring that the employees
contribute to organisational effectiveness. In fact such initiatives may simply be accompanied by employees doing little more than performing at the minimum level required to maintain the jobs on which they have become dependent. This situation emphasizes the importance for organisations to foster affective and normative commitment in their employees rather than to develop continuance commitment. It will be hypothesised that an employee with high levels of affective and normative commitment will produce more favourable work outcomes than an employee with high levels of continuance commitment. An employee with high levels of affective and normative commitment will engage in extra role behaviours, such as creativeness or innovativeness (Mathieu & Zajac, 1990).

A number of variables affect the ability of an organisation to maintain or increase employees’ commitment levels. These variables include: job satisfaction; perceived organisational support; pay level; pay mix; training opportunities; training fulfillment; and turnover amongst fellow employees. In this study it is hypothesised that perceived organisational support, job satisfaction and training opportunities are variables that will result in forming affective and normative commitment amongst employees without having a corresponding impact on continuance commitment.

Job satisfaction has been considered by some researchers as a forerunner of commitment (Mowday et al., 1982; Mathieu & Hamel, 1989; Williams & Hazer, 1986). However other researchers (Bateman & Strasser, 1984) have found that
organisational commitment is an antecedent of job satisfaction rather than an outcome of it. In this study it will be hypothesised that job satisfaction is a determinant of affective commitment. However, analyses will also be conducted to determine whether affective commitment influences job satisfaction.

The construct of perceived organisational support captures the extent to which an organisation values the contributions made by employees and the degree of care that the organisation shows in the well-being of its employees. Perceived organisational support can be influenced by low cost organisation initiatives such as job enrichment and employee influence over organisational policies. It may therefore be used as a generator of commitment by organisations who cannot fund some of the more expensive initiatives that are generally seen as necessary to achieve increased job satisfaction and training opportunities.

2. RESEARCH PROBLEM, HYPOTHESES AND DEVELOPMENT OF A CAUSAL MODEL

The aim of this study is twofold:

1. to determine the dimensions of commitment that result in organisational effectiveness; and

2. to establish the determinants and employee behavioural outcomes of these dimensions.
The study will be undertaken using Australian institutions. Randall (1993) notes that "nearly all" (p. 105) commitment research has been conducted in North America. An objective of this study was to test the validity of the Allen and Meyer (1990) instrument in Australian organisations and determine which, if any, of the dimensions of commitment produce behavioural outcomes that will improve an organisation's effectiveness. Additionally, the determinants of the various dimensions were to be explored so that human resource managers would know what "levers to pull" to generate the best form of commitment.

It has been argued that only certain dimensions of commitment result in positive organisational outcomes (Meyer & Allen, 1997). It was therefore necessary to conduct a thorough investigation of the various dimensions of the commitment construct. These dimensions were affective, normative, and continuance commitment.

The establishment of clear and independent dimensions allows for the empirical investigation of both the determinants and behavioural outcomes of the established dimensions. With this information a link can be established between organisational effectiveness and the appropriate dimension or dimensions of commitment.

Following an extensive literature review a two-stage approach was used in this study to determine the nature of the relationship between variables linked to organisational commitment. The first stage was to develop correlation hypotheses...
which were tested using cross-sectional data. The second stage was the development of a causal model through the formulation of five separate hypotheses. The causal model, named the Effective Commitment Model (ECM) was tested using both cross-sectional and longitudinal data.

3. JUSTIFICATION FOR THE RESEARCH

Although the construct of commitment has been studied by many researchers since the early investigations by Becker (1960) only recently have instruments been developed to research the multidimensional nature of the construct (Allen & Meyer, 1990; Fink, 1992; Meyer & Allen, 1984; O’Reilly and Chatman, 1986; Penley & Gould 1988). The measurement of the commitment construct has been dominated by the use of the Organisational Commitment Questionnaire (OCQ) developed by Porter and his associates (Porter et al., 1974; Mowday et al., 1979). This instrument is single-dimensional and measures affective commitment. It has been criticised for the inclusion of turnover items as part of the measure (e.g., Hom, Katerberg, & Hulin, 1979; Morris & Sherman, 1981).

Meyer and Allen (1984) developed an eight item Affective Commitment Scale (ACS), which ultimately formed the basis of the Allen and Meyer (1990) three dimensional instrument. Meyer and Allen (1984) reported a correlation of .86 ($p < .001$) between the Affective Commitment Scale and the OCQ. The OCQ has been found to diverge from the Allen and Meyer (1990) normative and continuance measures (Dunham, Grube, & Castaneda, 1994). These researchers stated that:
the overall role of OC [organisational commitment] cannot be fully understood without additional research using a multidimensional perspective. Of particular value would be further research examining the combined impact of the three dimensions of commitment on a variety of such important outcome variables as satisfaction, retention, and performance. (p. 379-380)

The above comment can be justified by the lack of empirical work that has been carried out on the multidimensional aspect of the commitment construct. Most of the research has focused on the continuance and affective dimensions (e.g., Meyer, Bobocel, & Allen, 1991; Meyer, Paunonen, Gellatly, Goffin & Jackson, 1989). Very little research has been carried out on the normative dimension (Dunham et al., 1994).

There have been only a small number of studies that have investigated more than a single commitment dimension at a time (Randall, Fedor, & Longenecker, 1990). These multidimensional studies include Allen and Meyer, (1990); Ferris and Aranya, (1983); Fink, (1992); Huselid and Day, (1991); Jaros, Jermier, Koehler, and Sincich, (1993); Kidron, (1978); McGee and Ford, (1987); Mayer and Schoorman, (1992); Meyer and Allen, (1984); and Penley and Gould, (1988).

This study will make an original contribution to scholarship by establishing previous untested links between hypothesised antecedents of commitment and hypothesised outcomes of the Allen and Meyer (1990) three dimensional construct. In doing so the study formulated a model of effective commitment.
Allen and Meyer (1990) raised the possibility that in future research commitment profiles could be used to differentiate employees who are likely to remain with an organisation and to contribute positively to its effectiveness from those who are likely to remain but contribute very little. They believed that it would be possible for organisations to use the results examining the antecedents of commitment to enable them to better manage their human resources so as to develop the desired profile. By developing a model of effective commitment this study sought to extend the boundary of contemporary commitment research.

It is generally assumed that high levels of organisational commitment will relate positively to behaviours favorable to organisational effectiveness (Randall et al., 1990). Mowday et al. (1979) reported that high levels of organisational commitment are expected to be associated with low turnover; tardiness; and absenteeism, and enhanced job performance. However, Randall et al. (1990) have commented that the empirical research has revealed a weak and inconsistent relationship between organisational commitment and these presumed behavioural outcome variables (e.g., Mowday et al., 1974; Mowday, Steer, & Porter, 1979; Steers, 1977; Wiener & Vardi, 1980). Randall et al. (1990) have suggested that the disappointing results may be partly attributable to the failure to take into consideration the multidimensional nature of the commitment construct and the improper specification of the outcome variables. They found that affective commitment and normative commitment were significantly related to work behaviour while continuance commitment showed little or no relationship to work behaviour.
Although a reasonable amount of research has been undertaken in North America to test the validity and reliability of the Allen and Meyer commitment measures, no such research has been undertaken in Australia. Australian studies published on organisational commitment (Erwin & Iverson, 1994; Iverson, Deery, & Erwin, 1995; Iverson & Roy, 1994; Jans, 1989; Still, 1983) have investigated the affective dimension of commitment. There is a need to carry out research in Australia to explore the multi-dimensional nature of the commitment construct (Randall, 1993).

Eisenberger, Huntington, Hutchinson, and Sowa (1986) conducted a study that focused on a measure of employee perceptions of employer commitment to the individual employee. They called the study the Survey of Perceived Organisational Support (SPOS). Perceived organisation support is a construct that has a link to commitment. Eisenberger et al. (1986) suggested that perceived organisational support is an antecedent of organisational commitment. Shore and Tetrick (1991) demonstrated that perceived organisation support was related to affective commitment but not to continuance commitment.

Eisenberger et al. (1986) used a social exchange view to make the link between organisational commitment and perceived employer commitment. They suggested that an employee's inferences about the organisation's commitment to him or her would affect the employee's subsequent commitment to the organisation. An employee's level of perceived organisational support would be influenced by the
praise and approval that he or she obtains from the organisation. Pay, position within an organisation, and influence over organisational policies would affect an employee’s perceived support to the extent that they signified the organisation’s positive evaluation of an employee. It then follows that if an organisation can show employees that the organisation supports them, then the organisation should be able to increase the affective and normative commitment levels among those employees.

4. METHODOLOGY

Both cross-sectional and longitudinal samples were used in this study. Five organisations were surveyed. One of these participated in the longitudinal survey. The cross-sectional samples were used to develop the measurement model and for a preliminary test of the causal model. The longitudinal sample was used to pursue causal relationships over time.

The organisations that were selected for this study represented a mix of public and private sector organisations. Two of the organisations were subsidiaries of large private sector organisations listed on the stock exchange. The third organisation was a former government agency which was privatised in 1994 and was subsequently listed on the stock exchange. The fourth and fifth organisations were a state owned railway and health department.
Hypotheses were devised that underpinned the Effective Commitment Model (ECM), a causal model developed and was tested in this study. Both the factor structure of variables used in the model and the structural relations among the resultant factors were examined with structural equation modeling techniques. A two-step approach as recommended by Anderson and Gerbing (1988) was used to test the ECM. The first step involved conducting multigroup confirmatory factor analyses to ensure an adequate measurement model. This was followed by an examination of the structural relations among the latent constructs.

The questionnaire contained both self devised items and the following established scales:

a. The three-dimensional Allen and Meyer (1990) commitment scales which measure affective, continuance and normative commitment.

b. The short version of the Perceived Organisational Support Scale devised by Eisenberger et al. (1986).

c. The Quinn and Staines (1979) short form Job Satisfaction Scale.

d. The Intention to Turn Over Scale contained in the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979).

e. The Quinn and Staines (1979) Work Effort Scale.
In all organisations the questionnaire was self-administered. Only one of the organisations allocated specific work time to employees to complete the questionnaire.

The main data for the longitudinal sample was gathered by a survey of employees in one organisation carried out over two time periods. The first wave of data was collected from the organisation in January 1996. The second wave of data was collected twelve months later.

The advantage of using a longitudinal design in preference to a cross-sectional design is that longitudinal designs allow a researcher to examine causal relationships. Longitudinal studies have therefore been the dominant methodological design in organisational commitment research linked to work outcomes (Randall, 1990).

Only a small number of longitudinal studies have investigated the antecedents of commitment. Bateman and Strasser (1984) conducted a longitudinal commitment study of nursing department employees. These authors reported that this was the first longitudinal multivariate analysis aimed at deriving causal inferences regarding a number of the presumed antecedents of commitment. In Australia, Still (1980) conducted a longitudinal study of retail industry employees which investigated a number of antecedents of commitment. Curry, Wakefield, Price, and Mueller (1986) carried out a longitudinal study which followed up on the
work of Bateman and Strasser (1984). They concluded that their results did not support Bateman and Strasser’s finding that commitment is causally antecedent to satisfaction.

This study was able to add to the findings of Bateman and Strasser and Curry, et al., by implementing the recommendations for future research made by Curry et al.:

Since both our respondents and Bateman and Strasser’s were employees of nursing departments in hospitals, and both studies used similar time lags, future research should include samples from different populations and use different time lags. Future studies should also replicate this work for different measures of satisfaction and commitment. (p. 854)

The current study used a government railway as the organisation for the matched case longitudinal study. Bateman and Strasser used a 5 month time lag while Curry et al. used a 7 month time lag. In this study a 12 month time lag is used. Bateman and Strasser used the long version of the OCQ while Curry et al. used the short version. The researcher in this study made a substantial departure from the OCQ by using the Allen and Meyer (1990) instrument. To measure job satisfaction Curry et al. used six items adapted from Brayfield and Rothe (1951). Bateman and Strasser used the Job Descriptive Index (JDI) developed by Smith, Kendall, and Hulin (1969). In this study the Quinn and Staines (1979) 9 item short form Job Satisfaction facet free and facet specific scale was used.
The questionnaire responses allowed for a multivariate analysis to be carried out on the causal inferences regarding the outcomes from the various commitment profiles.

The questionnaires were mailed to the employees in four organisations. In the fifth organisation the questionnaires were administered to small groups of employees during paid working hours.

5. OUTLINE OF THE THESIS

Chapter 2 investigates the meaning and operationalisation of organisational commitment drawing on extensive literature on the dimensions of affective, normative and continuance commitment. The determinants and employee behavioural outcomes linked to organisational commitment are examined to determine the most important variables that need to be examined in the study.

Chapter 3 deals with the methodology for conducting the study, including organisations surveyed, sample size and instrumentation. The LISREL and EQS programmes were used to analyse most of the data in this study. Details of these programmes are provided in this chapter.

Chapter 4 investigates the factor structure of the Allen and Meyer (1990) commitment instrument and describes the process used to purify the measures. Confirmatory factor analyses on the 7 factors used to test the causal model are
presented in this chapter. The means, standard deviations and correlations for all the variables that were used in the study are presented.

Chapter 5 describes the development of a causal model on the determinants and outcomes of organisational commitment. Once developed the model is subjected to preliminary testing using both calibration and cross-validation samples.

Chapter 6 reports the results of the testing of the model developed in Chapter 5, using a longitudinal sample. Theory and modification indices are examined to determine if it is appropriate to implement post-hoc refinements to the model.

Finally, in Chapter 7 a summary of the major findings of the study is presented. Limitations are identified and recommendations for future research are made.

6. CONCLUSION

This chapter lays the foundations for the study. It provides the background to the research and introduces the research problem and the causal model. Justification for the research is provided and the methodology is briefly described. Subsequent chapters will build on these foundations.
Chapter 2

ORGANISATIONAL COMMITMENT: A LITERATURE REVIEW

1. INTRODUCTION

Chapter 1 developed the central theme and hypotheses of this thesis, namely that only certain dimensions of commitment result in positive organisational outcomes. This chapter presents a survey of the relevant and influential literature to 1995. This literature identifies the various dimensions of the commitment construct used in this thesis. The establishment of clear and independent dimensions of the commitment construct allows for the empirical investigation of both the determinants and employee behavioural outcomes of commitment.

Section 2 of this chapter introduces the reader to the Allen and Meyer (1990) three-component model. This model was developed from previous empirical research. Continuance commitment was conceptualised as early as 1960 by Becker. Affective commitment surfaced in the early seventies and was primarily driven by Porter and his colleagues. Normative commitment was first conceptualised by Wiener and Vardi (1980). Allen and Meyer incorporated these three dimensions into their 1990 model.

These dimensions were able to be tested by the development of the Continuance (CCS), Affective (ACS), and Normative (NCS), Commitment Scales. These
scales have been subjected to numerous confirmatory factor analyses. The ACS generally appears to be the most reliable of the three. It is generally accepted that the ACS constitutes an adequate replacement for the most frequently used measure of affective commitment, the Organizational Commitment Questionnaire (OCQ). Further explanation of these scales and the empirical research generated by the use of them is provided in this chapter.

Section 3 covers the five most frequently researched employee behavioural outcomes linked to organisational commitment. These are identified by Randall (1990) as job performance, job effort, absence, tardiness and turnover. Of these variables, turnover consistently appears as the most significantly correlated to organisational commitment.

Section 4 categorises the determinants of organisational commitment into demographic and non-demographic variables. The non-demographic variables of job satisfaction, perceived organisational support, training fulfilment, and pay, are generally better predictors of organisational commitment than demographic variables.

The final section of this chapter provides a summary and conclusion.
Allen and Meyer (1990) devised a three-component model which identified three dimensions of commitment: commitment as an affective attachment to the organisation; commitment as a felt moral obligation to remain in the organisation; and commitment as a perceived cost associated with leaving the organisation. They termed these three forms of commitment affective, normative and continuance commitment, respectively.

Affective commitment refers to the employee’s emotional attachment to, identification with, and involvement in, the organisation. Meyer, Allen, and Gellatly (1990) comment that employees with strong affective commitment remain with organisations because they want to rather than because they need to.

Normative commitment refers to the employee’s feelings of obligation to remain with the organisation. Human resource investments, such as training, cause employees to feel an obligation to reciprocate by committing themselves to the organisation until the debt has been repaid. This means that employees with strong normative commitment remain with an organisation because they feel they ought to (Allen & Meyer, 1990).

Continuance commitment is based on the costs that an employee associates with leaving the organisation, such as the loss of attractive benefits and seniority. Employees with strong continuance commitment remain with an organisation
because of the costs attached to leaving. These employees stay because they need to (Allen & Meyer, 1990).

This three-component model developed by Allen and Meyer is generally supported by a number of studies. For example, after examining the results from two samples, Hackett, Bycio, and Hausdorf (1994) concluded that "the preponderance of evidence is in support of a three-component model of commitment" (p. 21).

2.1. Continuance Commitment

The three-component model builds, in great measure, upon earlier commitment studies. The continuance dimension of commitment, for example, was developed from Becker's (1960) side-bet theory. Becker comments that the term "commitment" enjoyed an increasing vogue in sociological discussion but that little formal analysis of the concept had been undertaken. Instead the term had been made to cover a wide range of common-sense meanings, resulting in predictable ambiguities. While in general terms sociologists identified commitment with people who engaged in consistent lines of activity (Becker & Carper, 1956), Becker explicitly sought to analyse "what kind of explanation of consistent human behaviour lies implicit in the concept of commitment?" (Becker, 1960, p. 35).
Following the sociologists, Becker (1960) described commitment as a disposition to engage in "consistent behavior" (p. 33). He argued that this was the result of the accumulation of "side-bets" (p. 35). A "side-bet" is implicit in situations where individuals place value on consistent behaviour. Becker (1960) states:

The committed person has acted in such a way as to involve other interests of his, originally extraneous to the action he is engaged in, directly in that action. By his own actions prior to the final bargaining session he has staked something of value to him, something originally unrelated to his present line of action, on being consistent with his present behavior. (p. 35)

The cost attached to this inconsistency inhibits the individual moving from the consistent course of action. In the context of organisational commitment, the consistent line of activity refers to remaining employed in the organisation. It thus follows that the greater the number of side-bets made by an individual, the greater the level of continuance commitment that the individual will exhibit. As the level of continuance commitment increases, individual attachment to the organisation will increase.

Subsequent literature has developed Becker's notion of "side-bets". The range of factors has come to include age, job level, salary, gender, and tenure (Cohen & Lowenberg, 1990).

Becker postulated that independent observations of a number of elements was necessary to establish the proposition that commitment is an explanation of
consistent behaviour. He postulated a need for the following line of independent observations:

(1) prior actions of the person staking some originally extraneous interest on his following a consistent line of activity; (2) a recognition by him of the involvement of this originally extraneous interest in his present activity; and (3) the resulting consistent line of activity. (Becker, 1960, 36)

Various measures have been developed to assess Becker’s cost-based commitment (Hrebiniak & Alutto, 1972; Ritzer & Trice, 1969). Based on Becker’s theory of side-bets, Ritzer and Trice hypothesised on the links between a number of variables and the construct of organisational commitment. They concluded that the side-bet theory of commitment should be rejected. In their analysis, few of the variables expected to correlate with commitment did so to a significant extent. Subsequent meta-analysis by Cohen and Lowenberg, (1990) found that there was very little empirical support for the side-bet theory.

Ritzer and Trice (1969) hypothesised a direct relationship between age and commitment to the organisation. They reasoned that the older a person became, the more likely that person would have made a number of side-bets, thereby increasing that persons level of (continuance) commitment. However they found that the correlation between age and (continuance) commitment was .056, a non-significant figure at the .05 level ($N = 419$). This finding cast some doubt on Becker’s side-bet theory.
By contrast, Alutto, Hrebiniak, and Alonso (1973) found a significant and positive relationship between age and organisational commitment. In addition, they found that the years of total experience, which they considered even more relevant than age, (implying an accrual of side-bets) also exhibited a strong positive relationship with organisational commitment.

Ritzer and Trice (1969) hypothesised that there would be an inverse relationship between education and commitment to the organisation. They supported their hypothesis on the premise that the less education a person has, the fewer the career alternatives open to that person. This in turn, results in a greater number of side-bets made in the organisation. They found that the correlation between education and commitment, although moving in the hypothesised direction (-.064), was not statistically significant.

These authors also hypothesised that mobility rates should be inversely related to organisational commitment. They measured the rates of inter-company change, rate of job change, and rate of geographical change. They hypothesised that lower rates on these indices would correlate with high organisational commitment. Their rationale behind these hypotheses was “that since it takes time to build up side-bets highly committed individuals are not likely to have been mobile” (Ritzer & Trice, 1969, p. 477-478). The correlation between the rate of inter-company change and organisational commitment was .123, which is significant at the .05 level. The correlation between organisational commitment and the rate of job
change (.001), and organisational commitment and the rate of geographic change (-.05) were both insignificant.

Ritzer and Trice did find a positive significant correlation between salary and organisational commitment (.119). They concluded that salary is one of the better indicators of organisational commitment.

While Alutto, Hrebinia and Alonso found support for Becker's side-bet theory, they recognised that there were basic differences in the samples tested by themselves, and the sample used by Ritzer and Trice. They concluded that the discrepancies may be a function of differences in the characteristics of individuals in the occupations as well as alternative operationalisation of the commitment concept.

The Ritzer and Trice (1969) and Hrebinia and Alutto (1972) measures have been criticised on both conceptual (Stebbins, 1970) and empirical (Meyer & Allen, 1984) grounds. Stebbins (1970) believed that Ritzer and Trice were studying affective commitment (referred to by Stebbins as value commitment) and not continuance commitment. Meyer and Allen (1984) stated that "the measure used to test Becker's side-bet theory of commitment is saturated with affective commitment and, as such, does not allow the theory to be tested appropriately" (p. 378). They subsequently noted: "the fact that high scores on the scale reflect an unwillingness to leave the organisation, in spite of attractive inducements to do so,
suggests that it may measure attachment rather than, or in addition to, cost-induced commitment" (Allen & Meyer, 1990, p. 3).

The criticisms provided by Stebbins (1970), Meyer and Allen (1984), and Allen and Meyer (1990) suggest that it is doubtful whether the Ritzer and Trice Scale (R-TS) actually measures cost-based (continuance) commitment. Meyer and Allen (1984) developed the Continuance Commitment Scale (CCS) to measure commitment as conceptualised by Becker. In addition to the R-TS and the Hrebiniak-Alutto Scale (HA-S), they incorporated in the survey questionnaire the CCS, the 15-item Organizational Commitment Questionnaire (OCQ) and the Affective Commitment Scale (ACS). These last two scales both measure affective commitment and are explained in the next sub-section. Age and tenure correlated positively with the R-TS, H-AS, ACS, and OCQ but not with the CCS. From these results Meyer and Allen (1984) were able to raise questions about the usefulness of both age and tenure as side-bet indicators:

If, as Ritzer and Trice (1969) suggest, side bets increase with age and tenure, these variables should correlate significantly with the Continuance Commitment Scale. These correlations, however, were negligible. Why might this be the case? Certainly it seems reasonable to suggest that some costs associated with leaving will increase over time. Others, however, may actually decrease. Younger employees, for example, may be particularly sensitive to the fact that, with less work experience, they often have fewer job opportunities. As they obtain more experience, however, alternate employment opportunities may increase, thus decreasing the magnitude of one important cost associated with leaving—that of having no other job. (p. 377)
Cohen and Lowenberg (1990) found support for the Meyer and Allen suggestion that younger employees might have higher levels of continuance commitment. Thus, the suggestion made by Meyer and Allen and supported by the results of Cohen and Lowenberg (1990) are contrary to the expected relationship between age and continuance commitment which should arise from Becker’s side-bet theory.

The CCS has been used in subsequent studies to test Becker’s theory (Allen & Meyer, 1990; Meyer, Allen, & Gellatly, 1990). Although Meyer and Allen (1984) did not find that age and tenure correlated with the CCS, both variables were significantly correlated with the affective measures. This finding was consistent with previous research (Porter et al., 1974; Steers, 1977) which found that employees who are older and who have been employed longer with a particular organisation have a stronger affective commitment to it and are more satisfied with their jobs.

Meyer and Allen (1984, 1991; Allen & Meyer, 1990) have further identified two general categories of antecedents of continuance commitment. The first is the lack of available alternative employment opportunities. The second concerns the magnitude and/or number of investments, or side-bets, that would be lost if the individual were to leave the organisation. The antecedents of lack of alternative employment opportunities, and number of investments, were derived from the theoretical work of Rusbult and Farrell (1983) who included both investments and
alternatives among the proposed antecedents in their "investment model" of commitment. Their research demonstrated that job commitment increased as the number and/or magnitude of investments increased and as the attractiveness of alternatives decreased. Meyer and Allen (1991), while accepting that the research findings of Rusbult and Farrell appeared to support a perceived-cost interpretation of commitment, suggested the need for some caution in this interpretation:

Because the measure of commitment used in this research consisted of questions concerning intention to remain on the job, it is not clear to what extent responses reflect a need to remain, as opposed to a desire and/or obligation to remain. The fact that job satisfaction also correlated positively with commitment in these studies suggests that the commitment measure reflects something other than, or in addition to, continuance commitment. (p. 72)

Allen and Meyer (1990) surmised that the lack of alternative employment opportunities increases the perceived costs associated with leaving an organisation. This, in turn, they expected to lead to higher levels of continuance commitment. They found that the strength of employees' continuance commitment to an organisation was significantly correlated to these employees' perceptions regarding the availability of alternatives and the magnitude of particular investments they had made. Both of these measures support the notion of continuance commitment.

In summary, although continuance commitment has developed from a conceptual framework that had its origin from the early work of Becker, its measurement has
been plagued by controversy. The early measures developed by Ritzer and Trice (1969) and Hrebiniak and Alutto (1972) have been criticised on both conceptual and empirical grounds. The most commonly used measure in the last decade, the CCS, has proved to be a more reliable measure than its earlier counterparts.

2.2. Affective Commitment

The notion that commitment represents an affective attachment to the organisation is commonly found in the literature on commitment (Allen & Meyer 1990). The affective attachment approach was popularised by Porter and his colleagues (Mowday et al., 1979; Porter, Crampon, & Smith, 1976; Porter et al., 1974). In this approach organisational commitment is defined as “the relative strength of an individual’s identification with and involvement in a particular organisation” (Mowday et al., 1979, p. 226).

Porter and his colleagues developed the OCQ as a measure of affective commitment. This measure has become the most commonly used survey instrument in studies on organisational commitment (Lincoln & Kalleberg, 1990). To 1993, there had been more than 90 published studies using this instrument (Angle & Lawson, 1993).

Not all of the literature has been supportive of the OCQ approach, based as it is on a single-dimensional measure of affective commitment. Hom et al. (1979) for
example, claim that some of the items in the OCQ may be measuring turnover rather than commitment. As a result:

...the predictive efficiency of organisational commitment may reside not in its assessing a more relevant employee attitude but rather in its serving as an attitudinal scale containing items measuring intention to withdraw from the organization. (p. 288)

O'Reilly and Chatman (1986) have faulted the Porter approach to the measurement of (affective) organisational commitment. They believe that the OCQ measure includes the employee behavioural outcomes of work effort and turnover. They comment that:

... studies have often measured commitment as a combination of belief in an organization’s goals and values, a willingness to exert considerable effort on behalf of the organization, and a desire to maintain organizational membership...Whereas the first component is focused on the psychological basis for attachment, the latter two are likely consequences of commitments, not antecedents. (p. 497)

Allen and Meyer (1990) comment that their Affective Commitment Scale (ACS), has an advantage over the OCQ because "its items were written to assess only affective orientation towards the organization and not employees' behaviour or behavioural intentions" (p. 15). The benefit of using the ACS is that the researcher need not be concerned "that the relationship obtained merely reflect overlap in the content of the commitment and behaviour measures" (Allen & Meyer, 1990, p. 15).
Mowday, Porter, and Steers (1982) suggest that the antecedents of affective commitment fall into four categories: personal characteristics, role-related characteristics, structural characteristics, and work experiences.

2.2.1. Personal Characteristics

Demographic characteristics such as age, tenure, sex, and education have been linked to commitment (e.g., Angle & Perry, 1981; Glisson & Durick, 1988; Hrebinak, 1974; Lee, 1971; Morris & Sherman, 1981; Morrow & McElroy, 1987; Mottaz, 1988; Pierce & Dunham, 1987; Sheldon, 1971; Steers, 1977). There is no unanimity in research findings on either the relationship, or the strength of any relationship, between demographic variables and affective commitment. For example, in a study of human service workers conducted by Morris and Sherman (1981) it was reported that there was an inverse relationship between educational levels and commitment. By contrast, in their study of human service workers, Glisson and Durick (1988) found that education was a significant predictor of commitment.

Mottaz (1988) found that the links between demographic characteristics and commitment are indirect and disappear when work rewards and work values are controlled. He comments that “while demographic variables such as age, tenure, sex, education, martial status, and the like may be correlates of commitment, they are not determinants” (p. 471). He was critical of studies that had used bivariate
rather than multivariate analytical techniques to identify the potential determinants of organisational commitment:

The use of bivariate procedures, ... does not allow one to accurately assess the relative importance of the various potential determinants of commitment when the effects of other important variables are held constant. Thus, one cannot be sure that the reported relationships are not spurious. (Mottaz, 1988, p. 469)

In his own work, Mottaz used the reward-value (exchange) model. Work rewards are seen as the intrinsic and extrinsic benefits that workers receive from their jobs. Work values, on the other hand, are what workers want. In Mottaz’s (1988) view, “the greater the perceived congruence between work rewards and work values, the greater the commitment” (p. 470). In this view organisational commitment “represents a person-environment fit” (p. 470).

Mathieu and Hamel (1989) did not include individual demographics such as age and sex in their model of the antecedents of commitment. They made their decision not to include demographics in their model on the basis that “research had failed to consistently find relationships between any of these variables and commitment” (p. 303).

In a meta-analysis of the antecedents and consequences of organisational commitment, Mathieu and Zajac (1990) found a positive correlation between age and commitment. They further found that age was significantly more related to affective commitment than to continuance commitment.
Meyer and Allen (1984) have noted that any correlation between the demographic factors of age and tenure is influenced by the commitment measure used. They show, for example that these elements do not correlate with the CCS but significantly correlate with the ACS. They suggested that older workers have a stronger affective commitment, and are more satisfied with their jobs, because they justify "their long service to the organisation by deciding they like it" (p.378).

2.2.2. Role Related Characteristics

This second category of demographic characteristics involves the establishing of links between employee roles and job characteristics through analyses determining the extent to which variations in the task requirements of jobs influence employee commitment. Few researchers of commitment have explored this characteristic. One of the few studies that have was conducted by Mowday et al. (1982). They identified three related aspects of work role that had the potential to influence commitment: job scope or challenge, role conflict, and role ambiguity. They conclude that:

the impact of role-related factors on commitment is that such influences may be positive so long as the employee has clear and challenging job assignments. Where the assignments become ambiguous, place the employee in conflict, or provide excessive role stress, the effects on commitment tend to be adverse. (p. 32)
2.2.3. Structural Characteristics

This category is concerned with the correlations between commitment and organisational structure. Some evidence exists that affective commitment is related to decentralisation of decision making (Brooke, Russell, & Price, 1988; Morris & Steers, 1980). Meyer and Allen (1991) consider that the influence of structural characteristics on commitment may not be direct, "but rather, is mediated by those work experiences such as employee/supervisor relations, role clarity, and feelings of personal importance, that are associated with these structural characteristics" (p. 70).

2.2.4. Work Experiences

This category is concerned with the correlations between commitment and work experiences that occur during an employee's tenure with the organisation. Work experiences are a socialising force and are an important influence on the psychological attachments that are formed with an organisation (Mowday et al., 1982). In the Meyer and Allen (1991) schema they categorised work experiences as "those that satisfied employees' need to feel comfortable in the organisation, both physically and psychologically, and those that contributed to employees' feelings of competence in the work role" (p. 70).
One of the variables in the comfort category that has been found to correlate with affective commitment is organisational support (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger et al., 1986). Other variables placed in this comfort category include accuracy in reward distribution (Ogilvie, 1986); organisational dependability (Meyer & Allen, 1987; 1988; Steers, 1977); role clarity and freedom from conflict (DeCotiis & Summers, 1987; Glisson & Durick, 1988); and supervisor consideration (DeCotiis & Summers, 1987; Glisson & Durick, 1988; Morris & Sherman, 1981).


They found that employees who felt personal comfort and competence in their jobs, expressed greater affective commitment to the organisation. While work experiences associated with personal comfort and perceived competence were proven to be good predictors of affective commitment, investments and perceived lack of alternatives were the best predictors of continuance commitment.
In summary, affective commitment has been the most widely investigated dimension of organisational commitment. Despite the criticisms associated with the use of the OCQ (the measure includes employee behavioural outcomes of work effort and turnover), it has been the most common measure of affective commitment. An alternative measure was developed in the form of the ACS to overcome the problems identified with the use of the OCQ. Irrespective of which instrument is used to measure affective commitment, it is clear that the affective dimension of commitment is distinct from that of continuance commitment. The next section reviews the literature associated with normative commitment to determine whether or not it is distinct from affective and continuance commitment or merely an extension of these types of commitment.

2.3. Normative Commitment

One approach to the study of normative commitment was put forward by Wiener and Vardi (1980). They distinguish commitment from motivation and suggested that work behaviour was a function of both motivation and commitment. Motivation was driven by a calculative focus, while commitment was driven by the normative, value based concept. They argued that commitment was "independent of direct, 'selfish' interests, and of immediate and temporary situational concerns" (p. 84). Thus, in their view commitment was viewed from a normative perspective. Wiener and Vardi (1980) developed a three-item scale in which respondents were asked the extent to which they feel a person should be
loyal to their organisation, should make sacrifices on its behalf, and should not criticise it.

Wiener (1982) defined commitment as the “totality of internalized normative pressures to act in a way which meets organizational goals and interests” (p.421). As a consequence, committed individuals may exhibit behaviours not because “they have figured that doing so is to their personal benefit but because they believe it is the ‘right’ and moral thing to do” (p. 421).

Allen and Meyer (1990) integrated the concept of normative commitment with continuance and affective commitment to form their three component model. They developed the Normative Commitment Scale (NCS) to measure normative commitment.

Randall et al. (1990) have shown that an overlap exists between affective and normative commitment. They advise that because of this overlap, and because there is a low degree of reliability in the normative dimension, all of their findings involving the normative dimension should be treated cautiously.

In their study of commitment in the nursing profession, Meyer, Allen, and Smith (1993) made some variations to the Allen and Meyer (1990) NCS. They concluded that the correlation between affective and normative commitment was stronger than that found in previous studies. This prompted Meyer et al. (1993) to
recommend that further research should be carried out on the normative dimension.

In their study Jaros, et. al. (1993), sought to expand understanding of the commitment-turnover relationship as it affected continuance, affective, and normative commitment. They measured moral commitment (their expression of normative commitment) using four items developed by Gould and Penley (1982) and Werbel and Gould (1984). They concluded that there was the need to avoid models (such as the Allen and Meyer model) in which there was overlap between the concepts of staying and leaving.

Jaros, et. al. (1993) conducted a factor analysis which lends support to the three distinct forms of organisational commitment. Their analysis also “supports the contention that affective and moral commitment are indeed distinct concepts” (p.984).

Angle and Lawson (1993) treated normative commitment as an antecedent of both affective and continuance commitment. To measure normative commitment they used a 4-item scale adapted from Allen and Meyer’s (1990) instrument. They reported that normative commitment at Time 1 was strongly associated with both continuance (.40) and affective (.37) commitment at Time 1. Affective commitment was measured by the short form of the OCQ (includes only the positively worded items from the OCQ) and continuance commitment was
measured with a subset of items extracted from the Allen and Meyer (1990) continuance commitment scale.

One way that organisations may develop normative commitment is by providing employees with employment benefits in advance. This creates a link between organisational support and normative commitment. A simple example may be the payment of conference attendance fees directly by the employing organisation rather than the organisation reimbursing the employee later. Another employment benefit may be the organisation incurring significant costs in providing training and staff development.

In the view of Meyer and Allen (1991), such human resource investments “cause employees to feel an obligation to reciprocate by committing themselves to the organisation until the debt has been repaid” (p. 72). This means that employees with “strong normative commitment remain with an organisation because they feel they ought to do so” (Allen & Meyer, 1990, p. 3). Thus the concept of reciprocity comes into effect (Goulder, 1960). This suggests that employees will help those employers who have helped them. Additionally, employees will not exit an organisation which has helped them if to do so would harm the organisation (Scholl, 1981).

It is expected that where employees perceive their organisations providing participatory management, the sense of moral obligation and reciprocity would increase (Dunham et al., 1994). Rhodes and Steers (1981) found that participation
in decision-making was significantly related to affective commitment. In contrast, Dunham et al. (1994) found that perceptions of participatory management practices were associated with increased levels of normative commitment in three of the four samples that they studied.

Guest, Peccei, and Thomas (1993) have concluded that a reason for management support of employee involvement (EI) is the expectation that it will lead to a more committed workforce. As a result they define EI as:

...a set of initiatives designed to increase the level of employee commitment to an organisation. These initiatives fall into five broad categories: increased information down the organisation; increased information up the organisation; changes in job design; financial participation; and changes in leadership-supervisory style towards a more participative model. (p. 192)

In their view, managers supporting EI initiatives would generally expect committed employees to collaborate in change and be less likely to support trade unionism (Guest et al., 1993). Generally one would expect an organisation with employees who have high normative commitment levels to develop a unitary rather than “them” versus “us” culture. Initiatives which encourage EI, may lead to employees feeling a sense of obligation and loyalty to the organisation.

The effects of EI and other normative commitment inducements may be temporary. Meyer and Allen (1991) hypothesised that the beneficial effects on normative commitment may be short-lived. They reason that once a debt has been
repaid the level of normative commitment is likely to drop. By contrast, they expect that affective commitment is more lasting. They expect that affective commitment generates emotional attachment to the values and goals of the organisation.

In summary, although normative commitment was identified as a concept as early as 1980 by Wiener and Vardi, it was largely ignored by researchers until Allen and Meyer (1990) integrated it with continuance and affective commitment to form their three component model. They developed the NCS to measure normative commitment. Although some researchers suggest that an overlap exists between affective and normative commitment, at this point of time there is sufficient support to justify their separate existence.

2.4. Tests of the Three-Component Model

The development of scales to measure affective, continuance, and normative commitment have allowed for the empirical investigation of the three-component model.

The process used for the development of the scales was outlined by Allen and Meyer (1990, Study 2). They initially selected 51 items for the purpose of scale construction. These items were worded in accordance with one of the three conceptualisations of commitment contained in their model. To the 51 items they added the 15 items of the OCQ. These were placed first on the questionnaire
followed by the random placement of the 51 items. Responses to all 66 items were made on seven-point scales. After a selection process a final list of 24 items were selected from the original list of 51 items. To ensure equality of scale length, eight items were selected for inclusion in each of the ACS, CCS, and NCS. The reliability (i.e. alpha coefficient) of each scale was reported as follows: ACS, .87; CCS, .75; NCS, .79. The 24 items were subjected to a factor analysis (principal factor method). Three factors, accounting for 58.8, 25.8 and 15.4 per cent of the total variance, were then subjected to a varimax rotation. All items loaded highest on the factor representing the appropriate dimension. This provides some evidence for the hypothesised independence of the three dimensions. However Meyer and Allen (1991) note:

> Although continuance commitment did not correlate significantly with affective ($r = .06$) or normative ($r = .14$) commitment, the latter correlated significantly with one another ($r = .51$). This suggests that feelings of what one wants to do and what one ought to do may not be completely independent. (p. 79)

A number of studies (Allen & Meyer, 1990; Allen & Smith, 1987; Bobocel, Meyer, & Allen, 1988; McGee & Ford, 1987; Meyer & Allen, 1984; Meyer et al., 1989; Withey, 1988) have shown that the internal consistency estimates (alpha coefficients) of these scales have ranged from .74 to .89 for the ACS, .69 to .84 for the CCS, and .69 to .79 for the NCS. Sekaran (1992) has commented that reliabilities between .7 and .79 are considered acceptable, and reliabilities over .8 to be good. Testing for convergent validity has shown that correlations between the ACS and OCQ generally exceed .80 (Allen & Meyer, 1990; Meyer & Allen,
1984; Randall et al., 1990). Thus generally, the reliability of the three Allen and Meyer scales have been supported and furthermore the ACS is clearly an adequate alternative for the OCQ.

McGee and Ford (1987) found that while the ACS was unidimensional, the CCS was bidimensional. They also found that the CCS consisted of two separate components. The first captured the perceptions of lack of alternative employment (CC: LoAlt), the second captured feelings that leaving an organisation would result in high personal sacrifice (CC: HiSac). These authors conclude that the second component was more closely aligned to the Becker side-bet view of commitment. Both components were constructed using three items each from the original 8-item continuance commitment scale.

