**Graduate School of Business**

# The Influence of Participation in Decision-Making within the Enterprise Bargaining Context: Implications for Job Satisfaction and Affective Commitment

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This is to certify that the dissertation is the work of the candidate alone and has not been submitted previously, either in whole or in part, for any other academic award.

Brenda Scott-Ladd

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## Abstract

This thesis explores the role and relationships of employee participation in decision-making (PDM) within the enterprise bargaining context. The advent of the enterprise bargaining to facilitate labour market restructuring has led to dramatic changes within Australian industrial relations, supposedly offering employees the opportunity to participate in changes to work practices, conditions of employment and rewards in return for employer gains in productivity (Niland, 1993). Productivity improvements have been achieved, but some researchers claim this has been at employees expense and that job satisfaction and affective commitment are declining as working hours increase, work intensifies, and job security diminishes. Employee PDM influencing more positive outcomes, such as improved productivity, satisfaction and commitment is appealing, but largely untested.

Research data was gathered from the public, private and local government sectors to form two separate studies to test a model of PDM developed from the literature. The first Study analysed cross-sectional data to test the influence of PDM in relation to working conditions, work practices and rewards and outcomes of job satisfaction and affective commitment, while the second Study examined these relationships on an independent longitudinal matched sample. Analysis was conducted using Structural Equation Modelling with the EQS statistical package.

Findings from both studies supported that higher levels of PDM correlate with higher levels of job satisfaction and affective commitment and Autonomy is the only significant mediator in the relationship PDM and affective commitment. Employees also perceived that increased task variety correlated with higher levels of PDM. Lower levels of PDM correlated with lower autonomy and perceptions of performance effectiveness. Although positive attitudes to PDM positively influence satisfaction and affective commitment outcomes, lowered perceived performance effectiveness and rewards compromise the gains achieved. These findings support the crucial role of employee participation in decision-making and sound a warning to practitioners in that increased demands for performance should not extend to role overload that reduces effectiveness, and must be matched with equitable rewards.

# CHAPTER ONE

## Introduction to the thesis

The introduction of enterprise bargaining has provided employees with the opportunity to participate in changes to work-practices, conditions of employment and rewards in Australian workplaces. This thesis explores the relationship of participation on employee outcomes of job satisfaction and affective commitment in the enterprise bargaining context. As an introduction to the thesis this Chapter explains the rationale for enterprise bargaining, including the background and significance of the changes taking place in the Australian labour market. A philosophical framework for industrial relations reform is explored. This is followed by a discussion of concerns raised by stakeholders about the possible impact of unequal bargaining power and the validity of the approach taken within Australia. The introduction of enterprise bargaining is detailed. Questions regarding the role participation in decision-making plays within the enterprise bargaining context provide structure to the conceptual framework and the objectives of this research. The research methodology, including choice of subjects is explained, and an overview of the thesis concludes the Chapter.

Employee work involvement through participation in decision making (PDM) has been increasingly proposed as a critical means for reducing costs, improving the quality of goods and services and promoting greater satisfaction for employees. It is on this fundamental premise that Australian governments at State and Federal levels and unions asked employers and workers to embrace enterprise bargaining (Niland, 1993). This is despite previous research on the relationship between participation in decision-making and employee outcomes such as satisfaction and job performance, being inconclusive (Tjosvold, 1998; Jones, 1997; Scully, Kirkpatrick & Locke, 1995; Latham, Winters & Locke, 1994).

Since the late 1980's, Australian industrial relations have evolved through a period of radical change. Poor performance in global markets highlighted Australia's need to overcome the geographical and historical disadvantages

engendered by protectionism to improve productivity and efficiency across all sectors (Niland, 1993). An example that highlights the importance of this change is the increased international trade between Australia and the Asian region where disparity between Australia's investment in human resources and the lower pay rates in the Asian region gave the latter countries a competitive edge (Gordon, 1993). In response to these economic pressures, Australian governments at State and Federal levels, employer representatives and the Australian Council of Trade Unions (ACTU) sought micro-economic reform that included restructuring fundamental aspects of workplace arrangements. The reform process included the introduction of "enterprise bargaining", a decentralised approach where employees and employers cooperate to negotiate wages, work conditions and work practices directly at the work place or 'enterprise' (Callus, 1997; Quinlan, 1996; Niland, 1993). Direct negotiation between the parties was sought to increase employee input and commitment (Hamberger, 1996; Niland, 1993). This was a considerable shift from previous practices where wages and conditions in Australia were negotiated through a centralised system, where employer bodies and unions negotiated on the employees' behalf.

Enterprise level bargaining was initially promoted as a means for increasing worker participation and achieving greater worker involvement, commitment and job satisfaction to engender productivity improvements (Callus, 1997; Hamberger, 1996; Quinlan, 1996; Niland, 1993). Enterprise bargaining promised employers improved productivity and workplace cooperation (Callus, 1997; Quinlan, 1996; Niland, 1993) a share in subsequent gains through increased job satisfaction, improved wages and conditions (Jones, 1996; Niland, 1993; Department of Industrial Relations, 1992). Family-friendly employment conditions and better human resource practices could be encouraged to promote a working environment that would improve employees' wellbeing through occupational health and safety strategies and also reduce absenteeism (Department of Industrial Relations, 1992).

This thesis developed out of a need to understand whether or not the enterprise bargaining model is effective in improving satisfaction and commitment if employee participation is included in the implementation. Of

particular interest is the inherent role and influence participation offers for changing employee attitudes in regard to work practices, job satisfaction and commitment. Previous scholars exploring employee participation or involvement have consistently used the term 'participation in decision making' (PDM) (Black & Gregerson, 1997; Latham, Winters & Locke, 1994; Cotton, Vollrath, Froggatt, Lengnick-Hall & Jennings, 1988). The term PDM was adopted in this research as an appropriate operational definition for participation within the enterprise bargaining context.

## BACKGROUND TO THE RESEARCH

Despite consensus among the parties that micro-economic reform needed to extend to the labour market there remained a number of concerns. While recognising change was necessary, it was acknowledged that enterprise bargaining would bring "short term pain for long term gain", and this applied to some worker's more than others (Niland, 1993). Of particular concern was employers' and employees' lack of experience at bargaining on their own behalf and the risk of disadvantage to those employees perceived as having low bargaining power. A brief history of the Australian Labour Market and the rationale for change demonstrates the enormity of this change.

### History of Regulation in Australia's Labour Market.

At the time of Federation in 1901, the newly formed Australian government sought to protect and nurture Australia's envisaged social structure. One of their initiatives was to establish an industrial relations system that regulated employment and controlled working conditions and wages to prevent exploitation (Plowman, 1992). The *Arbitration and Conciliation Act* (1904) provided a centralised, compulsory system that conciliated or arbitrated unresolved disputes between employees and employers (Lansbury & Westcott, 1992). Other Federation government initiatives believed to influence Australia's worsening position were the protection of industry and workers with immigration restrictions and tariffs. For example, the *Excise Tariff Act* (1906) allowed employers to seek protection from overseas competitors in return for providing reasonable wages and conditions (Deery & Plowman, 1991).

While the centralised approach maintained minimum standards, wage parity, and other controls it also provided a process for dispute resolution (Niland, 1978); however, employers and employees were largely excluded from the process (Lansbury & Westcott, 1992). Unions negotiated with employers to establish common rules and regulate work-related matters and negotiated outcomes were usually dependant on the parties' bargaining power (Dabscheck & Niland, 1981) resulting in an adversarial system (Hamberger, 1996). The exclusion of employers and employees from direct involvement in the process resulted in these two key parties having little experience or incentive to compromise and resolve their own industrial differences (Bahrami, 1996; Curtain, 1991).

These relationship difficulties were compounded with the Australian union movement's focus on crafts or employees' occupations, rather than industries (McLaughlin, 1990). Pay and conditions differed across and within workplaces because they were linked to a worker's trade or profession through the centralised Award system. It was common for union membership to be dispersed, even within the one workplace. Ultimately this meant different unions pursued different agendas as they sought to protect or advance *their* own member's interests (McLaughlin, 1990) in preference to having a holistic workplace perspective. As workers were excluded from bargaining they often did not understand the process. This lack of understanding increased the propensity to strike - a strategy sometimes used over zealously, further aggravating employer - employee relations (Drago, Wooden & Sloan, 1992).

In sharp contrast, and increasingly attractive to government and employer bodies, was the perceived more stable industrial environment seen in non-unionised workplaces. In the small business environment, employers and employees were able to develop agreements based on mutual interest (McLaughlin, 1990). This occurred due to employers and employees building better relations within these workplaces, because there was no third party, and because there was a tradition of making successful informal agreements to meet their joint productivity and reward needs (Callus, 1997).

**Need for Reform**

In the early 1980s, Australia continued to rely on traditional commodities such as agriculture and natural resources (McLaughlin, 1990), despite shrinkage in these industries' international markets (Deery & Plowman, 1991). It was clear greater productivity growth was needed to prevent further decline in Australia's income (Isaac, 1996). In an effort to strengthen the country's position, Australia started moving toward a free market economy. Tariffs and market controls were removed, the Australian dollar floated in 1983, and exchange controls were lifted to remove restrictions on overseas investment (Morris, 1999; Forsyth, 1992; Deery & Plowman, 1991). To support successful competition in the increasingly global economy, workplace productivity needed to increase, and governments, unions and employer groups agreed that structural reform of the labour market was required (Bahrami, 1996; Forsyth, 1992).

Labour market change accelerated dramatically after the Australian Labour Party (ALP) was elected to Federal government in 1983. The ALP and Australian Council of Trade Unions (ACTU) entered into a Prices and Wages Accord. The ACTU co-operated with the government by holding down wage claims, and actively supporting the shift to an enterprise focus (MacIntosh, 1993). Wage gains were linked to productivity outcomes and the economic environment (Curtain, 1991). Although not actively involved in the Accord process, employer groups welcomed and endorsed these changes to work arrangements (Hamilton, 1993) despite some concerns regarding what they saw as slow progress.

While employers were concerned that union involvement impeded reform, the Labour government was motivated to maintain the unions' role. Two reasons for this Government's caution included the need to retain collective political power, and protect industrially weak workers (Graham, 1992; McLaughlin, 1990). The unions shared the Labour government's concern that a deregulated labour market could increase already existing inequalities. Wage differences were apparent among groups differentiated by age, gender or part-time work status (Hammond, 1992a) and these groups were seen to be at even greater risk. Experience elsewhere has shown this concern was not unfounded; for example, deregulation in New

Zealand preceded a decline in wages and benefits for female workers (Hammond, 1992b).

Although many changes had occurred by the early 1990s, government, unions and particularly employers believed industrial practices and the labour market structure were out of touch with the reality of economic performance and discouraged optimum capital and labour usage (Niland, 1993; Deery & Plowman, 1991). The 'catch cry' was that at the micro-economic level individual workers and employers would best know how to deal with their own needs and solve their own problems (Bahrami, 1996; Garvey & Duncan, 1993; McLaughlin, 1990). This led to the convergence of two initiatives, these being firstly, to decentralise industrial relations and secondly, to involve workers directly in negotiations by adopting a unitarist approach to workplace relations.

**A Philosophical Framework for Industrial Relations Reform**

The three major 'players' in the Australian industrial relations system have always been the government, employer organisations and unions as employees' representatives. As discussed earlier, decision-making previously occurred away from the workplace within the centralised framework fostering a pluralist approach (Quinlan, 2000; Mortimer & Morris, 1998). The pluralist approach often resulted in increased conflict because the parties represented different constituents and allegiances, and competed for power and differing goals (Deery, Plowman & Walsh, 1998). In contrast, the unitarist approach sees the parties in workplace disputes as having common allegiances and the shared objective of organisational success (Deery et al., 1998).

Within the industrial relations system decision-making occurs at different levels, as demonstrated in the model presented in Table 1.1 and discussed below (Kochan, Katz & McKersie, 1986). The model depicted in Table 1.1 presents decision-making occurring at three different levels; firstly at the corporate policy level, secondly at the collective bargaining level and thirdly at the workplace level. Depending on the level of negotiation, the parties may make different choices, adopt different roles and have different relationships. Quite apart from having a different perspective, the parties also have different agendas at different levels. Although this

is a fairly simple model, it recognises the reality of discordant agendas and interrelationships at work (Deery et al., 1998) and the inherent tension between labour and management (Fells & Rosser, 1998) and places relationships in a broader context than previously recognised. It is evident that Australian industrial relations activities in the past centred on the models two upper levels. Decision-making was primarily centralised at the corporate, political and policy-making level, with some involvement at the collective bargaining strategies, and very little involvement occurring at the workplace level.

**Table 1.1. Three levels of Industrial Relations Activity**

| **Level** | Employers | Unions | **Government** |
|---|---|---|---|
| Long term strategy / Policy making | Business, Investment and Human Resource strategies | Political Representation and Organising strategies | Macro-economic and Social Policies |
| Collective Bargaining and Personnel Policy | Personnel policies and negotiation strategies | Collective Bargaining strategies | Labour law and administration |
| Workplace and individual - organisational relationships | Supervisory style, worker participation. Job design and work organisation. | Contract administration, Worker participation. Job design and work organisation. | Labour standards, Worker participation and Individual rights. |

Source: Kochan, Katz and McKersie 1986:17

In 1991 the introduction of the National Wage Principles accelerated the shift away from the centralised awards system to an enterprise focus, allowing employers and employees to negotiate their own workplace arrangements (Department of Industrial Relations, 1992). The philosophical shift away from unions and resultant decline in membership was fuelled in part, by perceptions that unions were no longer relevant because they had held down wage claims during the Accord with the ALP. Therefore, in an era of declining union membership and power (Green & Carbon, 1993; Sloan, 1993; Deery & Plowman, 1991) many

believed that unions were no longer the best party to represent all employees as non-union members were excluded from the enterprise bargaining process.

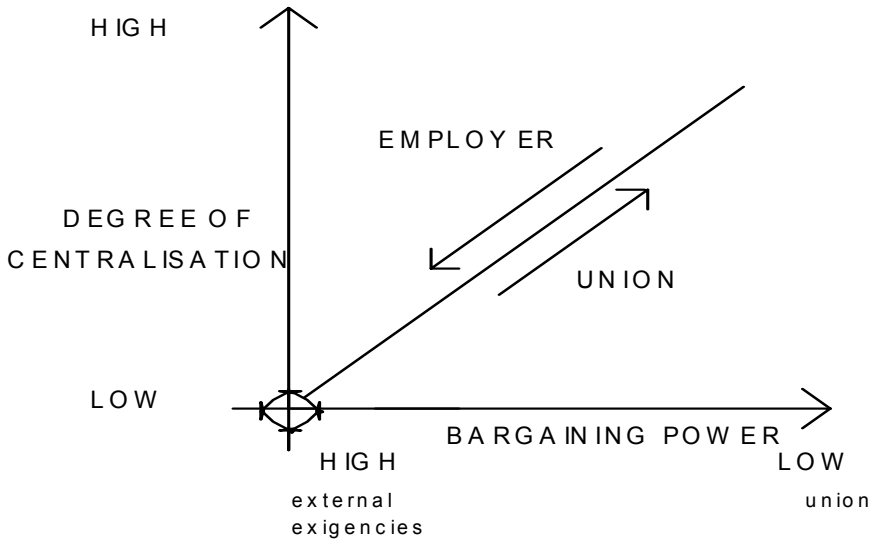
**Concern Regarding Unequal Bargaining Power**

Bargaining power is also linked to the philosophical viewpoint of conflict. The pluralist view of conflict is that the employer and employees seek different economic outcomes in the bargaining process. This approach is distributive and based on the assumption that there is inherent conflict between the parties' needs. For example, employers seek to reduce costs of production and labour, while workers seek to improve their security and stability through earnings (Fieldes & Bramble, 1992; Spicer, 1992; McKersie & Hunter, 1973). More closely aligned to the unitarist approach is the premise that even though conflict exists, the relationship is also mutually dependent (Salamon, 1992). As an example, employees will remain with an employer because they need employment to earn wages and have job security, whereas employers will seek to retain workers to minimise replacement costs. The unitarist position is based on an integrative or problem solving approach, which recognises that gains for the organisation lead to gains for the employee, giving both employer and employer common objectives. Although there may be conflict inherent within issues, the objective should be to work toward achieving a mutually beneficial outcome (McKersie & Hunter, 1973).

While recognising both parties can gain from the bargaining process, in reality the advantages are weighted in management's favour (Fells, 1998). This is evident in the economic reality that wage increases relative to productivity eventually become unsustainable (Keating, 1996). A major concern, particularly in the union movement, was the potential for workers with unequal bargaining power to be disadvantaged. This concern focuses on the negotiating environment the parties operate within. For example, in high product and labour demand periods the employer has the weaker bargaining position (Gilson, 1991a). Whereas in times of high competition with low product and labour demand, the situation is reversed giving the employer greater power in the process, as shown in Figure 1.1 and described below.

In effect, this means that when unemployment is high the employer is able to use the stronger bargaining position to exert greater control over wages and conditions and reduce costs, with the reverse evident when unemployment is low. Clearly, either situation has the potential to incite conflict. Unions feared that decentralising at a time of high un-employment, when employee bargaining power was reduced would allow employers to force wages and conditions down. In order to maintain some power unions sought to maintain the centralised approach to exercise collective strength to protect job security and gain members a greater industry profit share.

**Figure 1.1 Employer Bargaining Structure Preference Curve**




Source: Gilson, 1991b:37

In spite of the concerns about bargaining power, the Australian Labour Market is moving away from distributive bargaining. A caution relevant to the Australian context is that integrative bargaining requires each party to rely on the other party's honesty. Adopting an integrative approach to bargaining allows the employer and employee to acknowledge both the conflict and mutual inter-dependence, so that through understanding, cooperation and compromise they can build mutually beneficial relationships and outcomes (Salamon, 1992; Dabscheck & Niland, 1981; Niland, 1978).

**The Introduction of Enterprise Bargaining**

Despite concerns that the workplace environment was neither ready nor sufficiently industrially mature to deal with the conflict caused by fundamental differences in power, the Federal Industrial Relations Commission (IRC) adopted the Enterprise Bargaining principle as part of the National Wage Case in 1991 (Macklin, Goodwin & Docherty, 1993; AIRC, 1991). This legislation formalised the transformation from the centralised awards system to the enterprise focus where employers and employees could negotiate their own workplace arrangements, albeit with or without union involvement (Department of Industrial Relations, 1992).

Initially companies were slow to take up enterprise bargaining agreements. Unions were reluctant to trade what they viewed as "hard won" employee conditions and benefits, so bargaining was restricted to the award framework. Employer groups complained that unions were slowing progress (Winley, 1996), and employer pressure mounted to remove the barriers preventing non-union workers participating and registering agreements with their employers (Department of Productivity and Labour Relations, 1993; Hurley, 1993).

In Western Australia the requirement for union involvement changed after the Liberal – National Party Coalition was elected to State government in 1993. The *Workplace Agreements Act* (1993) allowed, and pro-actively encouraged, agreements without union involvement. While many provisions for enterprise and workplace agreements were similar, the major difference was the ability to exclude or reduce union involvement in Workplace Agreements (Labour Relations Newsletter, 1993d). However, enterprise agreements were still the only option available at the Federal level until the end of 1995. The majority of agreements remained in the large unionised organisations, such as in 'blue collar' workplaces and public sector organisations (Isaac, 1995). Employers finally gained the changes they sought when the Federal Liberal-National Party Coalition government was elected in 1996. The introduction of *The Federal Industrial Relations Act* (1997) broadened the scope for workplace agreements and subsequent union exclusion at the national level.

While the Federal Liberal-National coalition government has achieved significant structural reform (Bray & Waring, 1998) they have done this by adopting a confrontative approach to union involvement (Dabscheck, 2000) similar to the Thatcher government of the 1980s in the United Kingdom (Pendleton, 1997a). Perhaps the most profound example of this was the Federal government's involvement and open support for the Patrick group of Companies during the bitter waterfront dispute in 1998 that involved the dismissal of unionised labour and their subsequent reinstatement by the courts (Dabscheck, 2000).

Ongoing initiatives by the Federal government were aimed at further decreasing the role of unions and promoting individual contracts (Van Gramberg, Teicher & Griffin, 2000) in an approach which critics liken to the "the master and servant" relationships of past centuries (Quinlan, 2000:84-85). Although the numbers of individual agreements are growing, Wooden (1999) points out the majority of employees are still under collective agreements, with individual contracts usually targeted to professionals and managers. Despite growing concerns emerging in the literature the Howard Federal government remains committed to expanding workplace bargaining at the individual level (Bray & Waring, 1998).

**Experiences with Enterprise Bargaining:**

While there is growing evidence of productivity improvement in Australian organisations, early findings raise serious questions about the role of enterprise bargaining in contributing to productivity or positively reshaping the culture of the Australian workforce. Employers appear to be the main beneficiaries of enterprise bargaining due to their greater power in the negotiating relationship (Quinlan, 1998, 1996; Heiler, 1996b; Jones, 1996). High unemployment and downsizing have allowed managers to drive the process and focus on organisational objectives (Buchanan, O'Keeffe, Bretherton, Arsovska, Meagher & Heiler, 2000; Fells, 1996). Productivity is not easily measurable and the contribution of enterprise bargaining to long-term productivity improvement remains difficult to establish (Hawke & Wooden, 1998; Callus, 1997; Green, 1996; Rimmer & Watts, 1996). It may well be that productivity has improved through means other than enterprise bargaining or, through using enterprise bargaining

merely as a vehicle for downsizing and work intensification (Quinlan, 1998, 1996; Callus, 1997; Green, 1996).

**Productivity Growth**

Productivity in organisations has grown for many reasons. Some contributing factors include, better capital usage, improved output scales and the introduction of new technology (Isaac, 1996), and reduced occupational demarcations and categories as well as broad banding and structural efficiency (Stewart, 1992). Research and development, product and process innovation and re-organisation (Morris, 1996) have also contributed. Positive trends in terms of jobs growth, improved industrial climate and reduced absenteeism have emerged, most notably in smaller and non-unionised workplaces (Issac, 1996). An advantage for these smaller businesses is that enterprise bargaining merely substitutes for the informal arrangements previously made between management and employees (Callus, 1997).

At the macro-economic level support for effective economic performance based on market and labour market reform has not emerged (Quiggin, 1998). Many organisations are unable to measure productivity systematically or accurately and linking productivity achievements to enterprise bargaining risks overstating the gains (CCH Update, 1996; Rimmer & Watts, 1996). Only a few enterprise bargaining agreements are considered innovative. There is concern that some changes made through enterprise bargaining are "one-offs" that will not sustain long term dynamic efficiency gains. Early outcomes show few agreements innovate to affect “real change”; instead the majority contain concession bargaining or "add ons" to awards with employees trading conditions for salary increases (Quinlan, 1998, 1996; Green, 1996; CCH Update, 1996). Few agreements have gone beyond the traditional industrial relations boundaries and opportunities to continue “trading off” or re-negotiate traditional issues quickly diminished (Quinlan, 1997).

Another concern is the emergence of ‘pattern’ bargaining. Different agreements across industries were developed, containing similar clauses and issues (Green, 1996; Isaac, 1996) rather than focusing on specific workplace and worker

needs. This generic approach has supported and maintained the focus on short term measurable strategies, such as changing work arrangements, to the detriment of the much needed focus on broader long-term measures, such as competitiveness or market share (Rimmer & Watts, 1996).

The Department of Industrial Relations Annual Report (1995) noted early findings of a survey of two thousand workplaces and recorded that 38% of managers reported no improvement in labour productivity, while a further 58% reported only slight increase. Morris (1996) suggests profitability has been at the expense of a cheaper more compliant workforce, as remuneration increases have in reality been wage decreases, as a result of increased hours of work. Further research has supported these findings. Workers are effectively paying for their own wage increases through work intensification and longer hours, in an environment of growing job insecurity with increasing downsizing and casualisation (ACCIRT, 1999; Peetz, 1999; Quinlan & Mayhew, 1998; Callus, 1997; Green, 1996; Quinlan, 1996; Rimmer & Watts, 1996). The result is increased stress from high workloads and uncertainties are placing greater demands on those left in the workforce (Anfuso, 1999; Brown, 1996a).

It also needs to be acknowledged that the push toward working harder and longer is not exclusively an Australian phenomenon. Globalisation, new technology and increasing competition have led to changing labour market policy and downsizing for many organisations in industrialised countries (Quinlan, 1996). Similar labour market restructuring initiatives in response to deregulation have impacted on workers in other industrialized countries, such as in New Zealand (Harbridge & Walsh, 2000) and the United Kingdom over the past two decades (Morris, 1999; Pendleton, 1997a).

**Enterprise bargaining: Impact on employees**

While enterprise bargaining aimed to improve productivity, gains to employees in the form of improved wages, conditions and increased job satisfaction were also promoted. The transition from centralised to decentralised employment practices was not expected to be easy, and it was acknowledged there would be some losers (Niland, 1993). While some workers have gained

substantially, such as those in demand in the business services, finance and highly skilled technology areas (ACIRRT, 1999), the vast majority of researchers have raised concerns about the benefits of bargaining to employees. Union and the Labour Government's concerns regarding workers with weaker bargaining positions are being realised as conditions and rewards erode. In the most comprehensive review of enterprise bargaining's impact on workers so far, the Australian Centre for Industrial Relations Research and Training (ACIRRT, 1999) surveyed nearly 20,000 workers Australia wide and found support for negative impacts on workers. Low skilled workers have the lowest bargaining power and have fared worst. These include those workers employed in the lower levels of the public sector, private sector service workers in hospitality and retail, and factory labourers. For these workers, there is mounting evidence that job insecurity has increased with downsizing and casualisation (de Ruyter & Burgess, 2000).