Meyer et al. (1990) collected data from three employee samples to test McGee and Ford's (1987) finding that the CCS consisted of two separate components. Confirmatory factor analysis did support the contention that the CCS could be divided into the subscales of CC: HiSac and CC: LoAlt. They stated that:

> It appears from our results, therefore, that all eight items of the CCS reflect a common underlying theme, namely, cost associated with leaving an organization. Two sources of this cost, lack of alternatives and personal sacrifice (e.g., loss of side-bets), seem to be sufficiently well represented by items in the scale that, when permitted, they define separate but highly related factors. (p. 716)
McGee and Ford (1987) questioned whether commitment based on a lack of alternatives should be incorporated within the side-bet view of commitment. Meyer et al. (1990) believed that lack of alternatives should still be viewed as part of the complete picture on the continuance (side-bet) view of commitment. They provided the following explanation to support their position:

As employees adjust to their roles in an organization, they may gradually change their perceptions of what is an acceptable alternative. In some cases, this redefinition could result in a much smaller set of alternatives. As the number of alternatives judged acceptable decreases, the potential for loss increases. This, then, justifies the inclusion of items assessing perceived alternatives in a measure of continuance (side-bet) commitment. (p. 717)

Somers (1993) conducted a further confirmatory factor analysis. He reports that a three-factor model representing CC: HiSac, CC: LoAlt and affective commitment “was more consistent with the data than a two-factor model comprising unitary affective and continuance commitment” (p. 189). Using a sample of 425 staff nurses in a teaching hospital located in an American city, he found the reliability of the three-item measures were .57 for CC: HiSac and .59 for CC: LoAlt. These reliabilities are substantially lower that the .7 that Sakaran (1992) claims represents an acceptable reliability level.

Hackett et al. (1994) conducted a confirmatory factor analysis on two samples and found that the two subscales (CC: LoAlt and CC: HiSac) were highly correlated and “did not have strong differential relationships to other variables” (p. 21).
In summary, although it is possible to view continuance commitment as bidimensional (CC: LoAlt and CC: Hi Sac) the low reliabilities associated with the three-item measures ensures that it is still prudent for a researcher to consider continuance commitment as a unitary construct. Therefore, sufficient evidence exists to support the three dimensions of commitment as outlined by Allen and Meyer (1990). The problem that still remains is that the foci of commitment is not addressed. Precise commitment targets are needed because commitment to an organisation results in "too much of an aggregation of multiple and abstract targets" (Oliver, 1990, p. 30). Becker (1992) has commented that commitment to foci rather than an organisation should help explain the variance in key dependent variables that have been reported in the literature. Reichers (1985) argued that important foci for employees are top managers, supervisors, and co-workers.

2.5. Conclusion

The foregoing has outlined the development of various conceptualisations of organisational commitment. Allen and Meyer (1990) captured these conceptualisations within their three-component model. The model has generally been supported by subsequent empirical studies, which have measured the three dimensions of the model using the CCS, ACS, and NCS.

These scales have been subjected to confirmatory factor analysis, revealing that the CCS can be viewed as bidimensional, capturing both perceptions of lack of
alternative employment and feelings that leaving an organisation would result in high personal sacrifice. Both these concepts reinforce the view that employees with strong continuance commitment stay with their organisation because they need to.

Employees with strong affective commitment remain because they want to. These employees along with those that remain because they feel they ought to (strong normative commitment) are expected to produce more favorable employee behavioural outcomes than their counterparts with strong continuance commitment. The next section of this chapter investigates this claim further.

3. EMPLOYEE BEHAVIOURAL OUTCOMES AND COMMITMENT

Randall (1990) identified job performance, job effort, attendance (or its converse, absenteeism), coming to work on time (or its converse, tardiness), and remaining with an organisation (or its converse, turnover), as the five most frequently investigated work outcomes in the organisational commitment-behavioural outcome literature. The results from her meta-analysis of 35 studies on the organisational commitment-behavioural outcome linkage showed that the relationship between commitment and the five behavioural outcomes is generally positive and weak. This part of the literature review will examine some of the studies that formed part of the Randall meta-analysis. Additionally, a number of post 1990 studies will also be reviewed.
Allen and Meyer (1990) raised the possibility that commitment profiles could be used to differentiate employees who are likely to remain with an organisation and contribute positively to its effectiveness from those who are likely to remain but contribute very little. In following this line, this review of the literature will place particular emphasis on studies that have used multi-dimensional commitment measures.

Randall (1990) commented that the affective conceptualisation of organisational commitment has a stronger relationship with behavioural outcomes than the continuance conceptualisation of organisational commitment. Randall, Fedor and Longnecker (1990) found that affective and normative commitment were significantly related to work behaviours while continuance commitment showed little or no relationship to work behaviours. It is clear that particular emphasis has to be placed on differentiating the work behaviours associated with continuance commitment as distinct from affective and normative commitment.

To present a more comprehensive picture of the behavioural outcomes associated with the dimensions of organisational commitment, a detailed review of studies involving both individual work performance and organisational effectiveness, are covered in this section of the thesis. The final part of this section of the literature review gives a very general coverage of other behavioural outcomes that have been linked to the construct of organisational commitment.
3.1. Turnover and Turnover Intention

Turnover has been the most widely studied behavioural correlate of commitment. It can be expected that high commitment will lead to reduced levels of turnover as highly committed workers would be desirous of remaining employed in their organisation. Horn et al. (1979) note that resigning from an organisation implies rejection of the organisation but not necessarily rejection of the job. They held that organisational commitment is more directly related to termination than are job attitudes.

Tett and Meyer (1993) conducted a meta-analytic review in which they reported that job satisfaction (-.479) correlated more strongly than commitment (-.463) did with turnover intention. They found that with turnover, however, stronger correlations existed between commitment and turnover (-.198) than job satisfaction and turnover (-.141).

Mowday et al. (1982) argue that the strongest behavioural outcome of employee commitment should be reduced turnover. Shore, Newton, and Thornton (1990) found support for a causal link between organisational commitment and turnover intention. However, quantitative summaries of findings conducted by Mathieu and Zajac (1990) and Randall (1990) have shown that very few large correlations have been found between organisational commitment and turnover. Cohen (1993b) suggested that one reason for these low correlations is that other variables may moderate the relationship.
One of the best known studies providing evidence for the negative correlation between organisational commitment and turnover was carried out by Porter et. al. (1974). This study measured commitment amongst a group of psychiatric technician trainees employed by a hospital for the mentally retarded. The subjects began a training programme as two groups. The first administration of the questionnaire was given 10 weeks prior to the completion of the training programme. Only Group 1 participated in the first administration of the questionnaire because Group 2 had already passed the similar point in their training programme. The remaining three administrations were given to both groups two weeks prior to the completion of the training, two weeks after training, and six weeks after the completion of the training.

Porter et. al. (1974) were not successful in their intent of conducting a longitudinal survey. The unusable responses, together with the small turnover rate, gave rise to a homogeneous sample over time.

The results of the Porter et. al. study suggest that the attitude held by an individual towards commitment and job satisfaction is predictive of subsequent turnover behaviour. Individuals who exit the organisation have less favorable attitudes than those who stay. This is particularly the case with respect to commitment to the organisation. Not only was commitment found to be significantly and inversely related to subsequent turnover, it was also found that the relationship between commitment and turnover increased over time.
The Porter et al. (1974) longitudinal study provides evidence that once an employee begins to indicate a decline in commitment then this is a sign that the employee may exit the organisation voluntarily. In a longitudinal study using a sample of 52 nurses and 36 accountants Farrell and Petersen (1984) found that a decline in commitment and an increase in absenteeism precede organisational turnover. They found that a decrease in commitment provided a better predictor of turnover than an increase in absenteeism. Neither of these two studies address cause-effect relationships. Do employees decide to leave and as a consequence their commitment falls, or does the fall in the level of commitment precede the decision to leave?

Pierce and Dunham (1987) found a number of significant correlations between commitment and five behavioural intention variables (three related to turnover had a correlation range from -.33 to -.43 and two related to absenteeism had a correlation range from -.23 to -.38). The three behavioural intention variables reflecting turnover intentions were based on the work of Mobley, Horner, and Hollingsworth (1978). The questions were “thinking of quitting, intend to search, intend to quit” (Pierce & Dunham, 1987, p. 167). Turnover and absenteeism data was able to be taken from organisational records. With these data, they determined that there were “significant relationships between each of the three turnover behavioral intentions and actual turnover” (pp. 172-173). They tracked the development of organisational commitment from a pre-employment period through to the first three months of employment. After three months on the job,
significant negative relationships were found between commitment and all the five
behavioural intentions.

Steers (1977) found that commitment was significantly positively correlated (at
the .001 level) to both the desire to remain (.44 - hospital sample and .36 scientist
sample) and intent to remain (.31 hospital sample and .38 scientist sample). Desire
and intent to remain were measured by single items on seven-point scales ranging
from strongly disagree to strongly agree. However, commitment was only
moderately related to turnover (at the .01 level).

The low correlations between turnover and commitment may be due to the large
number of studies that have used the short form of the OCQ. Cohen (1993b)
reported that the relationship between commitment and turnover is stronger when
the full version of the OCQ is used in preference to the short version, because the
full version includes items that refer to turnover. He considered that it was
necessary to re-examine the definition and theory behind organisational
commitment before a conclusion could be reached as to whether it is appropriate
to use the OCQ to measure the relationship between commitment and turnover.

Mayer and Schoorman (1992) found that value (affective) commitment was as
good as continuance commitment as a predictor of intention to quit. However,
continuance commitment was a significantly better predictor of actual turnover.
These authors suggested that their findings could indicate that individuals who are
value-committed "may indicate that they intend to stay in an organization, but if
they are not continuance-committed, will leave when the opportunity presents itself” (p. 681).

Both affective and continuance commitment are expected to increase the likelihood that an individual will remain with an organisation (Meyer, Bobocel, & Allen, 1991). The reasons for remaining differ, however, between affective and continuance commitment. Employees with high levels of affective commitment remain “because they want to, whereas those who have a strong continuance commitment remain because they have to” (Meyer et al., 1991, p. 718).

Very little empirical research has been carried out to establish the link between normative commitment and turnover. Wiener and Vardi (1980) found a negative relationship between commitment and intention to turnover. Intention to turnover among a group of insurance agents and staff professionals, was measured by the respondents’ indication of the probability that they would stay with their organisation in the foreseeable future.

Jaros, et. al. (1993) measured three dimensions of commitment: moral, continuance, and affective. Their definition of moral commitment equates to the definition of normative commitment given by Allen and Meyer (1990). The Jaros, et. al. (1993) study was the first to consider the impacts of the three dimensions of commitment on the withdrawal process. They reported that bivariate correlational results showed weak relationships between the three dimensions of commitment and their turnover measure. In their study continuance commitment was the only
commitment scale that was significantly correlated with turnover. They suggested “that commitment affects turnover only indirectly, through withdrawal intentions” (p. 984). It should to be noted that of the 21 items used in their study to measure the three forms of commitment, only two were drawn from the work of Meyer and Allen (1984). The Allen and Meyer (1990) scales were not available when the study was conducted.

Using a sample of registered nurses, Meyer et al. (1993) found that affective and normative commitment were negatively related to intention to leave. The 18 items used to measure the dimensions of commitment were constructed specifically for this study. As a result a number of the questions differed in wording from the Allen and Meyer (1990) instrument.

Cohen (1993b) reported that the relationship between commitment and turnover was stronger in studies in which the period of time between the measurement of the two variables was less than six months. Jaros et. al. (1993) collected turnover data 99 weeks after the survey. They suggested that had they used a shorter period of time, stronger effects of commitment may have been found, and that the different dimensions of commitment may differ in reliability over time. Therefore, “the optimal time interval for data collection may depend on the type of commitment being studied” (p. 987).

Werbel and Gould (1984) found that tenure was a moderator in the relationship between commitment and turnover. In their longitudinal study of 209 registered
nurses, no relationship was found between commitment and turnover for those employees who had been employed for less than one year. There was a negative relationship between commitment and turnover for those employees who were employed for more than one year.

It is evident from the literature that all three forms of commitment will have the effect of bonding the organisation and worker together. The literature reviewed would support a link between commitment and turnover intention:

\[ H_1: \text{Affective, normative, and continuance commitment are all negatively correlated with turnover intention}. \]

Therefore, the various conceptualisations of organisational commitment are irrelevant to organisations wishing to implement retention strategies. The significance of the Allen and Meyer (1990) commitment conceptualisations are that they provide useful human resource tools allowing for the analysis of other key variables that impact on organisational effectiveness. The first of these key variables that will be examined is absenteeism.

3.2. Absenteeism

Absenteeism has been defined as “non-attendance when an employee is scheduled to work” (Price & Mueller, 1986, p. 17). In this approach nonattendance due to annual leave; rostered days off; long service leave; and maternity leave are not
generally viewed as absenteeism (Mueller, Wakefield, Price, Curry, & McCloskey, 1987). Voluntary and involuntary absences are usually differentiated. When employees do not voluntarily create the conditions which produce the absence (e.g. illness), the absenteeism is involuntary (Mueller et al., 1987). The distinction between these forms of absenteeism is imprecise. In the case of illness, for example, it has been noted that “individuals often exercise considerable discretion in determining whether an illness is severe enough to warrant non-attendance at work” (Drago & Wooden, 1995, p. 461).

Different indices are commonly used to measure voluntary and involuntary absenteeism (Hackett & Guion, 1985). The most common measure of voluntary absence is the Frequency Index. This index measures the number of absences over a specified time period after excluding holidays and rest days. This Frequency Index is used as a measure for voluntary absence because such absence is likely to be of a short duration, and these can be best measured by the number of times that an employee is absent. Frequency is also taken as a measure of organisational effectiveness (Farrell & Stamm, 1988).

The most common measure of involuntary absenteeism is the Time Lost Index. This index measures the total number of days absent, excluding holidays and rest days.

Absenteeism has been consistently shown to be higher among females and younger employees (Hackett & Guion, 1985). An explanation for higher female
absenteeism is "that for females more than males, work outside the home assumes a secondary role" (Hackett & Guion, 1985, p. 374).

Wooden (1995) listed organisational commitment as only one of the seven most important factors that have an impact on absence. The other six factors were poor health, occupation, stressful life events, demographic factors, attitudes to sick leave usage, and job satisfaction. He contends that higher levels of organisational commitment facilitate higher attendance.

Significant negative relationships have been found between organisational commitment and absenteeism in some studies (Blau, 1986; Farrell & Petersen, 1984; Hammer, Landau, & Stern, 1981; Mayer & Schoorman, 1992; Pierce & Dunham, 1987; Steers, 1977; Terborg, Lee, Smith, Davis, & Turbin, 1982). However, this negative relationship has not been found to exist in other studies (Angle & Perry, 1981; Ivancevich, 1985; Jamal, 1984).

A meta analysis study conducted by Farrell and Stamm (1988) showed that when absenteeism was measured by total time lost, the range of correlations for job satisfaction and absenteeism were all negative (-.62 to -.03), while for commitment and absenteeism both positive and negative correlations were found (-.40 to .16). When absenteeism was measured by absence frequency, a reverse pattern occurred. The correlations for commitment and absenteeism were all negative (-.47 to -.04), while for job satisfaction and absenteeism both negative and positive correlations were found (-.38 to .23). The degree of variance
explained by commitment when total time lost was used as a measure of absenteeism was .021, compared with .016 when absence frequency was used as a measure. The variance explained by job satisfaction was .023 and .013 respectively. Based on this information it would seem that both job satisfaction and commitment are not strong predictors of absenteeism.

Ivancevich (1985) found that past absenteeism is a better predictor of subsequent absenteeism than organisational commitment. The results of the Farrell and Stamm (1988) meta analysis only partly support this. They found that the variance explained by absence history was .067 when total time lost was used as a measure compared with only .008 when absence frequency was used as the measure for absenteeism. It would thus seem that both commitment and job satisfaction should be better predictors of absenteeism than past absence, when absence frequency is used as the measure of absenteeism. However, the very extensive longitudinal study conducted by Morris, Sherman, and Snyder (1989) which measured absenteeism using absence frequency, did not find that job satisfaction was as good as a predictor, as past absence.

Mayer and Schoorman (1992) measured both continuance and value commitment as part of their two-dimensional model. Value commitment was defined as “a belief in and acceptance of organizational goals and values and a willingness to exert considerable effort on behalf of the organization” (p. 673). Using this definition it is possible to conclude that their dimension of value commitment is similar to the affective dimension of commitment as measured by both the OCQ
and the ACS. Mayer and Schoorman hypothesised that absenteeism and continuance commitment should be negatively correlated on the basis that individuals would avoid behaviours that might jeopardise organisational membership. However, they found no significant correlation between absenteeism and continuance commitment. A negative correlation (significant at the .01 level) was found between value commitment and absenteeism. Absenteeism data was obtained from the organisation and was measured by “the total number of unexcused absences for the year in which the study was conducted” (p. 675).

Hammer et al. (1981) conducted a study which investigated the impact of organisational commitment and job satisfaction on absenteeism. They used a two-item organisational commitment scale. The items concerned a willingness to exert considerable effort on behalf of the organisation and a belief in the future of the organisation. They found that while absenteeism was affected by organisational commitment, job satisfaction was not a predictor of absenteeism. Steers (1977) found a significant correlation (significant at the .01 level) between commitment and absence in a sample of scientists and engineers. However no significant correlation was found in the hospital employee sample. Absence was measured as the number of days absent from work.

Following up on the work of Blau (1986), Mathieu and Kohler (1990) designed a study to test the interactive relationship between job involvement and organisational commitment as they relate to absenteeism. They used the 9 item OCQ to measure commitment among 192 bus drivers. Reasons for absence were
recorded by each driver's supervisor and grouped into four categories: illness; personal reasons; family obligations; and transportation problems. Significant negative correlations were found between organisational commitment and personal absence. Organisational commitment did not correlate with any of the other three types of absence categories.

One of the more significant findings reported in their study was that personal absences were greater among drivers with low organisational commitment and high job involvement. Mathieu and Kohler offer two explanations for this finding. The first explanation centred on the “lone wolf” worker. This type of worker was described by Blau and Boal (1987) as an individual with low organisational commitment and high job involvement. Lone wolves are most likely to take absences to enhance their careers and are likely to abuse an organisation’s absence policy if they can obtain personal benefit (Blau & Boal 1987). Several supervisors in the Mathieu and Kohler (1990) study reported that some drivers would take personal absence and then make up lost pay by working an overtime shift later in the week. These drivers were earning more pay for the equivalent number of hours worked. Mathieu and Kohler (1990) note that this conduct could be expected of lone wolf drivers.

The second explanation for the low organisational commitment and high job involvement link was the possibility that employees who are strong on job involvement may tend to get more involved in nonwork activities (such as church activities). Mathieu and Kohler (1990) suggested that these activities may impact
on the work time of these employees to such an extent that they take personal absences.

Other researchers have cast doubts on the existence of a negative relationship between organisational commitment and absenteeism. Angle and Perry (1981) found that organisational commitment was associated with turnover and tardiness, but not with absenteeism. Some of the inconsistency in the research may be attributed to the sample and measurement differences in the various research work. Angle and Perry (1981) used the 15-item OCQ to measure commitment amongst 1244 employees of bus operators. Bus drivers accounted for 91 per cent of respondents. The use of the Allen and Meyer (1990) commitment scales in this thesis has allowed for comparisons to be made with studies that have used an affective measure of commitment, such as Angle and Perry (1981), as well as those studies that have used continuance and normative measures.

In summary, inconsistent and weak relationships have been established between commitment and absenteeism. A number of explanations for this are provided in the literature. One of the explanations is that absenteeism can be categorised and measured in numerous ways. The most common categorisation of absenteeism are voluntary and involuntary absences. The most common measure of involuntary absenteeism is the Time Lost Index. The most common measure of voluntary absence is the Frequency Index. When absenteeism has been measured by absence frequency, the correlations between commitment and absenteeism are generally negative.
Sample and differences in commitment measures have also been provided as reasons for the inconsistency in the relationship between commitment and absenteeism. For example, Mayer and Schoorman (1992) report no significant correlation between continuance commitment and absenteeism, while Mathieu and Kohler (1990) report that affective commitment is significantly negatively correlated to absenteeism.

The literature reviewed gives rise to hypothesis 2:

\[ H_2: \text{Affective and normative commitment are negatively correlated with absenteeism.} \]

Overall the amount of absenteeism variance explained by commitment is small and therefore it is not a strong predictor of absenteeism. This does not suggest that commitment should be discarded as an irrelevant variable in the study of absenteeism. Further research using the different commitment dimensions is required before such a conclusion can be made.

3.3. Tardiness

A number of researchers have studied the link between organisational commitment and tardiness, (Angle & Perry, 1981; Blau, 1986; Clegg, 1983).
Using the 15-item OCQ Angle and Perry (1981), found that organisational commitment was significantly negatively related to tardiness.

Clegg’s (1983) study involved categorisation of the variables measured. The categories were: affect (organisational commitment and job satisfaction), behaviour (lateness, unauthorised absence, and voluntary turnover), demographic information (sex, age, and marital status) and situational data (tenure, skill level, and job category).

Clegg used the Cook and Wall instrument (1980). This has 3 components: identification, involvement, and loyalty. He found no support for the existence of a causal relationship between organisational commitment and lateness. However, some evidence of causality in the reverse direction was found, that is, lateness influences organisational commitment.

Blau (1986) examined organisational commitment and job involvement as predictors of absenteeism and tardiness behaviour. Organisational commitment was measured using the OCQ. Individuals with higher levels of organisational commitment and job involvement exhibited less absenteeism and unexcused tardiness than those with lower levels of commitment and job involvement. Unexcused tardiness was defined as “the frequency with which individuals reported to work late without permission” (Blau, 1986, p. 579).
In summary, very little research has been conducted to investigate the relationship between commitment and tardiness. With the expansion of flexible work starting times in many organisations, tardiness is no longer relevant for many organisations. For organisations where tardiness is still a concern, the research conducted does indicate that affective commitment is significantly negatively related to tardiness.

3.4. Work Effort

Porter, et. al., (1974) commented that a committed employee would be willing to exert considerable effort on behalf of the organisation. As one of the expected characteristics of a committed worker is a willingness to exert effort, it is surprising that very little empirical research has been carried out to prove the link between commitment and effort. The difficulty associated with the measurement of work effort may explain the lack of empirical work in this area.

Wiener and Vardi (1980) hypothesised that in jobs where rewards are closely tied to performance, such as when salespersons are paid commissions, commitment is not expected to strongly impact on work behaviour. However, in other situations where the link between performance and reward is less pronounced, commitment should have a greater impact on work behaviour. Work effort was used as one of the work behaviour outcomes in their study and was measured by the number of hours that a respondent devoted to work in a typical week. Two samples were used in the data analysis, one comprised insurance salespeople and the other staff.
professionals in a manufacturing organisation. Weiner and Vardi reported that work effort was not significantly related to organisational commitment for the sales sample. For the staff professionals, effort was significantly related to continuance (measured by the Alutto et al. (1973) scale) and normative commitment. These findings supported their hypothesis that commitment would have a greater impact on work outcomes when reward was not tied to performance.

Chelte and Tausky (1986) found a weak link between extra job effort and commitment in their sample of university employees. The sample included administrators, semiskilled and unskilled workers, and faculty. It was only among administrators that organisational commitment emerged as a significant variable in explaining extra effort. They commented that the outcomes of organisational commitment may differ depending on the employee group studied. They suggested that research should be carried out on different types of organisations, such as service versus manufacturing, in order to enable comparisons to be made between different employee groups.

Meyer and Allen (1991) have suggested that both affective and normative commitment are more likely to correlate with effort than continuance commitment:

Employees who want to belong to the organization (affective commitment) might be more likely than those who need to belong (continuance commitment), or feel obligated to belong (normative commitment), to exert effort on behalf of the organization. It is
noteworthy that, of the studies that have reported positive correlations between commitment and performance, most have used measures of affective commitment. It is possible, of course, that an obligation to remain will carry with it an obligation to contribute, in which case normative commitment would also correlate positively with effort and performance. (p.73)

Hypothesis 3 is derived from the foregoing literature:

\[ H_3: \text{Affective and normative commitment are positively correlated, and continuance commitment negatively correlated, with work effort.} \]

In summary there is some support for a positive relationship between affective and normative commitment and work effort. There is less support for the existence of a positive relationship between continuance commitment and effort.

3.5. Individual Job Performance

If, as Porter et. al., (1974) have suggested, commitment has a positive effect on effort, it should follow that a positive relationship should also exist between commitment and performance. In this section of the review the link between commitment and performance is investigated.

Studies have used a number of different performance measures ranging from subjective supervisory ratings through to objective performance measures. Irrespective of how performance has been measured in studies, little evidence has
been found to confirm the existence of a positive relationship between commitment and performance.

Steers (1977) conducted the first major study to determine the relationship between commitment and performance. The study was conducted among 382 hospital employees and 119 scientists and engineers. Steers concluded that performance was unrelated to commitment in both the samples.

Steers gives a number of possible explanations for the lack of association between commitment and performance. He suggested that as neither organisation was profit-oriented, pressures for efficiency may have been reduced and the priority might have been “to retain their highly trained, specialized (and hard to replace) technical personnel at a cost of reduced output” (p. 54). Observational data suggested that in both organisations “managers were strongly concerned about employee relations and rather ambivalent about high level performance” (p. 54). Steers also commented that:

the notion of organizational commitment as defined in the literature exists independently of human abilities and role clarity. Hence, it seems logical to assume that at least part of the failure to find a strong commitment-performance relationship may have resulted from the failure to control for abilities and role clarity in the present analyses. (p. 55)

DeCotiis and Summers (1987) conducted a study of managerial employees of a major American restaurant company and found that commitment was not
associated with supervisory performance evaluations of individuals. The coefficient alpha for their six-item scale was reported to be .88.

Both the Steers (1977) and DeCotiis and Summers (1987) studies provide consistent findings that no relationship exists between commitment and supervisory performance evaluations of individuals. However other studies (Meyer et al., 1993; Meyer et. al., 1989; Mowday et al., 1979) have reported relationships between commitment and supervisory performance evaluations.

Mowday et al. (1979) were able to collect supervisory ratings in their samples of hospital employees and retail management trainees. They found that while the relationship between organisational commitment and performance was positive, the strength of the relationship was modest (range from .05 for hospital employees to .36 for retail management trainees).

In the Meyer et al., (1989) study commitment and satisfaction scores obtained from managers in a large food service company were correlated with supervisors’ ratings of their performance and promotability. The research showed that affective commitment correlated positively (.23 for both performance and promotability) and continuance commitment correlated negatively (-.25 for performance and -.46 for promotability) with the supervisors’ ratings. Job satisfaction did not correlate significantly with the performance ratings.
Consistent with the Meyer et.al., (1989) findings, Meyer et al. (1993) found that affective commitment correlated positively (.16) and continuance commitment correlated negatively (-.12) with supervisor evaluation of performance.

It should be noted that though there is reported inconsistency in the relationship between commitment and supervisory related performance, this inconsistency is not found to exist when commitment is measured using the ACS and CCS. Both the Meyer et. al., (1989) and Meyer et al. (1993) studies have reported that affective commitment is positively related and continuance commitment negatively related to performance.

The uncertainty of the relationship between commitment and supervisory related performance also extends to the relationship between commitment and objective performance data. While both DeCotiis and Summers (1987) and Mayer and Schoorman (1992) found support for the argument that commitment is positively associated with objective job performance data, Summers and Hendix (1991) have found no such support.

DeCotiis and Summers (1987) found that commitment was strongly associated with objective measures of individual job performance. The objective measures of individual performance consisted of financial data provided by the organisation. Support for the link between commitment and objective financial performance data has also been provided by Mayer and Schoorman (1992). They found that performance was more strongly related to affective commitment (they used the
phrase value commitment) than to continuance commitment. The correlation between performance and affective commitment was .17 (significant at the .01 level).

Summers and Hendix (1991) investigated the relationship between job performance and commitment amongst a sample of 365 managers employed in a nationwide restaurant company. They found that their measure of affective commitment was not significantly related to job performance.

The inconsistency in the research findings on the relationship between affective commitment and objective job performance data is particularly confusing when one notes that both the Summers and Hendix (1991), and DeCotiis and Summers (1987), studies used the same measure of affective commitment but still reported contradictory findings. Clearly the relationship between affective commitment and objective job performance requires further investigation.

3.6. Organisational Performance and Effectiveness

There are very few studies that have been conducted to test hypotheses linking commitment to organisational performance and effectiveness (Ostroff, 1992). This section of the literature review is limited therefore to these few studies.

Mowday et al. (1974) found that high-performing branches of a large Californian bank were characterised by employees with higher mean levels of commitment to
the organisation than employees in low performing branches. However, Angle and Perry (1981) did not find any significant relationship between organisational commitment and performance. This contrasts with DeCotiis and Summers (1987) who found some support for the suggestion that organisational commitment has a positive impact on organisational effectiveness.

Brett, Cron, and Slocum (1995) reported a stronger relationship between organisational commitment and company performance for employees with low financial requirements than for employees with high financial requirements. Their study measured only affective commitment. A measure of continuance commitment may have produced different results.

The limited research does suggest a positive relationship between commitment and organisational performance. It is clear however, that further research needs to be undertaken to investigate the link between commitment and organisational performance.

3.7. Other Employee Behavioural Outcomes

Reichers (1985) has emphasised the need for commitment research to include an attempt to understand commitment from the perspective of “the committed”. She stated that researchers “have not asked subjects directly (or even indirectly) for their perceptions and definitions of commitment” (p. 469). This view has been supported by Randall et al. (1990) who are critical of much of the research carried
out on the behavioural outcomes of the various dimensions of commitment. They have contended that investigations into the behavioural outcomes have typically explored standard variables such as tardiness, absenteeism, performance, intent to turnover, and turnover, without input from study participants as to whether they accurately reflect the ways that the participants express commitment. They undertook a study to remedy some of the shortcomings of earlier research. This addressed the question “How can you tell when someone is committed to this organisation?” (p. 214). Their analysis resulted in 15 behavioural expression items.

Four dimensions emerged from a factor analysis of these items: behaviours indicating a concern for quality, behaviours indicating a sacrifice orientation, behaviours indicating a willingness to share knowledge, and behaviours indicating presence in the work place. These authors concluded that of the four behavioural sets, only the presence behaviour set had been studied in depth by commitment researchers. They further concluded that none of the commitment dimensions explored were significantly linked, singularly or in combination, to the presence variables of tardiness and absenteeism. This led them to comment that “employees in the organization studied did not express commitment through attendance or by coming to work on time” (p. 220).

These authors contend that in a univariate model, the affective conceptualisation of commitment was significantly correlated with quality, sacrifice, and sharing behaviours. A multivariate analysis showed that affective commitment remained a significant predictor of quality, sacrifice, and sharing behaviours, and was clearly
a better predictor of behavioural outcomes than normative and continuance commitment.

Randall et al. (1990) emphasised the need for researchers to select and use respondent-generated behavioral outcomes. They suggested that it would be desirable to use different methods to collect commitment and behavioural data. For example, a questionnaire could be sent to employees to measure commitment levels and behavioural data could be collected from the organisations’ records.

Organisational commitment has been studied to determine its effect on organisational citizenship behaviour (OCB). Organ (1988) stated that: “OCB represents individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization” (p. 4).

Two broad categories of OCB have been identified. The first are OCBO-behaviours that benefit the organisation in general (such as giving advance notice when unable to come to work). The second are OCBI-behaviours that benefit specific individuals (helping a new employee using the office phone system). Williams and Anderson (1991) found that organisational commitment was not correlated with either form of OCB.

Nouri (1994) found that managers with high levels of commitment were associated with reduced propensities to create budgetary slack. Budgetary slack is
the amount by which managers intentionally build excess requirements for resources into their budgets, or knowingly understate productive capability. He suggested that policies that increase the commitment of managers would reduce budgetary slack.

Jamal (1984) found that the higher the level of job stress, the higher the employees' absenteeism, anticipated turnover, and turnover. The significant finding concerning commitment was that employees with high levels of organisational commitment appeared to have less adverse consequences of stress than employees who had low levels of organisational commitment.

Begley and Czajka (1993) found that organisational commitment provided an effective buffer to the stress of organisational turmoil while Mayes and Ganster (1988) suggested that employees with high levels of organisational commitment are less likely to exit and more likely to exert voice when an organisation is experiencing turmoil.

Mathieu and Zajac (1990) have provided a different perspective to the relationship between stress and commitment. They argue "that employees who become attached to and remain with an organization because of side bets are likely to experience greater strain" (p. 183). They postulate a positive correlation between strain and continuance commitment.
In summary, investigations into employee behavioural outcomes have typically explored standard variables such as tardiness, absenteeism, performance, intent to turnover, and turnover. Some researchers contend that employees may not express commitment through some of these behaviours. Research into the relationships between commitment and other employee behaviours reveal that affective commitment significantly correlates with quality, sacrifice, and sharing behaviours. Additionally, some research has found that managers with high levels of affective commitment are less likely to create budgetary slack. Affective commitment is associated with low levels of stress. In contrast, continuance commitment is expected to positively correlate with stress.

3.8. Conclusion

This section examined the literature exploring the relationships between organisational commitment and a number of employee behavioural outcomes. Turnover and turnover intention are the only behavioural outcomes that consistently correlate negatively to all three dimensions of commitment.

An important variable that impacts on organisational effectiveness, absenteeism, does not show a consistent relationship to organisational commitment. An explanation provided for this inconsistency is that different measures of both absenteeism and commitment are frequently used.
Affective commitment has been found to negatively correlate with tardiness. This relationship however, should be treated cautiously because of the small number of studies conducted.

There is more support for a positive relationship between work effort, and affective and normative commitment, than there is for the relationship between continuance commitment and work effort. It should be noted that work effort is a difficult variable to measure and so caution should be taken prior to the acceptance of any reported relationship.

Irrespective of how individual performance is measured, studies have failed to confirm the existence of a positive relationship between commitment and performance. However, studies that have used the ACS and CCS have shown that affective commitment is positively related and continuance commitment negatively related to supervisory related performance.

It is evident that while it is not important to distinguish between dimensions of commitment when investigating the impact of organisational commitment on turnover and turnover intention, this is not the case for other employee behavioural variables. The overall picture in relation to these other variables supports the view that affective and to a lesser extent normative commitment are generators of more favourable employee behavioural outcomes than continuance commitment.
4. THE DETERMINANTS OF THE COMMITMENT DIMENSIONS

The literature suggests a number of determinants of organisational commitment. This literature is reviewed in this section and concentrates on nine determinants. Five of these are the demographic variables of pay, career stage (which incorporates age, positional tenure, and organisational tenure), education, gender, and full-time/part-time employment. The other four determinants reviewed are: job satisfaction, perceived organisational support, training opportunities, and training fulfilment. The first part of this section reviews these non-demographic variables.

4.1. Non-Demographic Determinants

The non-demographic determinants of commitment have been grouped under the following headings: job satisfaction; perceived organisational support; and training opportunities and fulfilment.

4.1.1. Job Satisfaction

Job satisfaction has been defined as the extent to which an employee expresses a positive affective orientation toward his or her job (Smith et al., 1969). Job satisfaction can be treated as a global concept referring to overall satisfaction or as a facet-specific concept referring to specific aspects of work such as pay, supervision, promotions, and co-workers.
Wiener (1982) viewed commitment as an attitude toward an act while job satisfaction was viewed as "an attitude toward an object, i.e., a work-related condition, facet, or aspect" (p. 422). Based on the work of Fishbein and Ajzen (1975), who consider that an attitude toward an object does not enable an accurate prediction of specific behavioural intentions, Wiener concludes that commitment is expected to be a better predictor of behaviours than job satisfaction.

Job satisfaction has been considered by some researchers as a forerunner of commitment (Mathieu & Hamel, 1989; Mowday et al., 1982; Williams & Hazer, 1986). Mathieu and Hamel (1989) developed a causal model of the antecedents of organisational commitment in which job satisfaction is presented as one of the causes of organisational commitment. Williams and Hazer (1986) support this proposal:

...through a process of the evaluation of costs and benefits, individual needs and desires are satisfied, and the resulting affective state becomes associated with the organization, which has provided the job and its associated characteristics and environment. Commitment results from this association. (p. 230)

Bateman and Strasser (1984) and Vandenberg and Lance, (1992) however, have found that organisational commitment is an antecedent of job satisfaction rather than an outcome of it.
The correct causal ordering of these variables is vital in the study of commitment. If commitment is an antecedent to, rather than an outcome of satisfaction, then:

...studies of satisfaction that omit this variable have employed misspecified models, which could have resulted in erroneous inferences concerning the importance of other variables linked to satisfaction. A similar line of reasoning can be applied to commitment. (Curry et al., 1986, p. 848)

Curry et al. highlight the practical implications to the ordering of satisfaction and commitment in service organisations:

...effectiveness and efficiency require a high level of morale among employees, because the services rendered are personal and labor intensive. It is therefore important for managers to know how rewards and incentives are linked to outcomes like satisfaction and commitment. For example, if satisfaction is a determinant of commitment, it may be possible to indirectly influence commitment through a strategy that increases satisfaction. However, if the reverse causal ordering is true, and a manager is unaware of this, the same intervention strategy may not be effective. (p.848)

Commitment as a construct is more global than satisfaction, reflecting a general affective response to the organisation as a whole. However, job satisfaction centres on a person’s response to either his or her job or to certain aspects of their job (Mowday et al., 1982). Commitment therefore, concentrates on the attachment to the employing organisation, including the vision and the mission of the organisation, whereas satisfaction concentrates on specific tasks and the work environment that those tasks are undertaken within.
Studies that have used the ACS, NCS, and CCS have reported inconsistent findings in the relationship between job satisfaction and the dimensions of commitment. Meyer et. al. (1989) have found that job satisfaction correlated positively with both affective and continuance commitment. However, Meyer, Allen, and Smith (1993) found that in their sample of registered nurses, ratings of job satisfaction correlated positively with affective and normative commitment but negatively with continuance commitment.

Hom et al. (1979) note that although the relations between job satisfaction and turnover are seldom strong, some relationship is usually found to exist. Mobley et al. (1978) found that while significant coefficients were evident from job satisfaction to thinking of quitting and intention to search, no significant coefficients were found from job satisfaction to actual turnover.

Mowday et al. (1982) argue that the commitment level of an individual may be more important than the more specific attitude toward one’s particular job when it came to making a decision to remain with an organisation. However, Tett and Meyer (1993) report that job satisfaction correlates more strongly with turnover intention and withdrawal cognitions than did commitment. They concluded that “commitment is not more important than satisfaction in predicting intention/cognitions” (p. 280). However, they found that commitment correlated more strongly than job satisfaction to actual turnover and questioned “the use of intention/cognition measures as surrogates of actual turnover” (p. 280).
In their longitudinal study of absenteeism Steel and Rentsch (1995) comment that job satisfaction consistently predicted absenteeism. By contrast, the majority of absence studies have found significant but weak relationships between job satisfaction and absenteeism (Drago & Wooden, 1995). In their meta analysis Hackett and Guion (1985) report that “typically less than 4% of the variance in absence measures is associated with satisfaction scores” (p. 355). They comment that a possible explanation for the low correlations between absence and job satisfaction may be caused by the skewed, truncated nature of absence distributions. This pattern occurs because “most people are likely to be absent infrequently, and only a few are likely to be absent a lot” (Hackett and Guion, 1985, p. 371).

Clegg (1983) found no support for the existence of a causal relationship linking job satisfaction with lateness. However, he did find some evidence of causality in the reverse direction, that is, absence independently predicts job satisfaction.

In the Meyer et al. (1989) study, first-level managers’ affective commitment scores correlated positively and continuance commitment scores correlated negatively with their supervisors’ performance ratings. No significant correlation was found to exist between job satisfaction and the performance ratings. However, Shore and Martin (1989) found that job satisfaction was related more strongly than organisational commitment with supervisory ratings of performance.
Morrow and McElroy (1987) found that irrespective of how career stage was operationalised, respondents reported dissatisfaction with opportunities for promotion. Employees were more satisfied with pay and work, and recorded their highest levels of satisfaction with supervision and co-workers.

When age was used as the measure of career stage Morrow and McElroy (1987) reported that satisfaction with work and co-workers increased at each of the three career stages. Satisfaction with promotions and pay decreased as age increased. The one facet of job satisfaction that was unrelated to age was satisfaction with supervision.

In summary, it still remains a moot point as to whether commitment is a better predictor of employee behaviours than job satisfaction. Commitment as a construct is more global than satisfaction. It concentrates on the attachment to the employing organisation, including the vision and the mission of the organisation, whereas satisfaction concentrates on specific tasks and the work environment that those tasks are undertaken within.

Whether job satisfaction is a forerunner of commitment is still an unresolved issue. Job satisfaction has been considered by some researchers as an antecedent of commitment. Others have found that organisational commitment is an antecedent of job satisfaction rather than an outcome of it.
It is unclear whether job satisfaction correlates to all three dimensions of commitment or just affective and normative. The findings of Meyer et al. (1993) that job satisfaction correlates positively with affective and normative commitment will be tested in this thesis:

\[ H_4: \text{Affective and normative commitment are positively correlated with job satisfaction.} \]

4.1.2. Perceived Organisational Support

The construct of perceived organisational support is concerned with determining the extent to which an organisation values the contributions made by employees and the degree of care that the organisation shows in the well-being of its employees. Perceived organisational support is a construct that has been found to have a link to commitment (Eisenberger et al., 1986; Shore & Tetrick, 1991). Eisenberger et. al. (1986) suggested that perceived organisational support is an antecedent of organisational commitment. Shore and Tetrick (1991) demonstrated that perceived organisational support was related to affective commitment but not to continuance commitment.

The connection between perceived organisational support and commitment has been made through the norm of reciprocity. Both Eisenberger et. al. (1986) and Scholl (1981) have suggested that reciprocity is important for developing organisational commitment. The norm of reciprocity means that people should
help those that have helped them (Gouldner, 1960). For reciprocity to be operative, the reward that an individual receives must exceed the normal expectations of the individual. Scholl (1981) has explained the difference between investments and reciprocity as follows:

Whereas investments accrue as individuals make contributions that will be rewarded at a future time, reciprocity would work in the opposite fashion: an individual would receive a benefit, such as training or an opportunity beyond his or her current ability, and would expect to repay it through future performance. (p. 594)

It can be extrapolated therefore, that providing training to employees should increase the level of perceived organisational support among employees. Eisenberger et. al. (1986) suggested that an employee’s inferences about the organisation’s commitment to him or her (perceived organisational support) would affect the employee’s subsequent commitment to the organisation. An employee’s level of perceived organisational support would be influenced by the praise and approval that he or she obtains from the organisation. Pay, position within an organisation, and influence over organisational policies would affect an employee’s perceived support to the extent that they signified the organisation’s positive evaluation of an employee (Eisenberger et. al., 1986).

Scholl (1981) has commented that commitment models that view organisational commitment as being generated by the expectation of future rewards do not add to expectancy theory as explanations of work behaviours. Incorporating the construct of perceived organisational support as a determinant of organisational
commitment, ensures that commitment is seen to be generated by the norm of reciprocity rather than driven by expectancy theory.

Eisenberger et. al. (1986) conducted a survey that focused on a measure of employee perceptions of employer commitment to the individual employee. As a result of this survey an instrument was developed to measure employees’ perceptions of the support that they received from an organisation. The instrument was entitled the “Survey of Perceived Organisational Support (SPOS)". Eisenberger et. al. conducted a further study using the short form of the SPOS. The reliability coefficient (Cronbach alpha) for the questionnaire was .93. They found that there was a significant negative correlation between perceived organisational support and absenteeism (-.28 for periods of absence and -.20 for days of absence).

Eisenberger et al. (1990) suggest a positive relationship between perceived organisational support and employee attendance, and between perceived organisational support and job performance. They also suggest that affective commitment is positively related to perceived organisational support. Both this and the Eisenberger et al. (1986) study suggest that organisational support is positively related to continuance commitment.

Shore and Tetrick (1991) conducted confirmatory factor analysis which supports most of the findings of Eisenberger et. al. (1986) and Eisenberger et al. (1990) but which does not support a relationship between perceived organisational support
and continuance commitment. Shore and Tetruck (1991) suggest that as the level of perceived support decreases (for example because of lack of promotions) then this may lead to "the more negative form of commitment that is reflected in the CCS" (p. 641).

Shore and Wayne (1993) conducted a study to determine whether perceived organisational support was a better predictor of employee behaviour than affective and continuance commitment. One of the employee behaviours that they investigated was organisational citizenship. Their study suggests that though affective commitment and perceived organisational support are both positively related to citizenship behaviour, perceived organisational support is a stronger predictor. They suggest that continuance commitment is negatively related to organisational citizenship. Their findings support those of Meyer et.al. (1989) who found that affective commitment had a positive impact on job performance.

The above gives rise to the following hypothesised relationship between the dimensions of commitment and perceived organisational support:

\[ H_5: \text{Affective and normative commitment are positively correlated with perceived organisational support.} \]

In summary, the literature provides evidence that perceived organisational support is a construct distinct from organisational commitment and job satisfaction. Perceived organisational support has been shown to be highly correlated to
affective commitment but its relationship with continuance commitment is unclear. Perceived organisational support has been found to positively correlate with attendance and citizenship behaviour.

4.1.3. Training Opportunities and Fulfilment

Training opportunities refers to the number of opportunities for further training and development that an employee receives.

Training fulfilment has been defined as “the extent to which training meets or fulfills a trainee’s expectations and desires” (Tannenbaum, Mathieu, Salas, Cannon-Bowers, 1991, p. 760). A number of researchers have suggested that a positive correlation should exist between training fulfilment and organisational commitment (Meyer et al., 1993; Tannenbaum et al., 1991).

Tannenbaum et al., found training fulfilment to be positively related to organisational commitment. They surmise that training that enhances organisational commitment should improve an organisation’s ability to retain employees. They do not specify which dimension of commitment will be affected by training.

Saks (1995) found that training opportunities were significantly correlated with a measure of affective commitment (5 items adapted from the OCQ). Meyer et al. (1993) have suggested that normative commitment should be affected by skills
training, because by receiving the benefit of training, an employee will feel a sense of obligation to reciprocate:

Employees may view an effective training experience as an indication that the company is willing to invest in them and cares about them; thus, training may enhance their commitment to the organization. This should be particularly true if the training met participants' expectations and desires. (p. 760)

In their study of British Rail, Guest et al. (1993) examined whether training resulted in improved levels of organisational commitment. Their longitudinal study suggested the training had no impact on organisational commitment.

A weakness of the British Rail study is that no attempt was made to measure the employees' satisfaction with the training and whether employees perceived that the training would provide knowledge and skill useful in improving the quality and efficiency of their work. Training fulfilment may be more important than training opportunities. The problem is that not all employees who may respond to a survey of the kind that was planned for this study may receive training. Therefore it would seem appropriate to investigate the link between training opportunities and commitment. This view conditions subsequent analysis in this thesis. The literature on the link between training opportunities and commitment is sparse and consequently it is appropriate to make the following hypothesis:

\[ H_6: \text{Affective and normative commitment are positively correlated with training opportunities.} \]
4.2. Demographic Determinants

The demographic determinants of commitment have been grouped under the following headings: pay attributes; career stage; education; gender; and employment status.

4.2.1. Pay Attributes

Commitment has been found to be positively related to salary levels (Ritzer & Trice, 1969), pay equity (Rhodes & Steers, 1981; Summers & Hendrix, 1991) and performance-reward contingencies (Lee, 1971; Rhodes & Steers, 1981; Stevens, Beyer, & Trice, 1978). Other studies have focused on the impact of procedural and distributive justice on organisational commitment. Distributive justice "refers to the perceived fairness of the amounts of compensation employees receive" while procedural justice "refers to the perceived fairness of the means used to determine those amounts" (Folger & Konovsky, 1989, p. 115). Folger and Konovsky found that procedural justice was significantly correlated with organisational commitment. This is supported by Sweeney and McFarlin (1993) who found that procedural justice predicted affective commitment.

Ogilvie (1987) focuses on the role of human resource management practices in generating commitment. He concluded that merit-rating accuracy is a significant predictor of organisational commitment.
Drago et al. (1992) examined the affects of different pay systems on commitment and job satisfaction. They found that individual or workgroup incentives positively influenced job satisfaction, while gain-sharing operating at a company-wide level enhanced organisational commitment.

In summary, commitment positively relates with various aspects of pay. Of particular interest for human resource strategists is that procedural justice has been found to predict affective commitment.

4.2.2. Career Stage

During the course of their employment employees move through various stages. At each stage employees are confronted with new challenges relating to crucial work activities. Reichers (1986) described three career stages: early, mid and late. Age and tenure are the two most common career stage indicators (Cohen, 1991). Morrow and McElroy (1987) operationalised career stage using three criteria: age, organisational tenure, and positional tenure. The literature review for this section includes a coverage of all three of these career stage indicators.

Age has generally been found to be positively correlated to organisational commitment (Angle & Perry, 1981; Lincoln & Kalleberg, 1990). Lincoln and Kalleberg (1990) report that age is strongly and positively related to both commitment (US sample $r = .216$, Japan sample $r = .194$) and satisfaction (US
sample \( r = .221 \), Japan sample \( r = .232 \). This is supported by Angle and Perry (1981) who found that commitment is positively correlated with age (\( r = .17 \)).

Morrow and McElroy (1987) conclude that age explains greater amounts of variance in commitment scores than does tenure. They found that organisational commitment had a positive relationship with each successive career stage as measured by age. No such relationship was found to exist between career stage and commitment, when career stage was measured using organisational or positional tenure. Regardless of the way in which career stage was measured, it was found that organisational commitment always had the strongest positive relationship with the last career stage.

Hackett et al. (1994) found that in the case of bus drivers, continuance commitment was positively associated with age but was unrelated to tenure. However in the case of nurses, continuance commitment was positively related to organisational tenure but unrelated to age. They provide two explanations for these differences. The first is that older bus drivers may have less transferable skills than older nurses. The second is that there would be more prospective employers looking for nurses than for bus drivers, as a city has generally only one transit authority but several hospitals. Therefore the lack of alternative employment opportunities for older bus drivers explains why they had stronger continuance commitment than older nurses.
Meyer et al. (1993) found that the age of student nurses correlated negatively with affective commitment and positively with continuance commitment. In the case of registered nurses they reported that all three forms of commitment to the organisation were positively related to age and years in nursing.

The work of Hackett et al. (1994) confirms the different relationships in different groups. They found that age and organisational tenure were positively related to both affective and normative commitment in the case of nurses, but that these variables did not correlate significantly with affective or normative commitment in the case of bus drivers.

Employees in the early stage of their careers tend to express greater intention to leave their organisations than those in the mid and late stages. Therefore the early stage of membership is the most critical period for turnover and “employees’ attitudes towards the organisation, especially commitment at this stage, will be important factors in their decisions to stay or leave” (Cohen, 1991, p. 255). A meta-analysis conducted by Cohen (1991) has shown that the relationship between commitment and turnover was the strongest for the early career group than for the mid and late career groups. The strength of the relationships were held to be true irrespective of whether age or tenure was used as the indicator of career stage. This highlights the importance of strategies that develop commitment during the early career stage.
Ornstein, Cron, Slocum, (1989) have suggested that because individuals in the early career stage have less work experience than employees in the mid and late career stages, their levels of job performance will be lower than their more experienced counter-parts. It is clear from the literature review presented in this chapter that the link between commitment and performance is weak. In an attempt to provide an explanation of the weak relationship between commitment and performance, Cohen (1991) conducted a meta-analysis to examine the commitment-performance relationship across career stages. He notes that commitment in early career stage employees might not translate in high performance because of lack of experience. Cohen's results support the expectation that the impact of commitment on performance was strongest in the late-career stage.

Another work-related outcome of commitment that may be affected by career stage is absenteeism. Farrel and Stamm (1988) found that task environment variables such as task significance, task variety, and feedback were stronger determinants of absenteeism than commitment. Cohen (1991) found that organisational commitment affects absenteeism more strongly at the late career stage. He postulated that job satisfaction was stronger than commitment, as an indicator of absenteeism in the early career stage.

Bruning and Snyder (1983) found that the position that an employee held in an organisation was not a critical determinant of organisational commitment. However, Morrow, McElroy, and Blum (1988) compared supervisory and non-
supervisory ratings on organisational commitment and reported that the position that an employee holds will influence the level of his or her commitment. In their study the supervisors were significantly more committed than the non-supervisors. They suggested that a possible reason why supervisors are more committed than non-supervisors is because they perform a greater number of different tasks. Mowday et al. (1982) have also commented that the larger the number of tasks performed by an individual the more rewarding and challenging the job will be for the individual and consequently a higher level of commitment will be generated.

From the foregoing literature hypothesis 7 was developed:

\[ H_7: \text{Affective, normative, and continuance commitment are all positively correlated with organisational tenure.} \]

In summary, the literature suggests that the link between commitment and performance should be strong at the mid and late career stages but that a relatively weak link will exist between commitment and performance at the early career stage. Sufficient evidence exists to justify the suggestion that career stage has a significant impact on commitment.

4.2.3. Educational Level

Ritzer and Trice (1969) comment that the less education a person has, the fewer the career alternatives open to that person, which in turn results in a greater
number of side-bets made in the organisation. They hypothesised that there would be a negative relationship between education and organisational commitment. They reported that the correlation between education and commitment although negative, was not statistically significant.

Angle and Perry (1981) found that commitment was negatively correlated to educational level. They commented that there was "a steady decline in commitment across eight ascending educational level categories" (p. 7). They support the contention that "increasing age and decreasing levels of education tend to reduce the feasibility of obtaining desirable alternative employment and therefore tend to restrict the individual to the present organization" (p. 7).

In summary, empirical evidence exists to support the contention that continuance commitment correlates more negatively with education level than do both affective and normative commitment.

4.2.4. Gender

Angle and Perry (1981) found that females were more committed to their organisations than males. This has been supported by Morrow et al. (1988) who note that "women as a group are more committed because they must overcome more obstacles to obtain and maintain membership in the organization... as a result of this effort, they become psychologically more committed to the organization" (p.102).
Angle and Perry (1981) comment that “females enjoy less interorganizational mobility than males and, therefore, tend to become restricted to their present organizations” (p. 7). By contrast Graddick and Farr (1983) report that males are significantly more committed to their organisations than females. Bruning and Snyder (1983) found that sex differences are not a significant determinant of organisational commitment.

Taken as a whole the current literature provides very little support for the suggestion that females are more committed than males. Given the realisation of the 'glass ceiling' phenomenon in organisations, where barriers keep a disproportionate percentage of females at lower levels, it is surprising to find that some studies have found that females are generally more committed than males.

Organisations need to be very careful with the initiatives that they introduce in their effort to recruit and retain females. Morrow et al. (1988) have suggested that managers should implement initiatives, such as flexible work schedules and child care facilities. However, whether such initiatives would generate an effective form of commitment such as affective commitment would need to be investigated. Further research therefore needs to be undertaken to provide more evidence of this relationship, and in particular the research needs to take a multi-dimensional view of commitment.
4.2.5. Full-time and Part-time Employment Status

Still (1983) conducted a longitudinal study of employees in the retail industry in Sydney to determine if there was a significant difference between the commitment levels of full-time and part-time employees during their first four months of employment. Still reported that no significant difference existed in the commitment levels of the two types of employees and concluded that the "results also strongly suggest that commitment theory can be applied to differing types of workers without having to differentiate them according to employment status" (p.74).

On the basis of Still's research it would seem that distinguishing between full-time and part-time employees in the retail industry may not be necessary as no significant difference has been found in the commitment levels of the two groups. Further research is required before these findings can be generalised to other industries.

4.3. Conclusion

Section 4 of this chapter has reviewed the relevant literature on the major variables that are expected to be generators of organisational commitment. The review concentrated on nine variables, categorised as either demographic or non-demographic.
Career stage appears to be the most useful of the demographic variables for the purpose of predicting commitment. There is sufficient support for the suggestion that career stage has a significant impact on commitment. Various aspects of pay have been found to positively relate to commitment. Evidence exists to support the contention that continuance commitment correlates more negatively with education level than do both affective and normative commitment. The literature provides very little support for the suggestion that females are more committed than males and no support for the suggestion that there are differences in the commitment levels of full-time versus part-time employees.

Among the non-demographic variables, job satisfaction and perceived organisational support have been found to have strong positive relationships with affective commitment. The limited research conducted on the variable of training opportunities indicates that this variable is positively correlated with affective commitment. A positive relationship can also be expected to exist between perceived organisational support and normative commitment.

5. CONCLUSION AND SUMMARY

The Allen and Meyer (1990) three component commitment model was reviewed in section 2 of this chapter. Sufficient empirical support was presented to justify the conceptualisation of organisational commitment into three dimensions: affective, normative, and continuance.
The low correlation between affective and continuance commitment, as well as the different impact that these two dimensions of commitment have on employee behavioural outcomes, provides adequate evidence that these two dimensions are orthogonal. The position of normative commitment is still unclear. While sufficient evidence can be found in the literature to support the argument that normative commitment is a separate dimension to that of continuance commitment, the same amount of evidence cannot be found to support the argument that normative commitment is a separate dimension to affective commitment. The picture on normative commitment is unclear due to the lack of empirical studies that have used a normative commitment measure when investigating employee behavioural outcomes.

Section 3 presented a review of a number of studies that report relationships between organisational commitment and employee behavioural outcomes. Some studies have shown that high levels of organisational commitment are expected to be associated with low turnover; tardiness; and absenteeism, and enhanced job performance. Others however, reveal a weak and inconsistent relationship between organisational commitment and these employee behavioural variables. The later studies suggest the disappointing results may be partly attributable to the failure to take into consideration the multidimensional nature of the commitment construct. In section 3 particular attention was given to studies that measured more than a single dimension of commitment. These studies confirm the general thrust of this thesis, that affective and normative commitment are associated with more favourable employee behavioural outcomes than continuance commitment.
A review of the determinants of organisational commitment was presented in section 4. The review concentrated on eight determinants, five of which were the demographic variables of pay, career stage, education, gender, and full-time/part-time employment. The literature provides very little support for the suggestion that females are more committed than males and no support for the suggestion that there are differences in the commitment levels of full-time versus part-time employees.

The literature indicates that negative correlations between commitment and education can be expected irrespective of the commitment dimension that is investigated. Sufficient support exists for the suggestion that both career stage and pay have a significant impact on commitment. Salary levels, pay equity, and performance-reward contingencies have all been found to positively relate to commitment.

Job satisfaction, perceived organisational support, training opportunities, and training fulfilment, were the non-demographic variables that were reviewed. On the basis of the literature review all four non-demographic variables can be expected to be determinants of affective and normative commitment.

Meta-analysis findings indicate that job satisfaction is strongly and positively related to organisational commitment. However, studies that have utilised the Allen and Meyer (1990) scales report inconsistent findings on the association
between continuance commitment and job satisfaction. The overall picture suggests that it may be likely that job satisfaction is not a generator of continuance commitment.

Perceived organisational support has been shown to be highly correlated to affective commitment but its relationship with continuance commitment is unclear. Based on the norm of reciprocity it is expected that perceived support should be a predictor of normative commitment.

The variable of training opportunities has not been sufficiently researched, however, early trends indicate that a positive relationship can be expected between this variable and the dimensions of affective and normative commitment.

Very little theoretical work exists on the area of training fulfilment. It is unlikely that employees with strong continuance commitment would be interested in training that improves the quality and efficiency of their work. In contrast, employees who identify with the goals and values of the organisation, are likely to appreciate training that improves the quality and efficiency of their work. The expectation therefore, is that training fulfilment will be positively related to affective commitment and have an insignificant impact on continuance commitment.

Seven hypotheses were developed based on the literature review. It was hypothesised that the work outcomes associated with affective and normative
commitment would be more favourable than those resulting from continuance commitment. The hypotheses developed are:

H₁: Affective, normative, and continuance commitment are all negatively correlated with turnover intention.

H₂: Affective and normative commitment are negatively correlated with absenteeism.

H₃: Affective and normative commitment are positively correlated, and continuance commitment negatively correlated, with work effort.

H₄: Affective and normative commitment are positively correlated with job satisfaction.

H₅: Affective and normative commitment are positively correlated with perceived organisational support.

H₆: Affective and normative commitment are positively correlated with training opportunities.

H₇: Affective, normative, and continuance commitment are all positively correlated with organisational tenure.
These seven hypotheses were worded to fit correlational methodology. Mathieu and Zajac (1990) comment that most studies in the organisational behaviour area have adopted a correlational methodology. These hypotheses will be tested in Chapter 4 using cross-sectional data. In Chapters 5 and 6 additional hypotheses will be introduced to determine causal associations between commitment and the variables that were identified in this chapter in the correlational hypotheses.
Chapter 3

RESEARCH METHODOLOGY

1. INTRODUCTION

Chapter 2 reviewed the relevant and influential literature linking organisational commitment to organisational effectiveness. Hypotheses were developed around the three dimensions of commitment as outlined by Allen and Meyer (1990).

This chapter outlines the methodology used to investigate the hypotheses and causal model devised in this study.

A longitudinal study was used to collect data to test the hypotheses and causal model. Longitudinal studies are the dominant methodological design in organisational commitment research associated with employee behavioural outcomes. Further reasons for selecting a longitudinal design are presented in section 2.

The data for the study were collected by using a questionnaire. In addition to the Allen and Meyer (1990) commitment scales, the questionnaire included a number of previously devised scales as well as a number of questions specifically devised for this study. These items sought to gather data on variables that were identified in Chapter 2 as determinants or employee behavioural outcomes of organisational
commitment. The determinants comprised the variables of job satisfaction, perceived organisational support, training opportunities and organisational tenure. Employee behavioural outcomes comprised the variables of turnover intention, work effort and absenteeism. Further details of the measures employed are provided in section 3.

Section 4 explains the difference between exploratory and confirmatory factor analysis, and why the latter was used to ensure the independence of the measures.

Five organisations were selected to participate in the study. These organisations were selected to ensure that both private and public sector organisations were represented, as well as a range of occupational groups. Additionally, the organisations were selected from a variety of industries. The organisations that participated in the study are covered in more detail in section 5.

Section 6 describes the process used to collect the data. Self-report data was collected by using a questionnaire.

Section 7 provides the results of analyses on the demographics for each of the samples. Significant differences were found in the demographics of the five organisations.
The Statistical Package for the Social Sciences (SPSS), Linear Structural Relations (LISREL) and EQS programmes were used to analyse the data. Further details of these programmes are provided in section 8.

Section 9 describes the analytical methods used to conduct confirmatory factor analyses and structural equation modeling. Included in this section is a general coverage of the fit indices that were considered appropriate for this study.

The final section of this chapter provides a summary and conclusion.

2. JUSTIFICATION FOR THE METHODOLOGY

A longitudinal study was developed using the Westrail sample to investigate the most significant determinants and employee behavioural outcomes of organisational commitment. The advantage of using a longitudinal design in preference to a cross-sectional design is that longitudinal designs “offer the researcher the decided advantage of examining causal relationships between OC [organisational commitment] and work outcomes” (Randall, 1990, p. 369). Longitudinal studies have been the dominant methodological design in research linking organisational commitment to employee behavioural outcomes (Randall, 1990). Most studies using the Allen and Meyer (1990) instrument have been limited to cross sectional designs (Dunham et al., 1994; Hackett et al., 1994). These studies have not been able to determine causal relationships.
Mathieu and Hamel (1989) used cross-sectional data to devise a model of the antecedents of commitment. They commented that while cross-sectional studies are useful for deriving causal hypotheses, these had to be complemented with longitudinal studies so that hypotheses could be tested more directly.

Longitudinal studies have been used to investigate the antecedents of commitment. Bateman and Strasser (1984) conducted a longitudinal commitment study of 129 nursing department employees. They were able to derive the causal inferences of a number of the presumed antecedents of commitment.

Curry et al. (1986) carried out a longitudinal study which followed up on the work of Bateman and Strasser. Their study does not confirm that of Bateman and Strasser leading them to recommend the use of differing population samples in future longitudinal studies.

Since both our respondents and Bateman and Strasser's were employees of nursing departments in hospitals, and both studies used similar time lags, future research should include samples from different populations and use different time lags. (Curry et al., p. 854)

The present study used a government railway as the organisation for the matched case longitudinal study. While Bateman and Strasser used a 5-month time lag, and Curry et al. a 7-month time lag, in this study a 12-month time lag was used.
Curry, et. al. recommended that future studies should use different measures of commitment and job satisfaction. Taking cognisance of this recommendation, a longitudinal study was devised which used different measures of commitment and job satisfaction than both the Curry, et. al., and Bateman and Strasser studies. The long version of the organisational commitment questionnaire (OCQ) was used by Bateman and Strasser while Curry et al., used the short version. This study made a substantial departure from the OCQ by using the Allen and Meyer (1990) instrument. This instrument was selected because not only does it measure affective commitment, as does the OCQ, but additionally, it measures continuance and normative commitment.

To measure job satisfaction Curry et. al. used six items adapted from Brayfield and Rothe (1951). Bateman and Strasser used the Job Descriptive Index (JDI) developed by Smith et al. (1969). This study used the Quinn and Staines (1979) 9-item Job Satisfaction scale. This has two subscales: facet free and facet specific. The reasons why this measure was used are developed in section 3 of this chapter.

This study was able to add to the findings of Bateman and Strasser and Curry, et al. by implementing the recommendations for future research made by the latter. The questionnaire responses allowed for a multivariate analysis to be carried out on the causal inferences regarding the outcomes of the various commitment profiles.
Mathieu and Zajac (1990) comment that although there have been a number of studies that have investigated commitment levels over time "most have been limited to the initial socialization period" (p. 191). These researchers called for further research to investigate how commitment "develops over time and what factors are most critical to employees at various career stages" (p. 191).

This study investigated commitment levels of employees beyond the traditional socialisation period. Four participating organisations committed themselves to an organisation-wide survey. This enabled the measurement of commitment levels among employees at the various career stages.

In summary, this study used a cross-sectional design to evaluate the Allen and Meyer (1990) instrument, and to establish "correlates" of the commitment dimensions. A longitudinal study was then used to determine causal relationships. The longitudinal study went beyond traditional organisational commitment research design. The study not only investigated the link between commitment and employee behavioural outcomes, but was extended to incorporate the determinants of commitment. The uniqueness of this study is guaranteed by investigating the entire workforce of an organisation that was undergoing dramatic change. The longitudinal design adds to the uniqueness of this study and to the special contribution of this thesis to the understanding of organisational commitment.
3. MEASURES

Randall (1990) has identified five work outcomes most frequently investigated in the organisational commitment-work outcome literature. These were: job performance, job effort, absenteeism, tardiness, and turnover. In this study three of these outcomes were measured, namely job effort, absenteeism, and turnover. Tardiness was not investigated because a number of the organisations that participated in the study had flexible start and finish times and consequently, tardiness was irrelevant. Performance was not investigated because previous researchers have questioned the value of incorporating performance into models of commitment (Leong, Randall, & Cote, 1994; Randall, 1990). Additionally, if performance was investigated in this study it would have been limited to a self-report measure which would have correlated highly to the job effort measure used.

Data on absenteeism and job effort was collected through the use of the questionnaire administered in the five organisations. In all five organisations the turnover information relates to turnover intention and not actual turnover.

The questionnaire was designed to allow the researcher to collect the relevant information to test the causal model. Seventy two questions were incorporated into the questionnaire for the purpose of this study. A copy of the original questionnaire is provided in Appendix 1. Single questions were used to obtain demographic information on gender, education, union membership, remuneration, and full-time/part-time employment. Two questions related to absenteeism and
five questions sought to gain information on career stage. The remaining 60 questions measured the following variables:

- Affective Commitment (8 questions)
- Normative Commitment (8 questions)
- Continuance Commitment (8 questions)
- Perceived Organisational Support (17 questions)
- Job Satisfaction (9 questions)
- Training Opportunities (3 questions)
- Turnover Intention (4 questions)
- Work Effort (3 questions)

These 60 questions, together with one of the absenteeism questions and the single item measure of organisational tenure, were used to test the hypothesised relationships. The remaining 10 questions were used to obtain demographic information on the various respondents, and consequently, to gain further insights into areas that may have had an impact on the hypothesised relationships. When conducting structural equation modeling analyses on data missing completely at random, as was the case in this study, it is recommended that listwise deletion be used (Byrne, 1995). For the purpose of establishing samples with listwise deletion, it was found necessary to apply listwise deletion to only 62 items and not the full 72 because the 10 demographic questions were not used to test the causal model.
A pilot of the questionnaire was conducted in Westrail in December 1995. Some minor changes were made to the questionnaire as a result of comments written on the pilot questionnaire and subsequent discussions with a number of the pilot participants. A detailed description of the variables measured in the questionnaire is provided in the remaining part of this section.

Commitment

The 24 questions on commitment (see Table 4.1) were extracted from the three-dimensional Allen and Meyer (1990) commitment instrument. Although the OCQ has been the instrument most widely used to measure organisational commitment it was not considered appropriate for this study because it only measures the single dimension of affective commitment. Additionally, it has been criticised on the basis that some of the items measure turnover (Hom et al., 1979) and work effort (O’Reilly & Chatman, 1986) rather than commitment.

The usual 7-point response format used by Allen and Meyer (1990) was changed to a 5-point response format because at WesBoard the data had to be collected on site and there was a need to use a “make-sense answer sheet” (Reichers, 1986, p. 511). In addition, the Employee Development Officer at SGIO, expressed concern at an earlier draft of the 7-point scale questionnaire. This meant that the 7-point Likert scale which included descriptions of “moderately disagree” and “slightly disagree” were merged into the one description of “disagree” and the descriptions of “moderately agree” and “slightly agree” were merged into the one description of “agree”.

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The internal consistency estimates (alpha coefficients) of the affective, normative, and continuance scale items have been reported by Meyer and Allen (1991). They range from .74 to .89 for the ACS; .69 to .79 for the NCS; and .69 to .84 for the CCS. A point to note in the current study is that by reducing the metric from 7 to 5 this may result in variability and thereby reduce the size of the alphas relative to previous studies which have used the 7 point metric. Meyer and Allen (1984) report a correlation of -.01 between affective and continuance commitment.

Allen and Meyer (1990, Study 1) found that the 16 items that measured affective and continuance commitment loaded on their appropriate factor. McGee and Ford (1987) however, found that only 6 of the CCS items loaded appropriately when the two factors of affective and continuance commitment were extracted. When the number of factors were not specified a priori, four orthogonal factors emerged. All eight ACS items loaded on the one factor, but the CCS items were spread over 3 factors. McGee and Ford described two of these three factors as CC: HiSac and CC: LoAlt.

Perceived Organisational Support

The 17 questions that measured perceived organisational support were extracted from the short version of the Survey of Perceived Organisational Support (SPOS) instrument devised by Eisenberger et al. (1986). For reasons already developed, the usual 7-point response format for the SPOS was changed to a 5-point response
format in this study. The reliability of the SPOS has been reported as .93 (Eisenberger et al., 1986).

**Job Satisfaction**

It is generally accepted that the Job Descriptive Index (JDI) (Smith et al., 1969) is the most frequently used measure of job satisfaction (Ironson, Smith, Brannick, Gibson & Paul, 1989). The JDI covers five facets: Work, Pay, Promotions, Supervision, and Co-workers. Facet scales such as those contained in the JDI are used to “differentiate different aspects of job satisfaction; for example, to diagnose strengths and weaknesses in various sections of an organization” (Ironson, et. al., 1989, p. 194).

Another popular facet-specific measure of job satisfaction is the Quality of Employment Survey (Quinn & Staines, 1979), which measures six job aspects: Comfort, Challenge, Financial Rewards, Relations with Coworkers, Resource Adequacy, and Promotions.

Quinn and Staines (1979) developed a 9-item short form Job Satisfaction facet free and facet specific scale. They included two questions to measure facet free job satisfaction and 7 questions to measure facet specific areas. The 7 questions included two measuring the facet of Comfort and single questions measuring the facets of Challenge, Financial Rewards, Relations with Co-workers, Resource Adequacy, and Promotions. The seven facet specific job satisfaction questions had
a scoring range description worded from “absolutely false” (1) to “absolutely true” (5).

This study used the Quinn and Staines (1979) 9-item short form Job Satisfaction facet free and facet specific scale. The reliability of this 9-item short form has been reported to be .80 (Quinn & Staines, 1979). The reliability for the facet-free and facet-specific items were reported as .65 and .75 respectively. This scale was selected for the current study because the questions were not devised for a homogeneous population, a problem that Quinn and Staines have identified with other measures. They comment that:

The most common failings of other measures of job satisfaction were that they were developed on relatively homogeneous populations of workers and their wording were therefore too occupation specific, ‘white collarish’, or ‘blue collarish’. (Quinn & Staines, 1979, p. 206)

It was important to use a scale that did not appear to be too occupational specific because of the mix of employees who were to participate in this study.

*Training Opportunities*

The three questions on training opportunities were self-devised. These questions were primarily used to obtain information on the training opportunities made available to respondents and the training programmes undertaken by them.
Turnover Intention

Turnover intention has been defined as "a conscious and deliberate willfulness to leave the organization" (Tett & Meyer, 1993, p. 262). Three of the questions that measured this variable were adapted from the Intention to Turn Over Scale contained in the Michigan Organizational Assessment Questionnaire (Cammann et al., 1979). The internal reliability of this scale was reported by these researchers as .83.

An additional self-devised question was incorporated into the questionnaire. The wording of this question was "I will look for a new job if the economy improves". This question was added to capture the withdrawal cognitions of respondents who would leave the organisation if other job opportunities were available.

In designing the methodology for this study the researcher was careful not to use turnover intention as a substitute for actual turnover. Tett and Meyer (1993) advise against the "use of intention/cognition measures as surrogates of actual turnover" (p. 280). Support for the use of turnover intention in preference to turnover can be found in the empirical work of Shore et al. (1990) who comment that "while behavior is often influenced by unmeasurable variables outside a person's control, intentions are determined by the employee" (p. 58). Tett and Meyer (1993) criticised the work of these authors on the basis that they had used intent to leave as the sole withdrawal criterion. They believed that the results gained "may not generalize well to situations involving actual turnover" (p. 280).
Work Effort

The three questions that measured work effort were adapted from the Quinn and Staines (1979) 3-item scale. The internal reliability of this scale is reported by these researchers as .53. Despite the low reliability of this scale the researcher decided to use it in this study because of its ability to be easily understood by both blue and white collar workers. The original four point Likert scale was altered to a five point scale in this study. This was done to make the points on this scale consistent with the other five point scales used in the questionnaire.

Absenteeism

Absenteeism was measured by two questions, both of which were self-devised. The first question asked respondents to indicate the number of days they had been absent from scheduled work in the preceding 12 months. The second question required respondents to state the number of absent days that were due to sick leave. Only the sick leave question was used for analyses in this study.

Haccoun and Jeanrie (1995) conducted a study which provides support for the use of specific attitude measures, for understanding employee absence. In their study respondents self-reported the total number of days that they had been absent in the preceding year. Whilst accepting that the use of objective absence records would have been preferable to the self-report measure (Manfredo & Shelby, 1988; Nicholson & Payne, 1987; Smulders, 1983), Haccoun and Jeanrie (1995) did not have access to complete absence records. Furthermore, the co-operation of the respondents and their unions hinged on the requirement that the questionnaires
could not contain identifying information that could be linked to individual employee files. Therefore, the problems encountered by Haccoun and Jeanrie were similar to those that were encountered by this researcher in that it was not possible to obtain absenteeism data from employee files.

Brooke and Price (1989) have shown that self-reports of absence can be reasonable correlates of actual absence records. In the Brooke and Price study two self-report measures of absence frequency were placed in the questionnaire. The first measure asked “During the last three months, how many different times were you off from regularly scheduled work?” (p. 5). The second question was a measure of the number of times the subject had been absent for any of 12 reasons (sample items included ‘family responsibilities’, ‘community activities’, ‘personal illness’, ‘family illness’, ‘medical appointment’, ‘personal business’, and ‘just take a day off”).

Mueller et al. (1987) are more reserved in their support for self-reports. In their study they asked the following question: “During the past 6 months, how many different times have you been absent from the hospital for a single day of regularly scheduled work?” (p. 120). They found a weak correlation between the records-based measure and the self-report measure of absenteeism. They comment that:

the weak correlation indicates that the number of single-day absences recorded in official records for an employee does not match very closely the number of single-day absences the employees says he/she had for the same period of time. (p. 121)
Johns (1991) has commented that when measuring absenteeism, frequency of absence is generally more predictable than time lost:

Conventional explanations often allude to the assumption that frequency measures may capture the short-term, casual, voluntary aspects of withdrawal better than time lost, which may be 'biased' by legitimate sickness, a factor that is assumed to operate randomly. (p. 85)

The hypothesised ECM was to be tested using self-report data. Sick leave was the category of absenteeism considered the most appropriate for incorporation into the hypothesised model. This measure would include both voluntary and involuntary absence.

In summary, the questionnaire was able to provide self-report information on a respondent’s total number of sick leave absences in the 12 months preceding the administration of the questionnaire. The collection of objective data would have been preferred to the self-report data.

Demographics

Begley and Czajka (1993) measured age, gender, martial status, education, and organisational tenure to control for their influence on organisational commitment outcome variables. The Mathieu and Zajac (1990) meta-analysis showed small average corrected correlations of these variables with organizational commitment.
The researcher decided not to place a large emphasis on demographic variables in this study. Consequently no question was asked on martial status. The demographic variables included in the questionnaire were gender, education, union membership, employment type, remuneration, and career stage. These questions were used to determine if significant demographic differences existed between the five organisations. The only demographic question that was used in the structural equation process was the one that measured organisational tenure.

**Career Stage**

The five questions on career stage were self-devised and included three questions to match the work of Morrow and McElroy (1987). They used three criteria: age, organisational tenure and positional tenure. In addition to devising questions on these three criteria, two further criteria were investigated. The first required respondents to indicate how many years in total they had worked for pay since they were 16 years old. The second sought to determine if the duties of respondents had substantially changed since joining their organisation.

For the age criteria Morrow and McElroy used three stages: the trial stage (less than 31 years old), the stabilization stage (31 to 44 years), and the maintenance stage (over 44 years). Allen and Meyer (1993) had based their research on the Morrow and McElroy age categories.
Three of the organisations that participated in this study did so on the condition that age was measured using 'age categories' in preference to 'age in years'. Age was therefore measured using five categories: 15-24, 25-34, 35-44, 45-54, and 55 and above. These age categories were selected by one of the organisations on the basis that they were more appropriate than the Morrow and McElroy (1987) categories. It was with reluctance that the researcher used these age categories. The preference of the researcher would have been to use the age categories selected by either Morrow and McElroy or Cohen (1991). The age categories used by Cohen were: 29 years, 30-39 years, and 40 or more years.

One of the questions measuring career stage was on organisational tenure. The wording of this question was “For how many years have you worked for your present employer?”. Organisational tenure was used as one of the determinants of organisational commitment in the hypothesised ECM.

The question on positional tenure sought to determine how long respondents had been carrying out their current duties.

*Remuneration*

The question on remuneration was self-devised. This question asked respondents to indicate the current dollar value of their remuneration package. A choice of seven remuneration categories was provided.
In summary, this section has outlined the various variables that were measured in this study. Information on the variables was primarily collected by survey methodology in the form of a questionnaire. A significant number of the questions were extracted from existing scales. The internal reliabilities of these scales were reported in this section. The researcher planned to purify these existing scales through factor analyses to improve their robustness.

4. INDEPENDENCE OF MEASURES

Somers (1995) highlights the analytical problems associated with multidimensional modeling of commitment. He specifically comments that “it is necessary to demonstrate not only that organizational commitment is distinct from other work attitudes ... but also that each form of commitment is operationally distinct from the others” (p. 50).

The independence of the dimensions of the 8 scales described in this study (i.e. job satisfaction, perceived organisational support, training opportunities, turnover intention, work effort, affective, normative, and continuance commitment) were tested through confirmatory factor analyses using the EQS version 5.5 (Bentler and Wu 1995) programme. The cross sectional samples were used for this purpose.

The distinction between confirmatory and exploratory factor analyses is worth mentioning. An exploratory factor analysis occurs when there is no prior
specification of the number of factors, or when the number of factors is specified a priori. When the number of factors is specified a priori, the factor analysis is still exploratory because individual items are not forced onto their appropriate factor by the researcher. A confirmatory factor analysis occurs when the number of factors is known and the researcher attaches individual items to the factor. The researcher is, therefore, testing to confirm that the factors which have been constructed do have good fit indices.

Gerbing and Hamilton (1996) have demonstrated that exploratory factor analysis, “particularly with varimax rotation of principal axes factors” (p. 72) can be used as a strategy for model specification prior to cross-validation with confirmatory factor analysis.

Structural equation modeling may either involve theory testing and development or application and prediction. Jöreskog and Wold (1982) comment that theory testing and development “emphasises the transition from exploratory to confirmatory analysis” (p. 270), while application and prediction “is primarily intended for causal-predictive analysis in situations of high complexity but low theoretical information” (p. 270).

One of the reasons that structural equation modeling is growing in the social sciences is that these confirmatory methods “provide researchers with a comprehensive means for assessing and modifying theoretical models” (Anderson & Gerbing, 1988, p. 411).
5. SAMPLES AND RESEARCH SITES

Five organisations participated in this study. In four of these organisations all the employees were given the opportunity to respond to the survey. The employees in the fifth organisation were selected from the head office of the organisation. The organisations were selected to ensure that a mix of public and private sector organisations were incorporated into the study. This stated, it would be correct to describe the selection of the organisations as convenience samples. Two of the organisations were subsidiaries, one of a national company and the other of a multi-national. The third organisation was a former government agency which was privatised in 1994. The fourth organisation was a government owned railway, and the fifth was a state health department.

The subsidiary of the multi-national was Swan Brewery (Swan), a company that has the largest share of the Western Australian beer market. The parent company is Lyon Nathan, which has its head office in New Zealand. The workforce at Swan was predominantly employed in white collar jobs. Blue collar work has largely been contracted out. At the time of the survey 68 employees were employed in what could be described as blue collar jobs.

The subsidiary of the national company was WesBoard. The parent company of WesBoard is Wesfi which has its head office in the city of Perth. The production operations for WesBoard are located at Dardenup, a small town 180 km south of
Perth. Only a very small number of employees at WesBoard are employed in white collar jobs.