Another change that has increased insecurity is the accelerating growth of part-time work (Dawkins & Norris, 1995) as many full-time jobs disappear to be replaced by part-time and casual jobs. This is a particular problem for female and younger low skilled workers (Burgess, 1998). For example, women are increasingly marginalised in part-time work, and their wages are declining further below their male counterparts, with 32% of the workforce now in part-time work and 64% of these being female (Pocock, 1999; 1995). Nationally, womens' wages have fallen from 85% of the male wage in 1991 to 84% in 1995 (Pocock, 1999; 1995). In Western Australia the gap in gender pay is wider, with women 5.5% less then males in 1998 (Buchanan et al., 2000). Even for those women still in permanent, full or part-time work and in the upper or middle levels, the work environment is more competitive as de-layering in restructured organisations took away advancement and promotional opportunities.

The difference in gender wage outcomes has occurred because male workers in some sectors have been able to achieve greater pay increases and retain greater access to overtime and penalties due to stronger unionisation and their work type (ACIRRT, 1999). As expected even prior to the implementation of enterprise bargaining, the trend now emerging is that employees less able to make gains are also likely to lose more. Female workers, particularly in the service sectors have

generally lost benefits, although perhaps they have not lost as much as some "low skilled" male "blue collar" workers who are also seeing a decline in their worth and benefits (ACIRRT, 1999).

The union's early arguments about the risk for disadvantaged workers are being realised as part-time work for many masquerades as what Junor (1998:77) refers to as "high-intensity cheap skills" rather than flexible, family-friendly work practices. Longer working hours, increased stress (ACIRRT, 1999), diminished security of tenure, reduced conditions and increased personal risk (Underhill & Fernando, 1998) have reduced employee morale (ACIRRT, 1999; Callus, 1997; Quinlan, 1996). In such a climate of eroded job security, employees may be less likely to complain of disadvantages. In balance to these negative findings it needs to be acknowledged that there are some workers who prefer part-time work (Allan, 1998). Also, there are employers who seek to develop strong long-term relationships with part-time workers to maintain quality (Allan, 1998), as well as gaining greater workforce flexibility and productivity (Nelson, 1997). Despite some positive examples, the evidence that many lack bargaining power in the prevailing industrial climate is strong and suggests that the fears raised initially by Stewart (1992) of greater inequities, increasing social injustice and 'class' disparity (Stewart, 1992) were well founded. Little evidence has emerged that the model sold to workers is being implemented in reality, or is able to deliver the promised benefits to workers, as highlighted in the following example.

A study of principals and deputy principals employed by the Adult Migrant Education Service in NSW reported staff as initially happy with the agreement outcomes. This perception changed when, without consultation, an unexpected 22% staff cut was implemented. Staff were locked into the agreement reached prior to the change. Remaining staff reported increasing dissatisfaction as they coped with increased hours, workload and stress (Jones, 1996). While 39% of staff agreed productivity improved through the changed arrangements, this gain was perceived to be the result of money saved from executing redundancies, rather than improvements in performance.

Another concern was that as worker provisions are agreed at the enterprise level, standards at the industry or occupational level would break down (Smith, 1999). A study conducted by Heiler (1996a) found that where the focus was on cost cutting to improve productivity and push up performance, concern for occupational health was reduced. Away from the workplace, growing in-balance between home and work life further threatens health and wellbeing (Probert, Ewer & Whiting, 2000). Increases in outsourcing have left contract and casual labour marginalised outside the award system (Heiler, 1996a; Stewart, 1996) without access to benefits such as sick leave, long service leave, or holiday pay, paid benefits such as maternity leave, and even further reduced occupational health and safety standards (Mayhew & Quinlan, 1998).

A further limitation to evaluating the impact of bargaining is the difficulty in clearly establishing the number of employees' engaged in bargaining. For example, workplace agreements in Western Australia are confidential and the figures released are cumulative, and do not accurately reflect the number of employees actually involved in agreements at a given time. At the federal level the Federal Department of Employment, Workplace Relations and Small Business (2000) survey found that in 1999, 42% of employees operate under registered enterprise agreements and award coverage had declined to 22%; however, 44% of those remaining on awards were part-time workers.

Fortunately not all enterprise bargaining evaluations are so negative. Connoley (1998) reported a more recent and positive result in relation to twenty-nine staff members in a New South Wales Health Service. In this study, management commitment and employee participation in the process, plus a long-term rather than a short-term focus emerged as the key factors in achieving performance and satisfaction. This study found evidence to support the enterprise bargaining model, recommending employee involvement and management commitment as key ingredients, which unfortunately, are not always applied. Another benefit identified by Fells (1998) in a study conducted in a hospital setting was that the negotiation process provides an opportunity for potential grievances and issues to be addressed.

Other positive trends have been identified in the form of improved flexibility and productivity, jobs growth, improved industrial climate and reduced absenteeism (Issac, 1996), particularly in the small business sector that has contributed disproportionately to economic growth (Buultjens, 1996). Small size allowed these businesses to respond more flexibly to conditions and remuneration, than larger unionised workforces. Change in this sector was also advantaged by a history of informal operations outside the award framework, as "flow on" effects of awards, with bonuses and above award conditions were often the norm (Callus, 1997; Deery & Plowman, 1991).

**Summary**

To date, there is emerging support for improved productivity, and recognition that some employees, such as the highly technically skilled are better off, while others, such as the low skilled are worse off within the enterprise bargaining context (Moorehead, Steele, Alexander, Stephen & Duffin, 1997). Some would argue that superficially at least, it appears that the desired cultural shift needed to make industrial relations reform relevant and workable (Green, 1996) has not really eventuated. However, it may be that these results are only one aspect of the change and are clouding whether or not cultural change can occur through the enterprise bargaining model.

Achieving cultural change is a long-term process and for this reason it is important to evaluate whether employee participation is achieving an attitudinal shift over time to change work practices and influence job satisfaction and commitment outcomes (Jones, 1996; Quinlan, 1996). If enterprise bargaining were implemented in the way initially intended, with genuine employee participation and a share of productivity gains, would the outcomes be more positive? Research indicates that trends in Australia are similar to overseas with employee participation increasing (Harley, Ramsey & Scholarios, 2000); therefore, it is important to understand if and how employee workplace participation contributes to gains for employees and employers.

To evaluate the impact of participation in the process of enterprise bargaining further research needs to be undertaken. To date, no comprehensive

reviews of the role of participation within the enterprise bargaining context have been undertaken. As participation forms part of the bargaining model it is important to understand whether or not employees believe they are able to participate in decision-making, and if so, whether participation is contributing to changed work practices, conditions and benefits? In such situations what benefits do employees believe they have gained in return for their involvement? Does participation actually influence work tasks, performance and rewards and thereby improve satisfaction, or does participation alone engender job satisfaction or feelings of commitment?

Before any of these questions can be answered it is important to clearly define what is meant by participation. The level and form of participation needs to be clearly-defined before questions regarding participation within this context can be answered. While a definition of participation will be developed and explained in the literature review, in brief, participation will refer to employees being "able to have a say" in matters that affect them, in accordance with the enterprise bargaining model. As the intent of participation within the enterprise bargaining context is for employees to participate in some way in decision-making, the rationale for using the term 'participation in decision-making' (PDM) will be presented. Of equal importance in the evaluation of participation, is undertaking such an evaluation in an environment where participation takes place. This study will differ from previous studies by examining the role of participation in decision-making within organisations attempting to negotiate the enterprise bargaining process in consultation and with employee participation.

This thesis will address these questions and attempt to contribute to a better understanding of the role that employee participation in decision-making plays within the enterprise bargaining context. To achieve this, the thesis examines organisations across the public, private and local government sectors, at various stages of implementing enterprise agreements over an eighteen-month period.

## Purpose of the Research

The purpose of this research is to:

1. determine the impact of participation in decision making (PDM) on employees' attitudes to job satisfaction and affective commitment;
2. determine if PDM has a direct influence on job satisfaction and affective commitment or whether it has an indirect effect by changing work practices, conditions and employee rewards to improve satisfaction and commitment within the enterprise bargaining context.

Little research has been undertaken into PDM's role within the enterprise bargaining context. For example, the Australian Workplace Industrial Relations Survey (Moorehead et al., 1997) reported that only 20% of employers sought employee contributions toward "substantial workplace change" (Moorehead et al., 1997). Another study reviewed two organisations in the Hunter Valley region of NSW, with mixed findings regarding the level of PDM that is occurring. The main barrier to increased employee involvement cited was the "diehard managers" who were reluctant to relinquish power and control (Connell, 1998). While enterprise bargaining was promoted on the basis that worker involvement at the enterprise level would lead to gains to both the employer and employee, previous research has not clearly supported this as the case, in part because the form and level of participation have not been clearly-defined, therefore this premise needs to be tested.

It is important to understand how employee participation influences the change process, as proposed within the enterprise bargaining model. The levels of involvement and influence employees gain through PDM has been identified as significant factors influencing employees' positive attitudinal and performance outcomes (Black & Gregersen, 1997) and this research will test if this holds true within the current Australian work context.

An extensive literature review was undertaken to identify important variables for the study. A model of PDM within the enterprise bargaining context is presented and this model will be tested to better understand PDM's role. The model contends that PDM has a dual effect by indirectly influencing job

satisfaction and affective commitment by mediating employees job characteristics, rewards and performance as well as having a direct effect on job satisfaction and affective commitment.

A two-staged approach, comprising two separate studies has been undertaken in this thesis. Study 1 establishes and tests the structural relationships within the PDM model using cross-sectional data from seven organisations. Study 2 tests longitudinal matched data from five organisations for structural relationships and confirmation of causality over time.

## Justification for the research

There is little evidence to suggest the longer-term impact of employee participation and changes in worker commitment have been examined in research undertaken to date. As mentioned in the previous section, the AWIRS survey (1995; cited in Moorehead et al., 1997) asked employees if they had been able to participate in "substantial workplace change". A Department of Industrial Relations Annual Report (1995) survey conducted during that time period noted, that while some employees felt they had been able to "have a fair say" in changes that affected them, equal numbers felt they had not.

While there have been anecdotal reports of achievement from the employers' perspective, and negative impacts to employees, as discussed in the previous section, systematic research on the effects of enterprise bargaining on workers and performance remains scarce (Jones, 1996; Quinlan, 1996). This is partly due to the short time frame enterprise bargaining has been in place, bargaining's slow progress and confusion caused by the multiple change agendas operating concurrently (Callus, 1997; Quinlan, 1996; Rimmer & Watts, 1996).

There are indications of some studies examining the impact of enterprise bargaining on staff satisfaction, with limited attempts at planned systematic longitudinal studies (Jones, 1996; Rimmer & Watts, 1996). Apart from a number of related generic questions in the two major surveys reported, there appears no evidence of research examining the role and influence of employee PDM in relationship to task changes, rewards, performance, job satisfaction and commitment.

Given that concerns are already emerging about negative longer-term implications for Australia's productivity and competitiveness (Callus, 1997; CCH Update, 1996; Issacs, 1996; Morris, 1996; Quinlan, 1996) it seems imperative to understand the impact of enterprise bargaining and the processes being used. As employee participation is a key strategy in the enterprise bargaining process, the role PDM plays in influencing changes in work arrangements and productivity outcomes requires further investigation.

**Contribution to Scholarship**

This research will make an original contribution to scholarship in three ways. Firstly, examining PDM's role will establish whether or not PDM is significant as a pre-determinant or mediator of attitudinal and performance outcomes. Secondly, by examining previously untested links between employees' participation in decision making and their attitudinal responses of job satisfaction and affective commitment within the enterprise bargaining context. Thirdly, by contributing to theoretical knowledge regarding the relationships between the job characteristics, rewards, performance effectiveness and PDM as pre-determinants of job satisfaction and affective commitment within the enterprise bargaining and broader organisational contexts. The research will also provide the participating organisations with feedback regarding employees' perceptions to inform and assist the organisations in further implementation of bargaining strategies.

## Overview of Methods:

This thesis presents data and analysis related to cross-sectional and longitudinal quantitative research. Data was drawn from a number of organisations at different stages of enterprise bargaining implementation across three different industries. The research comprised two separate studies. Study 1 is a cross-sectional study and included seven organisations; a state government agency, three local government agencies and a private hospital, a hotel / resort and a small manufacturing company from the private sector. Study 2 is a longitudinal study of matched samples from five of the same organisations, excluding the hotel / resort and small manufacturing company. The organisations combined to give a random sample population of 1997 workers, with 495 useable

responses. Only data that could be matched over time was used for Study 2, with a result of 176 useable responses.

All organisations were selected because they had entered into agreements developed in consultation with employees, or, as in the case of the third local government organisation were about to do so. Each organisation stated they had actively sought employee participation in decisions related to work practices, working conditions and rewards and their agreements were developed consultatively with union and/or staff involvement.

Two of the three private sector and the three local government agencies initiated enterprise agreements rather than workplace agreements, as they believed a collective and open approach was more appropriate for achieving workplace reform. The state government agency operated with what they termed "generic workplace agreements" in recognition of the WA State Liberal and National Coalition government's preference for "Workplace Agreements". In reality, this "generic" approach is more aligned to the collective enterprise agreement approach.

An extensive literature review was undertaken to enable this research to be grounded in the current literature relating to PDM and enterprise bargaining in the Australian context. This development ensured that the research did not duplicate other studies, and instead contributed significant and relevant knowledge toward the ongoing implementation of employee participation within the enterprise bargaining context. Five hypotheses relating to the role of PDM in the enterprise bargaining context were developed from the literature.

The initial survey instrument was tested by a pilot study involving employed post-graduate business students. The results of the pilot study allowed refinement of the questionnaire and testing for construct reliability (Sekaran, 1992). The resultant survey instrument consisted of forty-seven (47) questions including seven (7) demographic questions and forty (40) questions related to the variables under study. Items in the questionnaire were drawn from relevant instruments as well as those developed by the researcher based on previously identified research

constructs. The survey instrument was composed of likert-type scaled responses to support content and construct validity (Sekaran, 1992) and the cross sectional and longitudinal sample diversity gave external validity to the study. Internal validity was further supported by path structures occurring across the different organisations (Sekaran, 1992).

Data was collected using self-report surveys that the organisations distributed through their internal mail systems. A letter from the researcher explained the research purpose and was accompanied by a letter of support and reassurance regarding employee confidentiality from each organisation's Chief Executive Officer. Data were collected at two stages in time and collated to form two separate studies that were examined for structural relationships, using structural equation modelling techniques with the EQS statistical package (Bentler, 1995).

Study 1 used a split sample of data collected from the seven organisations to conduct a confirmatory factor analysis and develop a measurement model to investigate the structural pathways and relationships between the variables (Schumacker & Lomax, 1996; Kelloway, 1995). Prior to confirming the structural model, a number of alternative models of PDM were also tested to assess the adequacy of the model proposed from the literature as recommended by MacCallum and Austin (2000). Study 2 investigated an independent sample of longitudinal matched data to identify correlations over time and test causal predominance.

## Overview of thesis structure

This thesis is presented over six Chapters. Chapter One has introduced the thesis. Chapter Two presents literature related to PDM as well as literature related to the pre-determinants and outcomes of job satisfaction commitment and work performance. Previous findings on the variables in the research that relate specifically to enterprise bargaining are also discussed. The relationship of PDM to other constructs and the significant variables for the research are presented in a conceptual framework, providing support of the five hypotheses presented in this research.

Chapter Three explains the methodology for data collection and analysis. The participating organisations are described, along with the sample sizes and instrument used. The statistical package EQS was used to analyse the data and the rationale for using this program and the program details are included.

Chapter Four describes the methods used to investigate the factorial structure and relationships in the PDM model and all analysis related to Study 1. This includes a brief overview of the cross sectional data used to develop and purify the measurement model. The data was split into two groups; Sample I was used to calibrate the model and Sample 2 was used to validate the model. Confirmatory factor analysis extracted eight factors from the data. The structural model was then tested for direct and indirect effects of PDM within the enterprise bargaining context. Study 1 reports the calibration and validation of the structural model of PDM.

Chapter Five presents the test results for Study 2, using the model of PDM developed in Chapter Four to test longitudinal matched sample data for causal links over the eighteen month time period. Chapter Six presents a discussion of the findings, conclusions and implications of the research. The thesis concludes with a presentation of the limitations and recommendations for further research.

## Conclusion

This Chapter has introduced and presented the rationale for the research. Changes occurring in Australian industrial relations and the evolution and rationale for enterprise bargaining have been explained. The concerns identified regarding the role employee participation plays in the work reform agenda led to specific research questions being identified. The purpose of the research was presented, followed by justification for the research and a brief description of the research methodology in support of the following Chapters.

# CHAPTER TWO

# PARTICIPATIVE DECISION MAKING: A REVIEW OF THE LITERATURE AND PRESENTATION OF A CONCEPTUAL FRAMEWORK

## INTRODUCTION

The purpose of this Chapter is to explore the relevant literature related to participative decision-making (PDM) to support a conceptual schema developed for the research. Initially a diagrammatic figure presents a visual representation of the conceptual schema prior to giving an overview of the literature review structure. The next section discusses previous research findings on the role and relationship of PDM to other work outcome related variables. This includes the role of PDM as an antecedent to job satisfaction and organisational commitment, as well as the influence PDM has on the other antecedent variables of the job characteristics, perceptions of performance effectiveness and rewards. The earlier literature has generally explored PDM as a uni-dimensional construct that was defined in a number of different ways (Black & Gregersen, 1997); however more recent research has taken a multi-dimensional approach in the hope of reducing some of the inconsistent research findings. Therefore this literature review commences with a multi-dimensional approach. An exploration of the different dimensions of the PDM construct is included, providing an integrated framework to relate these dimensions to behavioural outcomes.

The third section discusses the antecedent variables of the job characteristics, performance effectiveness and why the term "perceptions of performance effectiveness" is used in this study, and rewards that are relevant to this research. There is support for PDM improving job satisfaction and limited support for PDM improving employee commitment. However, the literature raises a number of questions about the influence of PDM on other antecedent variables. This research focuses on the antecedent variables identified as significant to the enterprise bargaining context. These variables include changes to the job characteristics' model

(Hackman & Oldham, 1980) that impact on job attributes, improved conditions and wages or other benefits and their impact on rewards, as well as the impact of participation on perceptions of performance effectiveness. Self-reported satisfaction with other work facets such as, pay, job security, supervisory support and working conditions were also included in the research. Demographic variables, although not tested as part of the PDM model in this research, provide useful insights in explaining other influential factors related to participation. Context and demographic variables have also been found to influence PDM. The model of PDM developed from the literature is related to the enterprise bargaining context to allow empirical investigation of the direct and indirect influences of PDM. This includes the direct influence of PDM on the antecedent variables and the direct and indirect effects of PDM on job satisfaction and affective commitment outcomes. Although the type of agreement operating in each workplace was known, respondents were also asked whether they were employed under the arrangements of an enterprise or workplace agreement. Demographic influences, including length and type of tenure, position, age, gender and work experience are also discussed. Finally, a summary and conclusions for the Chapter are presented.

## CONCEPTUAL FRAMEWORK

The objective of this research is to investigate the influence of employees being able to "have a say" or participate in decisions that effect them and the impact of this on attitudinal changes in job satisfaction and affective commitment within the enterprise bargaining context. While evidence of negative impacts of enterprise bargaining on workers are emerging (Heiler, 1996; Morris, 1996; Quinlan, 1996), the outcome may be much more positive if enterprise bargaining was implemented in the way initially intended, with genuine employee participation and involvement and a share of productivity gains. The approach the employer takes to bargaining is likely to have a profound effect on employee's attitudinal responses and this relationship warrants investigation.

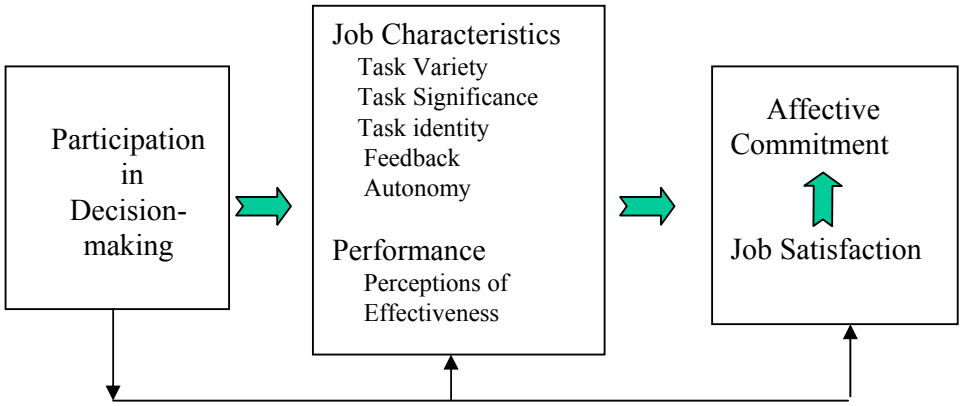
Based on a review of the relevant literature this research seeks to answer the following questions:

1. Will participation in decision-making within the enterprise bargaining context impact positively on workers attitudinal responses and lead to improvements in job satisfaction and affective commitment?
2. Will participation in decision-making be influential in determining changes to the job characteristics, perceptions of performance effectiveness and rewards and indirectly influence job satisfaction and affective commitment?

Answering these questions will establish how changes through enterprise bargaining affect different responses. For example, PDM may promote work effort and the belief that work is performed effectively, but may not be highly correlated to satisfaction or commitment. Further, changes to job characteristics without participatory involvement may lead to satisfaction and improved productivity.

Five hypotheses have been developed based on the research question and literature review and are reflected in the conceptual framework for the research (Figure 2.1). This conceptual schema demonstrates the relationships between the various hypotheses and positions the hypothesized influence of PDM. In this research PDM is believed to directly positively influence the antecedent variables of the job characteristics, perceptions of performance effectiveness, and rewards as well as the outcome variables of job satisfaction and affective commitment. Through the antecedent variables, PDM should also have an indirect positive influence on the outcome variables. These relationships are presented as a conceptual schema in Figure 2.1 and subsequently explained throughout the Chapter.

**Figure 2.1: Conceptual schema for participation in decision-making within the Enterprise Bargaining context**



## PARTICIPATION IN DECISION-MAKING

Previous studies have explored different dimensions and levels of PDM and found different outcomes. This section of the Chapter attempts to synthesise an appropriate definition and framework of PDM for the context of this research. While a number of different definitions for PDM can be provided, in the context of this study, PDM refers to employers sharing decision-making with employees by being given an opportunity to have a say in decisions that affect them. This in turn, is based on a definition that PDM is the act of sharing decision-making with others to achieve organisational objectives (Knoop, 1991). Another definition suited to the enterprise bargaining context is that PDM is the level of influence employees have in the process of decision-making, whether or not their participation is formal or informal (Scully, et al., 1995; Cotton et al., 1988; Locke & Schweiger, 1979). In fact, these two definitions show that PDM can be operationalised or defined in a number of different ways.

The purpose of PDM also influences how it is defined. One of the primary reasons for increasing employee participation in the workplace is to enable organisations to benefit from the perceived motivational effects of increased employee involvement and commitment to the organisation (Latham, et al., 1994) as is the rationale for implementing participation in the enterprise bargaining context. Greater involvement through participation means employees have better access to information, which in turn reduces political behaviour and increases job satisfaction (Witt, Andrews & Kacmar, 2000). In summary, organisations can use PDM to *"increase the rate of information through the organisation, enrich connections among agents and increase the diversity of information models applied to decision-making*" (Anderson & McDaniel, 1999:8)

Increasing employee participation is viewed as a means of gaining the most from a more educated, technologically-oriented workforce in an environment of cost cutting, extensive downsizing and de-layering of organisational structures (Connell, 1998). While increased employee participation is purported to deliver gains all round, a number of studies show only moderate support for positive

relationships between the degree and type of participation and work outcomes (Sagie, 1995; Wagner, 1994; Cotton et al., 1988; Wagner & Gooding, 1987; Miller & Monge, 1986). This is of particular concern in the Labour Market re-structuring context, where management can use participation to "*represent a means to win employee compliance and gain increased work effort*" (Harley, Ramsay & Scholarios, 2000:50).

A review of the literature identifies that different studies have produced different findings, most likely because past researchers have used different operational definitions or interpretations of PDM. For example, Locke and Schweiger (1979) evaluated PDM in terms of level, which is based on employees having either more or less participation. Using another approach, Tjosvold (1982) examined the relationship between supervisors using 'co-operative problem-solving' and 'integrated decision-making'. Dachler and Wilpert (1978) assessed three different dimensions of PDM with these being: the influence of formality versus informality; directness versus indirectness; and the degree of access or influence. While these different approaches highlight the complexity of PDM, the end result has been a focus on various dimensions and effects of PDM leading to fragmented understanding of outcomes (Black & Gregerson, 1997; Scully et al., 1995; Cotton et al., 1988).

Other studies have also found support for various dimensions of participation. Latham and colleagues (1994) considered the cognitive and motivational effects of participation and found that participation in formulating task strategies significantly affected performance effectiveness. Pearson (1991) reported that productivity and satisfaction are both positively influenced when PDM includes feedback. Yammarino and Naughton (1992) considered the role of group member participation as opposed to individual involvement, and found that shared perceptions about participation influenced job satisfaction outcomes. Connor (1992) found more highly ranked positions, higher levels of skill, smaller size, and lower emphasis on profit making all contributed to higher levels of dispersion and encouraged PDM. More recently, PDM, along with communication and teamwork, have been identified as organisational climate features conducive to employee involvement (Shadur, Kienzle & Rodwell, 1999). Similar positive results have been found where PDM has reduced ambiguity

and role conflict, thus promoting satisfaction (Daniels & Bailey, 1999).