The third organisation was SGIO Insurance (SGIO), one of the largest insurance companies operating in Western Australia. Its head office is in Perth, with a number of branches spread throughout the metropolitan and regional areas of the state.

The fourth organisation was the Health Department of Western Australia. Only employees located at the head office of the Health Department participated in the study. These employees were predominantly employed in white collar jobs. This sample was selected because of the high number of professionals employed at the head office of the department.

The fifth organisation was Westrail, the Western Australian Government owned railway. Westrail was primarily selected because of the dramatic downsizing that was taking place in the organisation prior to and during the survey period. When the first administration of the questionnaire took place in January 1996 the workforce was 2550, predominantly employed in blue collar work. A year later this figure had dropped to 1861. Angle and Lawson (1993) recommend that future research on organisational commitment should include studies of organisations going through a process of upheaval such as downsizing. They comment that such phenomena would enhance the understanding of the complexity and dynamics of relationships between organisations and their employees.
Most of the research that has been conducted in the area of organisational commitment has tended to focus on professionals or employees in the service industry. Very little research has been carried out on trades persons or employees in the manufacturing industry (Randall, 1990). This study sought to include these types of workers. Westrail employed a significant number of trades persons, while both WesBoard and Swan were involved in manufacturing.

The meta-analysis conducted by Mathieu and Zajac (1990) revealed that most organisational commitment studies sampled employees from a single organisation. These authors recommend that a “greater number of studies need to be conducted with employees sampled from a wide variety of organizations” (p. 191). This study took cognisance of this recommendation by ensuring that a variety of organisations were surveyed.

In summary, the organisations that participated in this study represented a variety of occupations within a variety of industries. Three predominant white collar organisations (SGIO, Health and Swan) were able to be compared with two predominant blue collar organisations (Westrail and WesBoard). The uncertainty of career prospects due to downsizing and restructuring at Westrail is representative of many public sector organisations in Australia. The selection of Westrail therefore, allowed for an investigation of the impact of dramatic change on organisational commitment.
6. DATA COLLECTION

In SGIO the questionnaire, a pre-addressed return envelope, and a covering letter signed by the researcher, were sent to all employees via the internal mail system of the organisation. The letter briefly explained the purpose of the study and stressed that all responses were confidential. The organisation had requested the researcher to ensure that employees were not asked to provide their names or any other form of identification. The researcher complied with this request. The questionnaires were distributed in January 1996. The completed questionnaires were returned directly to the researcher by mail.

In Westrail, the questionnaire, a pre-addressed return envelope, and a covering letter were sent to all employees via the internal mail system of the organisation. The letter was signed by the acting Commissioner of Railways, and briefly explained the purpose of the study and stressed that all responses were confidential and anonymous. The cover of the questionnaire was designed in such a way as to allow the researcher to introduce the purpose for the research and to guarantee that the responses were confidential and anonymous. On the cover there was a request to employees to provide their service numbers. Therefore, apart from the service number request, the cover of the Westrail questionnaire was very similar to the letter that was sent to SGIO employees. The time one questionnaires were distributed in January 1996, and the time two questionnaires distributed exactly one year later. The completed questionnaires were returned directly to the researcher by mail.
In Swan, the questionnaire, a pre-addressed return envelope, and a covering letter were sent to all employees via the internal mail system. The letter was signed by the Human Resources Director, and briefly explained the purpose of the study and stressed that all responses were confidential and anonymous. The letter mentioned that voluntary participation in the survey had been approved by a general meeting of the Brewery Employees Union (BEU). The cover page of the questionnaire was similar to the Westrail questionnaire except that no request was made for a service number. The BEU had agreed to support the survey on the basis that no employee could be identified. This prohibited the researcher from requesting a service number. The questionnaires were distributed in March 1996. The completed questionnaires were returned directly to the researcher by mail.

In WesBoard, the questionnaires were administered to small groups of employees (between 2 and 10) during working hours in May 1996. The work functions and working environment in a substantial number of sections of this organisation were not conducive to questionnaire administration. To be allowed to complete the survey, employees were each allocated a specific time that they could present themselves at the company boardroom. Upon arriving at the boardroom, each group of subjects were given verbal instructions by the researcher that stressed the voluntary nature of participation and the confidentiality of results.

The verbal assurance of confidentiality given to all employees was the same that was given at a company convened meeting at the Dardenup work site in March
1996. At this meeting (attended by nine members of the consultative committee and the training manager) the Consultative Committee approved the survey on the condition that no employee could be identified.

In Health, the questionnaire and a pre-addressed return envelope were sent to all employees via the internal mail system. The information that was incorporated in the covering letters at the other organisations was placed on the cover of the questionnaire. The questionnaires were distributed in May 1997. The completed questionnaires were returned directly to the researcher by mail.

Apart from WesBoard employees were not allocated specific work time to complete the self-administered questionnaire.

Clearly, a justified criticism of the data collection is that there was inconsistency in the method of data collection. Subjects at WesBoard were administered the survey during normal working hours while in the other four organisations no allocated time was set aside for the subjects to complete the questionnaire. Precedents for similar inconsistency can be found in the Penley and Gould (1988) and Dunham et al. (1994) studies. Penley and Gould analysed data from five samples. In one sample data was collected from 268 undergraduate students during a regular classroom session. The other four samples were collected from four organisations. In two organisations the subjects were administered the survey during normal working hours, while in the other two, questionnaires were mailed
to the subjects. In the Dunham et al. study, only in one of the 9 samples were questionnaires mailed directly to participants.

In summary, the strategies instigated in this study resulted in an orderly collection of data. The key strategy was to ensure union support for the survey. The success of this strategy was evidenced in Swan, where the covering letter from the organisation specifically referred to the union support. Another important strategy was to ensure that at WesBoard employees were provided with an appropriate room to complete the questionnaire. For the four organisations where the questionnaire was mailed to the employees the strategy was to provide a return envelope addressed to the researcher. This signaled to employees the importance and confidentiality of their individual responses.

7. DESCRIPTION OF SAMPLE CHARACTERISTICS

Section 7.1 of this chapter provides the results of analyses on the demographics for each of the cross sectional samples derived from the individual organisations. Section 7.2 provides the results of analyses on the demographics of the longitudinal Westrail sample.
7.1. Cross-sectional samples

The analyses in this subsection do not include the Westrail time two data. Throughout this study the phrase ‘multisample’ is used to describe all usable responses to the time 1 survey. The multisample was formed by merging the time 1 responses from the five organisations. The details of the individual samples and the multisample are provided in Table 3.1.

Table 3.1
Sample Characteristics

<table>
<thead>
<tr>
<th>Sample Details</th>
<th>Sample 1 Westrail</th>
<th>Sample 2 SGIO</th>
<th>Sample 3 Swan</th>
<th>Sample 4 WesBoard</th>
<th>Sample 5 Health</th>
<th>Sample 6 Multi-sample</th>
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<tbody>
<tr>
<td>Method of data collection</td>
<td>mail</td>
<td>mail</td>
<td>mail</td>
<td>on-site</td>
<td>mail</td>
<td>mail and on-site</td>
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<td>Questionnaires delivered</td>
<td>2577</td>
<td>491</td>
<td>207</td>
<td>230</td>
<td>571</td>
<td>4076</td>
</tr>
<tr>
<td>Number of responses</td>
<td>815 (31.6)</td>
<td>312 (63.5)</td>
<td>108 (52.2)</td>
<td>149 (64.7)</td>
<td>287 (50.3)</td>
<td>1671 (40.9)</td>
</tr>
<tr>
<td>Number of usable responses</td>
<td>657 (25.5)</td>
<td>260 (52.9)</td>
<td>102 (49.3)</td>
<td>116 (50.4)</td>
<td>242 (42.4)</td>
<td>1377 (33.7)</td>
</tr>
<tr>
<td>Gender</td>
<td>n = 657</td>
<td>n = 260</td>
<td>n = 102</td>
<td>n = 116</td>
<td>n = 242</td>
<td>n = 1377</td>
</tr>
<tr>
<td>male</td>
<td>619 (94.2)</td>
<td>110 (42.3)</td>
<td>69 (67.6)</td>
<td>107 (92.2)</td>
<td>102 (42.1)</td>
<td>1007 (73.1)</td>
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<tr>
<td>female</td>
<td>37 (5.6)</td>
<td>150 (57.7)</td>
<td>30 (29.4)</td>
<td>8 (6.9)</td>
<td>140 (57.9)</td>
<td>365 (26.5)</td>
</tr>
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<td>missing</td>
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<td>0</td>
<td>3 (2.9)</td>
<td>1 (9)</td>
<td>0</td>
<td>5 (.4)</td>
</tr>
<tr>
<td>Employed</td>
<td>n = 657</td>
<td>n = 260</td>
<td>n = 102</td>
<td>n = 116</td>
<td>n = 242</td>
<td>n = 1377</td>
</tr>
<tr>
<td>full-time</td>
<td>643 (97.9)</td>
<td>243 (93.5)</td>
<td>95 (93.1)</td>
<td>116 (100)</td>
<td>202 (83.5)</td>
<td>1299 (94.3)</td>
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<td>part-time</td>
<td>11 (1.7)</td>
<td>17 (6.5)</td>
<td>5 (4.9)</td>
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<td>40 (16.5)</td>
<td>73 (5.3)</td>
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<td>3 (.5)</td>
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<td>2 (2.0)</td>
<td>0</td>
<td>0</td>
<td>5 (.4)</td>
</tr>
<tr>
<td>Unionist</td>
<td>n = 657</td>
<td>n = 260</td>
<td>n = 102</td>
<td>n = 116</td>
<td>n = 242</td>
<td>n = 1377</td>
</tr>
<tr>
<td>yes</td>
<td>533 (81.1)</td>
<td>85 (32.7)</td>
<td>24 (23.5)</td>
<td>90 (77.6)</td>
<td>113 (46.7)</td>
<td>845 (61.4)</td>
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<td>122 (18.6)</td>
<td>175 (67.3)</td>
<td>77 (75.5)</td>
<td>25 (21.6)</td>
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<td>1 (1.0)</td>
<td>1 (.9)</td>
<td>0</td>
<td>4 (.3)</td>
</tr>
</tbody>
</table>

Note. The figures in brackets represent percentages. It was not possible to report the blue and white collar numbers split in these samples.
In total 657 useable questionnaires were returned from Westrail. This represented a 25.5 per cent useable response rate. Service numbers were provided on 381 (58 per cent) of the useable responses. Higher useable response rates were achieved in the other four organisations (SGIO-52.9%, WesBoard-50.4%, Swan-49.3%, and Health 42.4). Considering the length of the questionnaire and the fact that no specific time was allocated by four of the organisations to complete the questionnaires, the useable response rates were better than expected. The expectation had been based on some of the response rates in previous studies in the area of organisational commitment. For example the response rate for one of the organisations in the Penley and Gould (1988) study, that had the questionnaires mailed out to the subjects was 28.3 per cent. A number of researchers have made use of follow-up strategies to maximise mail-out returns. The potential for follow-up strategies did not exist in the current study as the organisations agreed to participate in the study on the condition that follow-up strategies would not be pursued.

The large variation in the useable response rate between Westrail and the other organisations may be attributed to the concentration of blue-collar workers in Westrail. The useable response rate for Westrail can be compared to the naval shipyard sample in the Mathieu and Hamel (1989) study. The shipyard was described as a government agency responsible for the repair and overhaul of submarines and surface warfare vessels. The five hundred employees who were administered the survey “worked primarily in blue-collar jobs such as riggers, welders, and boilermakers” (p. 303). The questionnaires were returned through
interoffice mail. A 37 per cent response rate was achieved, which while better than Westrail, did not match the other organisations in this study.

The multisample in this study consisted of the 1377 useable responses from the possible 4076 employees in the five organisations. The potential for sampling error was present in this study because the 1377 respondents may not have been representative of the total combined workforce of 4076.

Table 3.1 provides the demographics relating to gender, employment type, and union membership of the five samples. The results show that 94.3 per cent of useable responses were completed by full-time employees. Male respondents accounted for 73.1 per cent of the multisample. This was mostly attributable to the Westrail sample where 94.2 of useable responses were received from males. In both the SGIO and Health samples the majority of usable responses were received from females. The multisample shows that of the useable responses, union membership was maintained by 61.4 per cent of respondents. Westrail (81.1%) had substantially higher levels of union density than the other organisations, where less than half of the usable responses showed that the respondents belonged to a union.

Based on the usable responses, Table 3.2 provides the demographics for the categorical variables of age, education, and remuneration. Almost 62% of respondents (61.9%) at SGIO were in the 15-34 age range. This was substantially higher than WesBoard (37%), Swan (33.4%), Health (31%), and Westrail
(24.6%). Both Westrail (37.6%) and Health (35.6%) had substantially more respondents who were in the 45-and above age range compared to Swan (26.5%), WesBoard (24.2%), and SGIO (12.7%). One would expect from these figures a higher level of continuance commitment among Westrail respondents relative to other respondents.

The Health respondents were the most highly educated with 55.8% (82 females and 53 males) having a bachelor and/or post graduate qualification. The percentages for the other organisations were: Swan 31.4, SGIO 18.8, Westrail 11.4, and WesBoard 4.3. A substantial percentage of respondents at Westrail (46.4) and WesBoard (44.0) indicated that the highest level of education achieved was year 10 secondary school. The percentages for the other organisations were: Swan 18.6, SGIO 14.6, and Health 7.9. These figures suggested that Westrail and WesBoard employees are likely to indicate a greater lack of employment alternatives than the respondents in the other organisations.

The majority of Swan respondents (57.8%) reported receiving above $45000 in remuneration. The percentage of respondents in WesBoard (12.1), Westrail (16.1), SGIO (16.7), and Health (41.3) who earned more than $45000 were in the minority. Over 30% of respondents at SGIO (38.1%) and Westrail (30.4%) reported receiving $30000 or less in remuneration. These percentages were substantially higher than Swan (4.9), WesBoard (10.3), and Health (16.6).
### Table 3.2

**Age, education, and remuneration demographics of the samples involved in the study**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sample 1 Westrail</th>
<th>Sample 2 SGIO</th>
<th>Sample 3 Swan</th>
<th>Sample 4 WestBoard</th>
<th>Sample 5 Health</th>
<th>Sample 6 Multisample</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>20 (3.0)</td>
<td>43 (16.5)</td>
<td>1 (1.0)</td>
<td>10 (8.6)</td>
<td>8 (3.3)</td>
<td>82 (6.0)</td>
</tr>
<tr>
<td>25-34</td>
<td>142 (21.6)</td>
<td>118 (45.4)</td>
<td>33 (32.4)</td>
<td>33 (28.4)</td>
<td>67 (27.7)</td>
<td>393 (28.5)</td>
</tr>
<tr>
<td>35-44</td>
<td>247 (37.6)</td>
<td>66 (25.4)</td>
<td>39 (38.2)</td>
<td>45 (38.8)</td>
<td>81 (33.5)</td>
<td>478 (34.7)</td>
</tr>
<tr>
<td>45-54</td>
<td>193 (29.4)</td>
<td>26 (10.0)</td>
<td>22 (21.6)</td>
<td>19 (16.4)</td>
<td>67 (27.7)</td>
<td>327 (23.7)</td>
</tr>
<tr>
<td>55 and above</td>
<td>54 (8.2)</td>
<td>7 (2.7)</td>
<td>5 (4.9)</td>
<td>9 (7.8)</td>
<td>19 (7.9)</td>
<td>94 (6.8)</td>
</tr>
<tr>
<td>Missing</td>
<td>1 (.2)</td>
<td>0</td>
<td>2 (2.0)</td>
<td>0</td>
<td>0</td>
<td>3 (.2)</td>
</tr>
</tbody>
</table>

**Education**

<table>
<thead>
<tr>
<th></th>
<th>Sample 1 Westrail</th>
<th>Sample 2 SGIO</th>
<th>Sample 3 Swan</th>
<th>Sample 4 WestBoard</th>
<th>Sample 5 Health</th>
<th>Sample 6 Multisample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 10 secondary school</td>
<td>305 (46.4)</td>
<td>38 (14.6)</td>
<td>19 (18.6)</td>
<td>51 (44.0)</td>
<td>19 (7.9)</td>
<td>432 (31.4)</td>
</tr>
<tr>
<td>Year 12 secondary school</td>
<td>121 (18.4)</td>
<td>71 (27.3)</td>
<td>28 (27.5)</td>
<td>21 (18.1)</td>
<td>26 (10.7)</td>
<td>267 (19.4)</td>
</tr>
<tr>
<td>Apprenticeship/Trade Certificate</td>
<td>74 (11.3)</td>
<td>17 (6.5)</td>
<td>7 (6.9)</td>
<td>19 (16.4)</td>
<td>6 (2.5)</td>
<td>123 (8.9)</td>
</tr>
<tr>
<td>Certificate (non-trade)/Diploma</td>
<td>70 (10.7)</td>
<td>85 (32.7)</td>
<td>15 (14.7)</td>
<td>15 (12.9)</td>
<td>55 (22.7)</td>
<td>240 (17.4)</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>59 (9.0)</td>
<td>37 (14.2)</td>
<td>22 (21.6)</td>
<td>4 (3.4)</td>
<td>57 (23.6)</td>
<td>179 (13.0)</td>
</tr>
<tr>
<td>Post-graduate qualification</td>
<td>16 (2.4)</td>
<td>12 (4.6)</td>
<td>10 (9.8)</td>
<td>1 (.9)</td>
<td>78 (32.2)</td>
<td>117 (8.5)</td>
</tr>
<tr>
<td>Missing</td>
<td>12 (1.8)</td>
<td>0</td>
<td>1 (1.0)</td>
<td>5 (4.3)</td>
<td>1 (.4)</td>
<td>19 (1.4)</td>
</tr>
</tbody>
</table>

**Remuneration**

<table>
<thead>
<tr>
<th>Remuneration</th>
<th>Sample 1 Westrail</th>
<th>Sample 2 SGIO</th>
<th>Sample 3 Swan</th>
<th>Sample 4 WestBoard</th>
<th>Sample 5 Health</th>
<th>Sample 6 Multisample</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to $25000</td>
<td>83 (12.6)</td>
<td>53 (20.4)</td>
<td>3 (2.9)</td>
<td>5 (4.3)</td>
<td>19 (7.9)</td>
<td>163 (11.8)</td>
</tr>
<tr>
<td>$25001 - $30000</td>
<td>117 (17.8)</td>
<td>46 (17.7)</td>
<td>2 (2.0)</td>
<td>7 (6.0)</td>
<td>21 (8.7)</td>
<td>193 (14.0)</td>
</tr>
<tr>
<td>$30001 - $35000</td>
<td>128 (19.5)</td>
<td>61 (23.5)</td>
<td>10 (9.8)</td>
<td>42 (36.2)</td>
<td>23 (9.5)</td>
<td>264 (19.2)</td>
</tr>
<tr>
<td>$35001 - $40000</td>
<td>140 (21.3)</td>
<td>32 (12.3)</td>
<td>12 (11.8)</td>
<td>31 (26.7)</td>
<td>36 (14.9)</td>
<td>251 (18.2)</td>
</tr>
<tr>
<td>$40001 - $45000</td>
<td>63 (9.6)</td>
<td>21 (8.1)</td>
<td>14 (13.7)</td>
<td>10 (8.6)</td>
<td>41 (16.9)</td>
<td>149 (10.8)</td>
</tr>
<tr>
<td>$45001 - $50000</td>
<td>44 (6.7)</td>
<td>11 (4.2)</td>
<td>13 (12.7)</td>
<td>6 (5.2)</td>
<td>23 (9.5)</td>
<td>97 (7.0)</td>
</tr>
<tr>
<td>above $50000</td>
<td>62 (9.4)</td>
<td>32 (12.3)</td>
<td>46 (45.1)</td>
<td>8 (6.9)</td>
<td>77 (31.8)</td>
<td>225 (16.3)</td>
</tr>
<tr>
<td>Missing</td>
<td>20 (3.0)</td>
<td>4 (1.5)</td>
<td>2 (2.0)</td>
<td>7 (6.0)</td>
<td>2 (.8)</td>
<td>35 (2.5)</td>
</tr>
</tbody>
</table>

| N | 657 | 260 | 102 | 116 | 242 | 1377 |

*Note.* The figures in brackets indicate the percentage of each category in each organisation.
In summary, 1377 useable responses were received from five organisations. The usable responses from Westrail and WesBoard were representative of organisations with large numbers of blue collar workers. These organisations had substantially less employees with bachelor and/or post graduate qualifications than the other three organisations.

Although Health and SGIO both had high numbers of female employees, the majority of useable responses received from females at Health, came from those who had tertiary qualifications (82). Only 52 of usable female responses at Health came from females without tertiary qualifications. At SGIO this number was 126, which meant that only 24 tertiary qualified females provided usable responses.

7.2. The Westrail longitudinal sample

This subsection provides the results of analyses on the demographics for the matched pair longitudinal Westrail sample. Of the 657 useable responses at time 1, 381 had service numbers. However only 157 of these were able to be matched with the service numbers provided at time 2. After listwise deletion was undertaken on the variables that were to be used to test the hypothesised relationships, the matched responses were reduced to 129. These 129 matched responses formed the eighth sample (the longitudinal sample).
The results of analyses on the demographics for both samples 7 (sample 1 less the 129 longitudinal cases) and 8 (the longitudinal sample) are shown in Tables 3.3 and 3.4. The analyses on the longitudinal sample presented in these tables are limited to time one data. Table 3.3 shows that on the demographics of gender, employment type, and union membership the respondents incorporated into the longitudinal sample are very similar to the respondents representing sample 7. Tables 3.4 shows that the respondents incorporated into the longitudinal sample were marginally better educated and paid than sample 7 respondents.

Table 3.3
Characteristics for samples 7 and 8

<table>
<thead>
<tr>
<th>Demographics using dichotomous variables</th>
<th>Sample 7 (Westrail) (N = 528)</th>
<th>Sample 8 (Westrail) longitudinal sample time one details (N = 129)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>494 (93.6)</td>
<td>126 (97.7)</td>
</tr>
<tr>
<td>female</td>
<td>33 (6.3)</td>
<td>3 (2.3)</td>
</tr>
<tr>
<td>missing</td>
<td>1 (.2)</td>
<td>0</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>full-time</td>
<td>516 (97.7)</td>
<td>127 (98.4)</td>
</tr>
<tr>
<td>part-time</td>
<td>9 (1.7)</td>
<td>2 (1.6)</td>
</tr>
<tr>
<td>missing</td>
<td>3 (.6)</td>
<td>0</td>
</tr>
<tr>
<td>Unionist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td>427 (80.9)</td>
<td>106 (82.2)</td>
</tr>
<tr>
<td>no</td>
<td>100 (18.9)</td>
<td>22 (17.1)</td>
</tr>
<tr>
<td>missing</td>
<td>1 (.2)</td>
<td>1 (.8)</td>
</tr>
</tbody>
</table>

Note. The Westrail longitudinal sample, (time one details, N = 129) were collated from sample 1 (N = 657). The figures in brackets represent percentages.
### Table 3.4
**Age, education, and remuneration demographics for samples 7 and 8**

<table>
<thead>
<tr>
<th>Demographics using categorical variables</th>
<th>Sample 7 (Westrail) (N = 528)</th>
<th>Sample 8 (Westrail) longitudinal sample time one details (N = 129)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>17 (3.2)</td>
<td>3 (2.3)</td>
</tr>
<tr>
<td>25-34</td>
<td>112 (21.2)</td>
<td>29 (22.5)</td>
</tr>
<tr>
<td>35-44</td>
<td>204 (38.6)</td>
<td>43 (33.3)</td>
</tr>
<tr>
<td>45-54</td>
<td>152 (28.8)</td>
<td>42 (32.6)</td>
</tr>
<tr>
<td>55 and above</td>
<td>42 (8.0)</td>
<td>12 (9.3)</td>
</tr>
<tr>
<td>Missing</td>
<td>1 (0.2)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 10 secondary school</td>
<td>254 (48.1)</td>
<td>51 (39.5)</td>
</tr>
<tr>
<td>Year 12 secondary school</td>
<td>100 (18.9)</td>
<td>21 (16.3)</td>
</tr>
<tr>
<td>Apprenticeship/Trade Certificate</td>
<td>58 (11.0)</td>
<td>16 (12.4)</td>
</tr>
<tr>
<td>Certificate (non-trade)/Diploma</td>
<td>50 (9.5)</td>
<td>20 (15.5)</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>48 (9.1)</td>
<td>11 (8.5)</td>
</tr>
<tr>
<td>Post-graduate qualification</td>
<td>7 (1.3)</td>
<td>9 (7.0)</td>
</tr>
<tr>
<td>Missing</td>
<td>11 (2.1)</td>
<td>1 (0.8)</td>
</tr>
<tr>
<td><strong>Remuneration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>up to $25000</td>
<td>73 (13.8)</td>
<td>10 (7.7)</td>
</tr>
<tr>
<td>$25001-$30000</td>
<td>99 (18.8)</td>
<td>17 (13.2)</td>
</tr>
<tr>
<td>$30001-$35000</td>
<td>105 (19.9)</td>
<td>24 (18.6)</td>
</tr>
<tr>
<td>$35001-$40000</td>
<td>108 (20.5)</td>
<td>32 (24.8)</td>
</tr>
<tr>
<td>$40001-$45000</td>
<td>45 (8.5)</td>
<td>18 (14.0)</td>
</tr>
<tr>
<td>$45001-$50000</td>
<td>33 (6.3)</td>
<td>11 (8.5)</td>
</tr>
<tr>
<td>above $50000</td>
<td>46 (8.7)</td>
<td>16 (12.4)</td>
</tr>
<tr>
<td>Missing</td>
<td>19 (3.6)</td>
<td>1 (0.8)</td>
</tr>
<tr>
<td>N</td>
<td>528</td>
<td>129</td>
</tr>
</tbody>
</table>

**Note.** The Westrail longitudinal sample, (time one details, N = 129) were collated from sample 1 (N = 657). The figures in brackets represent percentages.
8. SCORING OF ANSWERS AND COMPUTER PROGRAMMES USED TO ANALYSE THE DATA

The questionnaire was devised so that all questions that were used to collect attitudinal information to test the structural model were scored using five point Likert scales. Three questions measuring turnover intention, and all questions measuring organisational commitment and perceived organisational support had scoring range descriptions worded from “strongly disagree” (1) to “strongly agree” (5). The fourth question on turnover intention had a scoring range description worded from “not at all likely” (1) to “extremely likely” (5). The seven facet specific job satisfaction questions had a scoring range description worded from “absolutely false” (1) to “absolutely true” (5). Two work effort questions were worded from “a very large amount” (1) to “none” (5). The third work effort question was worded from “strongly agree” to “strongly disagree”. The description of the range for the two questions used for global satisfaction and the three used for training opportunities varied for each question.

Categories were devised for responses to questions on job diversification, remuneration, age, gender, employment type, union membership, and education. The questions dealing with work experience, organisational tenure, positional tenure, and absenteeism (2 questions) required respondents to specify figures in years or days.
Of the 72 questions, 22 were worded negatively, and reverse coded prior to analysis.

This study used SPSS version 6.1 (Norusis 1994) to calculate the descriptive statistics. EQS version 5.5 (Bentler and Wu, 1995) was used to conduct confirmatory factor analyses and LISREL version 8 (Jöreskog & Sörbom, 1996) was used to determine the structural relations among the resultant factors.

Curry et al. (1986) analysed their data with LISREL, a structural equation modeling technique. They considered that one of the advantages of using LISREL over “methods like multiple regression is that it permits specification of latent and manifest variables, with explicit modeling of measurement errors” (p. 851). Latent variables often represent theoretical concepts, while manifest variables normally consist of multiple measures for each concept.

Iverson et al. (1995) comment that “there is general agreement that LISREL provides a more precise estimate of linear relationships among constructs than multiple regression” (p. 221). These researchers stated that one of the advantages of LISREL “is the greater precision with which it estimates the causal model” (p. 223).

Another software package that performs similar functions to the LISREL programme is EQS. Ullman (1996) comments that “EQS is by far the most user friendly” (p. 767) of the structural equation modeling programmes.
An important assumption underlying structural equation modeling is that the data are multivariate normal (Byrne, 1995). The type of data that were collected for this study were expected to be nonnormal. This expectation was based on the findings of Micceri (1989) who analysed over 400 large data sets and concluded that the great majority of data collected in behavioural research do not follow normal distribution.

One approach taken for the analyses of nonnormal data is to make use of asymptotic distribution free methods (ADF). This is the approach that LISREL takes and requires analyses based on weighted least squares (WLS) estimation. It is still unresolved as to how nonnormal the data must be before this process is implemented (Byrne, 1995). Hoyle and Panter (1995) have recommended against ADF estimation in favour of distribution-based adjustments to results of maximum likelihood estimation (Satorra & Bentler, 1988, 1994). Ullman (1996) recommends the use of EQS when data is nonnormal. This is because both maximum likelihood robust (ML robust) estimation technique and the Satorra-Bentler Scaled Statistic ($S-B\chi^2$); (Satorra & Bentler, 1988) are available on EQS. The researcher decided to use EQS to conduct analyses when the data were identified as nonnormal and LISREL when the data were normally distributed. An expanded discussion is provided in the next section of this chapter, explaining why this choice was made.
In summary, the questionnaire used in the longitudinal survey primarily used five point scales. Negatively worded items were incorporated into the questionnaire to reduce response bias. The analysis of data was undertaken using the SPSS, EQS and LISREL statistical packages.

9. ANALYTICAL METHOD

Both EQS and LISREL were used in this study. EQS was used to establish the measurement model and LISREL to determine the structural relations among the resultant factors. Maximum likelihood parameter estimates were obtained by applying LISREL to the appropriate covariance matrix. The measurement model refers to the confirmatory measurement, or factor analysis which “specifies the relations of the observed measures to their posited underlying constructs” (Anderson & Gerbing, 1988, p. 411). The structural relations model then specifies the causal relations among the latent constructs.

Anderson and Gerbing (1988) recommend using a “two-step approach” to accomplish the model-building task. They contend that “there is much to gain in theory testing and the assessment of construct validity from separate estimation (and respecification) of the measurement model prior to the simultaneous estimation of the measurement and structural submodels” (p. 411). Taking cognisance of these comments the latent variables in this study were first subjected to a confirmatory factor analysis to ensure an adequate measurement
model. Following this, an examination of the structural relations among the latent constructs was undertaken.

The analytical methods used in this study were to a large extent influenced by Dunham et al. (1994). These researchers used 9 samples to investigate the construct definition and measurement of organisational commitment. Three samples were used to conduct confirmatory factor analysis on the Allen and Meyer (1990) instrument. They justified the need to conduct confirmatory factor analysis because it:

allows researchers to dictate constraints consistent with theoretically based hypothesized factor structures and to test, statistically, how well the covariance among the observed variables is explained given those theoretical constraints. Given the strong existing theoretical base for OC, we believed this method of analysis was appropriate for examining the underlying structure of this construct. (Dunham et al., 1994, p. 372)

They used the multigroup option to “determine the extent to which the factor structure was consistent across samples” (p. 373). Hypotheses were examined “regarding the invariance of factor structure, invariance of pattern of factor loadings, and invariance of factor variances and covariances” (p. 373).

When evaluating the models, they used multiple measures of fit, as recommended by Bollen and Long (1993). One of the fit measures used by Dunham, Grube and Castaneda was the comparative fit index (CFI; Bentler, 1990). It is generally recognised that the CFI is less influenced by sample size than is the chi-square
index (Anderson & Gerbing, 1988; Bentler, 1995; Bollen, 1989a; Marsh, 1989). The CFI has a 0-1 range. Generally, a CFI value greater than .90 is indicative of a good fitting model (Ullman, 1996). Byrne (1994b) however, has stated that although the lower limit of acceptable CFI values is .90, “a value of at least .93 is expected for models considered to be well-fitting” (p. 24).

The EQS programme provides both the CFI and robust comparative fit index (robust CFI), although the latter is not yet available for multigroup analyses in the current version of the programme. In this study both the CFI and robust CFI (for single-group analyses) are reported.

The rule of thumb relating to the chi-square ($\chi^2$) is that “a good fitting model may be indicated when the ratio of the $\chi^2$ to the degrees of freedom is less than 2” (Ullman, 1996, p. 748).

Hackett et al. (1994) comment that:

If only small differences exist between the actual and estimated matrices, then the hypothesized factor structure is viewed as a plausible one... Ideally this determination should be made statistically with the chi-square. However, with large sample sizes ... this test is not very useful because it has the power to detect nonsubstantive differences between the matrices. (p. 17)
Clearly, the $\chi^2$ would not present an accurate indication of the fit of a model on a large sample like Westrail. Thus, although the $\chi^2$ is reported in this study, readers should be aware of its limitations.

The EQS programme provides the Satorra-Bentler Scaled Statistic (S-B$\chi^2$); (Satorra & Bentler, 1988) which “incorporates a scaling correction for the $\chi^2$ statistic when distributional assumptions are violated” (Byrne, 1994b, p. 293). It takes into account the sample kurtosis values (Hu, Bentler, & Kano, 1992). This statistic performs “as well, or better than the usual asymptotically distribution-free methods ... generally recommended for nonnormal multivariate data” (Byrne, 1994b, p. 293). Byrne (1995) comments that:

In contrast to LISREL, then, EQS uses an estimation method that assumes the data are multivariate normal but bases evaluation of model fit on a test statistic that has been corrected to take nonnormality into account. (p. 148)

The normed fit index (NFI) (Bentler & Bonett, 1980) and the non-normed fit index (NNFI) (Bentler & Bonett, 1980) are reported in this study. The NFI rescales the chi-square into a 0 (no fit) to 1 (perfect fit) range. The NFI may underestimate the fit of a model in good-fitting models with small samples (Bearden, Sharma, & Teel, 1982). An adjustment to the NFI is the non-normed fit index NNFI. This incorporates the degrees of freedom in the model (Ullman, 1996). The NNFI has been found to underestimate model fit in small samples (Anderson & Gerbing, 1984). Bentler (1990) comments that in small samples the NNFI can imply “a terrible fit when other indexes suggest an acceptable model
fit” (p. 240). For both the NFI and NNFI values greater than .90 are indicative of a good-fitting model.

Given the limitations of the NFI and NNFI the CFI stands out as the most reliable of these three indices across sample sizes. Bentler (1995) in discussing his earlier research (Bentler, 1990) states that the “CFI avoids the underestimation of fit sometimes noted for NFI in small samples, and that the sampling variability of CFI ... is less than that of NNFI” (p.116).

The LISREL goodness of fit index (GFI) and adjusted goodness of fit index (AGFI) are also reported in this study. It has been suggested (Tanaka & Huba, 1989) that the GFI is analogous to the $R^2$ in multiple regression. The GFI can be adjusted for the number of parameters estimated in the model. The adjusted index is the AGFI. Ullman (1996) comments that “the fewer the number of estimated parameters relative to the number of data points, the closer the AGFI is to the GFI” (pp. 750-751).

There are indices which are based on residuals. One of these is the root mean squared residual (RMR). Good fitting models have small RMR (.05 or less). Ullman (1996) comments that it is “difficult to interpret an unstandardized residual because the scale of the variables affects the residual” (p. 752). To avoid this problem it is possible to use the standardized root mean squared residual (SRMR). The SRMR has a range of 0 to 1, with the desired level being .05 or less
Taking cognisance of the comments made by Ullman the SRMR was reported in preference to the RMR.

The Root Mean Square Error of Approximation (RMSEA) (Steiger, 1990) is reported in this study. Steiger (1989) recommends that RMSEA values less than .05 indicate a close fit. Browne and Cudeck (1993) have suggested that values between .05 to .08 indicate a fair fit and MacCallum, Browne, and Sugawara (1996) consider that values in the range of .08 to .10 indicate a mediocre fit. When reporting RMSEA values, Steiger (1990) recommends the use of confidence intervals to assess the precision of RMSEA values. Narrow confidence intervals indicate that the observed RMSEA value is a precise indicator of fit (MacCallum et al., 1996).

One of the tools that can be used to improve a model is the Lagrange multiplier test (LM). The LM test indicates if the model can be improved by estimating parameters that have been fixed. That is, parameters are identified that should be added to improve the model fit. EQS provides both univariate and multivariate LM tests. LISREL presents only univariate LM tests, called Modification Indices. Analyses using both the LM univariate and multivariate tests are reported in this study.

Both LISREL (via PRELIS) and EQS are able to produce a covariance matrix from raw data. To compare parameters across groups, a common metric must be used for all groups (Jöreskog & Sörbom, 1996). This means that covariance
matrices must be used when the multigroup option is used in either LISREL or EQS.

Maximum likelihood (ML) is the default estimation method to analyse data in EQS and LISREL. ML assumes that the data being analysed is multivariate normal. Bentler and Wu (1995), recommend that nonnormal data is best handled by maximum likelihood robust (ML robust). To determine if data is nonnormal, the skewness and kurtosis indexes should be examined.

In summary, since the chi-square statistic is sensitive to sample size, additional fit indices had to be investigated in this study. In total ten fit indices were selected to conduct the confirmatory factor analyses and structural relationship testing. These were the chi-square, the Satorra-Bentler Scaled Statistic (S-B$\chi^2$), the Bentler-Bonett normed fit index (NFI), the Bentler-Bonett non-normed fit index (NNFI), the comparative fit index (CFI), the robust comparative fit index (Robust CFI), the LISREL goodness of fit index (GFI), the LISREL adjusted goodness of fit index (AGFI), the standardized root mean squared residual (SRMR), and the root mean square error of approximation (RMSEA). It was appropriate to include the NFI and NNFI because of the ability of these fit indices to be accurate when using a large sample like Westrail. The CFI was included because of its ability to be useful irrespective of the variance in individual sample sizes.
10. CONCLUSION AND SUMMARY

Section 2 explained the reasons why a longitudinal survey was conducted. Longitudinal surveys are the predominant methodological design used to investigate the links between organisational commitment and employee behavioural outcomes. Additionally, a number of researchers have called for the use of longitudinal studies to investigate the determinants of organisational commitment. It was therefore appropriate for a longitudinal survey to be used to collect data on both the determinants and employee behavioural outcomes of organisational commitment.

Section 3 described the measures used in the questionnaire. The mix of employees in this study presented the researcher with the challenge of devising a questionnaire that had to cater for a non-homogeneous population. Therefore, some changes were made to existing scales. Additionally, a number of new questions were devised specifically for this study.

Section 4 explained how confirmatory factor analysis was to be used in this study to ensure the independence of the measures.

Section 5 described the public and private sector organisations that participated in the study. These organisations represented both blue and white collar employees in a number of industries. This is a substantial departure from previous research which has concentrated on professionals or employees in the service industry.
Section 6 outlined the procedures used for data collection. The same questionnaire was used in all five organisations. The questionnaires were mailed directly to employees in four organisations and no time was allocated by these organisations to complete them. In the fifth organisation the questionnaire was administered on-site.

Section 7 of this chapter provides the results of analyses on the demographics for each of the individual organisations and the multisample. The multisample refers to the sample that was constructed by merging the five time 1 organisation specific samples. Westrail was the largest of the individual samples and was therefore selected as the organisation to be used to purify the measures, and test and refine the hypothesised model.

Section 8 described the procedure used to reduce response bias. Twenty two items were worded negatively and reverse coded prior to analysis. This section also introduced the statistical packages that were to be used in subsequent chapters to analyse the data.

Section 9 outlined the analytical methods that were used to analyse the data. Included in this section was a general coverage of the fit indices that were considered appropriate when reporting the results of confirmatory factor analyses and structural equation modeling.
In summary, the investigation of commitment in five organisations, four of which involved the entire workforce, one by longitudinal design, is the major contribution to an understanding of organisational commitment offered by this study.
1. INTRODUCTION

Chapter 3 described the samples and measures in this study, and the analytical methods that would be used to test the hypothesised Effective Commitment Model (ECM).

In this chapter the factor structure of the Allen and Meyer (1990) commitment instrument was examined using confirmatory factor analyses on data obtained from different samples of employees. The Westrail sample (sample 1), which was described in Chapter 3, was used as the calibration sample. Additionally, confirmatory factor analyses were conducted to test if the measurement model, that was to be used to test the ECM, contained factors that were independent of one another. By applying these analyses to different samples, it was possible to evaluate the generalisability of the measurement model.

Section 2 provides the results of analyses on the means and standard deviations of the individual items within each of the original Allen and Meyer commitment scales. The kurtosis indexes associated with the commitment items were evaluated to determine if the data were multivariate normal.
In chapter 2 the researcher concluded that adequate evidence exists to indicate that the affective and continuance dimensions of commitment are independent, but that the position of normative commitment is still unclear. Section 3 reports the results from confirmatory factor analyses undertaken on the Westrail calibration sample. These results supported the existence of a two dimensional model (affective and continuance commitment) in preference to a three dimensional model (affective, normative, and continuance commitment). The two dimensional model was cross-validated using the SGIO validation sample, and then further cross-validated through multigroup invariance analyses using two combined samples (sample 1 = Westrail and SGIO, sample 2 = Swan, WesBoard, and Health). Testing for invariant factorial measurement is a process recommended by Byrne (1994b).