While positive results have emerged, a number of issues confound these results. These include: the influence of experience and competence on individuals' ability to participate effectively; unrealistic expectations and role confusion over decision-making processes and involvement; and the process of PDM being much more time-consuming than expected (Stanton, 1993). The above represent problems that are being reported within the enterprise bargaining context.

Although generally positive, the research of different levels and dimensions of participation has contributed to mixed findings in relation to outcomes of job satisfaction, commitment and productivity (Black & Gregerson, 1997; Sagie, 1995; Wagner, 1994; Cotton et al., 1988; Yammarino & Naughton, 1992). Despite these differences a number of reviews of the major literature on PDM over the past 10 to 15 years have identified common traits and theoretical concepts that are useful for analysing PDM strategies and outcomes (Black & Gregerson, 1997; Cotton et al., 1988; Wagner & Gooding, 1987; Millar & Monge, 1986) and these are discussed below.

Two studies that have contributed significantly to the literature were classifications of the dimensions of PDM, undertaken by Cotton and colleagues (1988) and Black and Gregerson (1997). Cotton and colleagues (1988) reviewed ninety-one reports on previous studies of PDM and found differences that suggested various forms of participation resulted in different outcomes and effects on employee satisfaction and organisational performance. More recently, Black and Gregersen (1997) synthesised concepts and ideas put forward by other researchers to develop six different dimensions of PDM. Black and Gregersen (1997) tested their six dimensions with 370 workers in the United States of America (USA) and found support for the multi-dimensional theory. The Black and Gregersen (1997) framework supports Cotton and his colleagues' (1988) and Wagner and Gooding's (1987) views that PDM involvement is multi-dimensional and needs to be studied as such.

Although Cotton and his colleagues' categorisation provided a clear dimensional framework, their analytical findings were inconclusive and the results mixed. *"For example, informal participation and employee ownership are effective in terms of both productivity and satisfaction, whereas short term participation is ineffective on both criteria. ...participation in work decisions appears to increase productivity, but increases satisfaction less consistently*" (Cotton et al., 1988:16). A major contribution from this research was the recognition that PDM was multifaceted, and that aggregated data showed some forms of participation were more effective than some others. Understanding was added when Black and Gregersens' (1997) research identified that generating alternative ideas and solutions, planning, and evaluating results had the most significant influence on job satisfaction and work performance outcomes. Differences between the two sets of dimensions are shown below in Table 2.1.

**Table 2 1 Dimensions of PDM**

| | **Cotton, Vollrath, Froggatt, Lengnick-Hall and Jennings (1988)** | **Black and Gregersen (1997)** |
|---|---|---|
| Dimensions of PDM | 1. participation in work decisions; | the rationale for PDM; |
| | 2. consultative participation; | the structure of participation; |
| | 3. short term versus long-term participation; | the form of participation; |
| | 4. formal versus informal participation; | the decision issues for participation; |
| | 5. employee ownership; | level of employee involvement; |
| | 6. representative participation to direct involvement. | range and level of participation in decision processes. |

Sources: modified from Cotton, Vollrath, Froggatt, Lengnick-Hall and Jennings, 1988; and Black and Gregersen, 1997.

Due to the diversity of operational constructs contained within the PDM literature, Black and Gregersens' (1997) six dimensional framework was used to structure analysis of previous literature. This framework provides a continuum that synthesises a comprehensive and flexible view of PDM, and is presented below.

**Dimension 1: Rationale for Participation in Decision-making**

The rationale for involving employees is the first of Black and Gregerson's (1997) dimensions and comprises two philosophical approaches. The first is a democratic or humanistic perspective that believes employees should have the right to participate in decisions that affect them. The second approach is a more pragmatic perspective based on the belief that increased employee involvement and participation leads to increased productivity and profitability (Black & Gregersen, 1997; Margulies & Black, 1987; Locke & Schweiger, 1979). Cludts (1999) extends the humanistic view represented by the two approaches further, suggesting employee participation should be based on shared values, with the employer and employee striving toward a shared goal, rather than merely focusing on the task. The rationale for PDM within the enterprise bargaining context tries to capture the advantages of both views. For example, enterprise bargaining can be viewed as an extension of the industrial democracy movement of the late 1980s, with the perceived practical benefit of increased profitability for the employer (Morris, 1996).

The employer's rationale for implementing PDM is important. Latham and colleagues (1994) recommend participation be viewed as a cognitive process where employees input ideas and suggestions that managers can harness to solve problems or improve work activities and in turn make even more effective decisions. In an experimental study, employee involvement had a positive effect on employees' self-efficacy, with a reciprocal positive influence on other work outcomes, such as motivation, goal commitment and satisfaction (Latham et al., 1994). Despite this finding, such involvement does not necessarily improve performance (Latham et al., 1994; Wagner 1994).

The above findings imply that knowledge of task outcomes influences self-efficacy, *"as both a cognitive and motivational mediator of PDM"* (Latham et al., 1994:60). Thus sharing information to achieve PDM enhances group members' level of knowledge, indirectly influencing self-efficacy, which in turn positively influence on performance outcomes. Although, at the individual level, the relationship between self-efficacy and performance is not simply one of expectancy, but gives a much broader scope, with *"ability to function under stress, ingenuity, adaptability*" (Locke et al., 1984: 248).

In contrast to Latham and colleagues' findings, Silver, Mitchell and Gist (1995) found that self-efficacy did influence performance outcomes, with higher self-efficacy leading to higher performance. High self-efficacy has been linked to goal achievement as a predictor of performance (Bandura & Wood, 1989; Locke et al., 1984; Wood & Locke, 1987). Even so performance prediction becomes inhibited when the task is very complex, or when workers are inexperienced or unfamiliar with the task (Gist & Mitchell, 1992).

These views suggest greater participation in the decision-making processes allow employees a greater understanding and familiarity with tasks and expected outcomes, with subsequent improvements in performance effectiveness. Even if the cognitive relationship was not strongly positively correlated, it seems reasonable to agree with Denton and Zeytinoglu (1993) that lack of PDM reduces involvement and influence over the employees' working life and discourages their best efforts.

**Dimension 2: Formal and Informal Participation**

Black and Gregersens' (1987) second dimension refers to the structure of decision-making in terms of whether or not involvement is formal or informal. Formal participation occurs when the organisation clearly identifies how employees will participate through policies or regulations. Informal participation is where there are no clear rules or guidelines, yet employees are given the opportunity to participate in decision-making. An example of the latter includes an individual supervisor or manager encouraging and supporting employee participation. In fact, some researchers suggest the employees' relationship with their supervisor is critical to

effective PDM (van Yperen, van den Berg & Willering, 1999). Significantly, Cotton and colleagues (1988) findings regarding this dimension are quite similar to those of Black and Gregersen (1997). While Cotton and his colleagues (1988) recorded six PDM dimensions, they tended to focus more on the type or form of participation employees engage in. They found informal participation, along with work decisions and employee ownership had the most positive influence on work performance and job satisfaction. However, this finding needs to be qualified, as respondents rated informal participation in an environment of representative participation. Representative participation effectively excludes many employees from direct participation, so findings of increased satisfaction and productivity were attributed more to the informal relationship promoting an opportunity for direct involvement, rather than the degree of formality or informality of the PDM process (Cotton et al., 1988).

The introduction of enterprise bargaining has provided a formal structure for employees to participate in the workplace in regard to work practices, working conditions and rewards. Although Australian workers were becoming involved in participatory practices at the workplace during the 1980s through formal industrial democracy programs, or were informally involved particularly in the non-union sector, participation was still largely dependent on the goodwill of management in individual workplaces (ACCIRT, 1999).

**Dimension 3: Direct and Indirect Participation**

The third dimension refers to the form PDM takes. Employees may be given the opportunity to be directly involved in the PDM process or may have a restricted role via formal representation. For example, rather than being directly involved, employees are frequently represented in the enterprise bargaining process by elected representatives. Although representatives have a responsibility to support the views of their constituents and keep them informed of discussions, the exclusion from the process of the majority of employees means they may not share the same level of understanding as their representative counterparts. Whether involved in the discussions or otherwise, all employees do have a role, albeit sometimes a restricted one, as they are able to vote on outcomes or decisions made by their representatives.

Representative participation is not as well supported as direct participation. Previous research by Black and Gregersen (1997) found direct involvement was more likely to promote greater employee commitment, satisfaction and performance than indirect participation. Cotton et al., (1988: 17) support this finding and suggest *"... that performance / productivity effectiveness is associated with forms that are direct, long-term, and / or are of high access"*. While the down-side of the higher level of direct employee involvement is that the process becomes more time-consuming, greater employee access to PDM gives employers a higher likelihood of attaining performance outcomes and is found to be valued by employees.

The notion that employees should have a chance to "have a say" and have direct involvement in the workplace has received considerable attention in the literature. Notions of procedural justice suggest that when employees are given "voice" to voice their aspirations, perceptions of fairness increase (Roberson, Moye & Locke, 1999; Hunton, Hall & Price, 1998). "Voice-based participation" is the term used for the relationship between the amount of "voice" received and the value attached to that amount. The perception that employees are given what they consider is a "fair" amount of voice strongly influences their decision acceptance and commitment (Greenberg, 1990). If employees are given either more or less "voice" than they desire, negative effects may result. So the key for achieving the most positive outcomes is to match employees' expectations of fair involvement across all stages of decision-making (Hunton, Hall & Price, 1998) and the goal setting process (Beeler & Hunton, 1997).

Expectations of fairness extend to measures of distributive and procedural justice and recognises these concepts have different influences on job satisfaction and commitment outcomes. Distributive justice refers to the share of gains employees receive in relation to pay or other specific facets and is thought of as closely correlated with satisfaction. Procedural justice focuses on equitable treatment and organisational procedures; for example, feedback and opportunities for promotion, performance management and is considered an antecedent to overall feelings of commitment (Martin & Bennett, 1996).

Another view of "fair and just" involvement is that employees participate at the group, as well as individual levels. Yammarino and Naughton (1992) tested this conceptualisation of PDM on 54 participants from the age law-enforcement agency within the university with interviews and surveys to examine the differences between work groups and report three major findings. The first was that PDM can occur homogeneously within the group with members functioning independently or as a collective. The second was different stratas can exist within groups, with some members being *given* greater opportunity to participate than others; for example, a member who is friendly with the leader could be given a greater opportunity than others to have their say. Thirdly, individual members can *choose* to participate more than others, and this subsequently gives them greater opportunity for involvement. In Yammarino and Naughtons' (1992) research, PDM led to more positive attitudes within groups, supporting group relations and promoting group performance over individual performance.

In summary, this section of the literature review offers strong support for direct employee participation in preference to representative participation. Within the enterprise bargaining context, the level of participation can and does vary from workplace to workplace. Generally, smaller workplaces find it easier to offer employees direct participation than their larger counterparts (Callus, 1997). This does not necessarily mean employees in larger organisations do not have direct representation, though in most work places involvement is usually through a representative committee of fellow employees for practical reasons (ACCIRT, 1999). Under the current arrangements representation may or may not include the union, but for the first time the enterprise bargaining context offers all employees greater opportunities for participation.

**Dimension 4: Decision issues for participation.**

The fourth dimension of PDM refers to the level and type of decision-making issues employees participate in (Black & Gregersen, 1997; Cotton et al., 1988). These types of decisions could include task design, working conditions, strategic issues and capital investment. The level of participation refers to the

amount of influence employees exert, for example, ranging from merely expressing an opinion, to influencing outcomes. Examples of types and levels of issues that influence satisfaction and performance outcomes identified by Locke and Schweiger (1979) include involvement in human resource functions, the design of the work itself, conditions of employment and company policies. However, an employee's ability to participate effectively within and across these areas depends on their having sufficient task relevant knowledge (Latham et al., 1994), especially when participation aims to improve performance.

To investigate performance outcomes, Scully, Kirkpatrick and Locke (1995) tested a conceptual model of participation that assessed the degree of participation, information flow and stages when participation was used in the work cycle. These researchers found that participatively set tasks led to workers having significantly higher levels of satisfaction, task agreement, enjoyment and liking for co-workers, when compared to workers whose tasks were developed without the employees' participation (Scully et al., 1995).

This suggests locus of knowledge and participation in task decision-making are important variables for influencing performance outcomes. The unique perspective employee stakeholders bring to decision-making can also lead to performance gains. For example, a study by Ashmos, Huonker and McDaniel (1998) found that clinician involvement in strategic decisions in a hospital setting led to improved performance, richer and improved decisions and cost reductions in service delivery.

In summary, employee participation can range in level from day-to-day tasks that incorporate work practices and conditions, through to the higher levels of participation where, for example, employees have input into organisational strategy. Regardless of level, it seems that a critical factor for successful participation is employees having the relevant knowledge and skill to participate effectively. While the enterprise bargaining process is aimed at increasing employee participation in work practices, conditions and benefits, the reality that was found in the Australian Workplace Industrial Relations Survey (AWIRS)

(1995; cited in Moorehead, et al., 1997) was that levels can and do vary significantly within and between organisations.

**Dimension 5: Degree of involvement**

The fifth dimension identified by Black and Gregersen (1987) was the degree of involvement in decision-making. The options for influencing decisions range along a continuum of responses, from having "no say" at one end of the scale, to having "control" and/or "veto power" at the other end of the scale. Not surprisingly, the highest level of satisfaction and performance can be expected to be present in the upper range of the continuum, where employees have greater control over the outcome (Black & Gregersen, 1987). Further, employee involvement is likely to be greater when the task or outcome is personally meaningful, but may be counter-productive if workers are involved in issues they see as irrelevant (Hunton et al., l998).

Different levels of PDM can lead to different outcomes (Black & Gregersen, 1997; Cotton et al., 1988). Participation in work decisions has been found to increase productivity; however, the impact on satisfaction was more likely to depend on level of representation. For example, in instances where employees were represented in the participatory process rather than involved, representatives reported increased satisfaction, but there was no significant effect on worker productivity (Cotton et al., 1988).

**Dimension 6: Process of decision-making**

Lastly, the sixth dimension proposed by Black and Gregersen (1997) is the process of decision-making where employees have the option to participate at five different levels. These five levels being:

1. the basic level where employees are encouraged to identify problems only.
2. the second level, where employees may offer solutions to problems.
3. the third level where employees have the power to select a specific solution.
4. the fourth level where employees have the power to plan and implement a solution.
5. the fifth and highest level, gives employees control over evaluating results.

While Locke et al., (1984) originally reported assigned goals were favoured over self-set goals to achieve higher performance levels, this view has since been revised. A later study by Latham, Erez and Locke (1988) found a "tell and sell" approach was preferred to a 'tell' approach, which in fact demotivated and reduced employee performance. Though these premises seem straight forward, it needs to be remembered managers can manipulate employees' behaviours to influence outcomes they desire. For example, managers can outwardly seek open participation, but circumvent this by selecting the employees who participate in the process (Yeung, 1997).

Providing employees have the knowledge and experience to participate, and clear boundaries to participate within (Ashmos, Duchon & McDaniel, 1998) and goal knowledge (Cludts, 1999) participation in formulating task strategies has been found to significantly affect performance (Latham et al., 1994). Further, Hollenbeck and Klein (1987) recommend participation take into account task and goal achievement difficulty. PDM involvement in generating alternatives, planning and evaluating results significantly impacts on outcomes, with higher levels of participation in the decision-making process correlated to higher levels job satisfaction and work performance (Black & Gregersen, 1997). Collectively, studies suggest employee input into improved work methods and goal setting should lead to higher performance outcomes, and positively impact on satisfaction and commitment (Hackett, Bycio & Hausdorf, 1994; Allen & Meyer, 1990). While participation strongly relates to satisfaction, the small, but nonetheless significant relationship with performance (Scully, et al., 1995; Miller & Monge, 1986) is strengthened if goal setting is included (Locke & Latham, 1990).

Of the PDM dimensions, the fifth and sixth dimensions, being the level or degree of involvement, and the process of decision-making respectively, are most pertinent to the enterprise bargaining context. The level and degree of involvement are not clearly defined in the Australian state or federal legislation, other than to stress the need for consultation and joint responsibility at the enterprise level (Niland, 1993). Different organisations appear to have interpreted these two dimensions in

different ways. The reality is the degree of involvement has been left to the discretion of individual employers, so PDM can operate at different levels and stages along the continuum, even within the one organisation. One only needs to consider the opportunity for different levels of participation offered by different managers, even if only within an informal context. The intent was not necessarily for employees to make decisions, but to be partners in the decision-making process regarding matters that affected them. However it seems that different interpretations and expectations by management and employees have created confusion and may have influenced more negative attitudinal responses and resultant behaviours.

As stated previously participation within the enterprise bargaining context was aimed at work practices, working conditions and remuneration. The rhetoric offered workers improved job satisfaction in an environment fostering participation and commitment to achieve improved performance outcomes (Callus, 1997; Quinlan, 1996; Niland, 1993). Increased participation would boost trust, lead to greater task involvement and worker satisfaction and these were pre-requisites for enterprise bargaining to succeed (Niland, 1993). Despite this objective, a number of researchers (Connell, 1998; Callus, 1997; Green, 1996; Quinlan, 1996) have expressed concern at the strategies used by many Australian managers. Low trust, un-met expectations and varying degrees of participation have been underlying contributors to the poor results emerging poor results. In many cases, employee participation has been limited or almost non-existent (Callus, 1997; Quinlan, 1996). It may well be that are a clearer role for employee participation and its practice are vital missing ingredients for influencing more positive outcomes from enterprise bargaining.

**PDM and Enterprise Bargaining**

Very little research has been conducted so far into the impact of PDM within the enterprise bargaining context. In the most comprehensive survey so far, the Australian Workplace Industrial Relations Survey (Moorehead, et al., 1997) involved almost 20,000 Australian workers from a broad range of industries. While this survey did not specifically ask questions about the level of PDM, it did ask questions that can be related to PDM. For example, the study found that 33% of work places

had Joint Consultative Committees (JCCs), 38% used task or ad hoc joint committees, and 16% had employee representation at the board or management level. Of the organisations that did use JCCs, 63% advised that an objective of employee involvement was to improve communication, yet in only 36% of cases employers initiated the consultative process. When Union delegates were asked about how employees were involved, 79% claimed that processes such as quality circles or work groups allowed employees to participate in decision making, although once again, the level of participation was not defined. Therefore, it is not clear whether or not respondents were operating at basic levels in the organisation where their role was to identify problems, or at the highest level where they were able to implement solutions and evaluate outcomes.

In terms of employee participation regarding changes that occurred in workplaces, the AWIRS 1995 survey (Moorehead, et al., 1997) found that 18% of employers agreed that employees had a significant input, 29% were consulted and 2% actually made the decision. While 41% of employers reported that employees were informed, 10% reported employees were not informed about the changes taking place. Conversely 70% of employees reported they were given a "fair chance" to have a say, and 61% of employees reported that they had been consulted about changes that occurred in their workplace. Employees' influence over their job was often related to the type of work performed; an overall 47% felt that they did have some influence over how they worked at their jobs.

Another more recent study of two organisations in the Hunter Valley region of New South Wales investigated the influence of participation on "soft skills" such as "*team work, decision-making and conceptualisation*" to improve communication between managers and employees reported mixed findings (Connell, 1998:69). Moves to increase the level of employee participation had limited effects on participation due to what Connell (1998) termed "diehard managers" who were reluctant to relinquish their level of power and control. While not identifying whether or not the participating organisations had either a workplace or enterprise agreement in place, it seems a relevant example of some managers' limited ability or willingness to instigate employee involvement in Australian workplaces. This view of exclusion by

management supports the findings of Callus (1997), Quinlan (1996) and the Commonwealth Government-initiated Karpin report into Australian industry (Karpin, 1995).

**Summary**

The foregoing section of this Chapter has made use of the PDM framework developed by Black and Gregersen (1997) to integrate the fragmented studies outlined in the literature. The different roles and dimensions of PDM have been explored and discussed. Many factors have been found to influence the effectiveness of PDM and these include: group roles (Yammarino & Naughton, 1992; Wagner and Gooding, 1987; Miller and Monge, 1986; Locke & Schweiger, 1979); relationships (Connell, 1998; Richmond, Wagner & McCroskey, 1983); knowledge (Scully et al., 1995; Locke & Schweiger, 1979); voice (Hunton et al., 1988), and goal setting (Locke & Latham, 1990). However, employee involvement in planning, setting goals and evaluating results offers the most convincing evidence for improving work performance (Black & Gregersen, 1997).

The final two dimensions of PDM defined by Black and Gregersen (1987) have been identified as particularly relevant to this research. As one of the aims of enterprise bargaining is to increase the involvement of employees in PDM related to work practices, working conditions and remuneration, the range and level of influence seem particularly relevant and pertinent. While not strictly fitting the Black and Gregerson (1987) dimensions, the concept of employees being "able to have a say" in decisions that affect them was deemed most relevant to the enterprise bargaining model, so was how PDM was operationalised in this study.

Some researchers in the field of PDM identify the need to examine how the various dimensions influence or relate to each other and impact on subsequent outcomes (Black & Gregersen, 1997; Connor 1992; Cotton et al., 1988). Further research is recommended using larger samples and or longitudinal multi-source studies (Tjosvold, 1998; Yammarino & Naughton, 1992). This research addresses some of these concerns by examining responses across three work sectors and testing relationships on longitudinal data. The research seeks to ascertain whether employees

believe they have the opportunity to influence workplace outcomes that lead to job satisfaction and commitment in the short and long term. This leads to the research questions the hypotheses are developed from.

> **Will participation in decision-making directly influence employee outcomes of job satisfaction and affective commitment with-in the enterprise bargaining context, or will participation in decision-making have a mediating role by indirectly influencing other variables related to work practices and conditions?**

## BEHAVIOURAL OUTCOMES OF PARTICIPATION IN DECISION-MAKING

This section deals with the direct effect of PDM on worker outcomes of the job satisfaction and affective commitment, the two outcomes desired by employees, just as productivity is a desired outcome for employers (Niland, 1993). Empirical research generally supports PDM as having a positive influence on job satisfaction, however there is a lack of substantial evidence to support PDM as a predictor of commitment. Within the enterprise bargaining context, job satisfaction and commitment are considered as correlated and mutually influenced by work practices and conditions. This section of the Chapter deals with the influence of PDM on satisfaction and commitment outcomes whereas the following section deals with antecedents to these outcomes.

### Commitment

Commitment refers to the strength of an individual employees' *"identification with and involvement in the organisation"* (Mowday, Porter & Steers, 1982:27), or is alternatively described as "*the psychological state that binds the individual to the organisation*" (Allen & Meyer, 1990:14). Commitment as a correlate of job satisfaction has been well supported in the literature (Wright, 1997; Becker, Billings, Eveleth. & Gilbert, 1996; Becker & Billings, 1993; Becker, 1992; Allan & Meyer, 1990; O'Reilly & Chatman, 1986) with some evidence for PDM as a pre-determinant (Crandell & Parnell, 1994). There is also support for work performance being

positively affected by the employee's level of commitment (Benkhoff, 1997; Hackett et al., 1994; Allen & Meyer, 1990; Meyer, Paunonen, Gellatly, Goffin & Jackson, 1989). So far there is only limited evidence of a correlation between job or work involvement through PDM and employee commitment.

There has been some concern reflected in the literature that job satisfaction, organisational commitment, and job involvement overlap to such an extent they tap the same construct. While acknowledging some inter-relatedness, these constructs can be clearly defined into three distinct dimensions (Mathieu & Farr, 1993; Brooke, Russell & Price, 1988; Kanungo, 1982). "*Respondents are able to distinguish between the extent to which they like their job (satisfaction), the degree to which they are absorbed in or preoccupied with their job (involvement), and the degree of attachment or loyalty they feel towards the employing organisation"* (Brooke, et al., 1988:143).

Extending the above proposition Allen and Meyer (1990) have identified three levels of commitment. The first is "affective commitment", where the individual is emotionally attached to the organisation. The second is "continuance commitment", where the individual remains because the cost of leaving outweighs the cost of staying. The third is "normative commitment", where the individual remains because of a feeling of obligation toward the organisation. Each of these motivations has different implications for organisations, with affective commitment the preferred and most positive for organisational outcomes such as work performance (Allen & Meyer, 1990; Brooke et al., 1988) reduced turnover, reduced absenteeism (Guptar & Jenkins, 1980) and as a reliable indicator of satisfaction (Judge, 1993; Allen and Meyer, 1990).

The affective commitment scale has been well tested and supported (McFarlane-Shore, Barksdale & Shore, 1995; Dunham, Grube & Castañeda, 1994; Ko, Price & Mueller, 1993; Meyer, Allen & Smith, 1993; Whitener & Walz, 1993; Allan & Meyer, 1990). Findings support the premise that affectively committed employees are most influenced by their work experiences, see themselves as competent in their jobs, have feelings of belonging, and want to stay in the organisation (Allan & Meyer, 1990). As Meyer, Allen and Smith (1993:539) point out, "*Employees whose experiences within the organisation are consistent with*

*their expectations and satisfy their basic needs tend to develop a stronger affective attachment to the organisation than do those whose experiences are less satisfying".*

Committed employees choose to remain, accept and believe in the organisation's goals and are prepared to exert effort toward achieving these (Hackett et, al., 1994; Lawler & Yoon, 1993; Randall, Fedor & Longenecker, 1990; Allen & Meyer, 1990; Meyer et al., 1989). For example, Meyer and his colleagues (1989) surveyed management food service workers and found that affective commitment was positively correlated to work performance, and negatively correlated with continuous commitment. Cohen (1996) also found a significant, though small, relationship between affective commitment and perceived performance.