Section 4 provides the process used to purify the measures used as the determinants and outcomes of organisational commitment. A number of items were deleted from the job satisfaction and perceived organisational support measures.

Section 5 presents the confirmatory factor analyses on the 7 factors that were to be used to test the causal model. These analyses were necessary to determine if the factors were independent of one another.

The means, standard deviations and correlations for all the variables that were used in this study are presented in section 6.
The final section of this chapter provides a summary and conclusion.

2. SAMPLES USED TO VALIDATE THE MEASURES

This section provides statistical details on the Westrail and SGIO samples. These were the two samples selected to conduct validation analyses on the measurement model. Because one of the objectives of this study was to devise a model that could be applied to any organisation, it seemed appropriate to validate the measures and test the relationships in different contexts. Generally empirical studies in the area of organisational commitment have not been conducted using samples with such a wide contextual spread as the organisations in this study. This study therefore, had the potential to substantially add to the existing empirical base by using these organisations for measure purification.

The other reason for using the Westrail and SGIO samples for validation purposes was that they were larger than the other 3 samples. Tabachnick and Fidell (1996) comment that with multivariate analyses the larger the sample size the smaller the effect that nonnormalality is likely to have.

Using Westrail and SGIO, the means and standard deviations of the individual items within each of the original Allen and Meyer commitment scales are shown in Table 4.1.
Table 4.1
Means and Standard Deviations on the original 24 Allen and Meyer organisational commitment items

<table>
<thead>
<tr>
<th>Item</th>
<th>Text</th>
<th>Westrail Mean</th>
<th>Westrail Std Dev</th>
<th>SGIO Mean</th>
<th>SGIO Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC1</td>
<td>I would be very happy to spend the rest of my career with this organisation.</td>
<td>3.30</td>
<td>1.27</td>
<td>3.18</td>
<td>1.13</td>
</tr>
<tr>
<td>AC2</td>
<td>I enjoy discussing my organisation with people outside it.</td>
<td>3.06</td>
<td>1.16</td>
<td>3.37</td>
<td>.93</td>
</tr>
<tr>
<td>AC3</td>
<td>I really feel as if this organisation's problems are my own.</td>
<td>2.43</td>
<td>1.20</td>
<td>2.67</td>
<td>1.01</td>
</tr>
<tr>
<td>AC4</td>
<td>I think that I could easily become as attached to another organisation as I am to this one.</td>
<td>2.70</td>
<td>1.13</td>
<td>2.65</td>
<td>.91</td>
</tr>
<tr>
<td>AC5</td>
<td>I do not feel like 'part of the family' at my organisation.</td>
<td>2.71</td>
<td>1.18</td>
<td>3.22</td>
<td>1.04</td>
</tr>
<tr>
<td>AC6</td>
<td>I do not feel 'emotionally attached' to my organisation.</td>
<td>2.66</td>
<td>1.13</td>
<td>2.97</td>
<td>1.03</td>
</tr>
<tr>
<td>AC7</td>
<td>This organisation has a great deal of personal meaning for me.</td>
<td>2.98</td>
<td>1.12</td>
<td>3.02</td>
<td>.98</td>
</tr>
<tr>
<td>AC8</td>
<td>I do not feel a strong sense of belonging to my organisation.</td>
<td>2.83</td>
<td>1.13</td>
<td>3.19</td>
<td>.91</td>
</tr>
<tr>
<td>CC1</td>
<td>I am not afraid of what might happen if I quit my job without having another lined up.</td>
<td>3.48</td>
<td>1.38</td>
<td>3.33</td>
<td>1.32</td>
</tr>
<tr>
<td>CC2</td>
<td>It would be very hard for me to leave my organisation right now, even if I wanted to.</td>
<td>3.24</td>
<td>1.34</td>
<td>3.05</td>
<td>1.17</td>
</tr>
<tr>
<td>CC3</td>
<td>To much in my life would be disrupted if I decided I wanted to leave my organisation right now.</td>
<td>3.14</td>
<td>1.25</td>
<td>2.89</td>
<td>1.11</td>
</tr>
<tr>
<td>CC4</td>
<td>It would not be too costly for me to leave my organisation right now.</td>
<td>3.32</td>
<td>1.21</td>
<td>3.16</td>
<td>1.09</td>
</tr>
<tr>
<td>CC5</td>
<td>Right now, staying with my organisation is a matter of necessity as much as desire.</td>
<td>3.58</td>
<td>1.10</td>
<td>3.23</td>
<td>1.01</td>
</tr>
<tr>
<td>CC6</td>
<td>I feel I have too few alternative employment options to consider leaving this organisation.</td>
<td>3.32</td>
<td>1.20</td>
<td>2.71</td>
<td>1.08</td>
</tr>
<tr>
<td>CC7</td>
<td>One of the few serious consequences of leaving this organisation would be the scarcity of available alternatives.</td>
<td>3.44</td>
<td>1.15</td>
<td>2.92</td>
<td>1.11</td>
</tr>
<tr>
<td>CC8</td>
<td>One of the major reasons I continue to work for this organisation is that an alternative organisation may not match the overall benefits that I have here.</td>
<td>3.20</td>
<td>1.09</td>
<td>3.03</td>
<td>1.05</td>
</tr>
</tbody>
</table>
### Table 4.1 continued

<table>
<thead>
<tr>
<th>Item</th>
<th>Text</th>
<th>Westrail</th>
<th>Mean  Std Dev</th>
<th>SGIO  Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC1</td>
<td>I think that people these days move from organisation to organisation too often.</td>
<td>3.14</td>
<td>.98</td>
<td>3.06</td>
</tr>
<tr>
<td>NC2R</td>
<td>I do not believe that a person must always be loyal to his or her organisation</td>
<td>3.51</td>
<td>1.24</td>
<td>3.53</td>
</tr>
<tr>
<td>NC3R</td>
<td>Jumping from organisation to organisation does not seem at all wrong to me.</td>
<td>3.36</td>
<td>1.09</td>
<td>3.20</td>
</tr>
<tr>
<td>NC4</td>
<td>One of the major reasons I continue to work for this organisation is that I believe that loyalty is important</td>
<td>3.12</td>
<td>1.16</td>
<td>3.28</td>
</tr>
<tr>
<td>NC5</td>
<td>If I got another offer for a better job elsewhere I would not feel it was right to leave my organisation.</td>
<td>2.17</td>
<td>1.05</td>
<td>2.26</td>
</tr>
<tr>
<td>NC6</td>
<td>I was taught to be loyal to one organisation.</td>
<td>3.16</td>
<td>1.07</td>
<td>2.95</td>
</tr>
<tr>
<td>NC7</td>
<td>Things were better in the days when people stayed with one organisation for most of their careers.</td>
<td>3.48</td>
<td>1.01</td>
<td>2.75</td>
</tr>
<tr>
<td>NC8R</td>
<td>I do not think that wanting to be a ‘company man’ or ‘company women’ is sensible anymore</td>
<td>2.96</td>
<td>1.05</td>
<td>3.18</td>
</tr>
</tbody>
</table>

Note. Westrail: N = 657, SGIO: N = 260. R = reversed scored items. AC (affective commitment), CC (continuance commitment), and NC (normative commitment), refer to the original items in the Allen and Meyer (1990) scales.

The greatest range in the means for the individual items were found for normative commitment where item NC5 had a mean of 2.17 at Westrail and 2.26 at SGIO. These were substantially lower than item NC2, which had a mean of 3.51 at Westrail and 3.53 at SGIO. The range of individual item means for the affective commitment scale were 2.43 (AC3 at Westrail) through to 3.37 (AC2 at SGIO). The continuance commitment scale items had the smallest range (2.71 for CC6 at SGIO through to 3.58 for CC5 at Westrail).
The kurtosis indexes associated with the commitment items were evaluated, to
determine if the data were multivariate normal. Multivariate normality is the
assumption that each commitment variable and all linear combinations of the
variables are normally distributed. Byrne (1994a) has commented "that there is
still no absolute determinant of the extent to which a sample can be considered
nonnormal" (p. 82).

Univariate distributions that deviate from normality, possess significant nonzero
skewness and kurtosis. Skewness is a measure of the symmetry of a distribution.
Positive skewness indicates a distribution which contains relatively few large
values and tails off to the right; negative skewness indicates a distribution with
relatively few small values and tails off to the left. Hair, Anderson, Tatham, and
Black (1995) consider skewness values falling outside the range of -1 to +1 as
indicating a substantially skewed distribution. Kurtosis, indicates the extent of
peakedness or flatness of a distribution curve when compared with a normal
distribution curve. Positive kurtosis is associated with distributions with long, thin
tails, whereas negative kurtosis is associated with shorter, fatter tails relative to the
normal distribution curve.

West, Finch and Curren (1995) comment that "examinations of the skewness and
kurtosis of the univariate distributions provide only an initial check on
multivariate normality" (p. 60). They recommend that it is important to examine
multivariate measures of skewness and kurtosis developed by Mardia (1970,
The Mardia measure of multivariate kurtosis is available in EQS and PRELIS. Bentler (1995) suggests that large positive values of the normalised estimate, a variant of Mardia's coefficient, indicate significant positive kurtosis. The results from Westrail and SGIO (Mardia's coefficient of 142.490 and 99.267; and normalised estimates of 51.693 and 22.654 respectively) were highly suggestive of nonnormality (Byrne, 1994a).

One of the strategies that can be used to deal with nonnormal data is to base the evaluation of a model fit on a test statistic that has been corrected to take account of nonnormality (Byrne, 1994a; Hu, Bentler, & Kano, 1992). In this chapter, the Satorra-Bentler Scaled Statistic (S-Bχ²); (Satorra & Bentler, 1988) was used to take account of the nonnormal data. The computation of the S-Bχ² incorporates the sample kurtosis values. It therefore represents the fit of a model more accurately than the normal chi-square test statistic (χ²).

3. CONFRMATORY FACTOR ANALYSES AND PURIFICATION OF THE COMMITMENT ITEMS

This section provides the results of the various confirmatory factor analyses that were conducted to test if the Allen and Meyer (1990) 24 commitment items measure two (affective and continuance) or three dimensions (affective, normative, and continuance) of commitment.
The 24 x 24 covariance matrix at Westrail was analysed using the maximum likelihood estimation method with robust statistics (ML robust). Although maximum likelihood (ML) has been the method used by most commitment researchers when conducting confirmatory factor analyses (Hackett et al., 1994), Bentler and Wu (1995), recommend that nonnormal data is best analysed by ML robust.

The independence model (i.e. the null model) which tests the hypothesis that all variables are uncorrelated was rejected, \( \chi^2 (276, N = 657) = 4721.578, p < .001 \).

Table 4.2 presents the results of the confirmatory factor analysis on the Allen and Meyer 24 item model at both Westrail and SGIO. Based on the Westrail results the model was rejected, \( \chi^2 (249, N = 657) = 1129.148 \) (S-B\( \chi^2 = 884.888 \)), CFI = .802. The only fit measure to reach the benchmark level in both samples was the RMSEA (.073 at Westrail and .074 at SGIO). Byrne (1994b) has reported that RMSEA values as high as .08 are acceptable. Steiger (1990) recommends the use of confidence intervals to assess the precision of RMSEA estimates. The entire confidence intervals for both Westrail and SGIO (.069 - .078 and .066 - .081) were above .05, suggesting a rejection of a close fit model.

In their test of the Allen and Meyer (1990) three-component model Hackett, et al. (1994) used a combined sample \( (N = 2301) \) and two subsamples \( (N = 1150 \) and 1151). The two subsamples were randomly derived from the combined sample. They reported inter alia the NFI, NNFI, CFI, GFI, and AGFI. Only the GFI
reached the benchmark level of .90, and this only occurred for the combined sample and one of the subsamples. The fit indices to result from the 24 commitment items using the Westrail and SGIO overall were slightly worse than those obtained by Hackett et al. (1994).

Taking cognisance of the suggestion of Dunham et al. (1994) that further refinement of the Allen and Meyer (1990) measures should be undertaken, EQS was used to purify the three commitment factors.

Numerous model modifications were performed in an attempt to develop a better fitting model at Westrail. These modifications were initially based on the residuals. Exploratory analyses indicated that if the negative worded items were deleted the model would be improved. Consequently, the decision was made to analyse only the positively worded items in the commitment scales. This procedure has been suggested by Magazine, Williams and Williams (1996). These researchers reported that the positive worded affective and continuance items provided for a better fitting model than the complete list of both negative and positive items. These researchers did not test the normative dimension of commitment.

The results of the confirmatory factor analysis on the 15 positive items at Westrail and SGIO are reported in Table 4.2. Although the fit measures for the 15 item model were generally better than the 24 item model at Westrail, the only fit measure to reach the benchmark level was the GFI (.906).
The decision was then made to test a 12 item model (all positively worded items) which would not only be more parsimonious than the 15 item model, but would contain an equal number of items measuring the three dimensions of commitment. The three items that were deleted were CC5 (right now staying with my organisation is a matter of necessity as much as desire), CC6 (I feel I have too few alternative employment options to consider leaving this organisation), and NC7 (things were better in the days when people stayed with one organisation for most of their careers). Both CC5 and CC6 were identified by McGee and Ford (1987) as representing a sub-scale of continuance commitment which they named “low alternatives”.

The results of the confirmatory factor analysis on the 12 items at Westrail and SGIO are also reported in Table 4.2. The fit indices for the 12 items at Westrail all reached the benchmark levels. At SGIO apart from the NFI (.851) and SRMR (.053) all benchmark levels were reached.

At this stage it appeared the 12 item model could have been accepted if the researcher had relied on the fit indices only. However, it is necessary to look beyond the fit indices and to examine the construct reliability and variance extracted (Hair et al., 1995). A composite reliability measure is analogous to Cronbach’s alpha and estimates the internal consistency of a latent variable (Bagozzi, 1981). Bollen (1989b) comments that the composite reliability of a construct obtained through structural equation modeling is a superior measure
than Cronbach’s alpha which underestimates the reliability of a measure. Using the output produced by EQS the composite reliability of a construct can be calculated as:

$$\frac{(\Sigma \text{std. loadings})^2}{(\Sigma \text{std. loadings})^2 + \Sigma \varepsilon_j}$$

The variance extracted measure is calculated as:

$$\frac{\Sigma \text{std. loadings}^2}{\Sigma \text{std. loadings}^2 + \Sigma \varepsilon_j}$$

Hair et al. suggest that the construct reliability should exceed .70 and the variance extracted value should exceed .50 for a construct.

The construct reliabilities obtained using the 12 item model on the Westrail sample were acceptable for affective (.713) and continuance (.739) but not for normative commitment (.609). The variance extracted value for normative commitment (.297) was substantially below the benchmark level and the levels achieved by affective (.397) and continuance (.429) commitment. Based on these results and the fact that the correlation between affective and normative commitment was .912 (compared to .461 for affective and continuance) the researcher concluded that the normative items were capturing the same construct as the affective items. The decision was made to delete the normative items from any further analyses.
Table 4.2  
Fit indices for the two and three factor models of commitment at Westrail and SGIO

<table>
<thead>
<tr>
<th>Fit indices</th>
<th>24 item model Westrail</th>
<th>24 item model SGIO</th>
<th>15 item model Westrail</th>
<th>15 item model SGIO</th>
<th>12 item model Westrail</th>
<th>12 item model SGIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>χ²</td>
<td>1129.148</td>
<td>597.492</td>
<td>462.227</td>
<td>280.498</td>
<td>155.800</td>
<td>86.180</td>
</tr>
<tr>
<td>df</td>
<td>249</td>
<td>249</td>
<td>87</td>
<td>87</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>p</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>.001</td>
</tr>
<tr>
<td>S-Bχ²</td>
<td>884.888</td>
<td>494.356</td>
<td>365.940</td>
<td>230.649</td>
<td>128.200</td>
<td>69.807</td>
</tr>
<tr>
<td>p</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>.041</td>
</tr>
<tr>
<td>NFI</td>
<td>0.761</td>
<td>0.657</td>
<td>0.837</td>
<td>0.687</td>
<td>0.922</td>
<td>0.851</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.781</td>
<td>0.736</td>
<td>0.834</td>
<td>0.705</td>
<td>0.929</td>
<td>0.911</td>
</tr>
<tr>
<td>CFI</td>
<td>0.802</td>
<td>0.762</td>
<td>0.863</td>
<td>0.755</td>
<td>0.945</td>
<td>0.932</td>
</tr>
<tr>
<td>Robust CFI</td>
<td>0.821</td>
<td>0.788</td>
<td>0.874</td>
<td>0.774</td>
<td>0.951</td>
<td>0.955</td>
</tr>
<tr>
<td>GFI</td>
<td>0.852</td>
<td>0.832</td>
<td>0.906</td>
<td>0.872</td>
<td>0.962</td>
<td>0.946</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.822</td>
<td>0.798</td>
<td>0.870</td>
<td>0.824</td>
<td>0.942</td>
<td>0.918</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.082</td>
<td>0.086</td>
<td>0.074</td>
<td>0.091</td>
<td>0.047</td>
<td>0.053</td>
</tr>
<tr>
<td>RMSEA (90% confidence interval)</td>
<td>(0.069; 0.074)</td>
<td>(0.066; 0.074)</td>
<td>(0.080; 0.088)</td>
<td>(0.046; 0.105)</td>
<td>(0.066; 0.066)</td>
<td>(0.032; 0.070)</td>
</tr>
</tbody>
</table>

Note. The 24, 15, and 12 item models are constructed from the three Allen and Meyer (1990) commitment scales. The numbers in boldface indicate where benchmark levels have not been reached.

The deletion of the normative items meant that the final commitment measurement model that the researcher tested was an 8 item two dimensional model, incorporating 4 affective and 4 continuance items.
The results of the confirmatory factor analysis on the 8 items at Westrail and SGIO are reported in Table 4.3. The fit indices for the 8 items at Westrail all reached the benchmark levels. At SGIO apart from the NFI (.890) all benchmarks levels were reached.

<table>
<thead>
<tr>
<th>Fit indices</th>
<th>Two factor model Westrail</th>
<th>Two factor model SGIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>68.663</td>
<td>35.628</td>
</tr>
<tr>
<td>df</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>$p$</td>
<td>&lt;.001</td>
<td>.011</td>
</tr>
<tr>
<td>S-B$\chi^2$</td>
<td>56.627</td>
<td>28.570</td>
</tr>
<tr>
<td>$p$</td>
<td>&lt;.001</td>
<td>.073</td>
</tr>
<tr>
<td>NFI</td>
<td>0.945</td>
<td>0.890</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.940</td>
<td>0.918</td>
</tr>
<tr>
<td>CFI</td>
<td>0.959</td>
<td>0.944</td>
</tr>
<tr>
<td>Robust CFI</td>
<td>0.963</td>
<td>0.961</td>
</tr>
<tr>
<td>GFI</td>
<td>0.976</td>
<td>0.968</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.954</td>
<td>0.940</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.046</td>
<td>0.049</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.063 (0.047; 0.079)</td>
<td>0.058 (0.027; 0.087)</td>
</tr>
<tr>
<td>construct reliability: 4 affective items</td>
<td>.713</td>
<td>.653</td>
</tr>
<tr>
<td>construct reliability: 4 continuance items</td>
<td>.739</td>
<td>.631</td>
</tr>
</tbody>
</table>

*Note.* The numbers in boldface indicate where benchmark levels have not been reached.

The construct reliabilities at SGIO (.653 for affective and .631 for continuance) were lower than those that were obtained at Westrail (.713 for affective and .739 for continuance).
The variance extracted values for the affective items at Westrail (.397) and SGIO (.330) were lower than the continuance (.429 and .470) items. The correlation between the affective and continuance measures were .460 at Westrail and .397 at SGIO. The item loadings and estimated errors derived from the confirmatory analysis using the Westrail and SGIO samples are shown in Appendix 2.

The next step in the instrument validation process was to conduct multigroup analyses. This feature of structural equation modeling allows for the study of a theoretical model with more than one sample simultaneously. The aim of the multigroup analyses was to test the 8 item model to see if it would generalise to samples that varied from Westrail and SGIO. Multigroup analyses allows researchers to determine if the factor structure and parameter estimates are invariant across samples. The process used to test for invariant factorial measurement was largely based on the method employed by Byrne (1994b).

Two samples were used for the multigroup analyses. The first was the combined Westrail and SGIO samples (WestSGIO $N = 917$) and the second was the combined sample consisting of Swan, WesBoard, and Health (SwanWesHealth $N = 460$). It was necessary to use combined samples to avoid problems associated with small sample sizes. In their examination of published research on structural equation modeling Schumacker and Lomax (1996) found that many articles used 250 to 500 subjects. These researchers suggested that when cross-validating a model, large sample sizes should be used. Consequently, it would not have been
appropriate to cross validate using some of the individual small samples used in this study. Because testing invariance across samples requires sample independence, only the time one Westrail data were included in these analyses.

To test the appropriateness of the two factor model several indexes of fit were examined. The fit measures used were the chi-square ($\chi^2$), NFI, NNFI, CFI, GFI, AGFI, SRMR, and RMSEA. The Satorra-Bentler Scaled Statistic (S-B$\chi^2$, Satorra & Bentler, 1988) and Robust CFI could not be reported because EQS does not provide these indexes of fit in multigroup analyses.

When EQS is used to perform multigroup analyses it provides a chi-square value that reflects a weighted combination of fit for all groups. If the chi-square value is significant then this indicates an inability to reproduce the original covariance matrices from the model being tested. Therefore, to be confident in the generalisability of the model, the chi-square should not be significant. However, with large samples, chi-square values may be significant even for acceptable models (Bentler & Bonett, 1980). Thus, for model evaluation, the CFI represents a more realistic value (Byrne, 1994b).

Multigroup analyses confirmed the consistency of the two factor model across the two combined samples. The results from the various analyses are shown in Table 4.4. The reader is reminded that the $\chi^2$ values are based on the uncorrected statistic, consequently the $\chi^2$ values can be expected to be substantially larger than would be the case if the S-B$\chi^2$ statistic was available.
The baseline two dimensional commitment model (no constraints imposed) was upheld $\chi^2(38, N=1377) 163.316$, $CFI = .946$. When all constraints were imposed $\chi^2(46, N=1377) 182.982$, $CFI = .941$ resulted.

Parameters identified by the Lagrange multiplier (LM) test as those that would contribute most to a significantly better-fitting model if they were specified as free, rather than fixed, were examined. One parameter was subsequently released (AC3 - I really feel as if this organisation’s problems are my own).

In assessing the extent to which a respecified model exhibits improvement, it is customary to examine the difference in $\chi^2$ between the two models (Byrne, 1994b). A significant $\chi^2$ difference between two models indicates support for rejecting the restrictions of the more constrained model. Freeing AC3 resulted in a partial invariance cross validation of $\chi^2(45, N=1377) 174.624$, $CFI = .944$, which was a significant $\chi^2$ difference in comparison to the more constrained model ($182.892 - 174.624 = 8.268$ with 1 degree of freedom; this exceeds the .005 $\chi^2$ critical value for 1 degree of freedom). When the Phi’s were fixed this produced a $\chi^2(46, N=1377) 191.307$, $CFI = .937$. 
Table 4.4  
Fit indices for the various stages of the multigroup validation process

<table>
<thead>
<tr>
<th>Fit indices</th>
<th>Baseline model</th>
<th>Constraints imposed</th>
<th>Partial invariance (AC3) set free</th>
<th>Phi fixed 1,F2,F1=F2,F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \chi^2 )</td>
<td>163.316</td>
<td>182.982</td>
<td>174.624</td>
<td>191.307</td>
</tr>
<tr>
<td>df</td>
<td>38</td>
<td>46</td>
<td>45</td>
<td>46</td>
</tr>
<tr>
<td>( p )</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>NFI</td>
<td>0.931</td>
<td>0.923</td>
<td>0.926</td>
<td>0.919</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.920</td>
<td>0.928</td>
<td>0.930</td>
<td>0.923</td>
</tr>
<tr>
<td>CFI</td>
<td>0.946</td>
<td>0.941</td>
<td>0.944</td>
<td>0.937</td>
</tr>
<tr>
<td>GFI</td>
<td>0.972</td>
<td>0.968</td>
<td>0.970</td>
<td>0.966</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.947</td>
<td>0.950</td>
<td>0.952</td>
<td>0.947</td>
</tr>
<tr>
<td>SRMR</td>
<td><strong>0.063</strong></td>
<td><strong>0.071</strong></td>
<td><strong>0.067</strong></td>
<td><strong>0.079</strong></td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.049 (0.041; 0.057)</td>
<td>0.047 (0.040; 0.054)</td>
<td>0.046 (0.039; 0.053)</td>
<td>0.048 (0.041; 0.055)</td>
</tr>
</tbody>
</table>

*Note.* EQS does not report a S-B \( \chi^2 \) or robust CFI in multigroup analysis. The numbers in boldface indicate where benchmark levels have not been reached.

The correlations among the two factors were .447 for WestSGIO and .128 for SwanWesHealth. With a correlation of .128 among the two factors on the second sample it was appropriate to conduct a discriminant analysis to determine if the factors were orthogonal and therefore representing two dimensions of commitment. The result of this analysis was that the factors did represent two dimensions \( \chi^2(19, N = 1377) 80.955 \), which was significantly different from the alternative hypothesis that the two factors represented the same dimension \( \chi^2(20, N = 1377) 191.713 \). With 1 degree of freedom the chi-square difference of 110.758 was far in excess of that which was required to reach the .01 chi-square critical value (6.634).
Overall, the cross validation process showed that while the two dimensional commitment model was generalisable across samples, one item (AC3) did not generalise to other populations. Discriminant analysis showed that the two factors did represent separate dimensions of commitment. The 4-item measure of continuance commitment included questions from both the continuance commitment subscales (low perceived alternatives and high personal sacrifice) identified by McGee and Ford (1987).

Internal consistency reliabilities were acceptable for both commitment scales in all of the individual cross-sectional samples. Table 4.5 shows the Cronbach’s alpha scores on the 4-item measures. They ranged from .651 - .761 for affective commitment, and .614 - .738 for continuance commitment. The correlations among the factors are shown in Table 4.5. The highest correlation was found in the Westrail sample (.338). 

<table>
<thead>
<tr>
<th>Sample</th>
<th>Cronbach’s alpha 4 affective items</th>
<th>Cronbach’s alpha 4 continuance items</th>
<th>Correlations between 4 item dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Westrail (N = 657)</td>
<td>.702</td>
<td>.726</td>
<td>.338 (p = &lt; .000)</td>
</tr>
<tr>
<td>SGI (N = 260)</td>
<td>.651</td>
<td>.614</td>
<td>.238 (p = &lt; .000)</td>
</tr>
<tr>
<td>Swan (N = 102)</td>
<td>.688</td>
<td>.738</td>
<td>.154 (p = 122)</td>
</tr>
<tr>
<td>WesBoard (N = 116)</td>
<td>.761</td>
<td>.712</td>
<td>.225 (p = .015)</td>
</tr>
<tr>
<td>Health (N = 242)</td>
<td>.666</td>
<td>.633</td>
<td>-.006 (p = 918)</td>
</tr>
</tbody>
</table>

Given the good fit indices recorded for the two factor commitment model, and the acceptable Cronbach’s alpha scores and correlation between the factors, the researcher decided to accept the 4-item measures as representing the affective and continuance dimensions of commitment in this study.
For the purposes of further analyses undertaken in this study, the 8-items served as observed variables for the latent variables of affective and continuance commitment. They are herein referred to as the affective and continuance commitment measures.

In summary, the Westrail data did not support the existence of a three dimensional model based on the original Allen and Meyer 24 commitment items. Consequently further confirmatory factor analyses were conducted to purify the commitment measures at Westrail. Two stages were involved in measure purification.

Firstly confirmatory factor analyses using EQS were undertaken on the 15 positive worded items in the commitment scales. This analysis did not result in benchmark levels being reached on the fit indices (NFI, NNFI, AGFI, and CFI values were all less than .90, and the RMSEA value exceeded .08).

Stage two was conducted to further purify the 15 positive items. Stage two involved using the residuals to improve the fit indices. Items were deleted if they had high residual values relative to other items. At the end of this process 12 items were retained. Although these 12 items resulted in benchmark levels been reached on the fit indices, a correlation of .912 was recorded between the affective and normative commitment factors. This high correlation indicated that the affective and normative items share common variance (68%).
Invariant multigroup analyses did support the existence of a two dimensional model, measured by 4 affective and 4 continuance items. Consequently this part of the study provided cross-validated evidence for the equivalence of a two dimensional commitment measuring instrument across groups. Further analyses in this study used composite scales of affective and continuance commitment comprised of the 4 affective and 4 continuance items respectively. These composite scales were arrived at by obtaining the mean score from the 4 affective and continuance items.

4. FACTOR ANALYSES ON THE DETERMINANTS AND OUTCOMES OF ORGANISATIONAL COMMITMENT

This section reports the results obtained through a series of exploratory (subsection 4.1) and confirmatory factor analyses (subsection 4.2) undertaken to arrive at robust measures for the hypothesised determinants and outcomes of commitment.

4.1. Exploratory factor analyses on the determinants and outcomes of organisational commitment.

To ensure that particular items represented the construct underlying each factor, if items had factor loadings less than .40 they were deleted. Nunnally (1978) comments that it is easy to overinterpret factor loadings below .40.
Using the Westrail and SGIO samples, factor analyses (principal axis factoring) were conducted on the constructs of job satisfaction, perceived organisational support, training opportunities, turnover intention, and effort. As these constructs were all unidimensional one factor was specified for each construct.

All items for perceived organisational support, training opportunities, turnover intention, and effort, loaded more than .40 on their respective factors. Therefore, no items were deleted from these scales prior to further confirmatory factor analyses.

The results of the factor analyses on job satisfaction are shown in Table 4.6. These results indicated that at Westrail the construct of job satisfaction had one item load less than .40 (.295 for job satisfaction 4). At SGIO two items had a loading of less than .40 (.263 for job satisfaction 3 and .275 for job satisfaction 4). To keep the scale consistent between the two organisations it would have been appropriate to delete both JOB SAT 1 and JOB SAT 2 prior to conducting confirmatory factor analyses on the job satisfaction scale.

The alternative strategy that the researcher decided was appropriate was to measure job satisfaction by the two item global satisfaction measure. The justification for this was that using the Westrail sample, only 3 items loaded more than .60 (job satisfaction 1, 2, and 5), two of which were the global satisfaction items. Of the three high loading items only the two global satisfaction items
loaded more than .60 at SGIO (.745 for job satisfaction 1 and .704 for job satisfaction 2).

When a separate factor analysis (principal axis factoring) was conducted on the two item global job satisfaction measure using the Westrail sample, both items had high factor loadings of .783. The eigen value was 1.228 and the percentage of variance explained was 61.4

<table>
<thead>
<tr>
<th>Job satisfaction</th>
<th>Westrail Loading</th>
<th>Westrail Communality</th>
<th>SGIO Loading</th>
<th>SGIO Communality</th>
</tr>
</thead>
<tbody>
<tr>
<td>item 1</td>
<td>.696</td>
<td>.484</td>
<td>.745</td>
<td>.555</td>
</tr>
<tr>
<td>item 2</td>
<td>.625</td>
<td>.391</td>
<td>.704</td>
<td>.497</td>
</tr>
<tr>
<td>item 3</td>
<td>.464</td>
<td>.215</td>
<td>.263</td>
<td>.069</td>
</tr>
<tr>
<td>item 4</td>
<td>.295</td>
<td>.087</td>
<td>.275</td>
<td>.075</td>
</tr>
<tr>
<td>item 5</td>
<td>.674</td>
<td>.455</td>
<td>.593</td>
<td>.352</td>
</tr>
<tr>
<td>item 6</td>
<td>.518</td>
<td>.268</td>
<td>.559</td>
<td>.313</td>
</tr>
<tr>
<td>item 7</td>
<td>.564</td>
<td>.319</td>
<td>.515</td>
<td>.265</td>
</tr>
<tr>
<td>item 8</td>
<td>.555</td>
<td>.308</td>
<td>.518</td>
<td>.269</td>
</tr>
<tr>
<td>item 9</td>
<td>.526</td>
<td>.276</td>
<td>.645</td>
<td>.416</td>
</tr>
</tbody>
</table>

Eigen value: 2.808 (Westrail), 2.814 (SGIO)
Variance explained: 31.2 (Westrail), 31.3 (SGIO)

Note. Westrail N = 657, SGIO N = 260
Factor loadings greater than .6000 in absolute value are in boldface.

4.2. Confirmatory factor analyses on the determinants and outcomes of organisational commitment.

Separate confirmatory factor analyses were conducted on the determinants and outcomes of organisational commitment that contained 4 or more items. It is not possible to conduct separate confirmatory factor analyses on measures with 3 items or less. This meant that only the measures of perceived organisational
support and intention to turnover were subjected to separate confirmatory factor analyses. The results of these analyses are presented in Table 4.7.

The fit indices presented in Table 4.7 indicate that both the perceived organisational support and intention to turnover measures required further purification. Perceived organisational support was eventually reduced to a six item measure and intention to turnover to a 3 item measure. The final 3 item measure of intention to turnover was based on the 3 item Cammann et al (1979) scale.

Table 4.7
Confirmatory factor analyses results for the measures of perceived organisational support and turnover intention using the Westrail sample

<table>
<thead>
<tr>
<th>Fit Indices</th>
<th>Perceived Organisational Support</th>
<th>Turnover Intention</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>650.342</td>
<td>13.233</td>
</tr>
<tr>
<td>df</td>
<td>119</td>
<td>2</td>
</tr>
<tr>
<td>p</td>
<td>&lt; .001</td>
<td>.001</td>
</tr>
<tr>
<td>S-B$\chi^2$</td>
<td>464.139</td>
<td>14.143</td>
</tr>
<tr>
<td>p</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>NFI</td>
<td>0.902</td>
<td>0.983</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.907</td>
<td>0.955</td>
</tr>
<tr>
<td>CFI</td>
<td>0.918</td>
<td>0.985</td>
</tr>
<tr>
<td>Robust CFI</td>
<td>0.938</td>
<td>0.983</td>
</tr>
<tr>
<td>GFI</td>
<td>0.886</td>
<td>0.990</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.853</td>
<td>0.949</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.043</td>
<td>0.028</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.083 (90% confidence interval)</td>
<td>0.093 (0.076; 0.089)</td>
</tr>
</tbody>
</table>

Note. The numbers in boldface indicate where benchmark levels have not been reached.
Table 4.8 presents the final 6 items that were selected to measure the construct of perceived organisational support. The residuals were used to reduce the original 17 perceived organisational support scale down to the 6 items. The fit indices for the 6 item measure of perceived organisational support reached the benchmark levels at both Westrail and SGIO.

Table 4.9 presents the Cronbach’s alphas and construct reliabilities for the final measures of job satisfaction, perceived organisational support, training opportunities, turnover intention, and effort. Absenteeism was not included in Table 4.9 because it was measured by a single item. With the exception of the Cronbach’s alpha for training opportunities at Westrail (.591) all factors had acceptable Cronbach’s alpha coefficients. The researcher was not able to determine reasons for the low level of the Cronbach’s alpha for training opportunities at Westrail. Except for training opportunities at Westrail, the construct reliabilities were all above the benchmark level of .70.

In summary exploratory factor analyses revealed that all except one measure for the determinants and outcomes of organisational commitment had items loading greater than .40. The exception was job satisfaction. Confirmatory factor analyses provided support for a 6 item measure of perceived organisational support at both Westrail and SGIO.
Table 4.8
Items deleted so as to achieve a 6 item measure of perceived organisational support using the Westrail sample

<table>
<thead>
<tr>
<th>Item</th>
<th>Text</th>
<th>Order of deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>POS 1</td>
<td>The organisation values my contribution to its well-being.</td>
<td>item retained</td>
</tr>
<tr>
<td>POS 2 R</td>
<td>If the organisation could hire someone to replace me at a lower salary or lesser conditions it would do so.</td>
<td>1</td>
</tr>
<tr>
<td>POS 3 R</td>
<td>The organisation fails to appreciate any extra effort from me.</td>
<td>item retained</td>
</tr>
<tr>
<td>POS 4 R</td>
<td>The organisation strongly considers my goals and values.</td>
<td>7</td>
</tr>
<tr>
<td>POS 5 R</td>
<td>The organisation would ignore any complaint from me.</td>
<td>11</td>
</tr>
<tr>
<td>POS 6 R</td>
<td>The organisation disregards my best interests when it makes decisions that affect me.</td>
<td>8</td>
</tr>
<tr>
<td>POS 7</td>
<td>Help is available from the organisation when I have a problem</td>
<td>5</td>
</tr>
<tr>
<td>POS 8</td>
<td>The organisation really cares about my well-being.</td>
<td>4</td>
</tr>
<tr>
<td>POS 9</td>
<td>The organisation is willing to extend itself in order to help me perform to the best of my ability.</td>
<td>9</td>
</tr>
<tr>
<td>POS 10 R</td>
<td>Even if I did the best job possible, the organisation would fail to notice.</td>
<td>3</td>
</tr>
<tr>
<td>POS 11</td>
<td>The organisation is willing to help me when I need a special favour.</td>
<td>item retained</td>
</tr>
<tr>
<td>POS 12</td>
<td>The organisation cares about my general satisfaction at work.</td>
<td>6</td>
</tr>
<tr>
<td>POS 13 R</td>
<td>If given the opportunity, the organisation would take advantage of me.</td>
<td>2</td>
</tr>
<tr>
<td>POS 14 R</td>
<td>The organisation shows very little concern for me.</td>
<td>10</td>
</tr>
<tr>
<td>POS 15 R</td>
<td>The organisation cares about my opinions.</td>
<td>item retained</td>
</tr>
<tr>
<td>POS 16</td>
<td>The organisation takes pride in my accomplishments at work.</td>
<td>item retained</td>
</tr>
<tr>
<td>POS 17</td>
<td>The organisation tries to make my job as interesting as possible.</td>
<td>item retained</td>
</tr>
</tbody>
</table>

The fit for the 6 items of POS at Westrail: Chi-square 16.637; df 9; p = .054; S-BX² 12.054; p = .210; NFI 0.991; NNFI; 0.993; CFI 0.996; Robust CFI 0.998; GFI 0.992; AGFI 0.980; SRMR 0.018; RMSEA 0.036 (90% confidence interval = 0.000; 0.063).

The fit for the 6 items of POS at SGIO: Chi-square 13.276; df 9; p = .150; S-BX² 9.091; p = .428; NFI 0.977; NNFI; 0.987; CFI 0.992; Robust CFI 1.000; GFI 0.983; AGFI 0.961; SRMR 0.022; RMSEA 0.043 (90% confidence interval = 0.000; 0.088).

Note. R = reversed scored items. The numbers in column 3, indicate the order in which the item was deleted to obtain a 6 item measure.
Table 4.9
The Cronbach’s alphas construct reliabilities for the measures of the determinants and outcomes of organisational commitment

<table>
<thead>
<tr>
<th>Variable and Sample</th>
<th>Number of items</th>
<th>Construct reliability</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>perceived organisational support</td>
<td>6</td>
<td>.874</td>
<td>.869</td>
</tr>
<tr>
<td>Westrail</td>
<td></td>
<td>.849</td>
<td>.842</td>
</tr>
<tr>
<td>SGIO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>job satisfaction</td>
<td>2</td>
<td>.766</td>
<td>.761</td>
</tr>
<tr>
<td>Westrail</td>
<td></td>
<td>.852</td>
<td>.826</td>
</tr>
<tr>
<td>SGIO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>training opportunities</td>
<td>3</td>
<td>.663</td>
<td>.591</td>
</tr>
<tr>
<td>Westrail</td>
<td></td>
<td>.701</td>
<td>.665</td>
</tr>
<tr>
<td>SGIO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>turnover intention</td>
<td>3</td>
<td>.781</td>
<td>.772</td>
</tr>
<tr>
<td>Westrail</td>
<td></td>
<td>.802</td>
<td>.810</td>
</tr>
<tr>
<td>SGIO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>effort</td>
<td>3</td>
<td>.713</td>
<td>.686</td>
</tr>
<tr>
<td>Westrail</td>
<td></td>
<td>.743</td>
<td>.731</td>
</tr>
<tr>
<td>SGIO</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Westrail: N = 657, SGIO N = 260.

5. CONSTRUCT VALIDITY OF ALL VARIABLES USED IN THE STUDY

The final step in determining the measurement model was to undertake confirmatory factor analyses on the full measurement model. This meant incorporating the 25 items that represented the 7 factors of job satisfaction, perceived organisational support, training opportunities, turnover intention, effort, affective and continuance commitment.

The results from the factor analyses are presented in Table 4.10. The RMSEA value at SGIO (.035) was associated with a confidence interval which was below .05 (.023 - .044). Steiger (1989) has recommended that RMSEA values of less than .05 be considered indicative of a close fit. MacCallum et al. (1996) are more specific when they recommend a close fit model only if the entire confidence
interval is below .05. Thus, the results indicated that the measurement model had a close fit to the SGIO sample.