In contrast to affectively committed employees, continuance and normatively committed employees demonstrate reduced levels of citizenship behaviours and lack the initiative to pick up tasks beyond their job descriptions or put in extra work effort (McFarlane, Shore & Wayne, 1993). Apart from affecting performance, commitment levels also influence employees' intent to leave or remain within an organisation (Gerhart, 1990; Hulin, Rosnowski & Hachiya, 1985). Previous research shows employees who are dissatisfied, or unhappy in their jobs demonstrate low commitment behaviours with higher levels of absenteeism (Mathieu & Kohler, 1990), lack of punctuality and increased levels of turnover, as forms of job or work avoidance (Steers & Mowday, 1981; Beehr & Gupta, 1978).

This suggests that identifying and dealing with shifts in commitment at an early stage can reduce the costs associated with withdrawal behaviours and ultimately turnover (Mitra, Jenkins & Gupta, 1992). It is important to point out, however, that feelings of commitment are moderated by the availability of alternative positions (Judge, 1993; Mitra et al., 1992). If more alternatives are available, employees may be less committed because they know they have greater choices. Conversely, when employees know they have reduced work alternatives they are more likely to be accepting and satisfied (Doran, Brief, Stone & George, 1991; Hulin et al., 1985).

Using a similar approach, Whitener and Walz (1993) conducted a study predicated on the notion of 'exchange theory' and also found different commitment influences on turnover. 'Exchange theory' has some similarity to Becker's 'side-bets' theory (Becker, 1960), which refers to the employee's investment in the organisation in terms of their past efforts, financial gains, or other benefits that would be lost if they left. 'Exchange theory' is considered broader than 'side bets' theory as 'exchange theory' suggests that individuals evaluate and balance what they perceive as the gains or losses of remaining with the organisation, against the gains or losses of going elsewhere.

While early studies supported the above three conceptualisations of commitment (Dunham, Grube & Castañeda, 1994; Meyer et al., 1993), there have been queries raised regarding both the continuous and normative scales. Some studies have found overlap between the affective and normative commitment scales (Cohen, 1996; Allen & Meyer, 1990), and the efficacy of continuous commitment scale has also been challenged (Vandenberg & Self, 1993). Inconsistencies in reliability of both the affective and continuous commitment scales have been reported in some studies. (Vandenburg & Self, 1993). Further, studies by Ko, Price and Mueller (1997) and Travaglione (1988) found affective and normative commitment to be highly correlated, suggesting these scales measure similar dimensions. A different problem emerged with continuance commitment when the scale used was found to actually capture two components rather than one (Hackett et al., 1994; McGee & Ford, 1987).

Of the two dimensions in the continuance commitment scale, one dimension does relate to continuance commitment as defined by Allen and Meyer (1990). This dimension relates to the precept that an individual remains with an organisation because they have few alternative positions outside the organisation. The second dimension however relates to personal sacrifice associated with leaving the organisation, which appears to reflect the concept of normative commitment. Following on from these findings, Allen and Meyer (1996) subsequently reviewed the construct validity of the commitment scales. While they found evidence to support two dimensions within the continuous commitment scale, Allen and Meyer

(1996) felt further evidence was needed to support separation of the current construct. Due to the confusion surrounding both normative and continuance commitment and the fact that neither of these dimensions are sought through the enterprise bargaining process, both normative and continuance commitment have been excluded from this research.

Nonetheless, the affective commitment scale has found to be a reliable measure of the construct. For example, in a study involving 578 bank tellers, Whitener and Walz (1993) found that affective commitment was a more significant predictor of 'intent to turnover' and 'voluntary turnover' than continuous commitment. *"Contrary to predictions, both ease and desirability factors significantly affected affective commitment. In particular side-bets contributed significantly to both views of commitment, whereas attractiveness of alternatives influence affective commitment only. In both cases the balance of rewards and costs retained a small (1 to 2% of variance) but statistically significant direct contribution to commitment"* (Whitener & Walz, 1993:274).

While the bulk of the literature contradicts the findings of Whitener and Walz, their study does highlight two other important issues. Firstly, other variables may be at work to influence employees' choices, and secondly, affective commitment can vary in response to the organisation's environment. This is important for this research, particularly when considering the restructuring of industry during the 1990s has increased unemployment and reduced ease of movement and choice for many employees (ACCIRT, 1999).

Another view on organisational commitment relates to foci of commitment (Becker, 1992; Mathieu & Zajac, 1990; O'Reilly & Chatman, 1986). Becker (1992) and Becker, Billings, Eveleth and Gilbert (1996) believe that a more meaningful way of understanding the correlation between commitment and performance can be achieved by differentiating between the foci and bases of commitment. Foci are identified as the individuals or groups employees are attached too. Bases represent the motives for commitment, and can be separated into three groupings namely, internalisation, identification and compliance, and these motives are explained below.

Internalisation occurs when individuals adopt attitudes and behaviours that are in accord with their own values system (Becker et al., 1996; Becker, 1992; O'Reilly & Chatman, 1986; Reichers, 1986). Identification occurs when individuals adopt behaviours and attitudes in order to be part of the group, but do not accept the associated values as their own (Becker & Billings, 1993; O'Reilly & Chatman, 1986). Compliance occurs when attitudes and behaviours are adopted to attain rewards or avert negative repercussions (Becker & Billings, 1993; O'Reilly & Chatman, 1986). While acknowledging that further research needs to be conducted to understand these influences, Becker et al., (1996) found that internalisation and commitment to supervisors influenced performance to a greater extent than commitment to the organisation.

Other studies have found support for other foci of commitment being more influential than commitment to the organisation. For example, Benkoff (1997) studied bank workers and identified that supervisor commitment strongly influenced performance outcomes. A study of nurses by Meyer, Allan and Smith (1993) found occupation or profession was a significant independent predictor of commitment; in contrast, Roy and Ghose (1997) found the work environment influenced nurses commitment in a hospital setting in India. Cohen (1996) reported similar support for work involvement, job involvement, career commitment, and the Protestant work ethic. The foci of commitment may be important, as commitment to other foci within organisations increases the chance of organisational citizenship behaviours and may lead to increase organisational commitment and performance. While further research is needed, it appears that affective commitment leads employees to extend themselves as a consequence of their positive feelings for the organisation (Schappe, 1998; Bateman & Organ, 1993; McFarlane et al., 1993). In turn, this increases worker effort, with subsequent positive performance outcomes (Becker et al., 1996; Meyer et al., 1993; Allen & Meyer, 1990).

While the role of managers or supervisors in influencing commitment cannot be overlooked, this relationship may also be contextual. For example, Zeffane (1994a) found that management style, as defined by flexibility and the level of emphasis on bureaucracy and hierarchy influenced workers affective measures of commitment.

Zeffane (1994a) found strong support that private sector workers operating under less bureaucratic controls, reported greater commitment levels than public sector workers. An alternative study by Iverson and Roy (1994) among blue-collar workers, acknowledged supervisory relations as important to commitment, but rated them well down the list, after job satisfaction, security, working conditions, equity, family responsibilities and met expectations.

Another aspect of commitment given little attention in the literature, but highly relevant in the current work environment is the support shown to employees by the organisation. If an employee believes the employer values his or her contribution and cares about him or her as an individual this will impact upon their level of affective commitment. Valued employees are more likely to reciprocate loyalty and affection through higher attendance and involvement (Eisenberger, Fasolo, & Davis-LaMastro, 1990) and are more likely to participate by making innovative suggestions to improve the organisation's performance, thereby contributing to "good organisational citizenship" (Eisenberger et al., 1990; Organ, 1988). If these views are accurate, organisations that genuinely value employees and their contribution should see evidence of this reciprocal commitment in higher levels of affective commitment.

Overall, there is evidence that PDM has a positive influence on work commitment, although thus far the relationship generally has not been found to be strong. In Yammarino and Naughtons' (1992) study, participation was found to influence how individuals feel about themselves and their relationships with other workers, although this did not necessarily influence commitment. This is possibly because participative processes that build individual relationships within groups may be viewed as quite distinct and operating at another level from commitment to the organisation (Yammarino & Naughton, 1992). It is also possible that the modified Hrebiniak and Alutto (1972) scale used in the Yammarino and Naughton study captured an element of external gains from turnover, not related to organisational commitment.

PDM is believed to enhance commitment, and commitment has often been viewed as a predictor of work performance. While McFarlane-Shore and Wayne

(1993) linked performance to a reciprocal employee – employer relationship, a meta-analysis of studies on commitment by Mathieu and Zajac (1990) suggest there may be many influential factors apart from participation at work, some of which are outside the organisation's control. These authors found issues as wide ranging as harmonious working relations, lack of conflict, "side-bets" or alternative opportunities and having a "Protestant work ethic" could underpin organisational commitment (Mathieu & Zajac, 1990). While commitment has been found to reduce absenteeism and turnover it does not necessarily promote performance (Mathieu & Zajac, 1990). While some studies support the correlation between participation and commitment (Sagie & Koslowsky, 1996; Knoop, 1995), the relationship between commitment and PDM is not as strong as the relationship between commitment and job satisfaction (Martin & Bennett, 1996; Sagie & Koslowsky, 1996; Allan & Meyer, 1990; Williams & Hazer, 1986).

Another small sample study conducted by Tjosvold (1998) yielded more positive results. This study examined the influence of employee participation and found that co-operatively established goals did significantly influence employee's productivity and commitment to cut costs in the workplace (Tjosvold, 1998). The study was based on earlier work that identified a co-operative context for problem solving as one where; *'Superiors explored, understood, accepted, and combined the other's arguments with their own to make a decision, sometimes in complex ways"* (Tjosvold, 1982:189). While the study did not specifically focus on PDM, the joint problem-solving process relates to a participative approach and captures the final two dimensions of PDM summarised by Black and Gregersen (1997). Employees unable to influence decisions could be considered to be operating at Black and Gregersens' (1997) fifth dimension where they would have some degree of involvement. Those employees who were able to contribute their ideas and solutions, assist in planning and implementation, or were given feedback could be considered to be operating at the highest level or the sixth dimension, where they actually participate more fully in the decision-making process. A side benefit from the Tjosvold (1998) studies is the support for Latham et al's., (1994) goal setting theory, and the premise that sharing information and ideas enhances knowledge level and relations between both parties.

Further support that employee' participation in organisational change leads to positive outcomes of commitment, satisfaction and employees' sense of effectiveness was found in a study of government workers by Sagie and Kowslowsky (1996). Similarly a study of school administrators in Canada found PDM had a moderate positive influence on commitment (Knoop, 1995). Yet another Canadian study of an "employee centred management" change program also identified substantial benefits to productivity from participation (Schuster, Morden, Baker, McKay, Dunning & Hagan, 1997). This latter study is discussed in greater detail in the performance section of this Chapter.

Overall it is clear there is a positive, if tenuous relationship between PDM and commitment. While previous research has raised concerns about the normative and continuous commitment scales, it seems clear that affective commitment is likely to be an outcome of PDM with performance forming an indirect part of the relationship. This research will examine the relationship between PDM and affective commitment to gain an understanding of the influence of PDM on commitment changes over time. As previously discussed, continuous commitment will not be examined for several reasons. Firstly, the current work environment from which subjects are drawn offers limited availability of alternative positions for some workers. Secondly, mobility in a small labour market like Western Australia (W.A.) is often the only opportunity for advancement for skilled workers or managers, so turnover may be linked to career commitment rather than organisational commitment. Thirdly, employee turnover is likely to be reduced and job insecurity increased in an environment where many organisations have initiated downsizing in response to increasing competition to reduce costs and respond to changes in technology. Fourthly, dimensions other than commitment may well influence employees' intent to turnover. Finally, although turnover is an important outcome variable from the organisational perspective, it is not directly involved in the enterprise bargaining model.

The labour market in W.A. has experienced a significant number of job losses over the last several years and this raises questions as to whether or not it is feasible for employees to remain committed to organisations. One would expect

that given the concern emerging regarding the negative impacts of enterprise bargaining and the current low trust work environment (Quinlan & Mayhew, 1998; Callus, 1997), organisational commitment is more likely to be at the bottom rather than the top of the commitment priorities. While this research focuses on affective commitment, some questions on foci of commitment were included for two inter-linked reasons. One was to clarify if the concept of affective commitment overlapped between the organisation, work group or job and the other was to provide feedback to the participating organisations.

Given that enterprise bargaining aims to improve employee commitment and performance, the influence of PDM on the commitment and performance relationship within this context is important to understand. Research findings so far indicate that many workers are disenchanted and this is likely to decrease commitment, reduce performance, and ultimately threaten Australia's long-term productivity (Callus, 1997; CCH Update, 1996). These findings are in contrast to the enterprise bargaining objective of increased employee participation, in the hope of improving commitment and ultimately boosting productivity outcomes (Quinlan, 1996; Niland, 1993).

Although some of the studies discussed above have not specifically researched PDM, it is clear that employee involvement through participation can lead to productivity improvements, with a strong case for commitment being correlated to both job satisfaction and performance improvement. Increased opportunity to influence what happens in the workplace through PDM is expected to positively influence employee performance, the way employers perform their tasks and the rewards they receive to indirectly as well as directly influence affective commitment over time. This leads to the first hypothesis of the research:

**$H_1$: Affective Commitment will be positively affected by participation in decision-making, either directly or indirectly through impacts on the job characteristics of task variety, task identity, task significance, autonomy and feedback, perceptions of performance effectiveness, rewards and job satisfaction**.

**Job Satisfaction**

Job satisfaction can be described as how well the person likes their job (Judge, 1993; Brooke et al., 1988; Mobley & Locke, 1970) and measures an attitudinal response based on perceptions of how well a job provides valued rewards (Locke, 1976; Lawler & Hall, 1970). Job satisfaction can be measured as an overall or global concept, or a specific or facet concept where the components that make up the individual's work experiences influence satisfaction levels (Rice, Gentile & McFarlin, 1991; Locke, 1976).

PDM is generally viewed as having a positive influence on job satisfaction (Black & Gregersen, 1997; Wagner & Gooding, 1987; Miller & Monge, 1986; Locke & Schweiger, 1979). While generally supporting this view, a meta-analysis of 10 reviews by Wagner (1994) sometimes found the relationship was not significant. PDM gives greater involvement allowing employees the opportunity to influence decisions that impact on them and they are therefore more likely to value the outcomes (Black & Gregersen, 1997; Denton & Zeytinoglu, 1993). A rationale for this is that the more outcomes are valued, the more likely workers are to be satisfied (Locke & Schweiger, 1979).

Hackman and Oldham (1976) identified that the relationship between the individual and job was moderated by the individual's perceptions, task complexity, challenge and growth need. Loher, Noe, Moeller and Fitzgerald (1985) suggest workers can be motivated by psychological states associated with their beliefs about work and the work situation. This view can be extended to become more complex. Employees' attitudes toward jobs are based on perceptions of how well the job provides outcomes viewed as important, and also on beliefs about their perceptions of reality and expectations for the future (Locke, 1976). Individual work satisfaction is also moderated by life attitudes (Judge & Locke, 1993). Unlike dissatisfied workers, job satisfied employees are more likely to accept the organisation's goals and put in greater work effort to positively influence organisational outcomes (Ostroff, 1992). A longitudinal study of perception and satisfaction by Wong, Hui and Law (1998) found further support for reciprocal relationships between intrinsic and extrinsic satisfaction and job perceptions.

While recognising that satisfaction outcomes are influenced by individual perceptions (Judge & Locke, 1993; Staw, 1986), the situational context is also an influential factor, particularly in an environment where jobs are being restructured or lost (Blau, 1999). PDM is more likely to have a direct linear relationship with job satisfaction when stress, uncertainty and ambiguity are reduced (Daniels & Bailey, 1999). Acknowledging individual traits influence worker satisfaction, the reality is that other aspects, such as work climate (Payne & Pugh, 1976), PDM (Miller & Monge, 1986) and other specific bases and foci of commitment (Becker et al., 1996; Becker & Billings, 1993; Becker, 1992; O'Reilly & Chatman, 1986), are more likely to influence satisfaction changes over time.

Although a number of different views have been postulated, job satisfaction is generally viewed as related to commitment (Allan & Meyer, 1990). Some researchers believe commitment is antecedent to job satisfaction (Vandenberg & Lance, 1992; Bateman & Strasser, 1984); however a stronger view is job satisfaction is antecedent to organisational commitment as satisfaction is an immediate response, whereas commitment builds over time (Meyer, et al., 1993, Williams & Hazer, 1986; Mowday et al., 1982). A third alternative is that the two variables are reciprocally related and mutually reinforcing, so the relationship is better examined simply as a correlating one (Hackett, et al., 1994; Brooke et al., 1988). A fourth perspective is that job satisfaction and organisational commitment can be causally independent of each other, for example, procedural justice is antecedent to commitment, yet both procedural and distributive justice are antecedent to satisfaction (Martin & Bennett, 1996).

Job satisfaction can also influence absenteeism, turnover and lateness, which are all viewed as signs of withdrawal from the organisation (Mitra, et al., 1992). Bycio (1992) conducted a meta-analysis of studies regarding the relationship between satisfaction, absenteeism and performance, and found that absenteeism had a moderately negative influence, but other factors such as supervisor annoyance, poor coping strategies, withdrawal and lack of attendance contributed to discrepancies accounting for lower performance.

Hulin and colleagues (1985) suggested that employees consider past

experiences, the opportunity cost of leaving and the 'sunk cost' of their investment in the organisation. When alternative job opportunities are perceived as easily available, the level of satisfaction may decrease; however, when fewer opportunities present externally, employees are more likely to be satisfied with what they have and satisfaction increases. Although a later study by Gerhart (1990) suggested that the relationship between satisfaction and labour market conditions was not as influential as Hulin and colleagues (1985) claimed.

The findings presented so far have related to overall job satisfaction. Another view is that the individual facets or foci of the job, such as relations with co-workers, pay, or promotional opportunities influence satisfaction (Locke, 1976). *Facet satisfaction* should be viewed as quite distinct from overall or global satisfaction (Rice et al., 1991; Locke, 1976). For example, an employee may be unhappy with some co-workers, but report overall satisfaction with their job. According to Locke (1976) and Rice et al., (1991) the level of satisfaction is influenced by how much the individual values the outcome on that particular facet, whereas if the facet is unimportant it neither provokes satisfaction nor dissatisfaction.

Knoop (1991) examined the correlation between PDM and valued task facet outcomes on a sample of nurses from government funded hospitals and found satisfaction with both intrinsic and extrinsic job facets important predictors of PDM. *"Participation seems to give nurses a sense of achievement, to satisfy needs for responsibility, to make the work more challenging and interesting, and to provide recognition. Participation also seems to improve working conditions and benefits in some way and to give nurses some say over when they prefer to work"* (Knoop, 1991:779).

A later study of school administrators found further support for the relationship between PDM and facet satisfaction (Knoop, 1995). PDM was positively correlated to individual dimensions of job satisfaction such as work, promotional opportunity, relationships with supervisors and co-workers, as well as organisational commitment and overall job satisfaction. Overall satisfaction and job facet satisfaction were highly correlated (Knoop, 1995). A similar school based research project by Jones (1997)

also found staff morale to be higher where staff had an opportunity to participate in decision-making regarding job facets.

These findings identify that other facets of work apart from the task attributes can be important predictors of satisfaction. For example, Sagie and Koslowsky (1996) found satisfaction, commitment and perceived effectiveness during change was related to participation in tactical rather than strategic issues, and inferred employees are more interested in participating in matters directly relating to themselves and their jobs.

The Black and Gregersen (1997) study collected data from five locations within a multinational organisation and discovered that employees' level of influence over decisions affecting them mediated their level of satisfaction. It seems the greater employee involvement, the stronger the significant positive relationship between satisfaction, decision processes and work performance outcomes. Black and Gregersen (1997) also found involvement at the higher levels of the decision-making process most strongly related to satisfaction, yet work performance was not as strongly affected as job satisfaction. Conversely, neither the identification of problems nor selection of solutions strongly related to satisfaction or performance outcomes.

Previous studies suggest the impact of productivity on satisfaction is stronger than the impact of employee satisfaction on productivity (Iaffaldano & Muchinsky, 1985; Lawler & Hall, 1970), supporting the position that job satisfaction and performance can be viewed as mutually inter-dependent and reinforcing.

Enterprise bargaining has been promoted as the opportunity for employees to participate in workplace decisions that affect them. The gains for employees would be improved job satisfaction and a share in productivity gains through improved rewards and conditions (Jones, 1996; Quinlan, 1996; Niland, 1993; Department of Industrial Relations, 1992). However a review of the literature, examining enterprise bargaining outcomes, questions whether these gains are actually being achieved. This research will seek to identify the extent to which workers believe participation in decision-making has either a direct or indirect influence on job satisfaction over time. This leads to the second hypothesis of the research.

**$H_{.2}$: Job Satisfaction will be positively affected by participation in decision-making, either directly or indirectly through impacts on the job characteristics of task variety, task identity, task significance, feedback and autonomy, perceptions of performance effectiveness and rewards.**

## THE INFLUENCE OF PARTICIPATION IN DECISION-MAKING ON ANTECEDENTS OF SATISFACTION AND COMMITMENT

A number of demographic and non-demographic influences on participation in decision-making have been identified. This section begins by discussing non-demographic influences that relate specifically to the enterprise bargaining context, namely the job characteristics, performance effectiveness and rewards. The section concludes by presenting demographic determinants that influence the relationship of PDM to other antecedent variables and the workplace outcomes of job satisfaction and commitment. The demographic pre-determinants are identified as belonging to the personal characteristics of gender and age, and work experiences such as, type and length of tenure and organisational position.

### Job characteristics:

Hackman and Oldham (1980; 1976) identified five core job characteristics namely, skill variety, task significance, task identity, feedback and autonomy, that they considered influenced individuals' experience of meaningfulness of work, knowledge of results and responsibility for outcomes (Loher et al., 1985; Hackman & Oldham, 1980, 1976). In effect, the job characteristics model helps explain the relationship between job attributes and the influence of these attributes on behavioural outcomes such as performance and job satisfaction (Pearson & Duffy, 1999; Lawler & Hall, 1970). The concept behind the job characteristics model is that meeting psychological needs through the job design mediates the employees' relationship with their work environment and encourages increased employee motivation and work involvement (Brown, 1996; Hackman & Oldham, 1980; Kanungo, 1979).

The job characteristics model has been used to assess the impact of job

restructuring in promoting job enlargement, job rotation, and semi-autonomous work groups (Cordery, Sevastos, Mueller & Parker, 1993). Job enrichment changes leading to improved worker satisfaction has significant empirical and practical support in the literature (Pearson & Duffy, 1999; Pearson & Chong, 1997; Aryee, Chay & Chew, 1994; Cordery & Sevatos, 1993; Rice, Gentile & McFarlin, 1991; Mathieu & Zajac, 1990; Loher et al., 1985; Hackman & Oldham, 1980, 1976).

Studies have also found that task autonomy, task significance and task identity are antecedent to job involvement (Brown, 1996; Kanungo, 1982) which is an expected outcome of PDM that is reciprocally related to affective commitment (Meyer, et al., 1993; Allen & Meyer, 1990; Cook & Wall, 1980). Task variety combined with PDM increases job satisfaction (Zeffane, 1994b). While the influence of PDM on performance is not clearly established, some researchers suggest PDM influences job characteristics to indirectly affect outcomes. For example, autonomy has been found to mediate the influence of participation on satisfaction and commitment (Mueller, Finley, Iverson & Price, 1999). Although early studies did little to examine the relationship of the job characteristics' model to PDM (Cotton et al., 1988), some positive findings emerged.

Participation was found to be a predictor of decreased role ambiguity and role conflict, and feedback increased knowledge of results having both cognitive and motivational benefits that increase performance (Morris, Steers & Koch, 1979). In another example, Pearson (1991) found job-related feedback, in the form of productivity ranking and decreased role ambiguity, increased internal work motivation, job satisfaction and productivity in a blue collar, male work environment. However, researchers' caution that these findings are predicated on employees having the skills, training, support and knowledge to be able to perform the tasks required, otherwise the result is increased ambiguity, conflict and stress, with decreased performance (Pearson, 1991; Morris et al., 1979) and satisfaction (Schaubroeck & Jennings, 1991).

Overall, it seems reasonable to accept the relationship between participation and task structure suggested by Knoop (1991:776): *"Before a person expends*

*physical or mental effort, she would have to be convinced that the activity is purposeful and meaningful. Taking part in giving judgment of what is meaningful and important makes her do her duty more willingly because it brings about better accord with her own perception of what needs to be done".*

Employee participation leading to performance is supported in a study undertaken in 1992 across public utilities in the USA by Capelli and Rogovsky (1998). These authors investigated the impact of labour reform and "lean production" and found involvement in work organisation had a significant mediating effect on job enrichment through the job characteristics. Participation led to indirect improvements in performance by changing tasks. Another significant finding in this study was that involvement in wider organisational issues influenced organisational citizenship behaviours yet this had little effect on performance outcomes. Another study of randomly selected manufacturing employees found that task attributes such as variety, autonomy and feedback had significant positive correlations with productivity and a job satisfaction, though not necessarily overall satisfaction (Griffin, 1982). These changes are typically part of a broader "Total Quality Management" (TQM) approach. For example, TQM was the vehicle for change in the Canadian dairy organisation study, reported by Schuster and colleagues (1997) and mentioned in the previous section.