Browne and Cudeck (1993) have suggested that values in the range of .05 to .08 indicate fair fit. The RMSEA value at Westrail (.050) was associated with a confidence interval which straddled .05 (.045 - .054), which indicated that the model had a better fit at Westrail than it did using the combined Swan, WesBoard and Health sample, where the RMSEA value of .058 was associated with a confidence interval above .05 (.052 - .063). Although, both the Westrail and combined Swan, WesBoard and Health samples did not have entire confidence intervals below .05, the narrow width of the confidence intervals did lend support to the interpretation that the model did indicate a fair fit to the data (MacCallum et al., 1996).

All the measures were reasonably independent of one another. The highest correlation between the factors at both Westrail and SGIO was recorded for job satisfaction and affective commitment, where the correlations were .784 at Westrail and .770 at SGIO. The highest correlation in the Swan, WesBoard and Health combined samples was between job satisfaction and perceived organisational support (.697), while the correlation between job satisfaction and affective commitment was .663.
Table 4.10
Fit indices for the full measurement model using the Westrail (sample 1), SGIO (sample 2) and combined Swan, WesBoard and Health samples (samples 3, 4 and 5 combined)

<table>
<thead>
<tr>
<th>Fit Indices</th>
<th>Westrail</th>
<th>SGIO</th>
<th>Swan, WesBoard and Health combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>665.622</td>
<td>333.068</td>
<td>645.122</td>
</tr>
<tr>
<td>df</td>
<td>254</td>
<td>254</td>
<td>254</td>
</tr>
<tr>
<td>$p$</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>S-B$\chi^2$</td>
<td>610.585</td>
<td>305.041</td>
<td>582.989</td>
</tr>
<tr>
<td>$p$</td>
<td>&lt; .001</td>
<td>.015</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>NFI</td>
<td>0.893</td>
<td>0.864</td>
<td>0.871</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.918</td>
<td>0.957</td>
<td>0.902</td>
</tr>
<tr>
<td>CFI</td>
<td>0.931</td>
<td>0.963</td>
<td>0.917</td>
</tr>
<tr>
<td>Robust CFI</td>
<td>0.935</td>
<td>0.973</td>
<td>0.921</td>
</tr>
<tr>
<td>GFI</td>
<td>0.922</td>
<td>0.906</td>
<td>0.899</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.901</td>
<td>0.880</td>
<td>0.871</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.062</td>
<td>0.051</td>
<td>0.074</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.050 (0.045; 0.054)</td>
<td>0.035 (0.023; 0.044)</td>
<td>0.058 (0.052; 0.063)</td>
</tr>
</tbody>
</table>

Note. The numbers in boldface indicate where benchmark levels have not been reached.
6. CORRELATIONS, MEANS, AND STANDARD DEVIATIONS FOR ALL THE VARIABLES IN THE STUDY

The objective of this section is to determine which if any of the hypotheses that were presented in Chapter 2 were supported by the data collected from all five organisations (the multisample). The means, standard deviations and correlations for all variables that were used in this study are presented in Table 4.11. Listwise deletion on these variables was applied in these analyses which reduced the multisample from 1377 to 1299. Normative commitment does not appear in Table 4.11 because this variable was found in earlier sections of this chapter to be highly correlated to affective commitment and was removed from further analyses in this study. Consequently the seven hypotheses presented in Chapter 2 needed to be refined to remove normative commitment. The refined hypotheses are:

H₁: Affective and continuance commitment are negatively correlated with turnover intention.

H₂: Affective commitment is negatively correlated with absenteeism.

H₃: Affective commitment is positively correlated and continuance commitment negatively correlated with work effort.

H₄: Affective commitment is positively correlated with job satisfaction.
H₅: Affective commitment is positively correlated with perceived organisational support.

H₆: Affective commitment is positively correlated with training opportunities.

H₇: Affective and continuance commitment are positively correlated with organisational tenure.

The mean for affective commitment (2.97) was lower than the mean for continuance commitment (3.14). The association between affective and continuance commitment (r = .23, p < .001) although significant, was not as strong as the correlation between affective commitment and job satisfaction (r = .54, p < .001), or affective commitment and perceived organisational support (r = .49, p < .001). These results lend further support for the independence of affective and continuance commitment. Additionally, the results confirm that the commitment variables are associated differently with a set of other organisational variables.

Of the four hypothesised determinants of affective commitment (job satisfaction, perceived organisational support, training opportunities, and organisational tenure), only two, job satisfaction (r = .05, p < .005) and organisational tenure (r = .23, p < .001), had significant positive correlations with continuance commitment.

A very important result to emerge from the correlations was that training opportunities did significantly correlate with affective commitment (r = .21, p <
The correlation between training opportunities and continuance commitment was negative ($r = -.10, p < .001$). These results provide some support for the proposition that training opportunities is one of the variables that impacts favourably on affective commitment without having a similar effect on continuance commitment.

Turnover intention was negatively correlated to both affective ($r = -.49, p < .001$) and continuance commitment ($-.26, p < .001$). Absenteeism had a significant negative correlation with affective commitment ($r = -.09, p < .001$), while having no significant relationship with continuance commitment.

The correlation results provide evidence that affective commitment is associated with more favourable outcomes than continuance commitment. This statement is based primarily on the fact that affective commitment did significantly correlate with both absenteeism (negatively) and effort (positively); while continuance commitment was found not to significantly correlate with either of these employee work outcome variables.

The correlation results suggest that the link between the employee work outcome variable of job effort is only slightly stronger with affective commitment ($r = .22, p < .001$) than with job satisfaction ($r = .20, p < .001$). In the case of absenteeism, it had a stronger relationship to job satisfaction ($r = -.14, p < .001$) than to affective commitment ($r = -.09, p < .001$).
The demographic variables showed only weak associations with the commitment dimensions. Education level was negatively correlated to both affective (r = -.02, p > .05) and continuance commitment (-.17, p < .001), although in the case of affective commitment it was not a significant relationship. Age, work experience, and job diversification were all positively correlated with both forms of commitment. An unexpected result was that positional tenure was positively correlated with continuance commitment (r = .14, p < .001) but had no significant relationship with affective commitment. Remuneration was positively correlated with affective commitment (r =.16, p < .001) but had no significant relationship with continuance commitment.

These results meant that H₁, H₂, H₄, H₅, H₆, and H₇ were supported. H₃ (affective commitment is positively correlated and continuance commitment is negatively correlated with work effort) was partially supported because while affective commitment was positively correlated to effort no significant relationship was found between continuance commitment and effort.
Table 4.11
Correlations, Cronbach's alphas, Means, and Standard Deviations for all variables

| Variables                  | Means | s.d      | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|----------------------------|-------|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1. affective commitment    | 2.97  | .83      | .70|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 2. continuance commitment  | 3.14  | .85      | .23| .69|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 3. training opportunities  | 2.54  | .88      | .21| -.10| .66|    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 4. organisational support  | 2.72  | .82      | .49| .01| .41| .88|    |    |    |    |    |    |    |    |    |    |    |    |    |
| 5. job satisfaction        | 3.48  | 1.12     | .54| .05| .30| .63| .79|    |    |    |    |    |    |    |    |    |    |    |    |
| 6. work effort             | 3.88  | .64      | .22| .00| .17| .17| .20| .72|    |    |    |    |    |    |    |    |    |    |    |
| 7. turnover intention      | 2.92  | 1.25     | -.49| -.26| -.15| -.44| -.56| -.09| .79|    |    |    |    |    |    |    |    |    |    |
| 8. absenteeism             | 4.01  | 8.38     | -.09| .02| -.05| -.12| -.14| -.03| .07|    |    |    |    |    |    |    |    |    |    |
| 9. organisational tenure   | 13.10 | 10.39    | .19| .23| -.24| -.11| -.04| -.00| -.07| .03|    |    |    |    |    |    |    |    |    |
| 10. positional tenure      | 5.15  | 5.82     | .03| .14| -.21| -.17| -.13| -.08| -.00| .03| .54|    |    |    |    |    |    |    |    |
| 11. work experience        | 21.64 | 10.03    | .22| .19| -.17| -.00| .02| .04| -.14| .00| .64| .42|    |    |    |    |    |    |    |
| 12. job diversification    | 2.61  | .60      | .06| .08| -.00| -.01| .03| .07| -.01| .00| .36| -.02| .14|    |    |    |    |    |    |
| 13. age                    | 2.97  | 1.01     | .22| .18| -.13| .01| .05| .04| -.15| -.00| .56| .35| .91| .11|    |    |    |    |    |
| 14. education level        | 2.88  | 1.71     | -.02| -.17| .27| .15| .08| .19| .09| -.07| -.26| -.29| -.17| -.05| -.08|    |    |    |
| 15. remuneration level     | 3.93  | 1.94     | -.04| .15| -.20| -.20| .23| -.09| -.08| .11| -.09| .19| .12| .22| .45|    |    |    |
| 16. gender                 | -     | .44      | -.10| -.10| .25| .10| .06| .09| .00| .04| -.39| -.26| -.36| -.11| -.29| .21| -.20|    |
| 17. employment type        | -     | .22      | -.05| -.04| .07| .06| .05| -.02| .00| -.01| -.14| -.09| -.11| -.06| -.05| .11| -.10| .32 |
| 18. union membership       | -     | .48      | -.00| -.20| .30| .24| .12| .16| .02| -.08| -.35| -.32| -.27| -.12| -.21| .35| .14| .34| .14 |

Note. Listwise deletion was undertaken on the multisample which resulted in an N = 1299. Correlations > or = to .05 are significant at the .05 level; r > or = to .07 are significant at the .01 level, and r > or = to .09 are significant at the .001 level (two-tailed test). Coefficient alpha reliability estimates, where appropriate, are in bold. The means for all the variables that are highlighted in italics (the variables used in the measurement model) were scored on five point scales where 1 represents a low and 5 a high score. Absenteeism represents total days taken as sick leave in the 12 months prior to administration of the questionnaire. The means for organisational tenure, positional tenure and work experience represent number of years. Job diversification represents the extent to which respondents have substantially changed their duties since joining their current employer (measured by 3 categories). Age was measured by 5 categories. Education and remuneration were both measured by 6 categories. Gender was categorised 1 = male, 2 = female. Employment type was categorised 1 = full-time, 2 = part-time, and union membership 1 = yes, 2 = no.
In summary, positive relationships were found between affective commitment and the hypothesised determinants of job satisfaction, perceived organisational support, training opportunities, and organisational tenure. As to the hypothesised outcomes of affective commitment, both turnover intention and absenteeism had a negative association with affective commitment, while effort had a positive association.

7. CONCLUSION AND SUMMARY

In section 2 of this chapter the kurtosis of the commitment items were examined. The results of this analysis indicated that the data were not normally distributed.

Section 3 presented the results of the confirmatory factor analyses conducted on the commitment items. The results presented in this section cast doubt on the Allen and Meyer (1990) three dimensional model. Confirmatory factor analysis performed on the Westrail data (sample 1) showed that the correlation between the affective and normative items was so strong that clearly they were capturing the same dimension of commitment. Support was found for a two dimensional model (affective and continuance) of commitment. These two dimensions were best measured by 4 items from each of the original Allen and Meyer affective and continuance commitment scales. The failure to substantiate the existence of a three dimensional commitment construct meant that only the affective and continuance scales were used in further analyses in this study.
Section 4 reported the results from both the exploratory and confirmatory factor analyses that were conducted on the scales used to measure the determinants and outcomes of commitment. The final outcome from these analyses was that job satisfaction was reduced to a two item measure of global satisfaction, and perceived organisational support and turnover intention, were reduced to 6 and 3 items respectively. Reliability scores for the purified measures were acceptable for both the Westrail and SGIO samples.

The overall CFA results on all the variables that were to be used in the causal model were reported in section 5. These results indicated that the measures used in this study were relatively independent of one another.

The means, standard deviations and correlations of the variables were reported in section 6. The correlation outcomes supported the general thrust of this study in which it was hypothesised that affective commitment is associated with more favourable employee work outcomes than is continuance commitment.

In summary, following confirmatory factor analyses, the 24 Allen and Meyer commitment items were reduced to 8 items, representing the dimensions of affective and continuance commitment. The findings from this study indicate that further refinement of the 4 item affective measure would be beneficial. Overall, further construct validity research is needed to more fully establish the factorial validity of the Allen and Meyer commitment instrument.
Chapter 5

A CAUSAL MODEL OF THE DETERMINANTS AND OUTCOMES OF COMMITMENT

1. INTRODUCTION

Chapter 4 described the process of measurement development. The measurement model is submodel 1 of the full structural model. The purpose of this chapter is to develop a causal model of affective and continuance commitment to test specific hypotheses linking these dimensions to variables representing a number of determinants and employee work outcomes of commitment. This causal model represents submodel 2 of the full structural model. The causal model is developed in this chapter using cross-sectional data.

The second section of this chapter presents the proposed causal model, named the Effective Commitment Model (ECM). This model largely draws on past empirical work investigating the determinants and employee behavioural outcomes of organisational commitment. The normative dimension of commitment was not included in the ECM because the results reported in Chapter 4 indicated that the normative dimension could not be distinguished from the affective dimension.

Section 3 presents the five hypotheses specified in the causal model. These hypotheses were developed, whenever possible, in reliance on literature covering
causal associations between the variables of interest rather than simply correlational relationships.

Section 4 provides the results of analyses that were conducted as a preliminary test of the causal model. These analyses included testing for invariance in the model structure by using two independent samples.

In section 5 the two independent samples were combined to conduct analyses to determine how many of the individual hypothesised relationships were supported.

The final section of this chapter provides a summary and conclusion.

2. THE EFFECTIVE COMMITMENT MODEL

This section presents the causal model which encapsulates past empirical work associated with the dimensions of affective and continuance commitment. Meyer and Allen (1997) have called for the wider use of causal modeling in research on organisational commitment. They comment that this will help generate greater confidence in causal inference than can be obtained from simple correlations. Thus, the objective of this chapter is to develop and then test causal relationships through the use of causal modeling. These relationships are further tested in the following chapter using longitudinal data.
For the purpose of this study the proposed causal model has been called the Effective Commitment Model (ECM), a theoretical tool used by this researcher to meet the overall aim of this study. This is to determine the dimensions of commitment that generate favourable employee work behaviours.

Two dimensions of commitment as outlined by Allen and Meyer (1990) were used to conceptualise organisational commitment within the ECM. Hypotheses were then developed to link the determinants and employee behavioural outcomes to the two commitment dimensions. These hypotheses were then specified in the causal model.

The types of outcomes that are generated by committed employees are often what keeps an organisation competitive (Katz & Kahn, 1978; Mowday et al., 1979; Randall, 1990). It is important for organisations seeking to generate commitment in their employees that they are given information which enables the organisations to determine what initiatives generate the desirable dimension of commitment. Many organisations strive to achieve commitment through such initiatives as employee share plans; salary packaging; superannuation above the legal minimum; organisation specific skills training; and rapid promotion. Although these initiatives might successfully tie employees to an organisation, they may not guarantee an increased contribution to organisational effectiveness. In fact, they may result in employees doing little more than performing at the minimum level required to maintain the jobs on which they have become dependent (Meyer et al., 1989).
In this study the original expectation of the researcher was to analyse the relationship between commitment and organisational effectiveness, by using the commitment dimensions developed by Allen and Meyer (1990). These are: (1) commitment as an affective attachment to the organisation; (2) commitment as a felt moral obligation to remain in the organisation, and (3) commitment as a perceived cost associated with leaving the organisation. Allen and Meyer termed these three forms of commitment affective, normative and continuance commitment respectively. In Chapter 4 no evidence was found to support the existence of a three dimensional commitment model. Normative commitment was found to be so highly correlated to affective commitment that the researcher did not consider it appropriate to incorporate this dimension of commitment into the causal model. Consequently, the causal model developed for this study, the ECM, relies on only the affective and continuance dimensions of commitment.

Randall (1990) comments that “the basic model pervading commitment research is one in which OC [organisational commitment] is directly and positively linked to desirable work outcomes” (p. 361). The ECM makes a substantial departure from most organisational commitment models by indicating that at least one dimension of commitment (continuance) does not generally lead to positive employee behavioural outcomes.

Affective commitment is seen to most directly impact upon a firm’s competitive position (Allen & Meyer, 1990; Meyer, et. al., 1989). Meyer et. al., (1989) have
commented that employees who value and want to remain employed with their organisation (affective commitment) should be willing to exert substantial effort. They further note that “those who feel compelled to remain to avoid financial or other costs [continuance commitment] may do little more than the minimum required to retain their employment” (p. 152). Such a scenario emphasises the importance for organisations to develop human resource strategies that foster affective commitment in their employees in preference to continuance commitment.

It should be noted that although normative commitment was not incorporated into the ECM, it has been found to be closely associated with affective commitment (Meyer & Allen, 1991; Meyer & Allen 1997). Therefore, for the purposes of devising and testing the ECM, the determinants and behavioural outcomes associated with affective commitment could be expected to replicate for normative commitment. Stronger relationships can be expected to be found between affective commitment and the behavioural outcomes than between normative commitment and the behavioural outcomes (Meyer & Allen, 1997).

A number of variables are presented in the ECM as determinants of the affective dimension of commitment. These determinants were generated following an extensive review of the literature as summarised in Chapter 2. The determinants comprise the variables of job satisfaction, perceived organisational support and training opportunities.
The ECM presents some of the more significant employee behavioural outcomes linked to organisational commitment. Organisations seeking to maintain or improve their competitive position in the marketplace need to know and be able to measure outcomes that affect their competitive position. The employee behavioral outcomes included in the ECM are turnover intention, work effort, and absenteeism.

It should be noted that the hypothesised ECM is not the first model developed, that links the dimensions of affective and continuance commitment, to both determinants and employee behavioural outcomes. Meyer and Allen (1991) have devised such a model. Their model, however, does not incorporate a number of the key determinants that are accounted for in the ECM. These are perceived organisational support and training opportunities. At best it could be construed that these areas are covered within the 'reciprocity norm' component in the Meyer and Allen model. However, no specific mention of these determinants appears in the explanation of their model. It should be further noted that Meyer and Allen used their model to assist them to present a summary of existing research findings. Their model was not tested with either cross-sectional or longitudinal data.

In summary, the ECM is a model that was largely developed from previous theory and empirical research. The model does not provide a complete summary of existing research, as this was never its purpose. It concentrates primarily on major variables that are within the ambit of management intervention. It provides management with a list of interventions that affect the type and level of an
employee’s commitment. Managed appropriately these interventions can be expected to give rise to desired employee behavioural outcomes. The hypothesised ECM is expected to provide a tool to assist organisations to improve their effectiveness in a global competitive market. For the purposes of this thesis the ECM incorporates five hypotheses.

3. CAUSAL MODEL DEVELOPMENT

Sevastos (1996) recommends that the first step in model development should be “the specification of a structural equation model indicating the causal mechanisms responsible for the effects of the exogenous variable(s) on the endogenous or jointly dependent variables” (p. 119). Taking cognisance of the Sevastos recommendation a model without reciprocal causality (recursive model, Jöreskog and Sörbom, 1993) was formulated as five separate hypotheses. As recommended by Byrne (1994a) the causal relations among the variables in the hypothesised model are grounded in theory and/or empirical research.

In the recursive model the exogenous variables \((x)\) are training opportunities, perceived organisational support, job satisfaction, and organisational tenure. The endogenous variables \((y)\) are affective and continuance commitment, turnover intention, effort, and absenteeism.

Five hypotheses were developed to test the fully recursive model. These hypotheses were based on the variables that were presented in Chapter 2.
Normative commitment was excluded from the hypotheses presented in this chapter as it was not substantially supported in the results presented in Chapter 4. All expected associated variables were linked in the model via hypothesised causal paths. This is an essential requirement in the process of model development.

3.1. Variables leading to affective and continuance commitment

In the proposed model, training opportunities lead to affective commitment. Meyer and Allen (1997) have suggested that training has a causal impact on commitment. Tannenbaum et al. (1991) comment that “from an exchange theory perspective, training may be viewed as an investment in the relationship between a company and a person and can contribute to an employee’s organizational commitment” (p. 760). Using a measure of affective commitment (the OCQ) these researchers reported that commitment increased after training. A study of newcomers (Saks, 1995) found that training opportunities were significantly correlated to affective commitment. Based on the aforementioned studies it would be reasonable to expect that as more opportunities for training are given to employees, higher levels of affective commitment should be generated.

In the model, perceived organisational support leads to increases in affective commitment. This causal path is well supported by the literature (Eisenberger et. al., 1986; Eisenberger et al., 1990; Settoon, Bennett, & Liden, 1996; Shore & Tetrick, 1991; Shore & Wayne, 1993). Shore and Tetrick (1991) have shown that
perceived organisational support was related to affective but not continuance commitment.

The proposed model suggests that job satisfaction is more likely to lead to an increase in affective commitment, rather than the opposite. The causal path between job satisfaction and affective commitment has not been clearly established in empirical studies (Farkas & Tetrick, 1989). A number of researchers, all using the Organizational Commitment Questionnaire (OCQ), have reported job satisfaction as a forerunner of affective commitment (Erwin & Iverson, 1994; Mathieu & Hamel, 1989; Mowday et al., 1982), while others (Bateman & Strasser, 1984; Vandenberg & Lance, 1992) have found that affective commitment causes satisfaction. Consequently the present model specification is contrary to the views of those researchers who have reported affective commitment to be an antecedent of job satisfaction.

The relationship between job satisfaction and continuance commitment is contentious. Meyer et al. (1993) and Jenkins and Thomlinson (1992) found that job satisfaction correlated negatively with continuance commitment. Cramer (1996) found no causal relationship between these two variables in his longitudinal study of professional employees. Based on the research by Cramer, no causal path from job satisfaction to continuance commitment was incorporated into the ECM.
Paths were hypothesised from organisational tenure to both affective and continuance commitment. The link between organisational commitment and organisational tenure has not been fully determined. In a sample of public agency employees Morrow and McElroy (1987) found no relationship between affective commitment and tenure. Hackett et al. (1994) found that in the case of nurses, both dimensions of commitment were positively related to tenure. An explanation for the inconsistent findings in the relationship between affective commitment and tenure has been provided by Meyer and Allen (1997) who have suggested that in the studies that have found a link between tenure and affective commitment, the link may be because of employee age. This suggestion was consistent with their previous research (Allen & Meyer, 1993) where they reported that when employee age was partialed out of the relation between tenure and affective commitment, correlations were reduced considerably.

No causal relationship was hypothesised between affective and continuance commitment. Previous research has failed to establish the specific causal relationship between these dimensions of commitment. Using cross-sectional data, Meyer et al. (1990) reported that affective commitment had a positive effect on continuance commitment when the latter was measured by the lack of alternatives sub-scale. However, when they conducted analyses on longitudinal data, only a weak, negative, time-lagged effect of continuance commitment (lack of alternatives) on affective commitment was found.

The foregoing lead to the following hypotheses:
H₈: Affective commitment is proportionally affected by organisational tenure, job satisfaction, perceived organisational support and training opportunities.

H₉: Continuance commitment is proportionally affected by organisational tenure.

3.2. Variables that lead to changes in absenteeism

The relationship between the two commitment dimensions and absenteeism has yet to be fully developed (Gellatly, 1995). Support exists in the literature for a negative path from affective commitment to absenteeism (Erwin & Iverson, 1994; Gellatly, 1995; Mathieu & Kohler, 1990; Mayer & Schoorman, 1992; Somers, 1995). Generally, relationships between continuance commitment and absenteeism have not been found to be significant (Gellatly, 1995; Mayer & Schoorman, 1992; Somers, 1995). Thus, no path was predicted from continuance commitment to absenteeism in the ECM.

To investigate if it was appropriate not to have hypothesised a causal link between continuance commitment and absenteeism, a more general model, ECM 2, was developed in which this link was made. In this context the ECM could be classified as a nested model of the ECM 2. A nested model investigates the same constructs as a general model but differs in terms of the number or types of causal
relationships represented (Hair, et al., 1995). ECM 2 contains all the paths that were hypothesised in the ECM, as well as the additional path from continuance commitment to absenteeism.

The relationship between affective commitment and absenteeism is tested in hypothesis 10, namely:

\[ H_{10}: \text{Absenteeism is proportionally affected by affective commitment.} \]

3.3. Variables that lead to changes in job effort

In the ECM affective commitment leads to increases in effort, while continuance commitment leads to decreases in effort. Meyer and Allen (1991) have suggested that affective commitment is likely to lead to increased effort. Bycio, Hackett, and Allen (1995) and Leong et al. (1994), have found positive correlations between affective commitment and self-reported measures of work effort. There is a lack of research conducted in the area of continuance commitment and effort. Bycio et al. (1995) found a negative correlation between these two variables. No research has been conducted to determine if continuance commitment leads to an increase in work effort, rather than effort leading to an increase in continuance commitment. A negative causal path from continuance commitment to effort was inserted in the model based on the research by Bycio et al. (1995) who supported the suggestion by Meyer and Allen (1991) that only affective and normative commitment were expected to lead to effort.
Hypothesis 11 is derived from the foregoing:

\[ H_{11}: \text{Effort is proportionally affected by continuance and affective commitment.} \]

3.4. Variables that lead to changes in turnover intention

Extensive literature exists to support the path (negative) from commitment (both affective and continuance) to turnover intention (Jaros, et.al., 1993; Jenkins & Thomlinson, 1992; Mayer & Schoorman, 1992; Meyer et al., 1993; Meyer et al., 1991; Pierce & Dunham, 1987; Russ & McNeilly, 1995; Shore & Martin, 1987; Shore, Newton, & Thornton, 1990).

A negative path from job satisfaction to turnover intention has been supported in the literature (Jenkins & Thomlinson, 1992; Mobley et al., 1978; Tett & Meyer, 1993).

Hypothesis 12 is based on the above observation:

\[ H_{12}: \text{Turnover intention is proportionally affected by job satisfaction, continuance and affective commitment.} \]
By way of summary, the five hypotheses and linear structural equations that were developed to test the ECM were:

**H₈**: Affective commitment ($y_1$) is proportionally affected by organisational tenure ($x_4$), job satisfaction ($x_3$), perceived organisational support ($x_2$) and training opportunities ($x_1$).

$$y_1 = \gamma_1 x_4 + \gamma_1 x_3 + \gamma_1 x_2 + \gamma_1 x_1 + \zeta_1$$

**H₉**: Continuance commitment ($y_2$) is proportionally affected by organisational tenure ($x_4$).

$$y_2 = \gamma_2 x_4 + \zeta_2$$

**H₁₀**: Absenteeism ($y_3$) is proportionally affected by affective commitment ($y_1$).

$$y_3 = \beta_3 y_1 + \zeta_3$$

**H₁₁**: Effort ($y_4$) is proportionally affected by continuance ($y_2$) and affective commitment ($y_1$).

$$y_4 = \beta_4 y_2 + \beta_4 y_1 + \zeta_4$$

**H₁₂**: Turnover intention ($y_5$) is proportionally affected by job satisfaction ($x_3$), continuance ($y_2$) and affective commitment ($y_1$).

$$y_5 = \beta_5 y_2 + \beta_5 y_1 + \gamma_5 x_3 + \zeta_5$$
In the linear structural equations the effects matrix containing the parameters is denoted $\beta$ (beta), and contains the effects of the endogenous variables ($y$) on each other. For the matrix containing the effects of the exogenous variables ($x$) on the endogenous variables ($y$) the parameters are denoted $\gamma$ (gamma). In the equations $\zeta$ (zeta) represents the disturbance (residual) terms, being the variance in the endogenous variables unaccounted for by the model.

4. PRELIMINARY TEST OF THE MODEL

Structural models may be presented graphically and in matrix equation form. A path diagrammatic representation of the model is presented in Figure 5.1. Positive (+) and negative (-) signs have been used in Figure 5.1 to indicate the hypothesised causal relationships between the variables. Where high levels of a variable are hypothesised to lead to high levels of an associated variable, a positive sign appears. Where high levels of a variable are hypothesised to lead to low levels of an associated variable, a negative sign appears.

The factors are viewed as latent (unobserved) variables. The direct and indirect relationships among the latent variables are specified in the structural model which is used to describe the degree of explained and unexplained variance. Since there were five dependent variables, there had to be five structural equations. Each structural equation contained an equation prediction error or disturbance term to indicate the portion of the latent dependent variable that was not explained by the latent independent variables in the equation (Schumacker & Lomax, 1996).
Figure 5.1 The Effective Commitment Model
The researcher made the decision to use scale scores as indicators of the latent variables rather than individual items. Sevastos (1996) states that such a strategy “is based on the assumption that the observed variables are perfectly correlated with the latent variables that they measure - a not altogether true representation” (p. 128). As the analyses in this chapter were based on cross-sectional data, which are not suitable for drawing inferences on causation, they were exploratory in nature. Consequently, it was appropriate that these analyses were undertaken without the need to take the biasing effects of measurement error into account. A more comprehensive test of the model is undertaken in the next chapter where measurement error is taken into consideration.

To test the models formulated in earlier sections of this chapter, the SGIO (sample 2, \( N = 260 \)) was used as the calibration sample. The combined Swan (sample 3, \( N = 102 \)) and WesBoard (sample 4, \( N = 116 \)) samples were used as the validation sample (Swan-WesBoard \( N = 218 \)), for cross-validation purposes. The selection of these samples meant that two diverse industries were represented (insurance and manufacturing). The Swan-WesBoard sample was used in preference to the Westrail sample because part of the latter sample was to be used in the longitudinal test of the model. The Health sample was not used because it was a public sector organisation and at this stage the researcher wanted to test the model using private sector employees. The model if found robust would then be tested on public sector employees via the Westrail sample.
To examine the univariate normality of all variables, skewness and kurtosis statistical tests were conducted. No major violations of univariate normality were detected (skewness values ranged from .938 to -.769 at SGIO and from .545 to -.797 for Swan-WesBoard; and kurtosis values ranged from .740 to -.938 at SGIO and from -.114 to -.738 for Swan-WesBoard).

Multivariate nonnormality can be detected by an examination of Mardia’s coefficient (1970, 1974) and the normalised estimate, a variant of Mardia’s coefficient. Bentler (1995) suggests that large values for the normalised estimate indicate significant kurtosis. Although there is no absolute standard for determining when a sample can be considered non-normal (Byrne, 1994b), the small values obtained from both the calibration and validation samples for the normalised estimate (1.015 at SGIO and 2.473 at Swan-WesBoard) and Mardia’s coefficient (1.773 at SGIO and 4.715 at Swan-WesBoard) indicated no major violation of multivariate normality (Byrne, 1994a). The matrix that was analysed is presented in Table 5.1.

Using maximum-likelihood estimates, the models provided information about the relative importance of the structure coefficients. Both the strength (i.e. weak or strong) and direction (i.e. positive or negative) of the relationships among the latent variables are provided by the structure coefficients.

When evaluating models, most investigators encourage reporting multiple indexes of overall fit (Bollen & Long, 1993; Marsh, Balla, & McDonald, 1988; Tanaka,
A number of fit measures have been used in this chapter to report the causal model fit. These are the chi-square ($\chi^2$), NFI, NNFI, CFI, GFI, AGFI, SRMR, and RMSEA.

<table>
<thead>
<tr>
<th>Table 5.1</th>
<th>Covariance matrix used to test the causal model at SGIO and Swan-WesBoard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>1</td>
</tr>
<tr>
<td>SGIO</td>
<td></td>
</tr>
<tr>
<td>training opportunities</td>
<td>.615</td>
</tr>
<tr>
<td>organisational support</td>
<td>.212</td>
</tr>
<tr>
<td>job satisfaction</td>
<td>.225</td>
</tr>
<tr>
<td>organisational tenure</td>
<td>-.013</td>
</tr>
<tr>
<td>affective commitment</td>
<td>.114</td>
</tr>
<tr>
<td>continuance commitment</td>
<td>-.006</td>
</tr>
<tr>
<td>absenteeism</td>
<td>-.026</td>
</tr>
<tr>
<td>effort</td>
<td>.002</td>
</tr>
<tr>
<td>turnover intention</td>
<td>-.211</td>
</tr>
<tr>
<td>Swan-WesBoard</td>
<td></td>
</tr>
<tr>
<td>training opportunities</td>
<td>.766</td>
</tr>
<tr>
<td>organisational support</td>
<td>.319</td>
</tr>
<tr>
<td>job satisfaction</td>
<td>.252</td>
</tr>
<tr>
<td>organisational tenure</td>
<td>-.068</td>
</tr>
<tr>
<td>affective commitment</td>
<td>.256</td>
</tr>
<tr>
<td>continuance commitment</td>
<td>-.008</td>
</tr>
<tr>
<td>absenteeism</td>
<td>-.055</td>
</tr>
<tr>
<td>effort</td>
<td>.135</td>
</tr>
<tr>
<td>turnover intention</td>
<td>-.247</td>
</tr>
</tbody>
</table>
The results obtained from the test of the ECM are presented in Table 5.2. It was possible to conclude that with a CFI of .953 at SGIO there was a good degree of fit in the ECM. When the analysis was replicated by using the Swan-WesBoard sample an improvement in the model fit was obtained (CFI .979). The RMSEA values in both samples (SGIO .068 and Swan-WesBoard .050) were associated with confidence intervals which straddled .05 (SGIO .040 to .096 and Swan-WesBoard .000 to .084). Although Steiger (1989) has recommended that RMSEA values of less than .05 be considered indicative of a close fit, MacCallum et al. (1996) recommend a close fit model only if the entire confidence interval is below .05. Thus, based on the recommendations of MacCallum, Browne, and Sugawara, the confidence intervals associated with the RMSEA in both samples indicated that the model did not have a close fit to the data. The model was however, still acceptable because it had met all the acceptable benchmark levels for the NFI, NNFI, CFI, GFI, and AGFI.

The results from ECM 2 are shown in Table 5.2. Freeing the parameter from continuance commitment to absenteeism resulted in the degrees of freedom decreasing from 19 to 18. In both the calibration and validation samples the chi-square decrease that resulted from the reduction in the degrees of freedom was less than .1, which is far less than that which is required to reach the .05 chi-square critical value (3.841). There was therefore, no support for the addition of a causal path from continuance commitment to absenteeism.
Table 5.2
Fit indices for the causal model at SGIO and Swan-WesBoard

<table>
<thead>
<tr>
<th>Fit Indices</th>
<th>ECM</th>
<th>ECM 2</th>
<th>ECM</th>
<th>ECM 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>41.789</td>
<td>41.751</td>
<td>29.158</td>
<td>29.155</td>
</tr>
<tr>
<td>df</td>
<td>19</td>
<td>18</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>p</td>
<td>.001</td>
<td>.001</td>
<td>.063</td>
<td>.046</td>
</tr>
<tr>
<td>NFI</td>
<td>0.920</td>
<td>0.920</td>
<td>0.945</td>
<td>0.945</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.911</td>
<td>0.902</td>
<td>0.961</td>
<td>0.954</td>
</tr>
<tr>
<td>CFI</td>
<td>0.953</td>
<td>0.951</td>
<td>0.979</td>
<td>0.977</td>
</tr>
<tr>
<td>GFI</td>
<td>0.966</td>
<td>0.966</td>
<td>0.972</td>
<td>0.972</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.920</td>
<td>0.915</td>
<td>0.935</td>
<td>0.931</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.055</td>
<td>0.054</td>
<td>0.052</td>
<td>0.052</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.068</td>
<td>0.071</td>
<td>0.050</td>
<td>0.053</td>
</tr>
<tr>
<td>(90% confidence interval)</td>
<td>(0.040; 0.096)</td>
<td>(0.043; 0.101)</td>
<td>(0.000; 0.084)</td>
<td>(0.006; 0.088)</td>
</tr>
</tbody>
</table>

Note. The ECM constrains the path from continuance commitment to absenteeism. The ECM 2 frees the path from continuance commitment to absenteeism.

The next step in the model testing process was to conduct cross-validation analyses using the multigroup feature of structural equation modeling. Multigroup analyses enable the testing of a model with more than one sample simultaneously. The aim of the cross-validation process was to test the causal model to determine if the parameter estimates were invariant across both the SGIO and Swan-WesBoard samples.

Hypotheses of invariance across samples can take a number of forms, which vary in their degree of restrictiveness (Bollen 1989b). Table 5.3 shows the results of the analyses involving increasingly restrictive models. The least restrictive hypothesis
tested ($H_{\text{form}}$) was that the model providing the best fit would be the same for both samples. A poor fit means that it makes little sense to move to more restrictive hypotheses. If, however, the fit is satisfactory, a move to more restrictive hypotheses is appropriate.

The $H_{\text{form}}$ hypothesis was upheld $\chi^2(38, N = 478) = 70.947$, CFI = .966. It was possible to conclude that with a CFI of .966 there was a good degree of fit in the baseline model.

Three more restrictive hypotheses were subsequently tested: (a) that the beta and gamma paths would be invariant ($H_{13}$); (b) that in addition to (a) the psi matrix would also be invariant ($H_{14}$); and (c) that in addition to (b) the phi matrix would also be invariant ($H_{15}$). In all of these tests, all the fit indices except the SRMR were acceptable and the increases in $\chi^2$ were not statistically significant (at the .05 level). The assumption, therefore, that the same model could be applied in both samples was upheld.

<table>
<thead>
<tr>
<th>Table 5.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing for invariance in the model structure at SGIO and Swan-WesBoard</td>
</tr>
<tr>
<td>Hypothesis</td>
</tr>
<tr>
<td>$H_{\text{form}}$</td>
</tr>
<tr>
<td>$H_{13 \Gamma}$</td>
</tr>
<tr>
<td>$H_{14 \Gamma \Psi}$</td>
</tr>
<tr>
<td>$H_{15 \Gamma \Psi \Phi}$</td>
</tr>
</tbody>
</table>

Note. The baseline model ($H_{\text{form}}$) has the same model specification in both samples. Invariance restrictions are imposed in the subsequent models. n.s. = not significant. * p < .05.
In Chapter 4 it was shown that the measurement model operated adequately. Consequently, one was able to have confidence in the findings that related to the assessment of the hypothesised causal model (Byrne, 1994a).

5. RESULTS OF THE HYPOTHESISED CAUSAL RELATIONSHIPS

To establish which of the hypothesised relationships were significant the SGIO, Swan and WesBoard samples were combined \((N = 478)\). It was appropriate to combine the samples because of their equivalence. The path estimates from this combined sample are presented in Table 5.4 and conform to the reporting style recommended by Hoyle and Panter (1995). The t-value column indicates if the relationship is significant. In structural equation modeling a confidence level of 1.96 corresponds to a .05 level of significance (Schumacker & Lomax, 1996). All relationships except the one between training opportunities and affective commitment were significant.

Hypotheses \(H_9\), \(H_{10}\), \(H_{11}\), and \(H_{12}\) were supported. Hypothesis \(H_8\) was only partially supported. While affective commitment was proportionally affected by job satisfaction, perceived organisational support and continuance commitment, this commitment was not significantly affected by training opportunities (t-value 1.617).
Table 5.4 also incorporates the additional path (CC → absenteeism) that was investigated in the ECM 2. This path was found not to be significant (t-value - 0.512).

<table>
<thead>
<tr>
<th>Hypothesised Structural model paths</th>
<th>Postulated Path</th>
<th>Estimate</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>training opportunities (x) → AC (y)</td>
<td>+</td>
<td>0.061</td>
<td>1.617</td>
</tr>
<tr>
<td>perceived organisational support (x) → AC (y)</td>
<td>+</td>
<td>0.313</td>
<td>6.245*</td>
</tr>
<tr>
<td>job satisfaction (x) → AC (y)</td>
<td>+</td>
<td>0.249</td>
<td>7.336*</td>
</tr>
<tr>
<td>organisational tenure (x) → AC (y)</td>
<td>+</td>
<td>0.141</td>
<td>5.282*</td>
</tr>
<tr>
<td>job satisfaction (x) → turnover intention (y)</td>
<td>-</td>
<td>-0.645</td>
<td>-14.118*</td>
</tr>
<tr>
<td>organisational tenure (x) → CC (y)</td>
<td>+</td>
<td>0.121</td>
<td>3.563*</td>
</tr>
<tr>
<td>AC (y) → job effort (y)</td>
<td>+</td>
<td>0.204</td>
<td>6.201*</td>
</tr>
<tr>
<td>AC (y) → absenteeism (y)</td>
<td>-</td>
<td>-0.184</td>
<td>-4.976*</td>
</tr>
<tr>
<td>AC (y) → turnover intention (y)</td>
<td>-</td>
<td>-0.262</td>
<td>-4.408*</td>
</tr>
<tr>
<td>CC (y) → job effort (y)</td>
<td>-</td>
<td>-0.080</td>
<td>-2.465*</td>
</tr>
<tr>
<td>CC (y) → turnover intention (y)</td>
<td>-</td>
<td>-0.297</td>
<td>-6.016*</td>
</tr>
</tbody>
</table>

**Additional path incorporated in ECM 2**

<table>
<thead>
<tr>
<th>Hypothesised Structural model paths</th>
<th>Postulated Path</th>
<th>Estimate</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC (y) → absenteeism (y)</td>
<td></td>
<td>-0.019</td>
<td>-0.512</td>
</tr>
</tbody>
</table>

*Note. Estimates are standardised. The t-values for the coefficients (e.g., whether the estimates are significantly different from zero) are represented by * p < .05 (if t > 1.96). AC = affective commitment; CC = continuance commitment. The x and y after the variable description denotes exogenous (x) and endogenous variables (y).*
6. CONCLUSION AND SUMMARY

The second section of this chapter explained why there was a need to develop a model which separated the determinants and outcomes of affective and continuance commitment. The inclusion of employee behavioural outcome variables such as absenteeism, effort and turnover intention in the ECM meant that some of the more significant variables linked to organisational effectiveness were included in this study.

In section 3 five hypotheses relating to affective and continuance commitment were developed based on a literature review which concentrated on determining relevant causal paths. These hypotheses were then amalgamated to form the ECM. The central theme built into the ECM was that the work outcomes associated with affective commitment are more favourable than those resulting from continuance commitment.

Section 4 results showed that acceptable fit measures were achieved for the ECM. Invariance analyses indicated that the model could be applied across different samples. It was therefore not necessary to make post hoc modifications to the original model.

The path estimates were presented in section 5. These indicated that all hypothesised relationships in the ECM were supported except the one between training opportunities and affective commitment. The additional path from
continuance commitment to absenteeism, which was included in the ECM 2, was found not to be significant.

The analyses described in this chapter cannot be taken as evidence of demonstrating causation. The analyses have, however, provided the researcher with certain inferences about causality. Causation can only be proven with longitudinal data that enables a model to be tested over time and manipulations to be made on certain variables to assess the change on other variables (Schumacker & Lomax 1996). In the next chapter the model will be tested using longitudinal data.
1. INTRODUCTION

In Chapter 5 the ECM was developed and preliminary tests using cross-sectional data were conducted. These tests suggested that affective commitment had positive influences on effort, absenteeism, and turnover intention. Additionally, it was found that effort and turnover intention were significantly influenced by continuance commitment. This chapter tests the Longitudinal ECM, a longitudinal version of the ECM. The objective of this chapter is to test whether the findings reported in Chapter 5 can be replicated using longitudinal data. By using longitudinal data causal relationships can be determined with a greater amount of certainty.

Section 2 provides details of the longitudinal sample. The variables that were used in the structural model were found not to have changed to any significant degree between the administration of the two surveys.

Section 3 describes the parameters that were set free for estimation in the Longitudinal ECM. Variables at Time 1 are exogenous and at Time 2 endogenous within the Longitudinal ECM.
The results from the test of the Longitudinal ECM are reported in Section 4. Although model acceptance or rejection was based on an assessment of numerous fit indices, due to the small sample, the RMSEA and CFI were considered to be the best indicators of model fit. Modification indices were used to determine if improvements could be made to the model.

The final section of this chapter provides a summary and conclusion.

2. THE LONGITUDINAL SAMPLE

The Westrail longitudinal sample \((N = 129)\) presented in Chapter 3, was used throughout this chapter to conduct the various analyses. This sample was therefore independent of the two samples used in Chapter 5 in the preliminary test of the model.

Using Time 2 data, analyses were conducted to determine the mean and standard deviation for a number of demographic variables. The mean number of years that respondents had worked since the age of 16 was 26.05 (\(SD 9.45\)). The mean organisational tenure period was 20.05 years (\(SD = 10.50\)), and it ranged from 2 to 46 years. The mean for positional tenure was 6.81 years (\(SD 6.29\)). The respondents comprised 126 males (97.7%) and 3 females (2.3%). This gender distribution closely matched the gender ratio in the population of workers in the organisation.
To examine the univariate normality of all variables, skewness and kurtosis statistical tests were conducted. No substantial skewness was detected (skewness values ranged from .232 to -.722). Kurtosis values ranged from 1.180 to -1.149 and therefore were considered satisfactory (Byrne, 1994a).

The procedure used in this chapter where item parcels were used to produce composite variables, increases the chances of achieving multivariate normality (West, Finch & Curran, 1995). Multivariate nonnormality can be detected by an examination of Mardia’s coefficient (1970, 1974) and the normalised estimate, a variant of Mardia’s coefficient. Bentler (1995) suggests that large values for the normalised estimate indicate significant kurtosis. Although there is no absolute standard for determining when a sample can be considered non-normal, (Byrne, 1994b) the values obtained from the Westrail longitudinal sample for the normalised estimate (3.48) and Mardia’s coefficient (14.743) indicated no major violation of multivariate normality (Byrne, 1994a).

The correlation matrix, means, and standard deviations for the variables used to test the model are shown in Table 6.1. A comparison over both administrations of the questionnaire indicated no significant change in the means of the variables. The direction (positive and negative) of all significant correlations were consistent for all variables at both Time 1 and 2. The correlation matrix was used for the purpose of generating the covariance matrix used for the structural model. The covariance matrix must be used when comparing structural parameters across time for the same population (Hughes, Price, & Marrs, 1986).
### Table 6.1

**Correlations, Means, and Standard Deviations at Time 1 and 2 for the variables used to test the causal model**

| Variables               | Mean | s.d  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. affective commitment | 3.19 | .78  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2. continuance commitment | 3.36 | .83  | .28  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3. organisational support | 2.58 | .79  | .45  | -.06 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4. job satisfaction   | 3.43 | 1.10 | .54  | .06  | .64  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 5. organisational tenure | 3.80 | 1.24 | .30  | .14  | .14  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 6. work effort       | 3.80 | .61  | .25  | -.11 | .27  | .30  | .06  |      |      |      |      |      |      |      |      |      |      |      |      |
| 7. turnover intention | 2.75 | 1.24 | -.45 | -.19 | -.44 | -.51 | -.19 | -.14 |      |      |      |      |      |      |      |      |      |      |      |
| 8. absenteeism       | 1.82 | .67  | -.28 | -.28 | -.41 | -.10 | -.12 | .23  |      |      |      |      |      |      |      |      |      |      |      |
| 9. affective commitment | 3.01 | .84  | .69  | .12  | .51  | .49  | .20  | .27  | -.40 | -.18 |      |      |      |      |      |      |      |      |      |
| 10. continuance commitment | 3.35 | .88  | .16  | .50  | -.08 | -.03 | .17  | -.07 | -.08 | .12  | .27  |      |      |      |      |      |      |      |      |
| 11. organisational support | 2.55 | .84  | .37  | -.15 | .75  | .48  | .08  | .28  | -.36 | -.20 | .59  | .00  |      |      |      |      |      |      |      |
| 12. job satisfaction | 3.44 | 1.11 | .42  | -.05 | .52  | .55  | .02  | .36  | -.33 | -.28 | .64  | .17  | .67  |      |      |      |      |      |      |
| 13. organisational tenure | 3.93 | 1.20 | .33  | .29  | .17  | .17  | .95  | .04  | -.23 | -.14 | .22  | .16  | .08  | .01  |      |      |      |      |      |
| 14. work effort      | 3.69 | .66  | .29  | -.14 | .19  | .25  | .10  | .63  | -.09 | -.24 | .27  | .05  | .27  | .39  | .10  |      |      |      |      |
| 15. turnover intention | 2.90 | 1.23 | -.35 | -.11 | -.47 | -.43 | -.16 | -.15 | .60  | -.16 | -.55 | -.33 | -.54 | -.59 | -.19 | -.22 |      |      |      |
| 16. absenteeism      | 1.89 | .67  | -.25 | .11  | -.23 | -.22 | -.13 | -.32 | .12  | .41  | -.19 | .01  | -.24 | -.24 | -.10 | -.27 | .14  |      |      |

**Note.** Variables 1-8 are associated with Time 1 data; variables 9-16 are associated with Time 2 data. Correlations > or = to .17 are significant at the .05 level; r > or = to .23 are significant at the .01 level, and r > or = to .27 are significant at the .001 level (two-tailed test). The means for all the variables except organisational tenure and absenteeism were scored on five point scales where 1 represents a low and 5 a high score. Organisational tenure was recoded on a five point scale where point 1 = 0-2 years of tenure, 2 = 3-8 years, 3 = 9-14 years, 4 = 15-21 years and 5 = more than 21 years. Absenteeism was recoded into a three point scale, where point 1 = 0 days of sick leave, 2 = 1-5 days inclusive, and 3 = 6 or more days.
3. LONGITUDINAL MODEL SPECIFICATION

This section presents the Longitudinal ECM. This model replicated all the paths except one that were hypothesised in the ECM presented in Chapter 5. The path that was not included was the one from training opportunities to affective commitment. This path was excluded because it was found to be redundant in the test of the ECM conducted in Chapter 5. The elimination of insignificant coefficients is recommended when the identification of a more complex model becomes possible through the elimination of the insignificant coefficient (Hayduk, 1996). In the context of this study the longitudinal model is more complex than the cross-sectional model. All Time 1 variables were hypothesised to impact upon their equivalent Time 2 variables (e.g. Time 1 affective commitment was hypothesised to impact upon Time 2 affective commitment).

3.1. Fixed and Freed Parameters

The parameters that were set free for estimation in the Longitudinal ECM are shown in Table 6.2. Also included in Table 6.2 are the parameters that were set free for the Longitudinal ECM 2 and Longitudinal ECM 3, revised versions of the Longitudinal ECM. These revised longitudinal models were based on additional theory consideration and the modification indices. Further information on these revised models is presented in section 4 of this chapter. A path diagrammatic representation of the Longitudinal ECM is presented in Figure 6.1.
<table>
<thead>
<tr>
<th>Model</th>
<th>Free Parameters</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longitudinal ECM</td>
<td>$\gamma_{1,1} ; \gamma_{4,1} ; \gamma_{2,2} ; \gamma_{4,2} ; \gamma_{8,2} ; \gamma_{3,3} ; \gamma_{4,3} ; \gamma_{5,3} ; \gamma_{4,4} ; \gamma_{6,4} ; \gamma_{7,4} ; \gamma_{8,4} ; \gamma_{5,5} ; \gamma_{7,5} ; \gamma_{8,5} ; \gamma_{6,6} ; \gamma_{7,7} ; \gamma_{8,8} ; \beta_{4,1} ; \beta_{4,2} ; \beta_{8,2} ; \beta_{4,3} ; \beta_{5,3} ; \beta_{6,4} ; \beta_{7,4} ; \beta_{8,4} ; \beta_{7,5} ; \beta_{8,5}$</td>
<td>Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ AC($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Support($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$); Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$); Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$); Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$);</td>
</tr>
<tr>
<td>Longitudinal ECM 2</td>
<td>$\gamma_{1,1} ; \gamma_{4,1} ; \gamma_{2,1} ; \gamma_{4,2} ; \gamma_{8,2} ; \gamma_{3,3} ; \gamma_{4,3} ; \gamma_{5,3} ; \gamma_{4,4} ; \gamma_{6,4} ; \gamma_{7,4} ; \gamma_{8,4} ; \gamma_{5,5} ; \gamma_{7,5} ; \gamma_{8,5} ; \gamma_{6,6} ; \gamma_{7,7} ; \gamma_{8,8} ; \beta_{4,1} ; \beta_{2,1} ; \beta_{4,2} ; \beta_{8,2} ; \beta_{4,3} ; \beta_{5,3} ; \beta_{6,4} ; \beta_{7,4} ; \beta_{8,4} ; \beta_{7,5} ; \beta_{8,5}$</td>
<td>Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$); Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$); Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$);</td>
</tr>
<tr>
<td>Longitudinal ECM 3</td>
<td>$\gamma_{1,1} ; \gamma_{2,1} ; \gamma_{2,2} ; \gamma_{3,2} ; \gamma_{5,2} ; \gamma_{3,3} ; \gamma_{4,3} ; \gamma_{4,4} ; \gamma_{5,5} ; \beta_{2,1} ; \beta_{3,2} ; \beta_{5,2} ; \beta_{4,3}$</td>
<td>Support($x$) $\rightarrow$ Support($y$), Support($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ Effort($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$), Jobsat($x$) $\rightarrow$ Jobsat($y$), Jobsat($x$) $\rightarrow$ AC($y$), Jobsat($x$) $\rightarrow$ Turnint($y$), Tenure($x$) $\rightarrow$ Tenure($y$), Tenure($x$) $\rightarrow$ CC($y$), AC($x$) $\rightarrow$ AC($y$), AC($x$) $\rightarrow$ Absent($y$), AC($x$) $\rightarrow$ Effort($y$), AC($x$) $\rightarrow$ Turnint($y$), CC($x$) $\rightarrow$ CC($y$), CC($x$) $\rightarrow$ Effort($y$), CC($x$) $\rightarrow$ Turnint($y$), Absent($x$) $\rightarrow$ Absent($y$), Effort($x$) $\rightarrow$ Effort($y$), Turnint($x$) $\rightarrow$ Turnint($y$);</td>
</tr>
</tbody>
</table>

*Note.* Support = perceived organisational support, Jobsat = job satisfaction, Tenure = organisational tenure, AC = affective commitment, CC = continuance commitment, Effort = job effort, Absent = absenteeism, Turnint = turnover intention. The $x$ and $y$ after the variable description denotes exogenous variables ($x$) and endogenous variables ($y$). The $x$ and $y$ variables were constructed from Time 1 and 2 data respectively. Bold lettering describes the paths that were fixed in the Longitudinal ECM but freed in the Longitudinal ECM 2. The gammas and betas in Longitudinal ECM 3 do not match the gammas and betas in the other 2 models.
Figure 6.1 LISREL structural equation specification for the Longitudinal ECM (Stage 1)
Figure 6.1 (Continued) LISREL structural equation specification for the Longitudinal ECM (Stage 2 - all the beta paths plus the gamma paths not shown in Stage 1)
In the Longitudinal ECM all Time 1 variables were exogenous (x variables) and time 2 variables were endogenous (y variables).

Figure 6.1 has been drawn pursuant to the standard conventions used in structural equation modeling (Hoyle, 1995). Squares or rectangles are used to represent observed variables and circles or ellipses to represent latent variables. Directional effects between variables are specified using single-headed arrows. Each of the arrows (paths) represent a parameter of the model.

The symbols used in Figure 6.1 to represent the measurement and structural parameters are consistent with the LISREL notation (Jöreskog & Sörbom, 1996). The exogenous and endogenous constructs are represented as latent variables \( \xi \) (ksi) and \( \eta \) (eta). Factor loadings are represented by \( \lambda \) (lambda), measurement errors by \( \delta \) (delta) and \( \varepsilon \) (epsilon), path coefficients by \( \gamma \) (gamma) and \( \beta \), (beta) and residuals by \( \zeta \) (zeta). As the full x-y LISREL model was used to evaluate causal relationships, neither correlated errors of measurement, nor correlations among the constructs across time were possible (Sevastos, 1996).

3.2. A Two-Step Estimation Procedure

In this chapter a two-stage process of structural equation modeling was undertaken in which the measurement model was first estimated. In the second stage, the measurement model was fixed when the structural model was estimated. (Anderson & Gerbing, 1988).
The exploratory path analysis described in Chapter 5 did not take into consideration the biasing effects of measurement error. The analysis in this chapter was more rigorous because it took into account measurement error, thus providing a more accurate estimate of the causal relationships. Although multiple indicators were available for each of the variables except organisational tenure and absenteeism these were not used. Instead, for the variables that had multiple indicators, the construct was defined by a single indicator based on its reliability (Kenny, 1979). This is a procedure that Hair et al. (1995) recommend when previous reliabilities have been established using another sample. Therefore, for six variables, the loadings $\lambda$ and measurement errors $\delta$ and $\epsilon$ were calculated using the Cronbach's reliabilities of the constructs obtained from the largest Westrail sample ($N = 657$). Hair et al. comment that by fixing the reliability, it is possible to "maintain control over the meaning of the construct" (p. 635) because it restricts an indicator to an "amount of variance appropriate for the particular construct and maintains a specific meaning for the construct" (p. 635).

The reliability of each indicator was fixed by specifying the value of the loading ($\lambda$) as the square root of the estimated reliability. The amount of the random error variance ($\delta$ and $\epsilon$) was calculated by subtracting the Cronbach's reliability from 1 and then multiplying the figure obtained by the variance of the measured variable. Because the same constructs were considered at both Time 1 and 2, loadings and error variances were fixed at the same values for corresponding indicators (i.e., $LX1$ and $LY1$ loadings were the same, as were the $\delta_1$ and $\epsilon_1$ variances). Because it
was not possible to obtain reliabilities for the one item measures of organisational tenure and absenteeism the loadings and error variances were fixed at .9999 and .1111 respectively.

4. RESULTS

The results from the test of the Longitudinal ECM are reported in Table 6.3. Although the CFI (.945) and NFI (.900) indicated a good fitting model, all the other indices failed to reach acceptable benchmark levels. It was therefore appropriate to consider if modifications could be made to the model to improve it.

Model modification involves adjusting a specified model by either freeing parameters that were formerly fixed or fixing parameters that were formerly free. This process has been popularized by Jöreskog & Sörbom (1984). It is one of the more controversial aspects of structural equation modeling (Hoyle, 1995; MacCallum, 1995; MacCallum, Roznowski, & Necowitz, 1992). Hoyle (1995) comments that the controversy focuses more on the basis for modifying a model than the general notion of model modification. He states that the most well-known of the statistical search strategies used for model modification is the modification index provided by LISREL.

The process recommended by Jöreskog & Sörbom (1996) was followed. They comment that “if it makes more sense from a substantive point of view to free a
parameter with a smaller modification index this could (should) be done” (p. 275). They further recommend that it is best to change only one parameter in each step.

The LISREL modification indices that were generated from the test of the Longitudinal ECM were examined to see how the model could be improved. The indices suggested that the Longitudinal ECM could be improved substantially by freeing the parameter from perceived organisational support to job satisfaction. A detailed theoretical discussion on the justification for freeing this parameter in the revised model, the Longitudinal ECM 2, is provided in Chapter 7.

It has been suggested that post hoc model modification strategies such as the use of the LISREL modification index, sacrifice control over Type 1 error (Hoyle, 1995), and may lead to situations in which idiosyncrasies in a particular data set might be interpreted as reliable findings (MacCallum et al., 1992). Therefore, the modified model may fit the data set used in the post hoc refinement but may not fit any other data set. The additional path that was included in the Longitudinal ECM 2, however, can be theoretically justified and therefore should be taken into consideration in future testing of the model. It is essential to recognise that the Longitudinal ECM 2 is nothing more than exploratory model development undertaken by this researcher. Steiger (1990) has cautioned against the use of post-hoc model modification and recommends that cross-validation of a refined model should be carried out. This is supported by MacCallum (1995) who has commented that there is not “anything wrong with exploratory model development as long as it is acknowledged in practice that that is what is being
done and that the outcome is a model that cannot be supported without being evaluated using new data” (p. 34).

The results from the test of Longitudinal ECM 2 are presented in Table 6.3. Benchmark levels were recorded for all the fit indices except the AGFI. The failure of the AGFI to reach the benchmark level of .90 can be explained by the large number of parameters that were fixed in the model. As more parameters are freed the AGFI value gets closer to the GFI value (Ullman, 1996).

The values for the NFI, NNFI, CFI, GFI, and SRMR all indicated that the model had a good fit. However with a RMSEA value of .053 associated with a confidence interval that straddled .05 (.018 to .080) it was not possible to conclude that the model had a close fit to the data. MacCallum et al. (1996) suggest that a model be classified as having a close fit to the data only if the entire confidence interval is below .05. Based on their suggestion the Longitudinal ECM 2 should be considered as having an acceptable, but not close fit to the data.

Reporting the RMSEA value was particularly important in this chapter because no cross-validation sample was available with which to evaluate the result. The RMSEA shows the extent to which the Longitudinal ECM 2 would fit the population covariance matrix if such a matrix was available (Browne & Cudeck, 1993).
### Table 6.3

*Fit indices for the Longitudinal ECM, ECM 2 and ECM 3*

<table>
<thead>
<tr>
<th>Fit indices</th>
<th>Longitudinal ECM</th>
<th>Longitudinal ECM 2</th>
<th>Longitudinal ECM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$</td>
<td>128.440</td>
<td>84.851</td>
<td>14.925</td>
</tr>
<tr>
<td>df</td>
<td>64</td>
<td>62</td>
<td>22</td>
</tr>
<tr>
<td>p</td>
<td>&lt; .001</td>
<td>.028</td>
<td>.865</td>
</tr>
<tr>
<td>NFI</td>
<td>0.900</td>
<td>0.934</td>
<td>0.980</td>
</tr>
<tr>
<td>NNFI</td>
<td>0.896</td>
<td>0.962</td>
<td>1.021</td>
</tr>
<tr>
<td>CFI</td>
<td>0.945</td>
<td>0.980</td>
<td>1.000</td>
</tr>
<tr>
<td>GFI</td>
<td>0.889</td>
<td>0.926</td>
<td>0.978</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.764</td>
<td>0.838</td>
<td>0.944</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.055</td>
<td>0.045</td>
<td>0.032</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.088</td>
<td>0.053</td>
<td>0.000</td>
</tr>
<tr>
<td>(90% confidence interval)</td>
<td>(confidence interval could not be computed due to too small p-value for chi-square)</td>
<td>(0.018; 0.080)</td>
<td>(0.000; 0.0396)</td>
</tr>
</tbody>
</table>

*Note.* The numbers in boldface indicate where benchmark levels have not been reached.

The standardised path coefficients for the Longitudinal ECM 2 are shown in Figure 6.2. In any standardised regression equation, whether with measured or latent variables, it is possible for standardised coefficients to exceed 1.0 in magnitude and this has occurred for a few in Figure 6.2. In this solution, these are associated with equations in which the residual variance was negative. Thus the dependent factors of organisational tenure (Time 2) and affective commitment (Time 2) were perfectly predicted by their precursors. All gamma paths linking Time 1 variables to their counterparts at Time 2 were statistically significant (t values > 1.96). Additionally, four other gamma paths were significant (perceived organisational support → job satisfaction, -.433; job satisfaction → affective
commitment, -.865; job satisfaction → turnover intention, .430 and affective commitment → effort, -.317) at the .05 level (t-values > 1.96).

The results provide partial support for three of the five hypotheses that were constructed to test the ECM. H8 (affective commitment is proportionally affected by organisational tenure, job satisfaction, perceived organisational support and training opportunities) was partially supported because affective commitment was affected by job satisfaction. H11 (effort is proportionally affected by continuance and affective commitment) was supported to the extent that affective commitment was found to affect effort. H12 (turnover intention is proportionally affected by job satisfaction, continuance and affective commitment) was partially supported because job satisfaction was found to affect turnover intention.

Hypotheses H9 (continuance commitment is proportionally affected by organisational tenure) and H10 (absenteeism is proportionally affected by affective commitment) were not supported.

A third model, Longitudinal ECM 3 (the free parameters of this model are described in Table 6.2) was then constructed by removing all the redundant variables from the Longitudinal ECM 2 (organisational tenure, continuance commitment and absenteeism). This model had a close fit to the data (Table 6.3).
Note: Path coefficients shown are standardised * = P< .05

Figure 6.2 Path coefficients of Longitudinal ECM 2
The Longitudinal ECM 3 was used to determine the best order of the relationships between the variables. For example, does job satisfaction impact on affective commitment or does the reverse apply, affective commitment impacts on job satisfaction? Five tests were used in this process. The results to emerge from each of the tests are displayed in Table 6.4.

The results obtained from Test 1 show that the hypothesised directions were upheld (job satisfaction affects affective commitment, affective commitment affects job effort, job satisfaction affects turnover intention). No support was found for Tests 2 through to 5. These tests were conducted by reversing the order of the hypothesised directions (affective commitment affects job satisfaction, job effort affects affective commitment, turnover intention affects job satisfaction). The path from perceived organisational support to job satisfaction was found to be significant while the reverse of this - job satisfaction affects perceived organisational support (Test 2) was not significant.

The $\chi^2$ results showed that the hypothesised paths provided for a significantly better fitting model than that which was achieved when the reversed ordered paths were included.
<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
<th>Structural model path</th>
<th>Estimate</th>
<th>t-value</th>
<th>χ²</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>A test of the Longitudinal ECM 2 which incorporates the following path:</td>
<td>T1 perceived organisational support (x) → T2 job satisfaction (y)</td>
<td>-0.368</td>
<td>-2.227*</td>
<td>14.925</td>
<td>22</td>
</tr>
<tr>
<td>Test 2</td>
<td>A test of the Longitudinal ECM 2 replacing the path above with the following path:</td>
<td>T1 job satisfaction (x) → T2 perceived organisational support (y)</td>
<td>0.063</td>
<td>0.729</td>
<td>19.451</td>
<td>22</td>
</tr>
<tr>
<td>Test 3</td>
<td>A test of the Longitudinal ECM 2 which incorporates the following path:</td>
<td>T1 job satisfaction (x) → T2 affective commitment (y)</td>
<td>-0.844</td>
<td>-2.927*</td>
<td>14.925</td>
<td>22</td>
</tr>
<tr>
<td>Test 4</td>
<td>A test of the Longitudinal ECM 2 replacing the path above with the following path:</td>
<td>T1 affective commitment (x) → T2 job satisfaction (y)</td>
<td>0.183</td>
<td>1.004</td>
<td>40.844</td>
<td>22</td>
</tr>
<tr>
<td>Test 5</td>
<td>A test of the Longitudinal ECM 2 which incorporates the following path:</td>
<td>T1 affective commitment (x) → T2 job effort (y)</td>
<td>-0.381</td>
<td>-2.397*</td>
<td>14.925</td>
<td>22</td>
</tr>
<tr>
<td>Test 6</td>
<td>A test of the Longitudinal ECM 2 replacing the path above with the following path:</td>
<td>T1 job effort (x) → T2 affective commitment (y)</td>
<td>-0.127</td>
<td>-0.698</td>
<td>21.932</td>
<td>22</td>
</tr>
<tr>
<td>Test 7</td>
<td>A test of the Longitudinal ECM 2 which incorporates the following path:</td>
<td>T1 affective commitment (x) → T2 turnover intention (y)</td>
<td>0.605</td>
<td>3.184*</td>
<td>14.925</td>
<td>22</td>
</tr>
<tr>
<td>Test 8</td>
<td>A test of the Longitudinal ECM 2 replacing the path above with the following path:</td>
<td>T1 turnover intention (x) → T2 job satisfaction (y)</td>
<td>0.069</td>
<td>0.689</td>
<td>25.604</td>
<td>22</td>
</tr>
</tbody>
</table>

*Note*. Estimates are standardised. The t-values for the coefficients (e.g., whether the estimates are significantly different from zero) are represented by * p < .05 (if t > 1.96). The x and y after the variable description denotes exogenous (x) and endogenous variables (y). Test 1 represents the hypothesised direction between the variables and tests 2, 3, 4 and 5 represent the reverse of the hypothesised direction.
The negative sign that appears for some of the estimates and t-values does not imply that as one variable increases the other decreases. For example, it does not mean that as job satisfaction increases affective commitment decreases. An accurate interpretation of the results is that if the variable at Time 1 is low (e.g. if job satisfaction is low) then it will result in a reduction in the level of the other variable at Time 2 (e.g. affective commitment). What happened among the employees who comprised the longitudinal sample was that their job satisfaction and affective commitment levels were low at Time 1 and this resulted in a fall in their level of affective commitment and effort at Time 2. The low level of job satisfaction at Time 1 resulted in an increase in turnover intention at Time 2.

One reviewer has been critical of the model including casual paths between Time 2 antecedent and Time 2 consequence variables. The reviewer has suggested that a more accurate outcome would result by testing a simpler model. The simpler model suggested does not take into account the relationship between the Time 2 antecedent and consequence variables and is presented in Appendix 4 (Longitudinal ECM 4). No significant relationship was found between the Time 1 antecedent variables and the Time 2 consequence variables. This finding lends support for preferring the complex model (Longitudinal ECM 2).

5. CONCLUSION AND SUMMARY

Section 2 of this chapter provided the details of the sample that was used to test the Longitudinal ECM. It was reported that no major violation of multivariate
normality was evident in the longitudinal sample. In part this may have been achieved because item parcels were used to produce composite variables.

Section 3 presented the Longitudinal ECM, a model that was based on all the significant paths that emerged when the ECM was tested using cross-sectional data. The specification of the model took into account the biasing effects of measurement error.

The fit indices that were generated from the test of the Longitudinal ECM indicated that although the model could have been accepted as having a good fit based on the CFI and NFI it was more appropriate to make modifications to the model. Based on theoretical grounds and supported by the LISREL modification indices an additional path was inserted from perceived organisational support to job satisfaction. The refined model, the Longitudinal ECM 2, achieved benchmark levels on all fit indices except the AGFI. It was therefore appropriate to use the refined model to report the path coefficients.

The coefficients indicated that work effort was significantly affected by affective commitment, while continuance commitment had no significant impact on effort. The coefficients showed that job satisfaction impacted on affective commitment rather than the reverse. Overall the results supported the central theme of this thesis, that being, that affective commitment is more closely associated with favourable work outcomes than is continuance commitment.
Chapter 7

CONCLUSIONS AND IMPLICATIONS

1. INTRODUCTION

This thesis examines the determinants and behavioural outcomes of organisational commitment. The aims, method used, and survey results are discussed in previous chapters. This chapter draws on the information from these previous chapters and links them together to provide an overall summary and conclusion. Additionally, new insights and ideas are presented with the intention of providing valuable information for researchers and practitioners working in the field of human resource management.

The conclusions that were reached on the major findings and objectives in this study are presented in Section 2. The major findings are extracted from both the correlational and causal relationships that were tested in this study.

Section 3 highlights the various contributions that this study has made. These contributions relate to both the uniqueness of the samples used and the robustness of the methodology and analyses.

Implications for theory are presented in Section 4. These focus on the issues of model development and testing.
Implications for policy and practice are discussed in Section 5. These implications concentrate on the need for organisations to foster affective commitment among their employees.

Selecting the appropriate methodology to use can be a testing and uncertain stage in any study. In the back of a researcher's mind is the constant thought that the selected methodology may be proven to be deficient. During the progression of this study a number of deficiencies were discovered in the methodology. These deficiencies, along with suggested alternative methodologies, are discussed in Section 6.

Section 7 covers areas that this study has found require further research. Central to this section is the need to investigate whether the dimension of normative commitment is worthy of further investigation.

The final section of this chapter provides a general summary and conclusion.

2. CONCLUSIONS ON THE MAJOR FINDINGS AND AIMS

This thesis examined the determinants and employee work outcomes of organisational commitment. More specifically the aims of the study were:

1. to determine the dimensions of commitment that result in organisational effectiveness; and
2. to establish the determinants and employee behavioural outcomes of these dimensions.

In meeting these aims it was necessary to: i) determine the dimensions of the commitment construct; ii) construct and test a model that would assist researchers and practitioners to determine which form of commitment generates favourable employee work outcomes; and iii) establish what variables an organisation should concentrate on to increase the levels of the desired form of commitment. The following results were obtained:

1. commitment is best studied as a two-factor construct.
2. affective commitment impacts on work effort.
3. job satisfaction and perceived organisational support impact on affective commitment.
4. no causal relationship was found between commitment and turnover intention.

These findings are now explained in more detail in the remaining part of this section.

2.1. Commitment Is Best Studied As A Two Factor Construct

In Chapter 4 the Allen and Meyer (1990) 24 item commitment instrument was subjected to confirmatory factor analyses. The results indicated that a three dimensional model of commitment could be supported based on the fit indices.
However, further analysis revealed that both the construct reliability score and the variance extracted for the dimension of normative commitment fell substantially short of acceptable levels. It was appropriate therefore, to conclude that normative commitment was not a dimension which could be accurately measured in this study. Additionally, the correlation between affective and normative commitment was so high that the researcher concluded that the normative items were capturing the same construct as the affective items.

In summary, the results of this study suggest that commitment is best studied using the two dimensional Meyer and Allen (1984) model in preference to the Allen and Meyer (1990) three dimensional model.

2.2. Affective Commitment Impacts On Work Effort

Mathieu and Zajac (1990) comment that most studies in the organisational behaviour area have adopted a correlational methodology. More recently there has been a call for the wider use of causal modeling in research on organisational commitment (Meyer & Allen, 1997). Causal modeling with longitudinal data provides researchers with greater insight into the nature of the relationship between variables than can be obtained from simple correlations. Consequently if an inconsistency occurs between a relationship established by correlation results and one established by causal modeling the latter should be viewed as the more indicative result.
The correlation results reported in Chapter 4 showed that affective commitment was positively correlated with work effort and negatively correlated with absenteeism and turnover intention. Of these three employee work outcome variables only one, turnover intention, was significantly correlated (negative) to continuance commitment. These results provided early support for the central theme of this study that affective commitment is associated with favourable employee work behaviour outcomes.

The results from the longitudinal test of the causal model showed that the only variable significantly affected by either form of commitment was effort. Work effort was affected by affective commitment.

In summary, the results provide evidence that affective commitment has a causal impact on work effort.

2.3. Job Satisfaction And Perceived Organisational Support Impact On Affective Commitment

The correlation results reported in Chapter 4 showed that affective commitment was positively correlated with both job satisfaction and perceived organisational support. Additionally, perceived organisational support and job satisfaction were positively correlated. These correlation results gave no indication as to the causal relationships that emerged in Chapter 6, where it was found that affective commitment was proportionally affected by job satisfaction, which in turn was
affected by perceived organisational support. The causal relationship between affective commitment and perceived organisational support is not therefore direct in nature. Perceived organisational support is still a key variable in any model containing affective commitment because of its ability to affect job satisfaction which in turn impacts on affective commitment.

In summary, job satisfaction has a direct causal impact and perceived organisational support an indirect causal impact on affective commitment.

2.4. No Causal Relationship Was Found Between Commitment And Turnover Intention

Contemporary approaches to the study of organisational turnover and turnover intention have generally focused on how organisational commitment and job satisfaction impact upon the decision to quit or stay with an organisation (Johns, 1991). This study has added to the understanding of this area of research by investigating the different impacts on turnover intention associated with two dimensions of commitment and by incorporating the construct of perceived organisational support into the analysis. This has allowed for a unique three-construct approach to the study of turnover intention. Investigating the impact that the constructs of commitment, satisfaction and perceived support have on turnover intention provides for a clearer picture than has been the case with a substantial amount of research in the past.
The correlations reported in this study are consistent with past studies which have found that both affective and continuance commitment are negatively correlated with turnover intention (Allen & Meyer, 1996). However in this study no causal relationship was found between these variables over time. Unlike commitment, job satisfaction was found to both negatively correlate with and have a causal impact on turnover intention. Perceived organisational support was found to negatively correlate with and have an indirect causal impact on turnover intention. The indirect impact occurred because perceived organisational support was found to have a direct causal impact on job satisfaction.

In summary, commitment was not found to be causally related to turnover intention, while job satisfaction was.

2.5. Conclusion

This section outlined the conclusions reached on the major findings and objectives in this study. The results of this study suggest that commitment is best studied using a two in preference to a three dimensional model. The two dimensions of commitment include affective and continuance commitment and exclude normative commitment. Of most interest to organisations would be affective commitment, which was shown to proportionally affect work effort. The variable that was found to have a direct causal impact on affective commitment was job satisfaction. Additionally, job satisfaction was causally related to turnover
intention. No causal relationship was found to exist between either dimension of commitment and turnover intention.

3. CONTRIBUTIONS MADE BY THIS STUDY TOWARDS EXTENDING THE COMMITMENT KNOWLEDGE BASE

The objective of this section is to highlight the contributions that this study has made towards extending the knowledge base of organisational commitment.

3.1. The Development Of A Causal Model Investigating Some Previously Untested Links Between Variables.

This study investigated both correlational and causal relationships. The development of a causal model has added to the knowledge and understanding of how organisational commitment develops and how it impacts on variables that affect an organisation’s competitive position.

The variables that affect an organisation’s competitive position are numerous. No one model can ever be expected to capture these. Certainly it was never intended that the causal model would attempt to capture all the possible variables. The model did, however, incorporate a number of variables that had not been previously studied together in a causal model of commitment. This was particularly the case with the training opportunities variable. The literature on this variable is very sparse. The post-hoc modifications resulted in a link being made
between perceived organisational support and job satisfaction. This link has to
date being largely ignored by researchers.

3.2. A Contribution To Redefining The Meaning Of Commitment

The lack of a causal connection between commitment and turnover intention is an
important finding because a central part of the definition of commitment relies on
the notion that committed employees have a desire to remain employed with their
organisation. If the findings of this study can be replicated in further longitudinal
research then scholars in the area of commitment will need to seriously consider
abandoning the existing definition base of organisational commitment which links
committed employees to a desire to remain employed in their organisation. It
should be noted at this point that although the coefficient recorded for the path
from affective commitment to turnover intention was not significant, the value of
the coefficient (.333) was larger than that recorded for the path from affective
commitment to effort (.316), which was statistically significant. The reason for
this is that LISREL does not force a fully standardised solution in circumstances
when EQS would.

To redefine commitment so as to exclude a desire to retain membership to the
organisation would be far more appealing to a number of senior executives, many
of whom in recent years have had to market downsizing under the slogan that “it
is helpful rather than harmful”. When senior executives are bombarded with
advice from popular management books and periodicals to “cut the fat” they are
not easily convinced that commitment is something worth instilling in the workforce if it means that committed employees will be reluctant to leave when an organisation has to downsize. A number of managers commented during the course of this study that they were more interested in encouraging employees to leave their organisations rather than to stay with the organisation.

Another central part of widely used definitions of commitment relate to increased effort associated with committed employees (Mowday et al., 1982). This study found support for such definitions as it was specifically found that affective commitment did have a causal impact on effort.

3.3. Understanding Commitment In Times Of Organisational Instability

Angle and Lawson (1993) have commented that while organisational commitment “may be a relatively stable construct, in times of upheaval it may be up for renegotiation” (p. 12). They have called for research to be conducted on organisations going through a process of upheaval. This they suggest would enhance the understanding of the complexity and dynamics of relationships between organisations and their employees.

At Westrail, the organisation was in a state of upheaval at the time the longitudinal survey was conducted. The organisation had been downsized from 2550 when the Time 1 survey was administered to 1861 a year later. Associated with this 27 per cent reduction in the workforce was an organisational change
programme that gave employees the impression that a full privatisation of the organisation was likely (Savery, Travaglione & Firms, 1996). The level of commitment among the 129 employees who comprised the longitudinal sample remained stable in the period between the two administrations of the questionnaire. This provides some evidence for the suggestion that commitment is a stable construct even in times of organisational upheaval.

3.4. Commitment May Be Better Understood By Investigating Positional Tenure Rather Than Organisational Tenure.

Meta-analytic reviews have reported positive relations between organisational tenure and affective commitment (Cohen, 1993a; Mathieu & Zajac, 1990). Allen and Meyer (1993) found that when employee age is partialed out of the relationship between organisational tenure and affective commitment, correlations were reduced considerably. Meyer and Allen (1997) suggest that it is possible that the link between these variables that has been found in numerous studies, is really because of employee age.

The use of tenure as a determinant of continuance commitment has been questioned by Meyer and Allen (1997). They suggest that tenure should be seen as a "proxy or surrogate variable of accumulated investments and perceived alternatives" (p. 60) and not as a direct predictor of continuance commitment.
The finding that positional tenure was positively correlated with continuance commitment \((r = .14, p < .001)\), but had no significant relationship with affective commitment, indicates that positional tenure may be a key variable in determining what causes continuance commitment. While it is not possible to conclude from these results that the longer a person stays in their position the more they will become continuance committed, this suggestion is worth further inquiry. This is particularly important given the finding to emerge from the longitudinal study that organisational tenure does not have a causal impact on either affective or continuance commitment.

Intuitively one would expect that the longer a person stays in a particular job the less they are subjected to challenges and experiences that are necessary for individuals to have so that they feel confident in their ability to be mobile in the workforce. Lack of mobility may result in an employee building a strong attachment to the organisation based on continuance commitment rather than affective commitment.

3.5. Reverse Causality

Reverse causality of turnover intention on job satisfaction and commitment was investigated by Koslowsky (1991). He found that intention to leave was not a cause of either attitude measure. A limitation of the Koslowsky study was that the longitudinal sample used to conduct model testing using LISREL comprised only 59 cases. It is widely accepted that a minimum of 100 cases is required for the
testing of structural equation models (Ding, Velicer, & Harlow, 1995). The current study was able to use an acceptable sample size to support the findings of the Koslowsky study that intention to leave was not a cause of job satisfaction. The use of recursive models should be understood as a limitation to fully understanding the directional paths between variables. By investigating the path from intention to leave to job satisfaction then this study was able to overcome the limitation of recursive models.


Most organisational commitment studies have sampled employees from a single organisation (Mathieu & Zajac, 1990). This study went beyond a single organisation for the development of the measures and the preliminary test of the causal model. Organisation-wide surveys were conducted in four of the five organisations that participated in this study. This is a substantial departure from previous research methodology where surveys have generally involved samples arrived at by taking a vertical slice of a single organisation or have involved samples of professionals. The organisation-wide surveys included WesBoard and Swan, companies involved in the manufacturing sector which has been largely ignored in previous commitment research (Randall, 1990). It was shown in Chapter 5 that the ECM was able to be generalised from an insurance company sample through to the sample comprised of the two manufacturing companies.
The longitudinal sample was unique for a number of reasons. Previous longitudinal studies that have been conducted using one or more of the Allen and Meyer (1990) scales have had a number of limitations. All except one (Blau, Paul, & St John, 1993) have been limited to data collected from organisational newcomers (Allen & Meyer, 1996). The Blau et al. (1993) study was in turn limited because it only investigated the affective dimension of commitment. The duration between the administration of the questionnaires in the current study (12 months) exceeded previous longitudinal ranges (7 weeks to 11 months).