Other studies have examined the relationship between job characteristics and worker outcomes. Gagné, Senécal and Koestner (1997) identified four facets of empowerment: meaningfullness, impact, autonomy and competence; and tested the relationship between the job characteristics, empowerment and intrinsic motivation of employees. These researchers found different job characteristics predicted different aspects of empowerment and intrinsic motivation (Gagné et al., 1997). Perhaps most significant in their findings was that while job characteristics strongly influenced empowerment; the more competent employees were the less they were intrinsically motivated.

Not all researchers agree with the efficacy of the job characteristic's model. In a meta-analysis of nearly 200 studies on job characteristics, Fried and Ferris (1986)

found evidence that job characteristics were indicative of psychological states, rather than behavioural outcomes and so challenged the connection between task characteristics and performance. This analysis also raised questions regarding overlap between the constructs, finding the model does not always return the five dimensions (Fried & Ferris, 1986). While there are many supporters of the model, some caution is needed. Other problems that can occur with the job characteristics model include concept redundancy because of high correlations between the different attributes, and variation in outcomes caused by personal and situational influences (Fried & Ferris, 1986: 1987; Loher et al., 1985).

Through enterprise bargaining jobs are being changed, sometimes quite radically, as organisations downsize, accommodate new technology and restructure the way work is performed (Callus, 1997; Isaac, 1996; Morris, 1996; Stewart, 1992). Given that enterprise bargaining purports to make organisations more efficient and competitive by reforming work practices (Callus, 1997), changes in task constructs will identify where and how these changes are being achieved and what part if any, PDM plays.

In summary, despite some contextual problems, there is strong literary support for the job characteristics being a well-tested and accepted model for studying the effects of task attributes, and the role of the task attributes in improving performance and satisfaction. The job characteristics in the enterprise bargaining context are likely to change as a consequence of employee participation; however, the role of PDM in shaping these outcomes is still to be tested. Task changes that occur without employee participation may well be as satisfying to employees as those changes that occur through participation.

The purpose of this research is to establish the role of PDM within the enterprise bargaining context. Therefore two interrelated questions arise from the literature on job characteristics. The first question is whether PDM is occurring in a way that changes how work is performed; while the second asks, if changes to the work characteristics are occurring what impact does this have on employees' attitudinal responses? PDM should give rise to increased task variety, identity,

significance, autonomy and feedback and indirectly increase job satisfaction and affective commitment. This leads to the next hypothesis of the research:

**$H_3$: The job characteristics of task variety, task identity, task significance, feedback and autonomy are positively affected by Participation in Decision-Making.**

**Performance**

While many claim the relationship between PDM and performance is not clearly established (Black & Gregersen, 1997; Cotton et al., 1988; Miller & Monge, 1986), a review of 450 articles by Stanton (1993) identified PDM positively influences a number of antecedents to performance. Participation in goal setting (Latham et al., 1994), locus of knowledge (Scully et al., 1995), using a "tell and sell" approach and formulating task strategies (Latham et al., 1994), generating alternatives, planning, and evaluating results (Black & Gregersen, 1997), and co-operative problem solving (Tjosvold, 1982) have all been found to significantly improve performance. This section of the chapter discusses previous research on measuring performance and presents a rationale for measuring employees' perceptions of their performance effectiveness.

The literary debate surrounding PDM appears influenced by the different design of studies and the dimensions of participation (Black & Gregersen, 1997; Cotton et al., 1988). Based on related findings, it is reasonable to believe employee PDM will lead to higher quality decisions, higher levels of motivation and higher levels of performance as part of a reinforcing cycle (Black & Gregersen, 1997; Locke & Schweiger, 1979). Though, as previously discussed, employees need to be able to participate effectively, *"employees expect that because participation provides the opportunity to apply relevant knowledge and skills, it increases the probability of quality decisions. Higher quality decisions are likely lead to higher performance. Furthermore, to the extent that higher performance leads to desired outcomes, employees are motivated to work even harder, which in turn can lead to even higher performance"* (Black & Gregersen, 1997:864).

The literature identifies a stronger case for participation creating an affective response than it does for the degree of participation contributing to performance

(Locke & Schweiger, 1979). This response is related to the perception that participation provides a 'fair' process (Scully et al., 1995). When employees have the opportunity to have a "voice", and influence issues that concern them (Hunton et al., 1998) the issues themselves, as well as the outcomes are more valued and it is this affective response that is likely to increase performance.

Black and Gregersen (1997) report similar findings, claiming that PDM most significantly influenced performance when employees were involved at all five levels of the decision process. This suggests employees seek greater involvement than just identifying problems and issues and that their preference is to be included in the process right through to evaluating the results after implementation. Although such involvement positively influences performance outcomes, the effect is still not as strong as the influence of PDM over job satisfaction. Black and Gregersen (1997) suggest that this may be because satisfaction is an immediate response, whereas the impact or benefits of participation may not accrue until some time in the future and are therefore not necessarily reflected in current performance. These findings question whether it is participation leading to job changes that result in satisfaction and performance, or whether the attitudinal response occurs because of the participation act itself.

A longitudinal study with autonomous work teams undertaken by Pearson (1991) examined the impact of feedback on participation regarding role ambiguity, role conflict and performance motivation and indirectly supports the relationship between PDM and performance. The impact on productivity and job satisfaction outcomes was reported as *"... those groups, which lacked productivity ranking feedback, reported substantial increases in role ambiguity, as well as significant decreases in internal work motivation and job satisfaction. ...moreover, by the close of the study the set of crews which had knowledge of their productivity ranking experienced significantly higher states of participation in decision-making, motivation, job satisfaction and productivity"* (Pearson, 1991:530).

Perhaps one of the more significant studies of the effect of participation on performance comes from the Schuster et al., (1997). This study tracked the

organisational performance of a diversified dairy product processing and marketing firm over a five-year period. This organisation used what they termed an "employee centred management approach", where a key feature was involving employees and promoting understanding through communication, encouraging PDM and breaking down barriers between management and staff. The other key strategy was to change the reward structure to give greater flexibility and link pay to performance. These strategies combined to allow employee participation in identifying opportunities for change, making recommendations, implementing change and receiving feedback from management, all key ingredients of the fifth dimension of the PDM model recommended by Black and Gregersen (1997).

Despite the study occurring over what was described as *"a low time"* for the industry, the company out-performed its competitors with a 66% increase over the average operating income for the five-year period that preceded the intervention performance (Schuster et al., 1997). These improvements in performance came about as a result of increased morale, motivation and commitment. Apart from positive management assessments, employees reported the most dramatic shifts were achieved in the levels of participation and communication. Improved employer and employee relations were seen as a critical influential factor and changes within the organisation were predominantly attributed to greater employee involvement and communication (accounting for 75% of the variation in financial performance).

Although their sample data was quite small, Yammarino and Naughton (1992) found support for PDM improving both performance and group relations and suggest there is a reciprocal relationship. Individuals and work group's reporting high levels of participation, also claimed higher levels of latitude in how they conducted their activities, which in turn positively influenced performance outcomes (Yammarino & Naughton, 1992).

Some findings suggest that empowerment rather than worker participation is the greater contributor to successful outcomes (Kappelman & Prybutok, 1995). It is appropriate to link participation and empowerment, as effective performance requires employees to have the knowledge and skills to contribute and this

combined with greater involvement is empowering. Nonetheless, it is more likely that empowerment results from participation, particularly if relevant facts and other task and outcome related information is shared (Purser & Cabana, 1997; Yingling, 1997; Collins & Porras, 1995) and the relationship is based on a trusting and secure psychological contract (Robinson, 1996). Unfortunately in the enterprise bargaining context, concern quickly emerged over continuing low trust strategies in many Australian workplaces (Connell, 1998; Callus, 1997; Quinlan, 1996). As Connor (1997) points out, when management focus only on achieving productivity even if it is quality productivity, employees are seen merely as a "means to an end" and this results in reduced trust, empowerment and participation.

Previous research supports the premise that employees with positive perceptions of the organisation are more likely to identify their individual goals with the organisation and therefore put in greater effort to pursue those goals (Brown & Leigh, 1996; Blau, 1993; Meyer et al., 1989). This suggests the influence of effort on performance effectiveness outcomes is an important dimension to explore. Effort level is defined as the degree of work effort the individual puts in, while effort direction is how the individual chooses to expend effort (Blau, 1993). Brown and Leigh (1995:42) put forward what they believe is a commonly held view of the relationship between effort and performance effectiveness, and that is:

> *"...work satisfies people's intrinsic psychological needs, as well as providing extrinsic rewards such as safety, security, and self-esteem needs. From this perspective work should be regarded as an end in itself, as well as a means to other ends. Expectancy theory models of the relationship between effort and work outcomes have tended to emphasise the instrumental value of effort and understate its psychological value".*

Brown and Leigh (1995) postulate that instrumentality has a stronger influencing role on performance outcomes than has been previously recognised. Investigating the relationship between effort leading to performance and job satisfaction, Brown and Leigh found effort was an important pre-determinant of performance and satisfaction and mediated the relationship between job involvement

and performance. Blau (1993) and Brown (1996) supported these findings, identifying effort level and direction moderated job involvement to achieve performance outcomes. Perceptions of effort have previously been measured in terms of intensity or force; duration or time; and direction (Brown & Leigh, 1996; Blau, 1993). However, a second aspect of work effort is related to the construct of 'working smarter' rather than just putting in more effort and working harder. Although not testing the construct, Brown (1993) identified facets of working smarter as allocating time and energy more effectively and co-operatively and being more innovative. It is this conception of performance effectiveness that this research seeks to capture.

Performance outcomes can be measured in a number of different ways. Firstly, performance can be measured as a productivity outcome. For example, Benkhoff (1997) used organisational targets such as sales and change in operating profits in her study on commitment and performance outcomes within banks, whereas Griffin (1982) used daily quality and quantity measures of output over a one-year period. Another approach is to combine subjective and objective measures (Leung, 1997; Brown & Leigh, 1996), with this dual approach compensating to some extent for bias associated with self-assessment. For example, a study of ten companies across five industries individual employees' attitudinal responses and performance-ratings were matched against supervisor ratings (Tsui, Pearce, Porter & Tripoli, 1997). Tsui and colleagues found reciprocal positive relationships when employers offered secure long term relationships that invested in employees through such strategies as training and career advancement opportunities.

Performance can also be measured as a perceptual or behavioural response, as in self-ratings, or superiors' ratings of observed behaviours. This latter approach was taken by Meyer and colleagues (1989), who asked managers to rate the performance of their subordinates over a range of dimensions and then matched managers' responses to employee responses. The dimensions studied included: customer and public relations, administration and accounting, preparation of written reports and verbal communication, training and management of personnel, following policies and procedures and conducting routine tasks. In part, this approach was used in this study. Employees' perceptions of performance were sought, in preference to subjective data.

This approach was used to overcome the significant differences in outcomes that would have been noted because of differing industries, stages in the enterprise bargaining process and measures of productivity.

Despite evidence of a strong association, studies question whether satisfaction or performance is antecedent in the relationship (Zeffane, 1994b; Iaffaldano & Muchinsky, 1985; Lawler & Hall, 1970). One way of reducing ambiguity in this relationship is to test performance at the organisational level where the relationship may be stronger than at the individual level (Ostroff, 1992; Schneider & Schmitt, 1986). In relation to self-reported performance, Lawler and Hall (1970) found job involvement positively related to self-rated effort. Leung (1997) replicated Ostroffs' study and also found that commitment and satisfaction correlated to employees' self-reported performance when measured at an organisational level, although satisfaction had the higher association. Benkhoff (1997) contends that whether commitment is an outcome or a cause of performance, the relationship remains controversial and unclear. These reciprocal relationships are likely to be even more complex within the enterprise bargaining context as changes in workplace relations and practices are affected by downsizing, restructuring and external uncertainty, all of which influence the satisfaction - performance relationship (Zeffane, 1994b).

In summary, there appears to be both a direct and indirect relationship between PDM, employees' perceptions of performance effectiveness, and worker outcomes of job satisfaction and affective commitment. PDM is likely to positively influence perceptions of performance effectiveness outcomes. If employees are able to have 'a say' in how they do their job, this should increase effectiveness and in turn lead to enhanced satisfaction and commitment. The enterprise bargaining literature suggests that many employees are working harder by working longer hours and work intensification (ACIRRT, 1999; Callus, 1997; Quinlan, 1996); however, it is important to assess whether employees believe that they are working more effectively and if PDM is a factor in improving performance.

The Australian workforce has heard much about "working smarter" and Browns' (1993) performance effectiveness construct captures this concept. It is important to note this construct measures perceptions of performance effectiveness,

rather than performance as an outcome. It is likely that PDM will not only direct employee performance effectiveness but the perception of participation will reinforce this effectiveness and in conjunction with other attitudinal responses have a mutually reinforcing influence on satisfaction and affective commitment. As the enterprise bargaining agenda is to enhance performance and competitiveness, these influences are important to understand (Callus, 1997; Green, 1996; Quinlan, 1996). This leads to the fourth hypothesis of the research:

**$H_4$: Perceptions of performance effectiveness are positively affected by participation in decision-making.**

**Rewards from enterprise bargaining:**

There is no substantial empirical evidence that PDM actually influences employees' satisfaction with changes in wages and conditions. However rewards form one of the bases for satisfaction and commitment and employees are more likely to respond with these attitudes if they feel their needs are met and the rewards are equitable (Meyer et al., 1993). Any change in working conditions must be supported by changes to the human resources systems and take into account changes to pay strategies, promotional opportunities and other conditions, benefits or rewards (Cordery et al., 1993; Hackman & Oldham, 1980) as un-met expectations are likely to lead to negative repercussions.

Rewards perceived as inequitable are likely to increase turnover, or if this is not an option for individual employees, may result in employees merely doing what they must to maintain their job security and current levels of rewards (Becker et al., 1996: Meyer et al., 1993; O'Reilly & Chatman, 1986). For example, a study of W.A. public service workers examined the impact of changes to functional flexibility through job design and multi-skilling and found workers with lower reward equity also reported reduced commitment and increased negative attitudes towards their jobs (Cordery et al., 1993).

A review of 91 independent PDM studies found that financial incentives through programs such as the "Scanlon Plan", were much more productive in eliciting

performance than PDM (Cotton et al., 1988). While PDM has received consistent support for improving task satisfaction, it has not been established as a motivator for improving performance PDM (Cotton et al., 1988). More recently, Doucouliagos (1995) conducted a meta-analysis of 43 published studies to investigate the mediating effects of reward processes on various forms of worker participation and productivity. Overall, Doucouliagos (1995) found that organisations with some form of gain sharing or productivity type payment fared most positively and concluded that financial participation and gain was more influential on performance outcomes than PDM. However evidence from a study of British bus drivers, found that sense of ownership combined with participation in decision making lead to reportedly higher levels of satisfaction and commitment, at least in the short term (Pendleton, Wilson & Wright, 1998).

Within the enterprise bargaining context, employee gains in wages and conditions can only be achieved in return for productivity and performance, so theoretically rewards are linked to performance. This focus on performance based pay systems is becoming increasingly common because it is believed individuals will focus on critical organisational performance outcomes, if pay is linked to their willingness and ability to achieve these (Lawler, 1996). Lawler, Ledford and Chang (1993) reviewed American 'Fortune 1000' companies and found skill-based pay schemes were often used by successful organisations, in conjunction with other reward practices such as, gain-sharing or other incentive schemes. These organisations substantially supported the view that rewarding increased employee involvement was an effective means of improving performance; this is in agreement with Cotton et.al's., (1988) and Doucouliagos' (1995) findings.

While acknowledging the benefits of merit or performance based pay, O'Neill (1995) identifies three structural problems. Firstly, in agreement with Benkhoff (1997) and Lawler (1996), objective performance measurement and appraisal systems to identify qualitative and quantitative performance criteria need to be in place. Secondly, the amount of money available for distribution is often limited leading to narrow pay differences between high and poor performers and this can create dissatisfaction. Thirdly, once pay is increased it becomes the benchmark for future

increases and part of the fixed cost, regardless of ongoing performance and ability to pay. Another concern given insufficient attention in the labour market restructuring debate was that the drive for competitiveness and increased profits would hold down labour costs (Pendleton, 1997b). These latter three issues therefore lead to an 'effect of diminishing returns' with a curvilinear relationship between the salary level and the size of the increase, which in turn decreases the rewards' attractiveness (Worley, Bowen & Lawler, 1992).

Kohn (1998) also identifies three reasons why performance-based pay systems are problematic. The first of these is extrinsic motivators do not alter fundamental attitudes that drive behaviours. The second is that linking pay to performance assumes employees will increase productivity; however, they may be hampered by organisational problems such as poor job design, lack of feedback and empowerment or other poor management practices. The third concern is that innovation is reduced when employees become goal driven as they strive to meet specified outcomes to obtain rewards. Also, many intrinsic factors can influence performance. Some previously identified in this study include: locus of knowledge (Scully et al., 1995); participation (Black & Gregersen, 1997; Schuster et al., 1997; Yammarino & Naughton, 1992); and goal setting (Latham et al., 1994) to name a few. These findings suggest the key is for organisations to find a balance between intrinsic and extrinsic motivators as rewards.

Eisenberger and colleagues (1990) identify the need for further research to better understand whether it is the rewards that motivate reciprocal support, or whether discretionary treatment of such issues as PDM and job enrichment are so valued they increase performance effort. Given that improved wages and conditions for the majority of Australian workers can only be gained through productivity improvements (Callus, 1997; Quinlan, 1996; Niland, 1993), understanding the effect of rewards on employee attitudinal responses is vital. Within the enterprise bargaining context employees should have the opportunity to influence the rewards they receive. While it seems feasible that being able to influence the outcome will increase satisfaction and commitment, the literature does not clearly support the link of a correlation with increased performance even if rewards are adjusted and perceived as equitable.

Therefore the relationship of rewards to other variables in the research requires testing and leads to the fifth hypothesis in the research.

**$H_5$: Participation in decision-making will positively affect rewards.**

## DEMOGRAPHIC AND CONTEXT DETERMINANTS OF PARTICIPATION IN DECISION MAKING

It is important to consider interaction between individuals and their personal background as well as the organisational and job characteristics (Ruh, White & Wood, 1975). Demographic distinctions within groups allow some members to participate more than others and have been found to influence PDM, task performance, as well as job satisfaction and affective commitment. These variables are discussed below and include the personal characteristics of gender and age as well as the work characteristics of career stage and position, organisational tenure, and whether employment is full or part-time. In this particular study, the enterprise bargaining context is also an important predictor of employees' ability to participate in decisions that affect them.

### The enterprise bargaining context

In this research, the enterprise bargaining context refers inclusively to the different types of agreements organisations may have entered into. While this terminology includes Workplace and Section 41 Industrial Agreements under the Western Australian State Legislation or, Enterprise or Workplace Agreements under the Federal Legislation it must be noted that the employees participating in this study had in the main, utilised collective enterprise agreements. The hospitality organisation had negotiated workplace agreements that they believed were responsive to the needs of a highly flexible, casualised and part-time workforce. Although the state government agency had workplace agreements in place, these were not negotiated as individual workplace agreements but were generic agreements similar to enterprise agreements.

Within the enterprise bargaining context in this research, all organisations

participating in Study 2, as part of the longitudinal matched sample, achieved milestones between Study 1 and Study 2. Within this research context, these milestones needed to include a salary increase for achieving performance targets.

It is anticipated that workers engaged in the enterprise bargaining process over time will report greater satisfaction with changes to task characteristics, performance effectiveness and reward outcomes. Higher levels of satisfaction and affective commitment are more likely to emerge over time, as employees and management become more experienced and skilled in the process. An emerging trend shows the range of negotiated issues is narrowing as organisations engage in bargaining over the longer term (Callus, 1997). This suggests workers further into the process may be experiencing greater stability having had the opportunity to achieve the gains possible in the current environment, and this should also positively affect attitudinal responses.

**Personal Characteristics**

Some studies have found that age and gender influence different perceptions of task attributes (Judge & Watanabe, 1993 Mathieu & Zajac, 1990; Fried & Ferris, 1986; Katz, ); however, there has been little evaluation of their influence on PDM. Age and tenure significantly influence both organisational commitment and job satisfaction with generally higher levels of both reported by older workers. Earlier suggestions that older workers were less interested in broadening their skill base, preferring to keep to long established work patterns (Katz, 1978a; 1978b) has more recently been challenged.

Age is often correlated to career stage, where older workers with more experience have had the opportunity to progress further in their careers, whereas the younger workers, or in this case females, with less experience and at an earlier career stage are found in lower level positions (Denton & Zeytinoglu, 1993). Older workers generally have longer tenure within organisations and this enables them to move to higher-level positions where they have greater "voice" in participation. As an example, a study cited by Denton and Zeytinoglu (1993) examined the differences in levels of participation between 133 male and female faculty staff within a Canadian

university and found gender and age impacted the level of participation. Males, as the older respondents, generally perceived themselves to have higher levels of participation in decision-making than female respondents. Men had access to mentors and this facilitated greater participation as well as helped them progress in the organisation.

While information in the PDM literature on gender differences is limited, some relevant insights can be found in the commitment literature. Essentially two views are proposed and comprise the "gender" and "job" models. The "job model" claims commitment results from experiences at the workplace, whereas the "gender model" sees women as having dual and sometimes competing commitments because of their socialisation to be home-makers as well as workers (Dodd-McCue & Wright, 1996). While some previous studies have found males are more committed to organisations and work than females (Marsden, Kalleberg & Cook, 1993), others suggest there is no difference between the genders (Aven, Parker & McEvoy, 1993; Mathieu & Zajac, 1990). Another view is that women are actually more committed than males, because they have to overcome greater obstacles to gain membership in organisations (Dodd-McCue & Wright, 1996)

The commitment literature offers other parallels to support the view that apparent differences are not related to gender (Marsden et al., 1993). In differences that are also likely to affect the level of PDM, males occupy more commitment-enhancing positions within organisations; for example, men generally earn more money than women, have more senior positions and have greater levels of autonomy. As previously discussed, this is often related to career stage, length of tenure and age (Denton and Zeytinoglu, 1993). Lesser involvement in the senior ranks also limits women's access to decision making, creating a cyclical effect, compounded by limited access to mentors.

In the Australian labour market, women comprise a large component of part-time workers and part-time workers are generally excluded to a greater extent from the bargaining process (ACCIRT 1999). Women are also predominantly in lower paid service sector jobs and this, combined with their lack of collective strength through

low levels of unionisation, contributes to a weaker bargaining position. This has meant women have not been able to make the same gains in wages or conditions as their males counterparts (Moorehead, et al., 1997).

**Work Experiences**

While there is a paucity of research on the influence of demographic variables on PDM, Witt (1992) identified that satisfaction with promotional opportunities, organisational goals, and organisational support, influenced and was moderated by the perceived importance of PDM on these outcomes.

Experience and seniority, which are associated with age, have a direct bearing on employee morale and there is support for these variables significantly influencing levels of PDM (Jones, 1997). For example, Denton and Zeytinoglu (1993) found more older males than females worked in the organisation they studied and therefore males were more highly represented at senior levels than females. This fits with other findings where age and length of tenure have been found to correlate with higher levels of affective commitment (Zeffane 1994b), due to workers having invested more time into the organisation and their job or career (Hackett et al., 1994; Mathieu & Zajac, 1990; Williams & Hazer, 1986).

Levels of experience and skill development also influence PDM. For example, in a limited study of an Oregon nursing home's employees in the USA, Connor (1992) found the skill level of the individual employees influenced their level of participation in decision-making. In this study, skill level also correlated with organisation size. These results were not considered exceptional because larger facilities are more complex to organise and easier managed in a decentralised structure.

Higher skill levels are also associated with greater experience and combined, these attributes allow employees to effectively participate in the decision-making process. In effect, skill level is associated with the position or rank of employees and this also influences perceptions, as higher ranking gives greater opportunities for participation (Denton & Zeytinoglu, 1993; Connor, 1992). This supports other

research that indicates the higher the level in the organisational hierarchy, the greater the employees' ability to participate in both the job and the organisation (Becker et al., 1996; Fried & Ferris, 1986).

Longer-term employees have been found to be more concerned with and committed to employment relationships and work context concerns (Meyer et al., 1993; Mathieu & Zajac, 1990; Fried & Ferris, 1986; Katz, 1978 a & b). Not only length of tenure, but permanence of appointment and whether or not an individual is employed full-time or part-time have also been found to influence affective commitment (Becker et al., 1996; Meyer et al., 1993). Contrary to these findings Mathieu and Zajac (1990) suggest that length of tenure, age, limited promotional opportunities and dissatisfaction with pay are highly correlated to intent to turnover.

Differences in PDM, commitment and job satisfaction between full-time and part-time workers have caused concern in relation to enterprise bargaining. While part-time work is more negatively correlated with PDM, the converse is true for job satisfaction. Part-time and casual workers reported slightly higher levels of satisfaction with management and their jobs than full-time or permanent employees (Moorehead et al., 1997). One would expect full-time workers to demonstrate higher levels of participation, commitment and satisfaction because of their involvement within the organisation; however, this appears not to be the case in the current enterprise bargaining context.

Part-time and casual workers, who work designated hours by choice, may find their relationships and involvement in the workforce stimulating because they are outside the normal course of home or study activities they engage in. Alternatively the work they perform may be viewed as a means to an end, rather than a stalemate. Casual employees, who seek the opportunity to work short-term with the added benefit of a higher salary rate, are expected to be more likely to report high levels of satisfaction and commitment to their job or profession rather than the organisation they are contracted to. However, for others the situation will be somewhat different. Employees who are in less stimulating and challenging situations with little opportunity for PDM and choices about their tenure or hours of work are less likely to

express such levels of commitment or job satisfaction.