3.7. Negative Consequences Of Organisational Commitment

Mathieu and Zajac (1990) comment on the lack of research that has been carried out on the negative consequences of organisational commitment. They identified the problem of poor performers who may become highly committed to an organisation.

It is probably true that higher levels of commitment are associated more with positive than negative consequences for employees and organizations alike. Nevertheless, attention needs to be directed toward identifying at what point increased commitment leads to detrimental effects. (p. 191)

The real issue is not to determine the point at which increased commitment leads to detrimental outcomes but rather what form of commitment leads to detrimental outcomes. No evidence emerged from this study to suggest that either affective or continuance commitment are associated with undesirable employee work
outcomes. The results did, however, suggest that only affective commitment was associated with favourable work outcomes. It would seem that there should be very little concern for the possibility that increases in commitment past a certain point may result in unfavourable employee work outcomes.

3.8. Conclusion

Through the development and testing of the causal model an understanding was gained of how organisational commitment develops and how it impacts on variables that affect an organisation's competitive position. The results to emerge from the model test suggest that commitment scholars should reconsider the definition of commitment so as to exclude a definition based on 'a desire to retain membership to the organisation'.

While it is not possible to conclude from this study that the longer a person stays in their position the more they will become continuance committed, the correlation results to emerge from this study indicate that this is a suggestion worth further inquiry.

This study went beyond a single organisation for the development of the measures and the preliminary test of the causal model by making use of five organisations. In four of these, organisation-wide surveys were conducted. Two of these organisations were involved in manufacturing, an industry largely ignored in past research on organisational commitment. The generalisability that was achieved
through the development of the causal model in Chapter 5 indicates that this model held up well across diverse organisations.

No evidence emerged from this study to suggest that either affective or continuance commitment are associated with undesirable employee work outcomes.

4. IMPLICATIONS FOR THEORY

The objective of this section is to show how the modified model (Longitudinal ECM 2), provides an opportunity for researchers to extend the theoretical development of organisational commitment to be more oriented towards effectiveness and efficiency issues. This, in turn, will assist human resources practitioners to align human resource practices within the broader framework of corporate strategy. The first step in meeting the overall aim of this section is to provide further explanation as to why it was appropriate to make the modification to the Longitudinal ECM by incorporating the path from perceived organisational support to job satisfaction.

4.1. Justification For Model Modification

No causal path between perceived organisational support and job satisfaction was proposed in the original model. Further, no earlier research indicated that such a path was theoretically justified. For example, contemporary theory development
still fails to establish a link between perceived organisational support and job satisfaction (Wayne, Shore, & Liden, 1997). In the model developed by Wayne et al. (1997) they sought to provide a comprehensive framework to show the antecedents and consequences of perceived organisational support. Job satisfaction did not appear as either an antecedent or consequence of perceived organisational support in their model.

A possible explanation as to why researchers have failed to establish links between job satisfaction and perceived organisational support may be because of their concern that it might be difficult to establish discriminant validity between these two constructs (Shore & Tetrick, 1991). Chapter 4 showed that by using parsimonious measures for these two constructs they could be differentiated from one another. Theoretical linkages between these constructs should not be inhibited because of the reluctance of researchers to challenge instruments of measurement. This should be particularly the case for the Survey of Perceived Organisational Support (SPOS), where 17 items measure a unidimensional construct. It is inherently appropriate to reduce this to more parsimonious versions such as the 6 items used in this study.

4.2. Continuance Commitment Linked To Organisational Effectiveness

The obvious question that arose in the early formulation of a model focused on effective commitment was why would one want to include continuance commitment? The reason for including continuance commitment in this study was
that, while empirical evidence suggested that affective commitment leads to more favourable employee work outcomes relative to continuance commitment, there was insufficient evidence to determine if continuance commitment was associated with any negative work outcomes. If it could be shown that continuance commitment was not associated with negative work outcomes then it could still maintain its position within a model of commitment containing variables linked to organisational effectiveness. The fact that this study found no negative causal relationship between continuance commitment and effort supported its retention within a model of effective commitment. Future research determining the relationship between commitment and organisational effectiveness should, therefore, still investigate the role of continuance commitment.

Because employees who have strong continuance commitment stay with an organisation because they believe they have to do so, one might expect that these employees then justify their decision to stay by convincing themselves that they want to stay with the organisation. This would then generate an increase in the levels of affective commitment among these employees. The suggestion is that continuance commitment may have a causal impact on affective commitment. Additionally, an employee may have high levels of both affective and continuance commitment. These are not issues examined in this study and justify further theoretical development.
4.3. Conclusion

In summary, the major contribution of this study was the development of a model of organisational commitment which linked together a number of variables that had not been previously studied together in a causal model. These links were tested using a sample obtained from an organisation undertaking a reform programme which resulted in a large downsizing of the workforce. In this turbulent environment levels of commitment remained relatively stable. It should be noted here that Associate Professor David Brown, one of the examiners of this thesis, pointed out in his report that there is insufficient data to conclude that throughout the organisation levels of commitment remained relatively stable during the downsizing. This comment was made based on the fact that the 129 employees who comprised the longitudinal sample represented only 7% (129/1861) of the employees at Time 2. Associate Professor Brown wrote in his report that the stability may have been due to the “sample (129) being biased in relation to commitment (high) and that is why they were prepared to identify their questionnaires at Time 1”.

It was shown that even in periods of turbulent change, affective commitment can be expected to impact favourably on work effort. At the same time no justification was found for the suggestion that continuance commitment causes unfavourable employee work outcomes.
5. IMPLICATIONS FOR HUMAN RESOURCE PRACTICE

The results of this study indicate that affective commitment is causally related to job satisfaction and perceived organisational support. Organisations must invest in initiatives which generate in employees a sense that their organisation is supportive of them. If this can be achieved, organisations can expect to see the levels of job satisfaction increase. High levels of job satisfaction, in turn, will lead to higher levels of affective commitment. These findings have clear implications for managerial effectiveness. The need for managers to obtain the affective commitment of employees is emphasised by the findings of this study.

Although the correlation results showed that training opportunities were positively correlated with affective commitment no significant connection was able to be established between these variables in the test of the ECM (the reader is reminded that training opportunities was not included as a variable in the Longitudinal models). Overall these results provide no suggestion that the more training that is offered to employees the more committed they will become. The reader is reminded that this study did not investigate training fulfilment and so the potential still exists for a causal link to be found between this variable and affective commitment. Although the relationship between training and affective commitment needs further research, organisations seeking to expend training dollars in the hope of generating commitment would be advised to provide training that will enhance knowledge and skill useful in improving the quality and efficiency of an employee's work.
6. LIMITATIONS

Three major limitations were identified in the methodology used in this study. The first limitation was the foci of employee commitment. Should the foci have been the organisation or should it have been extended to incorporate the micro workplace? Secondly, this study primarily relied upon self-report data. A number of problems were identified in the use of this data. Thirdly, this study relied solely on quantitative research methodology. No consideration was given to using qualitative research methods. These and other limitations are explained in greater detail in the following sub-sections.

6.1. The Foci Of Employee Commitment

The first limitation was that the foci of employee commitment was limited to the organisation. Brown (1996) has commented that for research purposes organisational commitment measures must have a focus, and that potential problems stem from using the word ‘organisation’, particularly in the case of employees in large organisations. Some employees may interpret organisation to mean a division or department.

Precise commitment targets are needed because commitment to an ‘organisation’ results in “too much of an aggregation of multiple and abstract targets” (Oliver, 1990, p. 30). Becker, Billings, Eveleth, and Gilbert (1996) comment that
"researchers and human resource professionals concerned with employee performance should focus their efforts on commitment to supervisors rather than on that to organizations" (p. 477). Additionally, rather than focusing on the organisation as a macro entity one could have focused on the micro work environment. This may have resulted in questions being asked about 'branch or regional centre' rather than 'organisation'.

A number of comments written on completed questionnaires highlighted the problem of the foci of employee commitment. Certain respondents commented that they would have given more favourable responses had the questions related to their immediate supervisors or managers rather than the 'organisation'. It was clear from the comments received from these employees that they had interpreted 'organisation' to mean senior management.

Two organisations in this study had a significant number of employees working in metropolitan branches or regional centres of the organisations. A number of respondents in these branches and regional centres commented that they would have given more favourable responses had the questions related to their branch or regional workplace. It was clear from these comments that these employees had correctly interpreted 'organisation' to mean the whole organisation rather than 'head office' or senior management. Through their comments, however, they indicated that they were more committed to their branch or regional centre than their 'organisation'.
The selecting of the appropriate foci to concentrate on is, therefore, problematic. Even if one was to accept the criticism of Oliver (1990) that commitment to an 'organisation' results in abstract targets, the problem remains as to what should be the commitment focus. The suggestion by Becker et. al. (1996) to focus on commitment to supervisors does not resolve the problem. Certain employees may not be committed to their supervisors, but instead, may be committed to their co-workers or the organisation.

Blau et al. (1993) have called for the development of a general work commitment index. They suggest that the facets should include attitudes towards the job, organisation, occupation, and work in general. Fink (1992) has developed an instrument that encapsulates a number of these foci of commitment. His instrument specifically measures commitment to the organisation, co-workers, and work. This instrument has been administered widely in the USA by Fink but has generally failed to capture the attention of other researchers.

6.2. The Use Of Self-Report Data

The second limitation relates to the use of self-report data. In organisational commitment research, self-report data is heavily relied upon to measure employee behavioural outcomes (Randall, 1990). In this study, because of an inability to use personnel records, the employee behavioural outcomes were collected from self-report data. Spector (1992) has identified the problem of common method variance when variable scores come from the same source. This problem has been
minimized in the longitudinal sample because the one year between the administration of the questionnaires made it difficult for respondents at Time 2 to remember the answers they had provided at Time 1. Randall (1990) has expressed concern that self-report data often results in respondents giving socially desirable responses. She specifically believes that this results in respondents underreporting "such socially undesirable behaviors as excessive tardiness and absenteeism" (p. 372). Therefore, a significant limitation of this study is the over-reliance on self-report data.

To avoid the problems associated with self-report data some researchers have used supervisory ratings. These types of ratings are particularly prevalent in studies linking organisational commitment to employee performance (DeCotiis & Summers, 1987; Meyer et al., 1993; Meyer et al., 1989). Although accepting that the use of supervisory ratings may have overcome the problem of social desirability bias which may occur in self-report data, it creates the problem of 'subjective favouritism'. This term has been coined specifically for this study and refers to situations where supervisors bias their performance reports for a number of reasons. These reasons may range from simply not accurately knowing the level of performance of an employee, through to personal conflict which results in an intentional underestimation of performance reporting.

Supervisory rated performance was never a serious consideration for this study. The researcher believed ratings would have caused conflict within a number of the organisations and would have jeopardised the administration of the questionnaire.
This was particularly a threat at Westrail, which was undergoing a major downsizing programme. Additionally, the Westrail workforce was heavily unionised and it was clear that union support for a study involving supervisory ratings was not going to be forthcoming. In Swan Brewery, the union executive approved the study on the basis that no individual could be identified by the researcher. A similar constraint was placed on the study by senior management at SGIO and the Health Department. These constraints effectively prohibited supervisor rated performance.

6.3. The Lack Of Qualitative Data

A further limitation of this study was that no qualitative data was used to report the behavioral outcomes employees associated with commitment. The researcher had previously collected qualitative data through structured interviews of senior management at Westrail. This was part of an Australian Research Council Collaborative Research Application and did not form part of this thesis. These structured interviews did, however, give the researcher a good understanding of the outcomes that employees associated with organisational commitment.

Qualitative research techniques such as focus groups and structured interviews are ideally suited for the purpose of gaining a deeper understanding of organisational commitment. The use of qualitative methods to obtain from a particular workforce, organisational specific measures of commitment, would be strongly supported by this researcher in any future commitment study. However, in this
study the organisations that participated did so on the basis of obtaining representative data. They therefore favoured the structured questionnaire in preference to qualitative forms of data collection.

6.4. Other Limitations

In addition to the three major limitations outlined above a further three minor limitations were identified. These relate to classification of absence data, nonresponse bias, and lastly the longitudinal sample which was limited because it primarily consisted of male employees. These limitations are expanded upon in this sub-section.

The absenteeism data that was used to test the model at both the cross-sectional and longitudinal stage failed to distinguish between voluntary and involuntary absence. Had this distinction been made, the results might have been different.

The four organisations in which the mail survey methodology was used can be subject to the typical criticism leveled at this form of methodology, that is, nonresponse bias. The problem arises when “persons who respond differ from those who do not, the results do not directly allow one to say how the entire sample would have responded” (Armstrong & Overton, 1977, p. 396). Although the methodology used at WesBoard can not be described as a mail survey, it was still subject to the limitation of nonresponse bias.
The longitudinal sample of 129 employees comprised only 3 females. Although this gender distribution closely matched the gender ratio in Westrail it does raise the question of whether the culture of a male dominated organisation produces different results relative to organisations with a more even gender balance.

6.5. Conclusion

This section identified three major limitations in the methodology used for this study. These were the foci of employee commitment; the reliance on self-report data; and the lack of qualitative research. However, the alternative methodologies that could be used in a study on organisational commitment were either prohibited by the organisations or could be subjected to similar methodological criticism as those that could be leveled at the methodology used in the study.

The organisations specifically did not favour qualitative research in the form of focus groups or structured interviews. The reason that was generally given was that the information collected would not be representative of the workforce. Quantitative research data in the form of supervisor rated performance was never a serious consideration for this study because of the possible friction that could have been caused within the organisations. This was especially the case in Westrail where major downsizing was occurring throughout the study period.

The foci of commitment remains the central limitation of this study. While accepting that the foci could have been on alternatives such as the 'workplace' or
supervisors, the alternative foci could have been subjected to similar methodological criticisms.

7. IMPLICATIONS FOR FURTHER RESEARCH

This section deals with areas that have been uncovered in this study as deserving of further research consideration. Foremost among these is the issue of commitment measurement. Sound measures are the foundation stones of any rigorous causal model. The various areas for further research are now discussed.

7.1. The Allen And Meyer Commitment Instrument

In this study the fit indices obtained for the Allen and Meyer (1990) instrument, although not reaching recommended benchmark levels, were superior to the fit indices that have been reported for the Organizational Commitment Questionnaire (Tetrick & Farkas, 1988). Researchers would be better advised to use refined versions of the Allen and Meyer (1990) instrument in preference to the OCQ. Ideally these refinements should incorporate changes to enable the instrument to be more useful in its ability to be used for cross-cultural research.

A number of issues need to be addressed in the process of the refining the Allen and Meyer (1990) instrument. These are:

1. How parsimonious should the instrument be and should it include normative commitment?
2. Should negatively worded items be incorporated into the instrument?

3. Is the instrument suitable for use by researchers wishing to conduct cross-cultural research?

These issues are now dealt with in greater detail.

7.1.1 How Parsimonious Should The Instrument Be And Should It Include Normative Commitment?

Blau et al. (1993) conducted an exploratory factor analysis using the 8 item affective scale and reported that the second item in the scale (AC2) double loaded and the fourth item (AC4) exhibited a weak-loading pattern (.11). They concluded that a six-item version of the scale was more appropriate than the eight item version.

Meyer et al. (1993) devised a short form version (18 item) scale measuring the three dimensions of commitment. The two items identified by Blau et al. (1993) as problematic were not incorporated into the short form version. Of the original 24 items, 11 were retained in the short form version (6 affective and 5 continuance). The fact that none of the original normative items were included in the short form version would support the findings in this study that questioned the usefulness of these items as a measure of normative commitment.
While support exists to suggest that normative commitment is a separate dimension of commitment it has been difficult to devise an instrument in which it does not correlate highly with affective commitment (Meyer & Allen, 1997). Given that empirical research has generally found that the affective and normative scales tend to show similar patterns of correlations with their determinant and outcome variables, it is questionable as the value of pursuing research aimed at constructing yet another measure of normative commitment. Research effort would be better spent concentrating on developing more parsimonious versions of the affective and continuance items.

### 7.1.2 Should Negatively Worded Items Be Included in The Instrument?

After a series of exploratory analyses it soon became clear that the negative worded items in the Allen and Meyer instrument were causing problems of inconsistent dimensionality in this study. Ultimately the decision was made to analyse only the positively worded items. Magazine et al. (1996) have suggested that researchers should question the necessity of the negatively worded items and consider replacing them with positively worded items.

The positively worded four item measures of affective and continuance commitment that were used in this study may be attractive to practitioners and researchers who want to use relatively brief measures when undertaking multivariate research in organisational contexts.
7.1.3 Is The Instrument Suitable For Cross-cultural Research?

Researchers have noted that the cultures of Canada and the USA are similar (Ferris & Aranya, 1983; Randall, 1993). The Allen and Meyer (1990) instrument needs to be further tested in other cultures to provide validation for its use beyond Canada and the USA.

There has been a call to expand the limited amount of research that has been conducted in non-English speaking countries (Meyer & Allen, 1997). This process would be aided substantially by the development of a commitment instrument that is transferable between different cultures. The results of this study should make researchers cautious when using commitment instruments developed in North America to conduct research in different cultures.

Further research is required to determine if the Allen and Meyer (1990) scales are culture specific. At the time that this study was commenced only one other study investigating the three dimensions of commitment had been conducted outside of North America (Lee, 1992). This study was cross-sectional in design. The current study represents the first known longitudinal study conducted outside North America investigating the Allen and Meyer (1990) scales.
7.2. Replication Using An Independent Sample

It is necessary to conduct further longitudinal research to determine if the post hoc modifications made to the Longitudinal ECM can be replicated in an independent sample. Respecification of a model based on post-hoc criteria has the potential for capitalizing on the idiosyncrasies of the particular sample that is used for respecification (Hoyle & Panter, 1995). This potential is particularly high in small samples (MacCallum et al., 1992; Tanaka, 1987). Hoyle and Panter (1995) comment that post-hoc modifications conducted on samples of 100 to 400 need to be replicated in an independent sample before they can be taken seriously.

If other researchers conduct a replication study it is important that they do not focus solely on model fit. It is essential to examine parameter estimates for interpretability and meaningfulness. MacCallum (1995) comments that “a model that fits well but yields nonsensical parameter estimates is of little value” (p. 35). The appeal of the Longitudinal ECM 2 is that it performs well on both the criteria of model fit and meaningful parameter estimates.

7.3. Investigation Of Variables Not Included In This Study

The current study found that affective commitment had a causal impact on work effort. The next question that needs to be resolved is what if any impact does affective commitment have on performance? Leung (1997) has called for further
longitudinal work to be conducted to investigate the causal link between performance and commitment.

7.4. Conclusion

A number of issues for further research have been identified in this section. The suggestion was made that further research is required into aspects of the Allen and Meyer (1990) instrument. Past research has shown that it has been difficult to devise an instrument to measure normative commitment which does not correlate highly with affective commitment (Meyer & Allen, 1997). The findings in this study question the usefulness of the Allen and Meyer (1990) items as a measure of normative commitment. If one accepts that findings of this study that affective and normative commitment are highly correlated, future research effort may be best placed by concentrating on developing more parsimonious versions of the affective and continuance items, rather than devising new measures of normative commitment. Future research would be useful to determine the value of incorporating any negative items especially if a new parsimonious version is intended for use in cross-cultural research.

Additional research is essential to test the refined longitudinal causal model that was developed in this study. This is necessary because sufficient evidence exists in the literature to suggest that post-hoc modifications conducted on small samples such as the Westrail longitudinal sample, require validation by the use of independent samples.
Further research needs to be conducted to determine the causal relationship, if any, between affective and continuance commitment. The finding that affective commitment had a causal affect on work effort suggests that a further model could be devised to determine what impact affective commitment has on performance. Finally, it would seem appropriate to include positional tenure and exclude organisational tenure in any new model.

8. GENERAL SUMMARY AND CONCLUSION

The objective of this thesis was to establish the determinants and employee behavioural outcomes of the dimensions of organisational commitment that result in organisational effectiveness. This objective was met by firstly, establishing the dimensions of organisational commitment and secondly, by developing a causal model centred on these dimensions. The causal model linked the dimensions of affective and continuance commitment to variables representing a number of the determinants and outcomes of commitment.

Following an extensive literature review which was presented in Chapter 2, the study initially investigated the three dimensions of affective, continuance, and normative commitment as conceptualised by Allen and Meyer (1990). The literature review indicated that although some researchers have suggested that an overlap exists between affective and normative commitment, there was sufficient support to justify their separate existence.
The cross-sectional samples used to investigate the three dimensions of commitment were described in Chapter 3. Organisations were selected to ensure that both the private and public sector were represented. The organisations were spread across a number of industries including manufacturing, an industry that has largely been ignored in organisational commitment research.

One of the conclusions reached in Chapter 4 was that commitment was best studied as a two factor construct. It was shown that the measure of normative commitment could not be distinguished from the measure of affective commitment. The two factor model which comprised affective and continuance commitment was able to be generalised across samples of employees in the transport, insurance, manufacturing and health industries.

In Chapter 5, the Effective Commitment Model (ECM) was developed by largely drawing on past empirical work investigating the determinants and employee behavioural outcomes of affective and continuance commitment. The development of a causal model meant that this study was able to present an insight into the inter-relationships among variables that in the past, have mostly been studied through correlational methodology. The ECM was subjected to preliminary testing using cross-sectional data. Analyses included testing hypotheses for model invariance using two independent samples. These analyses showed that the same model could be applied in both samples.
The significant paths within the ECM were retained for the purposes of testing the model using longitudinal data. The longitudinal version of the model (Longitudinal ECM) was tested in Chapter 6 using a sample of 129 employees from Westrail. This organisation was involved in substantially downsizing its workforce during the period of the longitudinal study. The level of commitment among these employees remained stable during this period.

Results obtained from testing the longitudinal model showed that organisational tenure was not a determinant of commitment. Job satisfaction was found to have a causal impact on affective commitment, which in turn impacted on work effort. Although turnover intention was found to correlate with continuance commitment, no causal relationship was found between these variables.

There has been much controversy among researchers who have failed to agree as to whether commitment leads to job satisfaction, or vice versa. The results reported in this study showed that affective commitment was correlated with job satisfaction. A clearer picture emerged of the relationship between these two variables following the analyses conducted in Chapter 6. It was shown that job satisfaction leads to affective commitment, and that affective commitment did not lead to any changes in job satisfaction.

This study highlighted the necessity for researchers to challenge the existing theoretical base by devising models that include constructs that may have largely been ignored in past theoretical and empirical work. Specifically, the construct of
perceived organisational support was identified as an area that needs to be further integrated into research on job satisfaction, organisational commitment, and turnover intention.

A number of implications for human resource practice emerged as a result of this study. The key recommendation was that organisations must invest in initiatives which will generate in employees a sense that their organisation is supportive of them. This will help increase job satisfaction which in turn will lead to higher levels of affective commitment and work effort.

A number of implications for further research were identified. One suggestion to emerge was the need to conduct further research into the Allen and Meyer (1990) affective and continuance measures. The recommendation was that more parsimonious versions of these measures could be established that would contain only positive worded items. In the process of refinement consideration should be given to devising a cross-cultural version of the instrument.

In way of final summary, this study has gone a substantial way towards meeting its main objective, which was to determine the dimensions of commitment that generate employee work behaviours that assist organisations in their drive for organisational effectiveness. The study was able to produce a model suitable for use by human resource practitioners as a guide in determining what initiatives an organisation should adopt so that a productive form of commitment is generated.
The most productive form of commitment has been clearly shown in this study to be affective commitment.
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APPENDIX I

THE ORIGINAL QUESTIONNAIRE
Dear Participant

The following questionnaire is part of my Doctoral Study. The study seeks to measure employee attitudes in a number of private and public sector organisations. The research is being conducted independently and is not being financially sponsored in any way by your organisation.

The (organisation name) is supporting the study based upon the provision of feedback from the survey which will enable the organisation to further gauge your feelings about your work and employment conditions and gain valuable information in regard to your preference for Human Resource initiatives. Your participation will not only contribute to the success of the research study but will assist to further enhance conditions in your workplace.

Your responses to this questionnaire will be held in the strictest confidence. Under no circumstances will any other employee of your organisation ever see your individual responses. Your responses will be collated and included with the responses of other employees in such a way that no individual will be able to be identified in the published results. To ensure that the strictest confidence is maintained, please place the completed questionnaire in the envelope provided.

The questionnaire is divided into several sections. Before completing each section, please read the instructions carefully. Try to answer each question even if you are not completely certain of your answer. If you have any comments to add, please include them on the final page of the questionnaire.
Section 1: Employment History

Please answer each question by circling the number next to your response or by writing in an answer.

1. For how many years in total have you worked for pay since you were 16 years old? ________ years

2. For how many years have you worked for your present employer? ________ years

3. When you first came to work for your present employer, were the duties substantially the same as you have now, or were they substantially different?

   I still carry out my original duties 1
   I still carry out my original duties as well as others 2
   The duties I perform are substantially different 3

4. For how many years have you been carrying out your current duties with this employer? ________ years
Section 2: Work Attendance

Please answer each question by circling the number above your response or by writing in an answer.

5. Within the last 12 months, how many days have you been absent from work? ________ days

6. How many of the absent days were due to:

short leave ________ days
sick leave ________ days
rostered days off ________ days
parental leave ________ days
long service leave ________ days
annual leave ________ days
maternity leave ________ days
bereavement leave ________ days
other (please specify) ________ days

7. How often have you arrived at work at least ten minutes late in the last 12 months?

1 2 3 4 5
never very seldom seldom often very often
Section 3: Effort Expended at Work and Overall Job Performance

Please answer each question by circling the number above your response

8. My job requires that I work very hard.

1 2 3 4 5
strongly agree neither agree disagree strongly agree nor disagree disagree

9. Altogether, how much effort, either physical or mental, does your job require?

1 2 3 4 5
a very large a large a small almost none amount amount amount none

10. How much effort do you put into your job beyond what is required?

1 2 3 4 5
a very large a large a small almost none amount amount amount none

11. Which of the following best reflects your own assessment of your overall job performance?

1 2 3 4 5
very poor poor reasonable good excellent
Section 4: Employee Training and Development in Your Organisation

Please answer questions 12-15 by circling the number next to or above your response

12. How many opportunities for further training and development does your organisation provide you with?

1 2 3 4 5
a very large a large a small almost none number number number number none

13. Do you believe that your organisation takes adequate steps to make you aware of the training and development opportunities provided?

Yes 1
No 2

14. When was the last training and development opportunity provided to you?

less than 3 months ago 1
3 to 6 months ago 2
7 to 9 months ago 3
10 to 12 months ago 4
more than 12 months ago 5

15. In how many training and development programs offered by your organisation do you enrol in a typical year?

none 1
1 - 2 2
3 - 5 3
6 - 8 4
more than 8 5

If none, go to question 22 in section 5
For questions 16-20 please indicate your degree of disagreement or agreement with each to the following statements by circling the appropriate number beside the statement, according to the following scale:

1 = strongly disagree 4 = agree
2 = disagree 5 = strongly agree
3 = neither disagree nor agree

16. The training programs are well prepared and organised.
   1 2 3 4 5

17. The material presented is directly related to my work
   1 2 3 4 5

18. The trainers are well qualified and capable
   1 2 3 4 5

19. Sufficient time is given to learn the information and/or skills being taught.
   1 2 3 4 5

20. Trainers are given adequate feedback concerning their performance in training.
   1 2 3 4 5

21. How would you rate the overall effectiveness of your organisation’s training and development programs in providing knowledge and skill useful in improving the quality and efficiency of your work?
   1 2 3 4 5
   very poor poor good very good excellent
Section 5: Attitudes Toward the Organisation

Listed below and on the next page is a series of statements that represent feelings that individuals might have about the organisations for which they work. Consider your own feelings about your organisation and indicate your degree of agreement or disagreement with each statement. Do this by circling the appropriate number beside the statement, according to the following scale:

1 = strongly disagree 4 = agree
2 = disagree 5 = strongly agree
3 = neither agree nor disagree

22. I would be very happy to spend the rest of my career with this organisation. 1 2 3 4 5

23. I am not afraid of what might happen if I quit my job without having another job lined up. 1 2 3 4 5

24. I think that people these days move from organisation to organisation too often. 1 2 3 4 5

25. I enjoy discussing my organisation with people outside it. 1 2 3 4 5

26. It would be very hard for me to leave my organisation right now, even if I wanted to. 1 2 3 4 5

27. I do not believe that a person must always be loyal to his or her organisation. 1 2 3 4 5

28. I really feel as if this organisation’s problems are my own. 1 2 3 4 5

29. Too much in my life would be disrupted if I decided I wanted to leave my organisation right now. 1 2 3 4 5

30. Jumping from organisation to organisation does not seem at all wrong to me. 1 2 3 4 5

31. I think that I could easily become as attached to another organisation as I am to this one. 1 2 3 4 5

32. It would not be too costly for me to leave my organisation right now. 1 2 3 4 5
| 33. | One of the major reasons I continue to work for this organisation is that I believe that loyalty is important. | 1 2 3 4 5 |
| 34. | I do not feel like 'part of the family' at my organisation. | 1 2 3 4 5 |
| 35. | Right now, staying with my organisation is a matter of necessity as much as desire. | 1 2 3 4 5 |
| 36. | If I got another offer for a better job elsewhere I would not feel it was right to leave my organisation. | 1 2 3 4 5 |
| 37. | I do not feel 'emotionally attached' to my organisation. | 1 2 3 4 5 |
| 38. | I feel I have too few alternative employment options to consider leaving this organisation. | 1 2 3 4 5 |
| 39. | I was taught to be loyal to one organisation. | 1 2 3 4 5 |
| 40. | This organisation has a great deal of personal meaning for me. | 1 2 3 4 5 |
| 41. | One of the few serious consequences of leaving this organisation would be the scarcity of available alternatives. | 1 2 3 4 5 |
| 42. | Things were better in the days when people stayed with one organisation for most of their careers. | 1 2 3 4 5 |
| 43. | I do not feel a strong sense of belonging to my organisation. | 1 2 3 4 5 |
| 44. | One of the major reasons I continue to work for this organisation is that an alternative organisation may not match the overall benefits that I have here. | 1 2 3 4 5 |
| 45. | I do not think that wanting to be a 'company man' or 'company woman' is sensible anymore. | 1 2 3 4 5 |
Section 6: Perceived Organisational Support

Listed below and on the next page are a series of statements that represent possible feelings that individuals might have about the organisation for which they work. With respect to your own feelings about the particular organisation for which you are now working, please indicate the degree of your agreement or disagreement with each statement by circling one of the five alternatives beside each statement, according to the following scale:

1 = strongly disagree  
2 = disagree  
3 = neither agree nor disagree  
4 = agree  
5 = strongly agree

46. The organisation values my contribution to its well-being. 1 2 3 4 5
47. If the organisation could hire someone to replace me at a lower salary or lesser conditions it would do so. 1 2 3 4 5
48. The organisation fails to appreciate any extra effort from me. 1 2 3 4 5
49. The organisation strongly considers my goals and values. 1 2 3 4 5
50. The organisation would ignore any complaint from me. 1 2 3 4 5
51. The organisation disregards my best interests when it makes decisions that affect me. 1 2 3 4 5
52. Help is available from the organisation when I have a problem. 1 2 3 4 5
53. The organisation really cares about my well-being. 1 2 3 4 5
54. The organisation is willing to extend itself in order to help me perform my job to the best of my ability. 1 2 3 4 5
55. Even if I did the best job possible, the organisation would fail to notice. 1 2 3 4 5
56. The organisation is willing to help me when I need a special favour. 1 2 3 4 5
57. The organisation cares about my general satisfaction at work. 1 2 3 4 5
58. If given the opportunity, the organisation would take advantage of me. 1 2 3 4 5
59. The organisation shows very little concern for me. 1 2 3 4 5
60. The organisation cares about my opinions.

61. The organisation takes pride in my accomplishments at work.

62. The organisation tries to make my job as interesting as possible.
Section 7: Attitudes Towards the Job

Please answer each question by circling the number next to your response

63. All in all, how satisfied would you say you are with your job?

not at all satisfied 1
not too satisfied 2
neither satisfied nor dissatisfied 3
somewhat satisfied 4
very satisfied 5

64. Knowing what you know now, if you had to decide all over again whether or not to take the job you have now, what would you decide?

definitely decide not to take the same job 1
probably decide not to take the same job 2
would find it hard to decide 3
probably decide to take the same job 4
definitely decide to take the same job 5

65. Listed below is a series of statements that represent possible feelings that individuals might have about aspects of their jobs. Please indicate the degree of your agreement or disagreement with each statement by circling one of the five alternatives beside each statement, according to the following scale:

1 = absolutely false
2 = false
3 = neither false nor true
4 = true
5 = absolutely true

a. The physical surroundings are pleasant.
1 2 3 4 5

b. I am free from the conflicting demands that other people make on me.
1 2 3 4 5

c. I am given a chance to do the things I do best.
1 2 3 4 5

d. My employment benefits are good
1 2 3 4 5

e. The people I work with take a personal interest in me.
1 2 3 4 5

f. My supervisor is successful in getting people to work together.
1 2 3 4 5

G. Promotions are handled fairly.
1 2 3 4 5
Section 8: Intention to Turnover

Please answer each question by circling the number above your response

66. How likely is it that you will actively look for a new job in the next year?

1 not at all likely
2 somewhat likely
3 quite likely
4 very likely
5 extremely likely

67. I often think about quitting.

1 strongly disagree
2 slightly disagree
3 neither agree nor disagree
4 slightly agree
5 strongly agree

68. I will not be looking for a new job in the next year.

1 strongly disagree
2 slightly disagree
3 neither agree nor disagree
4 slightly agree
5 strongly agree

69. I will look for a new job if the economy improves.

1 strongly disagree
2 slightly disagree
3 neither agree nor disagree
4 slightly agree
5 strongly agree
Section 9: Remuneration

Please answer questions 70 and 71 by circling the number beside your response

70. Please indicate the current dollar value of your remuneration package.

- up to $25000 1
- $25001 - $30000 2
- $30001 - $35000 3
- $35001 - $40000 4
- $40001 - $45000 5
- $45001 - $50000 6
- above $50000 7

71. Which of the following benefits are provided to you in your current remuneration package?

- Superannuation 1
- Health insurance 2
- Loans 3
- Travel 4
- Child care 5
- Cars 6
- Parking 7
- Expense allowance 8
- Professional subscriptions 9
- Telephone payments 10
- Dependents' education expenses 11
- Living expenses 12
- Shares in your organisation 13
- Mortgage payments 14
- Professional membership 15
- Other (please specify) 16

72. If your organisation was to provide you with additional benefits, this could be done in a number of ways. Please rank the following in order of your preference (from 1 to 17) with 1 being the most preferred.

- Superannuation
- Wage/salary increase
- Health insurance
- Loans
- Travel
- Child care
- Cars
- Parking
- Expense allowance
- Professional subscriptions
- Telephone payments
- Dependents' education expenses
- Living expenses
- Shares in your organisation
- Mortgage payments
- Professional membership
- Other (please specify)
Section 10: Demographic Information

Finally, I would appreciate if you would provide the following information about yourself.

73. What age category do you fall within?

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>1</td>
</tr>
<tr>
<td>25-34</td>
<td>2</td>
</tr>
<tr>
<td>35-44</td>
<td>3</td>
</tr>
<tr>
<td>45-54</td>
<td>4</td>
</tr>
<tr>
<td>55 and above</td>
<td>5</td>
</tr>
</tbody>
</table>

74. Gender:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
</tr>
</tbody>
</table>

75. Is your job here:

<table>
<thead>
<tr>
<th>Job Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time?</td>
<td>1</td>
</tr>
<tr>
<td>Part-time?</td>
<td>2</td>
</tr>
</tbody>
</table>

76. Are you a union member?

<table>
<thead>
<tr>
<th>Union Member</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>

77. What is the highest level of formal education that you have completed? (Indicate the approximate equivalent if you have other, education/qualifications such as from overseas).

<table>
<thead>
<tr>
<th>Education</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 10 secondary school</td>
<td>1</td>
</tr>
<tr>
<td>Year 12 secondary school</td>
<td>2</td>
</tr>
<tr>
<td>Apprenticeship/Trade certificate</td>
<td>3</td>
</tr>
<tr>
<td>Certificate (non-trade)/Diploma</td>
<td>4</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>5</td>
</tr>
<tr>
<td>Higher qualification (post graduate)</td>
<td>6</td>
</tr>
</tbody>
</table>
Comments

Thank you very much for completing this questionnaire. Please return it as soon as possible using the enclosed envelope. If you have any comments about your responses, or about the questionnaire, please make them here.

Note:
The reader of this thesis will appreciate that not all questions in this questionnaire were included for use in the thesis. Questions 11, 13, 16, 17, 18, 19, 20, 21, 71, 72 were included in the questionnaire to gain the co-operation of some of the organisations but were not used for the thesis study.
APPENDIX II

ITEM LOADINGS AND ESTIMATED ERRORS DERIVED FROM THE
CONFIRMATORY FACTOR ANALYSES CONDUCTED ON THE
WESTRAIL AND SGIO SAMPLES
Table 1
Item loadings and estimated errors of the commitment items derived from the confirmatory factor analyses conducted on the Westrail (N = 657) and SGIO (N = 260) samples

<table>
<thead>
<tr>
<th>Commitment item</th>
<th>Item loading</th>
<th>Estimated errors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Westrail</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC item 1</td>
<td>.715</td>
<td>.699</td>
</tr>
<tr>
<td>AC item 2</td>
<td>.538</td>
<td>.843</td>
</tr>
<tr>
<td>AC item 3</td>
<td>.411</td>
<td>.912</td>
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<tr>
<td>AC item 7</td>
<td>.789</td>
<td>.615</td>
</tr>
<tr>
<td>CC item 2</td>
<td>.770</td>
<td>.638</td>
</tr>
<tr>
<td>CC item 3</td>
<td>.793</td>
<td>.609</td>
</tr>
<tr>
<td>CC item 7</td>
<td>.581</td>
<td>.814</td>
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<tr>
<td>CC item 8</td>
<td>.398</td>
<td>.917</td>
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<tr>
<td><strong>SGIO</strong></td>
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<td></td>
</tr>
<tr>
<td>AC item 1</td>
<td>.723</td>
<td>.690</td>
</tr>
<tr>
<td>AC item 2</td>
<td>.503</td>
<td>.864</td>
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<td>AC item 3</td>
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<td>.915</td>
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<tr>
<td>AC item 7</td>
<td>.618</td>
<td>.786</td>
</tr>
<tr>
<td>CC item 2</td>
<td>.851</td>
<td>.525</td>
</tr>
<tr>
<td>CC item 3</td>
<td>.635</td>
<td>.773</td>
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<td>CC item 7</td>
<td>.309</td>
<td>.951</td>
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<tr>
<td>CC item 8</td>
<td>.339</td>
<td>.941</td>
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APPENDIX III

MEANS, STANDARD DEVIATIONS, SKEWNESS AND KURTOSIS FOR EACH ITEM USED TO DEVELOP THE MEASUREMENT MODELS
Table 1
Means, skewness, kurtosis, and standard deviation values for each item in the full measurement model using the Westrail sample (N = 657)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Standard Dev</th>
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</thead>
<tbody>
<tr>
<td>AC item 1</td>
<td>3.302</td>
<td>-.438</td>
<td>-.837</td>
<td>1.268</td>
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<td>AC item 2</td>
<td>3.059</td>
<td>-.255</td>
<td>-.856</td>
<td>1.162</td>
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<td>AC item 3</td>
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<td>.412</td>
<td>-.828</td>
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<td>2.978</td>
<td>-.225</td>
<td>-.806</td>
<td>1.119</td>
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<tr>
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<td>-.266</td>
<td>-1.168</td>
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<td>-.782</td>
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</table>
Table 2
Means, skewness, kurtosis, and standard deviation values for each item in the full measurement model using the SGIO sample (N = 260)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Standard Dev</th>
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<tbody>
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<td>-.653</td>
<td>1.008</td>
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<td>-.309</td>
<td>-.573</td>
<td>.980</td>
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<td>1.110</td>
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<td>-.744</td>
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Table 3
*Means, skewness, kurtosis, and standard deviation values for each item in the full measurement model using the combined Swan, WesBoard and Health samples (N = 460)*

<table>
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<th>Variable</th>
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<th>Skewness</th>
<th>Kurtosis</th>
<th>Standard Dev</th>
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APPENDIX IV

LONGITUDINAL ECM 4
Organisational Support
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<th>Time 1</th>
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<tbody>
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<td>0.815*</td>
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<td>-3.18</td>
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Job Satisfaction
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Organisational Tenure
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Affective Commitment
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Continuance Commitment
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Absenteeism
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Effort
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</thead>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Turnover Intention
<table>
<thead>
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<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.503*</td>
<td></td>
</tr>
</tbody>
</table>

Note: Path coefficients shown are standardised* = P< .05
Appendix 4: Path coefficients of Longitudinal ECM 4