### Summary

This section of the Chapter identified demographic and non-demographic variables that influence the relationship of PDM to outcomes of job satisfaction and affective commitment. These included three non-demographic constructs related to the enterprise bargaining context and six demographic variables. The non-demographic variables identified from the literature as important for this research included the task characteristics as identified in the job characteristics' model, performance effectiveness and rewards. Gender, age and position were identified as the most influential demographic variables, mainly because both age and gender influence career stage and position within the organisation. Changes to an employee's job attributes through the job characteristics model appears to positively influence job satisfaction, particularly for older and more highly skilled workers, though satisfaction does not directly relate to performance effectiveness. The fact that the majority of employees are employed in collective agreements and the stated intent of employers to foster employee participation, are important to facilitate testing the PDM model. The demographic variables will not be investigated as part of this thesis, however they do inform the findings that were reported to the participating organisations. Demographic data will be analysed further at a later stage to identify trends within the model.

## CONCLUSION AND SUMMARY

The role, influence and dimensions of PDM have been examined in the first section of the Chapter. Empirical evidence was presented using the conceptualised framework for PDM developed by Black and Gregersen (1997). This framework identifies that PDM has six different dimensions, namely the rationale for PDM, the structure of participation, the form of participation, the decision issues for participation, level of employee involvement in participation and the range and level of participation in decision processes. The final two dimensions relating to the level of participation and range of participation have been identified as most relevant to this research as they relate directly to the enterprise bargaining context.

The second section of the Chapter identifies that PDM has significant empirical support as a pre-determinant of job satisfaction, with limited support as an antecedent of affective commitment. There seems to be some confusion in the literature regarding the role of both normative and continuous commitment. Normative commitment has been found to overlap with affective commitment, while continuous commitment has been found to represent two constructs, rather than one. As affective commitment is the dominant construct related to the enterprise bargaining outcomes, this construct is deemed the most appropriate for this research. While there is support for PDM leading to improvements in job satisfaction, the influence of PDM on affective commitment is not as clear.

The third section of the Chapter explained that changes to the job characteristics, changes in performance effectiveness, and rewards within the enterprise bargaining context are also important. Some studies have found that PDM increases performance, yet others have not supported this, these findings may be related to the types of studies undertaken and the dimensions explored. While some studies suggest PDM changes job attributes and so influences behavioural outcomes, the literature has identified that the influence may well be more significantly related to changes in rewards.

These relationships are likely to be more complex than they first appear. Relationships between the key dependant variables will be investigated recognising that positive outcomes at one level may not impinge positively on other variables: For example, participation is likely to lead to increased performance effectiveness but could have either a positive or negative influence on satisfaction and or commitment. Changes at the job characteristics level may follow from PDM, but may not be correlated with improved performance or predict satisfaction (Brown, 1996). Alternatively, the changes to the task may occur without participation and this may or may not negatively affect outcomes. Also the relationships between variables may be reinforcing; for example, if participation leads to job enrichment, employers are likely to increase their levels of participation. Similarly with satisfaction, if participation and enriched jobs increase satisfaction, this will have a positive effect on participation and

job enrichment.

Workplace participation, job satisfaction and productivity are desired outcomes of enterprise bargaining context. Understanding the influence and role of PDM as a predictor of these outcomes will give a clearer understanding of workers attitudinal changes and provide guidance for future strategies in the enterprise bargaining context.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## INTRODUCTION

Chapter Two reviewed the relevant literature linking participation in decision-making (PDM) to changes in the job characteristics, perceptions of performance effectiveness and rewards as well as organisational job satisfaction and affective commitment outcomes. Five hypotheses have been developed from the literature to enable the relationship and role of PDM to be explored. This Chapter outlines the methods used to investigate those hypotheses and the proposed causal model.

The theoretical basis of the research is presented, followed by descriptions of the research objective and model for analysis. The rationale and methodology are presented in the first section. Both cross sectional and longitudinal research were undertaken to identify the relationship of PDM in the enterprise bargaining context to the relevant outcome variables.

The second section of the Chapter discusses the measures used and how these were developed. The research instrument developed to test the relationships in the literature is presented. The questionnaire development is explained, as are the pre-test procedures. The questionnaire includes scales from two sources. Firstly, a number of scales were taken from previous studies, by Brown and Leigh (1996), Becker and Billings (1993), Blau (1993), Meyer, Allen and Smith (1993), Cotton and colleagues (1988), Hackman and Oldham (1980), Locke and Sweiger (1979) and Quinn and Staines (1979). Secondly, the researcher developed some specific questions based on items recommended by other researchers. These items aimed to gather data on the variables identified in Chapter Two as being either mediated by or outcomes-related to PDM. In response to the concern that some variables could be highly correlated, the next section deals with the independence of the measures.

The Chapter then details the choice of subjects for the research and includes the demographic details and sampling procedure used. To assist data interpretation,

information on worker demographics and the work context were gathered though not tested in relation to the model. Organisations in the private, public and local government sectors were contacted and invited to participate in the research. Seven organisations agreed to participate, with three being from different industries within the private sector, three from local government and one from the public sector.

The data collection process is described in the following section. Data was collected through a self-report survey with all employees from the six organisations and one division of the public sector agency invited to participate. The demographic distribution of each sample is presented and shows both similarities and differences among the three groups. The next section describes the methods and approaches for data analysis and presents a rationale for why these were chosen.

An introduction and overview of Structural Equation Modelling and details of the statistical package used are presented and explained. The statistical package EQS 5.7b for Windows was used to explore the data prior to conducting confirmatory factor analysis and causal modelling. This section also details the fit indices considered appropriate to the research. Finally, the limitations of the research are presented prior to a summary and conclusion for this Chapter.

## JUSTIFICATION FOR THE METHODOLOGY

Two separate studies were undertaken to investigate PDM'S influence on the affective commitment and job satisfaction and other significant determinants of these outcome variables. The first study undertaken was a cross-sectional design with data collected from across three industry sectors. The second study was a longitudinal design using a matched sample from the three sectors. Overall, the data collection strategy was to randomise all variables as much as possible within and across respondent groups (Sekeran, 1992).

The advantages of using both a cross sectional and longitudinal design were that the model could be tested in different work areas, with different industries and demographic groupings and would enhance internal validity. This dual approach

also allowed for a more reliable exploration of the direct and indirect influence of PDM on the outcome variables.

## OVERVIEW OF THE RESEARCH

The research consisted of two studies. Study 1 utilised data collected in 1998 from seven organisations across the public, local government and private sectors. Study 2 utilised data from five of the seven organisations from which can data was collected in 1998, as well as longitudinally matched data collected from the same five organisations in 1999. Those respondents who formed part of the matched sample study were excluded from study 1. The relationship between data collection and the two studies is depicted in Figure 3.1.

**Figure 3.1: The relationship between Study 1 and Study 2**

| | **1998 Data Collection** | **1999 Data Collection** |
|---|---|---|
| **Study1** | Baseline cross –sectional sample of employees **N = 495**<br>Split into 2 cross sectional samples:<br>Sample 1: Calibration sample: **n=248**<br>Sample 2: Validation sample: **n=247** | |
| **Study 2** | Longitudinal matched sample: **N = 176** | Matched Longitudinal data; **N = 176** |
| | **Total Sample N = 671** | **N = 176** |

Note: Study 1 Data from 7 organisations (1 State Gov.; 3 Private Sector and 3 Local Government).
Study 2 Data from 5 organisations (1 State Gov.; 2 Private Sector and 3 Local Government)

Most industry-based studies of PDM have either been single site (Black & Gregersen, 1997; Denton & Zeytinoglu, 1993; O,Connor, 1992; Yammarino & Naughton, 1992) or cross-sectional (Connell, 1998; Jones, 1997) and so have failed to measure evidence of change. Ledford and Lawler (1994) suggest that taking a longer-term, broader view as opposed to the narrow and short-term focus taken in the past should return more substantial results.

There is emerging evidence from some longitudinal studies that have been undertaken of a positive relationship between PDM, satisfaction and work performance (Schuster, et al., 1997; Pearson, 1991). For example, a longitudinal field study of blue-collar workers undertaken by Pearson (1991) examined the relationship between role perceptions, motivation, job satisfaction and productivity in a self-managed work environment for monitoring productivity. Data related to employees' perceptions and affective response was collected on four occasions over a sixteen-month period and returned significant evidence that PDM led to increased performance and productivity outcomes. A significant feature of this research was the support for "change" being causally influenced by extrinsic feedback, which by its very nature is part of a time-lagged process. Another study conducted in the Canadian dairying industry by Schuster and colleagues (1997) found a strong relationship between PDM, increased productivity and satisfaction, even though these researchers did not seek to establish statistical support for a causal relationship. The above two studies sustain Latham, Winters and Lockes' (1994) contention that task relevant knowledge is important for PDM to be effective.

Although largely unsupported within the PDM literature, the value of longitudinal studies for finding causal links can be found in the literature on commitment. While cross sectional studies (Dunham, et al., 1994; Hackett, et al., 1994 Eisenberger, et al., 1990; Meyer & Allen, 1984) and single site studies (Randall et al., 1990) of commitment are commonly undertaken, longitudinal studies are becoming predominant. This is because longitudinal designs have the ability to establish linkages over time (Pearson & Duffy, 1999; Becker & Billings, 1993; Whitener & Walz, 1993; Pearson, 1991; Mathieu & Kohler, 1990; Mathieu & Zajac, 1990; Randall, et al., 1990; Meyer & Allen, 1988). While a number of studies have established predictive linkages to commitment, it needs to be acknowledged that many did not evaluate commitment with the Allen and Meyer' (1990) affective commitment scale used in this research.

The value of longitudinal studies in commitment has been supported with varying instruments. For example, Mayer and Schoorman (1992) conducted a longitudinal matched sample study of employees in a financial-services organisation using the original Organisational Commitment Questionnaire (OCQ) developed by

Porter, Steers, Mowday and Boulian (1974). The OCQ consists of two constructs similar to what Allen and Meyer term "affective" and "continuous" commitment. The affective component in this research was termed "value" commitment and related to an employee's acceptance of the organisation's goals and values, and their willingness to exert effort. Continuous commitment is similar to the construct described by Allen and Meyer (1990), where the employee remains with the organisation through lack of alternative choices and participates rather than lose their organisational membership. The first stage of the study reported on commitment dimensions then followed up two months later by collecting data on commitment dimensions and work outcomes, such as: intent to stay, absenteeism, organisational citizenship and performance outcomes (Mayer & Schoorman, 1992). Value commitment was found to have stronger relationships to citizenship behaviour, satisfaction and independent measures of performance, whereas continuous commitment was significantly related to turnover.

Acknowledging distinctions between the affective, normative and continuance commitment scales, many studies have used the Allen and Meyer (1990) survey instrument for either single site or cross-sectional survey designs (Ko, Price & Mueller, 1997; Dunham, Grube & Castañeda, 1994; McFarlane-Shore & Wayne, 1993; Meyer, et al., 1993). The affective commitment scale utilised in this research, has been used in a number of longitudinal studies and also found to be reliable over time. For example, Meyer, Allen and Smith (1993) tested organisational and occupational commitment twice yearly, over two consecutive years, in samples of student and registered nurses and found a causal relationship between commitment levels and the outcomes of turnover intention, work performance, citizenship and intent to remain in nursing. Although not all authors agree on the direction of the relationship, past research supports job satisfaction as highly correlated to organisational commitment (Whitener & Walz, 1993; Mathieu & Farr, 1991; Allen & Meyer, 1990; Brooke, et al., 1988; Williams & Hazer, 1986).

The present research uses matched sample data from the three participating cross-sectional industry groups to test for causal relationships. This large sample size and industry diversity gives external validity, whereas replication of the path

structures across the different samples in both studies will lend support to internal validity (Sekaran, 1992).

While some studies have used quite short time lags, for example four months (Hom & Griffith, 1991; Pearson, 1991) and five months (Bateman & Strasser, 1984), to ensure reliability over time such an approach was considered inappropriate for this research. The time lag chosen for the research was twelve to fifteen months to allow the participating organisations to achieve targets or 'milestones' within their agreements, so the impact of changes over time could be captured.

The survey instrument is composed of Likert-type scaled responses to support content and construct validity (Sekaran, 1992). The items were rated on five point Likert scales, with 1 on the scale representing 'strongly disagree' or 'strongly dissatisfied,' to 5 on the scales representing 'strongly agree' or strongly satisfied'.

## DESCRIPTION OF RESEARCH SETTING

A total of seven organisations from the Private, Public and Local Government sectors participated in both studies. This number was comprised of three organisations from the local government sector, three from the private sector and one division of a public sector agency. The organisations represented a wide spread of workers across major employment sectors and included skilled, semi-skilled occupations and professions. These organisations were selected as they had in place either enterprise or workplace agreements. All the organisations had negotiated or were negotiating their agreements with varying union and staff involvement and participation in decision-making.

There were difficulties in obtaining agreement to participate in the research from some organisations. A number of larger organisations were contacted across the private sector, but declined to participate for various reasons, often associated with either having recently conducted an attitudinal survey, or what was termed "poor timing". Another problem was the limited pool with agreements and sufficient numbers of accessible employees to give a meaningful response rate within state government agencies and private sector organisations in Western Australia. Of the

private sector organisations that initially agreed to participate, two eventually withdrew prior to Study 1, citing negative impacts from the Asian economic downturn making the timing of surveys inappropriate. Of the three private organisations that did participate, the two smaller organisations withdrew from the research as both ultimately downsized prior to completing Study 2. Similar reasons regarding timing were also given in the public sector, with many organisations citing a Government initiative in undertaking significant departmental restructuring as contributing to inappropriate timing. Of the five local government agencies approached, two declined to participate due to timing, while three participated in the research.

All seven organisations that participated in the research were at different stages of the enterprise bargaining process. The private sector sample was comprised of a Private Hospital employing 730 staff (including an allowance for up to 120 casual staff), a small manufacturing organisation with 200 staff, and a Hotel-Resort employing 150 staff.

The private hospital belongs to a nationwide chain of hospitals and provides emergency services, in-patient treatment and care, and has a large medical centre attached. The workforce is predominantly made up of nursing staff and allied health professionals. Registered nurses, enrolled nurses and patient care assistants made up the nursing staff, whereas the allied health professionals included such roles as medical technologists, physiotherapists and technicians. The hospital also employs a small number of other support staff in, for example, administrative and clerical positions as well as security and 'ground staff.' This organisation had negotiated a number of enterprise agreements with various unions to cater to different staff categories and staff needs.

The small manufacturing organisation was also a subsidiary of a larger national company in the building/construction industry and the workforce was predominantly male. This organisation had an enterprise agreement in place and was preparing to commence negotiations for their next agreement. The third private sector organisation also belonged to a larger conglomerate in the hospitality industry. This workplace had a mixed though largely semi-skilled workforce working under a workplace agreement.

Three Local Government organisations with staffing levels of 110, 157 and 200 respectively participated. Two agencies had enterprise agreements in place. The first and smallest organisation was most advanced in the enterprise bargaining process, having invested extensive resources to train and develop autonomous work teams. The second and largest local government organisation was entering into a second round of enterprise bargaining negotiations. This organisation had recently experienced some industrial unrest as management attempted to move toward greater staff participation in the negotiations, thereby reducing direct union involvement. The third had just commenced negotiating their first enterprise agreement, which was subsequently entered into, prior to data collection in 1999. This third middle-sized local government organisation had a history of perceived autocratic management and was experiencing some difficulties in setting up consultative practices. The three organisations were similar in that they employed a similar mix of administrative, clerical, professional and management staff as well as outdoor workers and some community service workers.

The seventh participant in the research was a division of a state public sector agency with a staff establishment of 500 employees. This agency had in place a number of generic workplace agreements. This approach meets the preference for workplace agreements by the then WA State Liberal and National Coalition Government, but uses a collective approach that is more in line with an enterprise agreement. The difference between the two types of agreements is that enterprise agreements are negotiated collectively through representation and have union involvement, whereas workplace agreements are developed between the individual employee and employer, and unions can be excluded. This agency employed a broad range of position designations ranging from "Level One" which is the base level within the public service, through to managers at 'Levels Six and Seven," as well as members of the Senior Executive Service from "Level Nine and Upwards". Staff ranged from administrative and clerical, to semi-skilled out-door workers, professionals and scientists.

Overall the research population encompassed a wide variety of roles across a number of industry sectors. This was deemed important as the changes related to enterprise bargaining affect all salaried workers. While there is little evidence in the

literature of a single study on PDM that deals with such a diverse group, other studies have examined the relationship of PDM to worker outcomes in specific environments and the following examples demonstrate the range of these. One previous cross-sectional study within the enterprise bargaining environment undertaken by Connell (1998), sampled a manufacturing organisation and a private health insurance company, on the impact of participation and relationships at work. Further studies examined the influence of participation on nurses (Pearson & Duffy, 1999; Pearson & Chong, 1997; Knoop, 1991), whereas Connor (1992) conducted a study with Nursing Home administrators. Pearson (1991) conducted a study on the influence of participation on role perceptions, motivation and job satisfaction among Western Australian blue collar railway workers, and Tjosvold (1998) conducted a study on the influence of working towards cooperative goals with Lumber workers. Black and Gregerson's (1997) study was conducted in a manufacturing environment.

Studies on commitment and job satisfaction have also encompassed a variety of environments. For example, Roy and Ghose (1997), Hackett, Bycio and Hausdorf (1993) and Meyer, Allen and Smith (1993) conducted studies with nurses. Allen and Meyer (1990) studied manufacturing and professional environments; Benkhoff's (1997) study was conducted in the banking industry, while Cordery and Sevastos (1993) undertook a study in the public sector.

In summary, this research considers the role of PDM in the private, state and local government sectors. The research tests changes in affective commitment and job satisfaction as outcomes of PDM within the enterprise bargaining context. This research adds to the literature as the cross sectional and longitudinal design supports testing relationships within the PDM model, and also causal links over time.

## DESCRIPTION OF SAMPLE CHARACTERISTICS

Data from the three industry sectors was collected on two occasions, 18 months apart to form two studies. This section describes all usable data that was collected in the first stage of the research and presents brief tables summarising the data. Data from Stage 1, was separated into a cross-sectional sample for Study 1 and the first stage of the matched longitudinal sample that formed Study 2. While all data is presented here, brief overviews of the cross sectional sample and longitudinal

sample will be provided in Chapters Four and Five respectively, prior to analysis of the data sets. The demographic distribution of all respondents at Stage 1 of data collection is presented in Table 3.1, whereas Table 3.2 presents the breakdown of Stage 1 data into the cross-sectional sample used for Study 1 and the longitudinal matched sample for Study 2.

In the first stage, a total of 1997 questionnaires were mailed to the seven participating organisations. Each organisation issued reminders to staff after two weeks to encourage a greater return rate. Overall there were considerable differences in response rates between the organisations, with the largest response rate coming from the public sector organisation. The multi-group sample consisted of 671 useable responses. A total of 241 responses were received from the public sector organisation, giving a useable sample of 234 (47%). The private hospital sample returned 220 surveys with 215 (30%) useable surveys. The hospitality organisations' response rate was 29, with a useable response rate of 26 (17%), whereas the Manufacturing organisation returned 23 (15%) useable responses. Of the three local government agencies, the largest Council (Council 2) employed 200 staff, and had the lowest useable response rate at 57 (29%).

At the time the survey was conducted, this Council was in the early stages of negotiating a second round of enterprise agreements, while seeking to increase staff involvement and decrease reliance on union involvement. These negotiations led to industrial action, which likely reduced the response rate. The second largest of the councils (Group 3) employed 157 employees and had 56 (36%) usable responses. The third and smallest Council (Group 1) employed 110 staff and a useable response rate of 60 (55%). This council was progressing through their first agreement and planned to negotiate and implement their second agreement prior to data collection at the second stage.

**Table 3.1: All respondents at Stage 1 (Study 1 and 2)**

| Sample Details | Govt. | Private | | | Local Government | | | Total |
|---|---|---|---|---|---|---|---|---|
| | | Hospital | Manuf. | Hospitality | 1 (K) | 2 (F) | 3 (M) | |
| **Collection Method** | | Mailed to researcher | | | *Ballot Box or Mail* | | | |
| **No. distributed** | 500 | 730 | 150 | 150 | 110 | 200 | 157 | |
| **Useable responses** | 234 | 215 | 23 | 26 | 60 | 57 | 56 | 671 |
| ***Gender*** Female | 83 | 184 | 2 | 13 | 25 | 31 | 23 | 361 |
| Male | 150 | 31 | 21 | 13 | 35 | 26 | 33 | 309 |
| Missing | 1 | | | | | | | 1 |
| **Age** | | | | | | | | |
| Under 23 yrs | 9 | 5 | - | 7 | 1 | 3 | 2 | 27 |
| 23 - 30 yrs | 34 | 35 | 7 | 9 | 11 | 11 | 8 | 115 |
| 31 - 42 yrs | 95 | 85 | 9 | 6 | 14 | 19 | 18 | 246 |
| 43 - 54 yrs | 76 | 80 | 6 | 2 | 26 | 22 | 24 | 236 |
| 55 yrs or over | 20 | 10 | 1 | 2 | 8 | 2 | 4 | 47 |
| **Tenure** | | | | | | | | |
| Perm.F/T | 172 | 101 | 19 | 14 | 49 | 41 | 49 | 445 |
| Perm. P/T | 22 | 88 | - | 6 | 5 | 8 | 4 | 133 |
| Casual – F/T | 2 | 2 | 4 | 2 | 2 | 1 | - | 12 |
| Casual – P/T | 1 | 19 | - | 4 | - | 6 | - | 25 |
| Contract - F/T | 27 | 3 | - | -- | 3 | 1 | 2 | 41 |
| *Contract - P/T* | 9 | 2 | | -- | 1 | | 1 | 14 |
| Missing | 1 | | | | | | | 1 |
| **Current Position** | | | | | | | | |
| Admin. or Clerical | 65 | 18 | 4 | 5 | 15 | 16 | 10 | 133 |
| Trade | 5 | 9 | - | 4 | 14 | 3 | 10 | 18 |
| Semi-skilled | 32 | 36 | 11 | 10 | 7 | 17 | 10 | 116 |
| Professional | 70 | 123 | - | 3 | 13 | 9 | 11 | 230 |
| Management | 41 | 23 | 3 | 2 | 1 | 2 | 2 | 102 |
| Other | 21 | 5 | 5 | 2 | 10 | 10 | 12 | 38 |
| Comm. Services. | | 1 | | | | | 1 | 33 |
| **Years with employer** | | | | | | | | |
| 0 - 2 years | 46 | 72 | 6 | 18 | 17 | 23 | 17 | 199 |
| 5 years | 21 | 108 | 4 | 7 | 14 | 15 | 13 | 182 |
| 6 – 10 years | 50 | 16 | 3 | 1 | 18 | 10 | 12 | 110 |
| 11 -15 years | 43 | 7 | 2 | - | 6 | 4 | 8 | 70 |
| 16 -20 years | 26 | 8 | 2 | - | 1 | 2 | 4 | 43 |
| 21 years or more | 48 | 4 | 6 | | 4 | 3 | 2 | 67 |
| **Years working** | | | | | | | | |
| 0 - 2 years | 10 | 3 | 1 | 6 | 1 | 1 | 2 | 24 |
| 5 years | 11 | 14 | 1 | 3 | 2 | 3 | 2 | 36 |
| 6 – 10 years | 21 | 24 | 3 | 5 | 10 | 8 | 4 | 75 |
| 11 -15 years | 43 | 31 | 5 | 4 | 6 | 14 | 8 | 111 |
| 16 -20 years | 38 | 50 | 4 | 2 | 11 | 8 | 12 | 125 |
| 21 years or more | 111 | 93 | 9 | 6 | 30 | 23 | 28 | 300 |
| **Type of agreement** | | | | | | | | |
| Workplace | 129 | | 5 | 26 | | 11 | 7 | 171 |
| Enterprise | 100 | 215 | 18 | - | 60 | 46 | 49 | 446 |
| N/A or Unsure | 5 | | | | | | | 54 |

**Table 3.2: Distribution of stage 1 data for cross-validation (Study1) and longitudinal (Study 2) samples**

| | | Study 1 | | Study 2 |
|---|---|---|---|---|
| **Sample Details** | | **Sample 1** | **Sample 2** | **Longitudinal Sample** |
| **Useable responses** | | 248 | 247 | 176 |
| ***Gender*** | Female | 143 | 128 | 92 (52) |
| | Male | 105 | 118 | 84 (48) |
| **Age** | | 12 | 8 | |
| Under 23 yrs | | 54 | 39 | 3 (1) |
| 23 - 30 yrs | | 82 | 96 | 21 (12) |
| 31 - 42 yrs | | 84 | 84 | 63 (35) |
| 43 - 54 yrs | | 16 | 20 | 72 (41) |
| 55 yrs or over | | | | 17 (9) |
| **Tenure** | | | 155 | |
| Perm.F/T | | 165 | 53 | 126 (71) |
| Perm. P/T | | 51 | 5 | 30 (17) |
| Casual – F/T | | 5 | 7 | - |
| Casual – P/T | | 13 | 19 | 6 (3) |
| Contract - F/T | | 12 | 7 | 12 (7) |
| *Contract - P/T* | | 2 | 1 | 2 (1) |
| **Current Position** | | 51 | 54 | |
| Admin. or Clerical | | 4 | 9 | 29 (16) |
| Trade | | 35 | 50 | 16 (9) |
| Semi-skilled | | 90 | 80 | 25 (14) |
| Professional | | 40 | 29 | 65 (37) |
| Management | | 17 | 13 | 32 (18) |
| Other | | 10 | 12 | 9 (5) |
| Comm. Services. | | 1 | | |
| **Years with employer** | | 85 | 71 | |
| 0 - 2 years | | 56 | 80 | 26 (14) |
| 5 years | | 46 | 32 | 51 (29) |
| 6 – 10 years | | 26 | 26 | 38 (21) |
| 11 -15 years | | 12 | 16 | 16 (9) |
| 16 -20 years | | 13 | 22 | 20 (11) |
| 21 years or more | | | | 25 (14) |
| **Years working** | | 10 | 8 | |
| 0 - 2 years | | 16 | 14 | 4 (2) |
| 5 years | | 35 | 22 | 7 (4) |
| 6 – 10 years | | 43 | 41 | 14 (8) |
| 11 -15 years | | 44 | 46 | 32 (18) |
| 16 -20 years | | 100 | 116 | 27 (15) |
| 21 years or more | | | | 94 (53) |
| **Type of agreement** | | | | |
| Workplace | | 58 | 77 | |
| Enterprise | | 170 | 151 | |
| N/A or Unsure | | 20 | 19 | |

Numbers in parenthesis are percentages

Of the useable surveys obtained from across the five organisations participating in Study 2, 352 employees (52%) indicated they were willing to be contacted directly to be part of a matched sample. Participants who did form part of the matched sample for Study 2 were excluded from Study 1. A summary of survey distribution with usable response rates collected at Stage 1 for the two studies is presented in Table 3.3.

**Table 3.3 - Response rates and distribution of usable responses from stage 1 of the study**.

| **Organisations** | Public | Private Sector | | | Local Govt. | | | TOTAL |
|---|---|---|---|---|---|---|---|---|
| | Sector. | Hospital | Manufac. | Hospitality | 1 | 2 | 3 | |
| **No. distributed** | 500 | 730 | 150 | 150 | 110 | 200 | 157 | 1997 |
| **Useable responses** | 234 | 215 | 23 | 26 | 60 | 57 | 56 | 671 |
| **STUDY 1** | | | | | | | | |
| **No. in Sample 1** | 84 | 81 | 12 | 13 | 19 | 19 | 20 | 248 |
| **No. in Sample 2** | 84 | 81 | 11 | 13 | 17 | 20 | 21 | 247 |
| **STUDY 2** | 66 | 53 | - | - | 24 | 18 | 15 | 176 |

Across the various samples there was a broad mix of work skills and responsibilities, ages and work experience from management, to professional and semi-skilled workers, as discussed in detail below. Response rates across the organisations showed considerable variation. Of the 234 useable surveys received from the public sector agency, 83 (36%) were from females and 150 (64%) were from male respondents. The high number of males in this sample is proportionate to the number of males in the organisation and reflects the type of work and high number of males among a specialist vocational group and scientific staff. There also was much higher proportion of males in the small manufacturing company with 21 (91%) male respondents and 2 (9%) female respondents.

In the large private sector organisation, the gender dispersion was completely the opposite, with the high proportion of 184 females (86%) reflecting female dominance in the nursing and allied health professions. Of the 215 (30%) useable surveys from the Hospital, 31 (14%) were from males. Responses from the hospitality industry were equally dispersed between the genders, with 13 male and 13 female respondents. Similarly, although there were slight variations in gender

balance favouring males, the balance among the local government sample was more homogenous. Of the 161 useable surveys returned, 79 (46%) were from female respondents, with 25 (42%) from Council 1, and 31 (54%) from Council 2 and 23 (41%) from Council 3. The gender distribution is summarised in Table 3.4

**Table 3.4**: **Gender distribution of respondents at Stage 1 of data collection.**

| **Organisations** | Public | Private Sector | | | Local Govt. | | | TOTAL |
|---|---|---|---|---|---|---|---|---|
| | Sector. | Hospital | Manufac. | Hospitality | 1 | 2 | 3 | |
| **STUDY 1** | | | | | | | | |
| Female | 64 | 140 | 2 | 13 | 14 | 20 | 18 | 271 |
| Male | 103 | 22 | 21 | 13 | 22 | 19 | 23 | 223 |
| Missing | 1 | | | | | | | 1 |
| **STUDY 2** | | | | | | | | |
| Female | 19 | 44 | Withdrawn | | 11 | 11 | 5 | 92 |
| Male | 47 | 9 | | | 13 | 7 | 10 | 84 |

Both private and public sector organisations had high components of professional staff. The private hospital employed 123 (60%) professional staff comprised of registered nurses and other allied health professionals. The hospital employed small numbers of trade employees (n = 9 or 4%), semi-skilled employees such as patient care assistants (n = 36 or 17%), and administrative or clerical staff (n =18 or 8%). Within the public sector organisation, 27% (n = 65) were professionals, with another 10% of employees belonging to a specialist vocational group. Within the three local government organisations, professional and management staff distributions were similar; for example, thirteen employees of Council 1 indicated they were professional staff, whereas one was a manager. In Council 2, nine indicated they were professional and two indicated they were management employees. In the third and medium-sized Council, eleven staff indicated they were professionals, and two claimed management positions.

Age range and experience in the workforce were generally similar for all samples, with nearly half the respondents (45%) having in excess of 20 years' work experience. The bulk of respondents were concentrated between ages 31 to 54 years (72%). In the public (n= 95; 41%) and private (n= 100; 38%) sectors, the majority of staff were in the 31-42 years age bracket. Employees in the local government

organisations were slightly older, with the largest bracket of workers (n = 72; 42%) in the 43-54 years age bracket. Only 4% of all respondents were under 23 years of age, whereas 17% were between the ages of 23 and 30 years and 7% were 55 years or over. The age distribution of respondents is presented in Table 3.5.

**Table 3.5: Age distribution of all respondents at Stage 1**.

| **Organisations** | Public | Private Sector | | | Local Govt. | | | TOTAL |
|---|---|---|---|---|---|---|---|---|
| | Sector. | Hospital | Manufac. | Hospitality | 1 | 2 | 3 | |
| **Age** | | | | | | | | |
| Under 23 yrs | 9 | 5 | - | 7 | 1 | 3 | 2 | 27 |
| 23 - 30 yrs | 34 | 35 | 7 | 9 | 11 | 11 | 8 | 115 |
| 31 - 42 yrs | 95 | 85 | 9 | 6 | 14 | 19 | 18 | 246 |
| 43 - 54 yrs | 76 | 80 | 6 | 2 | 26 | 22 | 24 | 236 |
| 55 yrs or over | 20 | 10 | 1 | 2 | 8 | 2 | 4 | 47 |

NB: includes all respondents for Study 1 and baseline for Study 2

Across the organisations, 86% of employees were in permanent employment, with 30% of these in part-time positions. The hospital had the highest proportion in permanent part-time employment. While 47% of staff were employed in permanent full-time positions, 41% were employed on a part-time basis, and another 9% employed as part-time casuals. The proportion of casual or contract staff across the local government organisations was low, ranging from 14% in the largest Council to 5% in Council 3. The state government agency had very few casual staff (3 in total), and 15% of staff were employed on a contract basis. Many staff also seemed confused over whether they were employed under a workplace or enterprise agreement, which may in part be confounded by casual or part-time staff being unclear about specific arrangements. Table 3.6 presents a breakdown of employee responses regarding the type of agreement they thought they were employed under. In fact, enterprise agreements were in place in two of the Councils, the Hospital and the Manufacturing organisation. The third Council was negotiating with clear intent to develop an enterprise agreement. All staff employed in the hospitality organisation were employed under workplace agreements. Although the public sector agency operates with generic workplace agreements, 43% of staff responded that they were covered by an enterprise agreement. When discussed with the agency, human resource staff pointed out that although the Agency had changed

from enterprise to workplace agreements, these generic agreements were negotiated with Union involvement and were therefore quite similar to enterprise agreements.

**Table 3.6: Respondent identification of type of agreement coverage at Stage 1**.

| **Organisations** | Public | Private Sector | | | Local Govt. | | | TOTAL |
|---|---|---|---|---|---|---|---|---|
| | Sector. | Hospital | Manufac. | Hospitality | 1 | 2 | 3 | |
| **Agreement** | | | | | | | | |
| Workplace | 129 | | 5 | 26 | | 11 | 7 | 178 |
| Enterprise | 100 | 215 | 18 | - | 60 | 46 | 49 | 489 |
| N/A or Unsure | 5 | | | | | | | 5 |

NB: The hospitality organisation did have a workplace agreement in place. The public sector agency had generic workplace agreement, and all other organisations had collective enterprise agreements.

Overall the Hospital employed a much higher level of female and professional staff than the other organisations; however, the number of males in the government agency and manufacturing organisation counteracted this in-balance. Data collected at Stage 1 was predominantly taken from professional, administrative and clerical staff, with smaller numbers of management and semi-skilled workers as well as a mixture of other classifications.

In summary, 671 useable responses were returned from the seven participating organisations. The samples from the all sectors were combined and then split in the following way. The 495 cases that were not part of the matched sample formed Study 1 and were split into two samples, one for calibrating the hypothesised model (n = 248) and the second (n = 247) for validating the model. The remaining 176 cases were matched to cases when data was collected at Stage 2 and formed Study 2.

## MEASURES

A questionnaire was designed to enable the researcher to collect information that would allow a causal model of PDM in the enterprise bargaining context to be tested. As enterprise bargaining aims to influence work practices, perceptions of performance effectiveness, employment conditions and remuneration through increased participation to alter worker satisfaction and affective commitment

outcomes, the questions focused on these aspects of the bargaining context.

The Questionnaire consisted of forty-seven (47) items divided into two sections. The first section contained seven (7) questions asking demographic details, including: age, gender, position, tenure, length of service, time in the workforce and whether the employee was covered by a workplace or enterprise agreement. The second section of the survey instrument consisted of 40 questions related to the constructs and hypothesised relationships in the research, and subjects were asked to respond to questions by ticking a Likert-type scale. A summary of the questions and variables contributing to each construct and making up the questionnaire are provided in Appendix A.1.

**Demographic Relationships**

Demographic variables measured in the study include age, gender (Denton & Zeytinoglu, 1993; Judge & Watanabe, 1993; Mathieu & Zajac, 1990; Fried & Ferris, 1986; Katz, 1978 a & b), position in the organisation (Denton & Zeytinoglu, 1993; Marsden et al., 1993), organisational tenure, whether part-time or full-time or whether employees were employed on a casual or contract basis and the length of time in the workforce (Hackett et al., 1994; Mathieu & Zajac, 1990; Williams & Hazer, 1986), as all have been found to influence levels of PDM. Demographic information was collected using single item questions. Responses to these questions were grouped so employee responses were given within a segmented range. For example, age was identified in groupings that relate to the stages of development (Schein, 1990), as career development is related to PDM outcomes, and length of tenure was broken down into broad years to designate work experience.

In previous studies, researchers have used a variety of measurement scales. For example, some have used seven point Likert scales (Brown & Leigh, 1996; Pearson, 1991), others have used six point scales (Yammarino & Naughton, 1992), and four points scales (Judge & Watanabe, 1993) or a combination of scalings, for example five and seven, within the one study (Rice et al., 1991). Responses in this research were captured using a five-point Likert scale. Many other researchers have used five point scales as they provide a simple yet valid approach (Connell, 1998; Aryee et al., 1994; Ostroff, 1993; Vandenberg & Lance, 1992; Knoop, 1991; Mathieu & Kohler, 1990).

**Hypothesised relationships**

Questions in the second section were drawn from a variety of sources and provided measures of the variables referred to in the research hypotheses. Twenty-five questions were taken from previously used instruments with established reliability. These included: affective commitment (Meyer, Allen & Smith, 1993; Allen & Meyer, 1990); the Job Descriptive Index for satisfaction with job facets (Hackman & Oldham, 1980); overall job satisfaction (Quinn & Staines, 1979); the Job Diagnostic Survey (Hackman & Oldham, 1980) with the modification recommended by Pearson and Chong (1997), Cordery and Sevastos (1993) and Idaszak and Drasgow (1987).

Fifteen questions pertinent to the enterprise bargaining context and based on previously identified research constructs, were developed by the researcher. The questions developed by the researcher related to PDM guidelines (Cotton et al., 1988; Locke & Sweiger, 1979) and perceptions of performance effectiveness as an outcome of increased work effort (Brown & Leigh, 1996; Blau, 1993) and "working smarter" or more effectively (Brown, 1996b) in relation to the enterprise bargaining context. Questions regarding rewards also related directly to the enterprise bargaining context. In addition limited questions on foci of commitment (Becker, et, al., 1996; Brown & Leigh, 1996; Becker & Billings, 1993; Meyer, Allen & Smith, 1993; Becker, 1992) were included for secondary analysis. The following section describes the rationale for the choice of measures in greater detail.

**Participation in decision-making**

Five (5) items were developed in relation to the specific work related issues of enterprise bargaining. While based on constructs identified previously in the literature, the researcher modified the five questions to make them very specific to the enterprise bargaining context. The questions sought to ascertain if employees believed they had the opportunity to have 'a say' in their working conditions, work practices, company policies and decisions that affected them, and whether or not they believed enterprise bargaining had increased such participation in their organisations.

As previously identified, different studies on PDM have examined different foci and the multiplicity of the construct has caused some confusion (Black & Gregerson, 1997; Cotton et al., 1988). While the Black and Gregersen (1997) model provides a

framework for analysis, aspects of the fourth, fifth and sixth dimensions of the Black and Gregerson (1997) framework all fit PDM within the enterprise bargaining guidelines. However, and perhaps most importantly, these dimensions all relate to the level of participation. The ability for employees to genuinely contribute and receive feedback, or level of participation varies among organisations and it is this variation the research will examine.

Other previously tested items also relevant to the enterprise bargaining context were found in other PDM studies. A number of researchers have used questions that relate to the individual's ability to influence a range of work activities associated with their job or work group, (Pearson, 1991, $\alpha \geq .89$; Ruh, White & Wood, 1975, $\alpha = .81$) choosing scales based on the original work of Vroom (1960) These measures are similar to the PDM and degree of task involvement scales developed by Siegal and Ruh (1973) and used by Knoop (1991) in his study of nurses, with reported reliabilities in excess of $\alpha = .81$. Another approach to measuring PDM was developed by Alutto and Belasco (1972) and is generally viewed as a measure of informal participation in work facets (Yammarino & Naughton, 1992; Cotton et al., 1988; Locke & Schweiger, 1979).

While the above instrument items are useful as guidelines, it must be pointed out that the questions in this research do differ from those used in the previous studies.

**Job Characteristics**

Ten (10) items were used to measure the independent variables related to the five core job characteristics. Two items each were used to measure autonomy, skill variety, task identity, task significance and feedback from the job. The modern version of the job diagnostic survey (JDS) based on the Job Characteristics Model (Hackman & Oldham, 1976; 1980) is now a well-tested instrument for measuring individual's perception of their core task attributes; namely, autonomy, skill variety, task significance, task identity and feedback. However this model has posed some problems. Early researchers considered the internal reliabilities for the JDS were acceptable, but identified difficulties associated with high task attribute inter-correlations (Fried, 1991; Aldag, Barr & Brief, 1981). While the measure is clearly multi-dimensional, the number of dimensions identified in factor analysis has not

always been consistent (Taber & Taylor, 1990; Kulik et al., 1988; Fried & Ferris, 1987; Dunham, 1976) suggesting the model's application may vary in different contexts (Cordery & Sevastos, 1993; Kulik et al., 1988; Fried & Ferris, 1987).

Further studies by Idaszek and Drasgow (1987) found the JDS showed a significant improvement in model fit if the negatively worded items were replaced with positively reworded items. Further testing by Cordery and Sevastos (1993) identified that removing the negatively worded items altogether, without replacing them as positively worded items, gave at least an equal, if not more reliable result. These findings are supported by comparative studies conducted by Pearson and Duffy (1999) between Malaysian and Australian Nurses, who also found that removing the negatively worded items did not impair reliability. The Australian sample returned $\alpha \geq .84$, with the exception of task identity ($\alpha \geq .69$), and the Malaysian sample returned $\alpha \geq .95$.

**Perceptions of Performance Effectiveness**

Perceptions of performance effectiveness were measured using five (5) questions related to the enterprise bargaining context. The literature identified that workers are putting in longer hours, and work is intensifying (ACCIRT, 1999). Therefore two items focussed on the amount of effort needed to achieve performance effectiveness, in terms of working longer hours or working harder. The three remaining items in the construct focused on collaborative and innovative work effort to try and identify whether employees were working more effectively or achieving more with their time, as is the desired outcome of enterprise bargaining. The items were based on constructs identified, though not tested, by Brown (1996b). Brown and Leigh (1996) measured how hard and long employees work during a specific period and their measures were more specific to assessing time commitment and work intensity as dimensions of effort, with two scales returning alpha reliabilities in excess of $\geq .82$. Brown and Leigh supported their finding by testing employee perceptions against management perceptions.

**Rewards**

Five (5) questions were asked regarding employee satisfaction with the gains or rewards employees receive in their current work environment. These questions related to specific outcomes identified in the enterprise bargaining literature in the broad context rather than from an individual perspective. This approach was taken for two reasons. Firstly, while enterprise bargaining milestones would be reached between Stages 1 and 2 of the study, these may not necessarily lead to specific gains for all individuals. Secondly, the more general approach allowed the survey items to be used consistently across all organizations, even though 1 of the organisations had not entered a first agreement at Stage 1. The questions on rewards included satisfaction with financial gains, changes to working conditions, opportunity to develop new skills, workers being generally better off or being better informed.

**Affective Commitment**

Four (4) questions were taken from the Allen and Meyer (1990) affective commitment scale. In the past many researchers have used the Mowday, Porter and Steers (1979) nine item shortened version of the organisational commitment scale (Elloy, Everett & Flynn, 1995; Ostroff, 1992; Vandenberg & Lance, 1992; Mathieu & Farr, 1991; Brooke et al., 1988). However, more recently the Allen and Meyer (1990) scale (revised by Meyer, Allen & Smith, 1993) has become predominant in the literature. The Allen and Meyer affective commitment scale has been used extensively and been found to have high internal consistency (alpha coefficients) with reported values consistently over an acceptable benchmark of $\alpha>.7$, with a values range from >.79 - .89 (Lam, 1998; Ko et al., 1997; Allen & Meyer, 1996; Hackett et al., 1994; Meyer et al., 1993; McFarlane-Shore & Wayne, 1993; Allen & Meyer, 1990; McGee & Ford, 1987)

**Commitment Foci**

Three (3) supplementary questions were asked to ascertain the focus of employees' commitment based on previous research (Becker et al., 1996; Becker, 1992). These 3 items were developed and included because the organisations involved deemed it important to understand the foci of employees' commitment within the enterprise bargaining context. This reflected the emerging concern of whether it is realistic to expect employees to be committed to organisations in the current

environment of downsizing and reductions in benefits and work conditions (ACCIRT, 1999). The three foci were the organisation, supervisor, and the individual's job.

**Job Satisfaction**

Past researchers have used a variety of instruments to successfully measure job satisfaction. Price and Mueller (1986) used a six-item measure adapted from Brayfield and Rothe (1951) and reported a high alpha reliability at .83 (Rice et al., 1991). Mathieu and Farr (1991) conducted a study using two different instruments, with one made up of twenty items from the Minnesota satisfaction questionnaire (Weiss, Dawes, England & Lofquist, 1976 cited in Mathieu & Farr, 1991; $\alpha$=.89), and the second selected from the fifteen item Hackman and Oldham scale (1976; 1980 scale, $\alpha$=.88). The Minnesota questionnaire has frequently been broken up with quite satisfactory results; for example, Martin and Bennett (1996) used eight items, while Doran, Stone Brief and George (1991) used the full one hundred item scale to capture twenty facets.

For this research, eight (8) items measured job satisfaction. Five items were taken from the job diagnostic survey (Hackman & Oldham, 1975) on facet satisfaction, specific to the enterprise bargaining context. Three (3) items were extracted from Quinn and Staines' (1979) measures of facet free satisfaction. Facet satisfaction scales are used to identify specific areas or 'facets' of the job that lead to satisfaction, whereas the facet free scale related to overall or global satisfaction.

The job diagnostic survey (JDS) was chosen for two reasons. Firstly, the items related specifically to the enterprise bargaining context and secondly, the instrument has been found to be reliable in previous studies. For example, comparisons between Australian and Malaysian nurses by Pearson and Duffy (1999) returned reliability estimates for each item of above $\alpha$ = .81, while a previous study gave an overall composite measure in excess of $\alpha$ = .90 (Pearson & Chong, 1997). The five items measuring specific job satisfaction facets for this research relate to; security, work conditions, support and guidance from supervisors and changes to work that have occurred through enterprise bargaining. The items taken directly from the original Hackman and Oldham (1975) survey related to issues within the enterprise bargaining context such as, satisfaction with job security, supervision and pay. Questions that

require modification so they related to the enterprise bargaining context included changes in conditions and changes to work due to enterprise bargaining.

The three (3) items measuring facet free satisfaction have been found to be a reliable measure of the overall satisfaction in previous studies investigating the relationship between job satisfaction and commitment (Meyer Allen & Smith, 1993; $\alpha = .77$). These three items were selected from the 9-item Quinn and Staines (1979) scale and chosen to measure overall satisfaction as a distinct construct from specific 'job facets' satisfaction. Such items relating to overall satisfaction, such as, *"all in all how satisfied are you with your job*" with responses ranging from "*not satisfied to very satisfied"*, have been shown to have high reliability as a construct (Judge & Watanabe, 1993; $\alpha = .74$). One item asked how satisfied employees were with their job, while the other two items asked whether employees would prefer to have the same job again in future or whether they would take the same job again if they had a choice to do so.

**Pilot Study**

A pilot study of the survey instrument was undertaken in September 1997 with forty-five (45) MBA students from the Graduate School of Business, Curtin University of Technology, to refine the questionnaire and check for construct reliability as recommended by Sekaran (1992). These students were chosen, not only for their appropriate work experience, but also because a number were employed in organisations with enterprise or workplace agreements. After completing the survey the students were invited to give both oral and written feedback on their reactions to the questions, regarding vocabulary appropriateness and the questions' overall clarity and acceptability. Some suggestions were made that resulted in three questions perceived as ambiguous being modified and re-worded.

## DATA COLLECTION

The first stage of the research was conducted in 1998 and the second stage was conducted in 1999. This time period was adhered to because it was deemed important to implement surveys when data collection would not clash with critical events in the enterprise bargaining process, as such events could bias responses. All

organisations achieved milestones related to their bargaining process or agreements during the intervening period.

The data for the first stage was collected over an eight-month period from February 1998 to September 1998. This period became more protracted than anticipated as two organisations that initially agreed to participate requested delays prior to withdrawing from the research, necessitating finding replacement organisations at mid-year. Telephone contact was made with Human Resources Managers and each organisation's intention to participate was confirmed in writing.

All organisations distributed the questionnaires via internal mail systems. The government agency mailed surveys directly to each employee on payroll, while the other organisations attached the survey to individual pay slips. Two covering letters accompanied each survey. One letter from the researcher explained the nature and purpose of the research, reassured employees about confidentiality, and asked employees to complete the survey on a voluntary basis. The second letter was from the Chief Executive Officer of each organization, reassuring employees regarding confidentiality, encouraging employees to participate and stressing the data's value to the organisation. In each organisation staff were notified about the survey prior to it being circulated and employees were invited to complete the survey in work time at their own discretion. All respondents completed the questionnaire on a voluntary basis, in accordance with recommended procedures for social research (Kellehear, 1993). Surveys were then posted in prepaid and addressed envelopes directly to the researcher at the University. The research findings were made available to participating organisations and their staff in reports describing non-parametric analysis.

In addition, the second local government organisation invited the researcher to explain the purpose of the survey and personally reassure employees about confidentiality in briefings to staff. This agency was more concerned about confidentiality than some others, as they were already grappling with negative perceptions about the enterprise bargaining process and wanted to avoid any action that would undermine trust. Also, consultative practices were new to this organisation and signalled a substantial cultural shift for employees and management.

The final page of the questionnaire explained the rationale and importance of a second stage of data collection. Those employees who were willing to participate in the longitudinal research were invited to give their name and address so that they could be contacted directly and anonymously either at home or at work, to ensure the second survey could be matched. This commitment was asked for on a voluntary basis and approximately 60% of respondents chose to supply this information. To encourage participation, two movie vouchers were offered as a small token gift (except in the public sector agency and one local government agency), with the recipients of the vouchers being drawn from those respondents who gave return addresses.

In summary, collection method across all organisations was consistent, yet modified to meet the needs of individual organisations. Two major concerns of the research were to encourage an adequate response rate and reassure employees regarding confidentiality. One criticism that could be made of the data collection method was staggering the collection dates. This occurred for two reasons. Firstly, two organisations that agreed to participate withdrew from the research and needed to be replaced. Secondly, the surveys were timed to avoid critical occurrences or milestones in the enterprise bargaining process to minimise the risk of biasing results.

**SCORING OF ANSWERS.**

The survey instrument was devised so that all data relating to the model to be tested was collected using five-point Likert scales. Two scoring descriptions were used throughout the survey for all except two items measuring global job satisfaction.

Subjects were asked to respond to questions measuring job characteristics, affective commitment, participation in decision-making, work performance and rewards by ticking a Likert-type scale with responses ranging from one (1) “strongly disagree” to five (5) “strongly agree”. In all, 8 questions were related to job satisfaction and of these, 5 questions asked about facet satisfaction and 3 asked about overall or global satisfaction. Facet satisfaction and a further one question on overall satisfaction were measured using a similar Likert type response scale anchored with scores from one (1) “very dissatisfied” to five (5) “very satisfied” (5).

The score descriptors for the second and third questions on global satisfaction were specific and related to the way questions were phrased. For example, Q.40 asked, "if you were free to go to any type of job you wanted, would you?"; "prefer another job" (1), "consider another job" (2), "find it hard to decide" (3), "only consider a good offer" (4) and "want the job you have now". All questions in the survey were positively worded so recoding was not required.

## METHOD OF ANALYSIS

Data was analysed using the statistical package EQS 5.7b for Windows. EQS was the preferred statistical approach as this package is built on the simplified Bentler-Weeks mathematical model. More importantly, EQS has a Robust Maximum Likelihood (ML Robust) estimation associated with the Satorra-Bentler chi-square and these features perform more reliably when analysing non-normal and small sample data (Ullman, 1996; Bentler, 1995; Byrne 1994a; 1994b). Samples size was an important consideration. While Fan and Wang (1998) consider sample sizes of 200 or less relatively small for SEM, Bentler (1995) identifies the ratio of free parameters in the model as more important. Bentler (1995) recommends a ratio of free parameters to cases exceeding 5:1, with an even higher ratio for non-normal data. EQS was used for all analyses from descriptive statistics to confirmatory factor analysis and causal analysis. The next section of the thesis explains why Structural Equation Modelling was used and the advantages of the EQS programme.

Structural Equation Modelling (SEM) is an approach to multiple regression analysis referred to as causal analysis, path analysis or confirmatory factor analysis (Ullman, 1996). There are four major advantages to using SEM. Firstly, this approach gives the researcher the ability to explore more than one relationship within the model at a time (Hair, Anderson, Tatham & Black, 1998). Secondly, confirmatory factor analysis allows an assessment of whether or not a model developed from the literature is a good fit to the observed data (Hair et al., 1998). Thirdly, multiple relationships can be explored at the one time and fourthly, statistical estimation is improved as SEM makes allowance for measurement error in the observed data (Hair et al., 1998; Ullman, 1996; Bentler, 1995).

While it is standard practice in SEM to explore the relationships between dependent and independent variables, the Bentler and Weeks (1980; 1979) model provides a simple and easy to understand approach. The strength of the Bentler-Weeks model is its ability to easily translate observed data into model parameters (Byrne, 1994a). To achieve this, the Bentler-Weeks model has a broader concept of dependent and independent variables. Within this model all variables are identified as either dependent or independent variables, and this includes the observed score, the factor or latent variable and residual values or errors in the data (Bentler, 1995; Byrne, 1995; 1994a). Therefore, "…*the parameters of the linear structural model are the Regression Coefficients and the variances and covariances of the independent variables" (Bentler, 1995:16).* In practice, this means that variances and covariances of all independent variables are important parameters for estimation; in contrast, the covariance or variance of dependent variables are not parameters of the model (Bentler, 1995).

An underlying assumption of the structural equation modelling approach is that data are multi-variate normal (Byrne, 1995). However data, and particularly data in behavioural research, is often multivarite, non-normally distributed (Bentler & Dudgeon, 1996; Hu, Bentler & Kano, 1992; Micceri, 1989; Bollen, 1989). Non-normal data were expected in this research and as discussed in Chapter Four, it quickly became apparent this was the case. When assumptions about normal distribution are violated the reliability for measures of 'goodness of fit' are reduced. Measures of 'goodness of fit' are important, as they measure the degree to which the observed data matches or 'fits' the estimated model (Hair et al., 1998). As Bentler and Dudgeon (1996:570) point out;

> *"… tests of parameters based on the z will be incorrect in the typical case where a normal theory method is used, but the data are not normal. As a result, incorrect substantive conclusions about the meaning of a model may well be drawn".*

This concern was the reason the EQS (5.7b for Windows) statistical package was chosen, as this package has a number of adjustments to deal with non-normal data described below.

EQS achieves 'model fit' by using distribution-based adjustments as recommended by Hoyle and Panter (1995) for assessing the maximum likelihood estimation (Satorra & Bentler, 1994). This is in preference to the more commonly known asymptotic distribution free method, based on weighted least squares estimation used by the Lisrel program (Hoyle & Panter, 1995). The Satorra-Bentler scaled statistic (S-B$\chi^2$) makes corrections for non-normality in multivariate data, to both the standard errors and chi-squared (Satorra & Bentler, 1994).

Generally in SEM, the model fit is based on the chi-square and demonstrated when the ratio of the chi-square to the degrees of freedom is less than 2 (Ullman, 1996). However, as Bagozzi (1992:436) points out *"a large sample size may lead to the rejection of virtually any model, since the chi-square statistic is a direct function of the sample size. ...a small sample size may lead to the acceptance of any model, since it tends to produce a non-significant chi-square statistic".* Much has been written about problems with the chi-square index when degrees of freedom are large, or when the sample size is small (Kelloway, 1995; Byrne, 1994a; Bentler, 1992; Hu et al., 1992; Kaplan, 1991; Byrne, Shavelson & Muthén, 1989) and this is compounded when data is non-normal. This suggests that sample size needs to be increased when data is non-normal (Bentler & Dudgeon, 1996; Muthén & Kaplan, 1992) and Bentler (1995) recommends moving to a higher ratio of free parameters to cases (10:1).

In preference to the chi-square index, the Satorra-Bentler scaled statistic (S-B$\chi^2$) in EQS makes an adjustment to the chi-square to correct for non-normally distributed data (Byrne, 1994a). This modifies the goodness of fit statistic *"so that its distributional behaviour more closely approximates $\chi^2$"* (Bentler & Dudgeon, 1996:580), giving a test "*known to behave well empirically under a wide variety of distributional mis-specifications"* (Bentler & Dudgeon, 1996:585). Hoyle and Panter (1995) recommend distribution-based adjustments for assessing the maximum likelihood (ML) estimation (Satorra & Bentler, 1994). The Satorra-Bentler (1994) test statistic in EQS provides a feature called ML (Robust) to make corrections for non-normality in multivariate data, to both the standard errors and chi-squared (Bentler & Wu, 1995; Byrne, 1994a). This feature is not yet available for all tests, but the ML (Robust) feature was used when available.

Anderson and Gerbing (1992; 1988) recommend a two-step approach to structural equation analysis. In the initial step, correlations within the measurement model are freely estimated to develop the measurement model through confirmatory factor analysis as described in Chapter Four. Once acceptable observed measures of the proposed constructs are achieved, the second step is to test the model against the theoretical constructs. Relationships are tested against the structural model developed from the literature. Apart from testing structural relationships, longitudinal data can be tested for causal links over time. While SEM is referred to as causal modelling, such modelling can only be established by measuring activity or attitudes over time when the hypothesised relationships have time to take effect (McCallum & Austin, 2000; Dukes, Stein and Ullman, 1997; Byrne, 1994a).

A number of researchers have expressed caution about developing modifications based on the data alone as such an approach may capitilise on chance (Byrne, 1994a; Bentler, 1995; MacCallum, Roznowski & Necowitz, 1992). A preferred approach *"requires a researcher to not only specify the number of constructs but also to specify the relationships of the measures to the constructs"* (Anderson & Gerbing, 1992:323). This allows the model's adequacy to be tested against the empirical data (Fan & Wang, 1998; Bentler, 1995; Anderson & Gerbing, 1992). Bollen (1990:256) notes this is important, as the "*population covariance matrix of the observed variables is a function of the unknown free parameters of a model"* and the difference between the sample covariance matrix and the implied model covariance matrix measures the fit to support this relationship.

To establish and evaluate a model, multiple measures of fit are recommended (Bollen, 1989; Bentler, 1995; 1990; Byrne, 1994a) as applicability varies in line with different theoretical rationales for varying indices (Fan & Wang, 1998). Nevertheless, there have been many debates in the literature regarding the type of indices to use. Bollen (1990) recommends reporting both non-normal and normal theory measures for a more complete assessment of the data, and EQS take this approach.

The EQS program reports a variety of alternative fit indices, including comparative fit, absolute fit, comparison of the proportion of variance fit and

residual values fit. Bentler (1995; 1992) strongly commends the use of the Comparative Fit index (CFI) particularly for small sample, non-normal data, which is available in EQS as a ML Robust measure. Nevertheless, Fan and Wang (1998) claim indices relying on the comparative fit between a null and fitted model are less consistent than those reliant on other measures such as the Lisrel Goodness of Fit Index (GFI) and the Root Mean Squared Error of Approximation (RMSEA). However, as one would expect, measures of fit for normally distributed data cannot be relied upon to adequately reflect the covariance structure of the model under violations of size and normality (Hu et al., 1992). Therefore Byrne and colleagues (1989) recommend using multiple criteria, taking into account statistical, practical and theoretical criteria, when assessing model fit.

**Measures of fit - Confirmatory Factor Analysis**

EQS offers twelve goodness of fit measures for confirmatory factor analysis (Bentler, 1995) and these are itemised below:

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 a fit index (AGFI),
the BOLLEN incremental fit index (IFI)
the McDonald (MFI)
the standardised root mean squared residual (SRMR) and
the root mean squared error of approximation (RMSEA).

The chi-square, and Satorra-Bentler scaled statistic have previously been discussed. Other measures of fit are explained below and most apply the general rule, that the nearer the value is to 1 on a scale of 0 – 1, the better the level of fit. The Bentler-Bonett fit indices are related to fit functions, with the NFI being a measure of fit between the postulated model and the independence model (Bentler, 1995) and are based on comparative fit. The NNFI is an adjustment to the NFI and incorporates the

degrees of freedom to take into account the number of parameters and parsimony of the model (Bentler, 1995). However, Bentler (1995; 1992) expresses concern about fit and parsimony being measured together and suggests the CFI is therefore the better measure as it does not have the under-estimation problems of the other two indices, particularly when testing small samples. In fact, Bentler (1995; 1992) recommends the CFI is the most reliable measure of fit, even when compared to the corrected Satorra-Bentler chi-squared (Byrne, 1994a) and suggests the NFI and CFI are sound measures of fit if above .9. The NNFI can be outside the range of 0-1 and may exceed the value of the NFI (Bentler, 1995; 1990), giving a larger sample variance. To overcome this problem with the NNFI, Bollen (1989) developed the IFI and this measure does have a smaller sampling variance.

A further approach to assessing fit is to calculate the proportion of variance accounted for against the estimated population (Ullman, 1996; Bentler, 1995). This approach includes the Lisrel goodness of fit index (GFI) and the adjusted goodness of fit index (AGFI). Unlike the Bentler-Bonett approach, these measure the weighted residuals compared to the size of the weighted data (Bentler, 1995). The GFI is considered acceptable at or above .9 and is similar to the $R^2$ in multiple regression analysis, being adjusted to the number of parameters estimated within the model; whereas the AGFI index is adjusted for model parsimony (Hair et al., 1998; Ullman, 1996; Byrne et al., 1989). Consequently the closer the GFI and AGFI, the fewer the number of estimated parameters in relation to the number of data points (Ullman, 1996). EQS also includes the McDonald Fit Index (MFI), which is another measure of absolute fit based on central limit theorem (Ullman, 1996; McDonald & Marsh, 1990).

Apart from the goodness of fit indices, the fit of the hypothesized model to the sample needs to be assessed. This is achieved by examining the residual value, where *"the discrepancy between the two models is termed the residual" (*Byrne, 1994a:7). As SEM is based on the goodness of fit between the sample data and the hypothesized model, eliminating residuals is the most useful method for locating sources of mis-specification and improving the model fit (Byrne, 1994a; Anderson & Gerbing, 1988). The larger the value of standard residuals, the less accurately the model is explained (Bentler, 1995). The residual measures are comprised of the root

mean squared residual (RMR); the standardised root mean squared residual (SRMR) which is the averaged differences between the sample and population covariance and variances (Ullman, 1996) and the root mean squared error of approximation (RMSEA).

While recommending a good fitting model has an RMR of .05 or less (Byrne et al., 1989), unstandardised residuals can be difficult to interpret *"because the scale of the variables affects the residual"* (Ullman, 1996:752). Therefore, the SRMR, which also has a desired level of .05 or less, is considered a better choice to overcome this problem (Ullman, 1996; Bentler, 1995) and has been used in this research. Bentler (1995) notes that the standardised solution produced by EQS is not the same as in LISREL. EQS provides the RMSEA, where a value of less than .05, is considered a very good fit, 0.05 - .08 a moderate fit, and above 0.08 poor fit (Cohen & Vigoda, 1998; MacCallum et el., 1996), with the narrower the confidence intervals, the better the fit (MacCallum, Browne & Sugawara, 1996).

**CONCLUSION AND SUMMARY**

This Chapter describes the approach taken in conducting the research. Section two discussed the rationale for conducting both cross-sectional and longitudinal studies to understand the role PDM has within the enterprise bargaining context. The cross-sectional design allowed the model to be tested across three different industry groups, whereas the longitudinal design examines causal links over time. The design of the survey instrument and the measures and sources used in the questionnaire were described and presented. Some measures were taken from previously developed reliable instruments, while others were developed by the researcher and drawn from concepts identified in the literature. Some scales and questions were adjusted to take into account the variation in respondents' work experiences and positions, or to be more in keeping with the context of this research.

The following section discussed the samples for the research. This included a brief overview of the seven organisations that participated, and how and why they were selected. The data collection method was outlined, followed by the steps taken to protect employee confidentiality. The demographic characteristics of the total sample were presented. Specific information pertaining to the two studies

undertaken is provided prior to discussions of the analysis in the respective Chapters. Demographic information for Study 1 and pertaining to the cross-sectional data will be presented in Chapter Four. Demographic information for Study 2, pertaining to the longitudinal sample will be presented in Chapter Five. Scoring of the respondent answers was discussed next. The final section of this Chapter explained the analytical method used and rationale for choosing SEM and the statistical package EQS 5.7b for Windows. Appropriate fit indices for dealing with small samples, non-normal data are outlined and measures of goodness of fit for confirmatory factor analysis and Structural Equation Modelling were presented.

This Chapter presented the rationale and methodology for using both a cross-sectional and a longitudinal design to explore the role participation in decision-making plays across industry sectors over time within the enterprise bargaining context.

# CHAPTER FOUR

# MEASUREMENT DEVELOPMENT AND CROSS-SECTIONAL ESTIMATES: STUDY 1.

## INTRODUCTION

Previous Chapters have described the literature related to the enterprise bargaining context and the influence of participation in decision making on worker outcomes of job satisfaction and commitment. Chapter Three described the methodology, and introduced the samples and analytical approach taken for the study. This Chapter describes all analyses conducted using data drawn from the combined cross-sectional sample of seven organisations from the public, private and local government sectors to form Study 1.

Data was collected from a cross-section of organisations representing a random sampling of employees from the private, public and local government sectors. The first section of the Chapter provides a brief description of the demographics of the cross-sectional sample, prior to presenting the means and standard deviations for all responses. Confirmatory factor analysis was then undertaken with the EQS statistical program to test the measurement model identified in the literature and ensure the factors were independent of each other.

The procedure used to purify the measurement model is explained, and includes the rationale for splitting the data into two samples of equal size for multi-sample analysis. This approach allows a more robust test to see if the measurement model developed from the literature is in fact supported by the data (Kaplan, 1995; Hair, et al., 1998). Once a satisfactory model was achieved with one data set, this was calibrated on the second data set to ensure the model was appropriate. Reliability estimates of the data are provided, as are invariance tests to validate the model. Correlations among the constructs in the model are presented prior to the confirmatory model being accepted as a good fit to the data. The stages of distribution of respondents for analysis and steps through which the analysis are processed are depicted below in Figure 4.1 to establish the theoretical model and test for structural relationships within the model. These relationships are described below.

**Figure 4.1: Distribution of respondents for Study 1**

| **Stages of Analysis** | | | |
|---|---|---|---|
| Collect Stage 1 data<br>**n = 495** | | Confirmatory Factor Analysis | Preliminary Test of the Structural Model |
| **Process of Analysis** | | | |
| Calibration<br>**n = 248**<br>**Group 1** | Validation<br>**n = 247**<br>**Group 2** | Test for Invariance<br>Between Groups of Multi-sample<br>n=248; n=247 | Invariance establised -<br>Test combined sample<br>N = 495 |

**N.B:** data collected from seven organisations at stage one. (N= 671 minus 176 - all matched data used in Study 2 excluded)

After the data was split into two samples, one sample was analysed as a calibration sample to confirm the factor structure, which was then validated against the second sample used. Once the confirmatory model was accepted, the structural relationships in the measurement model were examined to test the hypotheses developed in Chapter Two. Structural relationships were tested in the same way, with the samples being re-combined when they were found to be invariant.

While the purpose of this research is to examine both the structural and causal relationships of PDM across different work groups engaged in enterprise bargaining, in reality only structural relationships can be tested in a cross-sectional study, as causal links can only be established over time (Benkhoff, 1997). Structural relationships need to be understood as a precursor to understanding the causal relationships. Therefore the model of PDM will be tested for the structural relationships in this Chapter (Study 1), while the results of Study 2, using a separate matched longitudinal sample testing for causal relationships over time is reported in Chapter Five.

## THE STRUCTURAL RELATIONSHIPS OF THE PDM MODEL

An objective of the study was to examine whether PDM has a direct or indirect influence on the outcomes of job satisfaction and affective commitment. If PDM has an indirect effect, its influence will be exerted through antecedents of job satisfaction and affective commitment such as the job characteristics of task variety, task identity and task autonomy, as well as perceptions of performance and rewards.

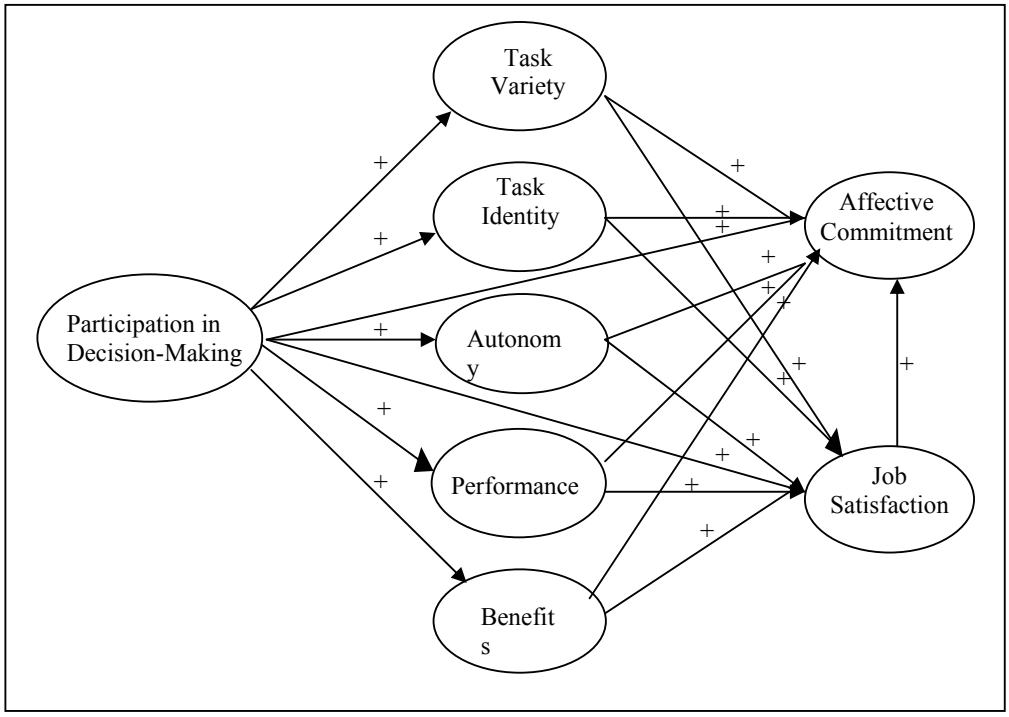
Within the enterprise bargaining framework, the key parties support employee participation as a major factor influencing employees' job satisfaction and organisational commitment; however, the literature does not necessarily support this as a straightforward proposition. The literature review on PDM identified that there is some confusion regarding PDM's influence on employee outcomes. The question arises as to whether PDM has a direct effect on worker outcomes or has an indirect effect on outcomes of satisfaction and commitment (Cotton et al., 1988; Black & Gregerson, 1997; Sagie, 1995).

Based on Black and Gregersen's (1997) research, it seems that the decision-making issues employees participate in and the level of participation are major contributors to improved participation outcomes. Therefore a structural model was developed to test if employees believe they were able to have 'a say', or participate in decisions that affect them in the workplace. The framework and rhetoric about enterprise bargaining suggested that all of the relationships within the model developed for this study would be positive; however, this needs to be tested. Employees may or may not perceive they have 'a say' in how they do their work, they may or may not influence wages and conditions, and there may be other variations within the enterprise bargaining context. Structural models can be presented as either algebraic equations or diagrammatic representations of the path relationships. A model of the purported structural relationships is presented in Figure 4.2. Should the reader be interested, an algebraic explanation of the Bentler-Weeks model and algebraic formula for the PDM model are attached in Appendix B.1

The relationships within the model are portrayed in Figure 4.2. This diagram represents the expected relationships between the variables of the model, with

positive (+) signs used to indicate that higher levels in the exogenous variable will have a positive causal impact on the endogenous variable. This is in keeping with the postulated enterprise bargaining model where all relationships are expected to be positive. Alternatively, if any relationships were expected to be negative ones, higher levels in the exogenous variable would be expected to lead to lower levels in the endogenous variable. .

**Figure 4.2**. **Structural Model of Participation in Decision-Making**




## SAMPLES USED TO CALIBRATE AND VALIDATE THE MEASURES: STUDY 1

This section provides statistical details of the cross sectional samples used for analysis in Study 1. Data from the seven organisations representing three sectors of the workforce was used as a cross-sectional sample to confirm the postulated model, prior to analysis of the structural relationships within the model. The data was combined to form a relatively homogeneous population for two reasons. The small sample sizes provided insufficient data for reliable statistical analysis, particularly

once the subsets of data for the longitudinal study were removed. The concerns regarding small sample size and non-normal data have been discussed in Chapter Three.

To overcome these problems, particularly those associated with non-normal data, increasing the size of the sample is the preferred option (Bentler & Dudgeon, 1996; Muthén & Kaplan, 1992). For this reason, the combined sample of 495 unmatched cases used in Study 1 was randomly split into two equal sized groupings rather than into industry groupings. Group 1 (n = 248) was used to develop the confirmatory model, while the Group 2 (n = 247) was used to validate the model's generalisability in an accepted two-stage methodology (Anderson & Gerbing, 1988; Ullman, 1995; Byrne, 1994a). Splitting the sample increased the sample sizes to improve modelling reliability and allowed cross-validation of factorial invariance.

Demographic details of the total sample for Study 1 are provided in Chapter Three; a brief summary of the age, gender and organisational distribution for the 2 groups is presented below in Table 4.1. The demographic distribution of all Study 1 respondents are presented earlier in Chapter Three.

**Table 4.1: Demographic distribution of Organisations, Age and Gender: Study1**

| **Sample Details** | **Govt.** | | **Private** | | **Local Government** | | | **Total** |
|---|---|---|---|---|---|---|---|---|
| | | Hospital | Manuf. | Hospitality | 1 | 2 | 3 | |
| **Useable responses** | 168 | 162 | 23 | 26 | 36 | 39 | 41 | 495 |
| ***Gender*** Female | 64 | 140 | 2 | 13 | 14 | 20 | 18 | 271 |
| Male | 103 | 22 | 21 | 13 | 22 | 19 | 23 | 223 |
| **Age** | | | | | | | | |
| Under 23 yrs | 8 | 3 | - | 7 | - | - | 2 | 20 |
| 23 - 30 yrs | 29 | 26 | 7 | 9 | 9 | 8 | 5 | 93 |
| 31 - 42 yrs | 64 | 64 | 9 | 6 | 9 | 14 | 12 | 178 |
| 43 - 54 yrs | 50 | 62 | 6 | 2 | 13 | 15 | 20 | 168 |
| 55 yrs or over | 17 | 7 | 1 | 2 | 5 | 2 | 2 | 36 |
| **No. in Sample 1** | 248 | 84 | 81 | 12 | 13 | 19 | 19 | 20 |
| **No. in Sample 2** | 247 | 84 | 81 | 11 | 13 | 17 | 20 | 21 |

Overall, a higher proportion of female respondents (55%) than males (45%) participated in Study 1. The disproportionate number of females (86%) in the hospital sample influenced this. Within the individual organisations there was a higher proportion of males in the government (61%), manufacturing (91%) and the local government samples (1 = 61%; 3 = 56%). The bulk of the respondents were within the 31-54 year age groups (70%), with 44% in the workforce over 21 years and 35% between 11-20 years. The majority of employees indicated they had a short term of tenure with their current employer, with 31 % employed for less than five years and 27% having been employed for 6 – 10 years. The larger number of nurses contributed to professional employees making up the highest proportion of respondents (35%), followed by administration and clerical staff (21%), semi-skilled workers (17%), and managers (14%). The majority of workers were employed permanently, with 65% full-time and 21% part-time. The high proportion of part-time staff was strongly influenced by the hospital sample (64%) where near equal numbers were part time as full time. The majority of employees were contracted under enterprise agreements, with the exception being the hospitality and government employees who were contracted under workplace agreements.

## DISTRIBUTION OF RESPONSES

The most noticeable differences among the industry grouping related to questions regarding PDM, overall satisfaction and satisfaction with rewards. Employees from the local government, Council 3 (mean = 2.48 – 3.30), the hospital (mean = 2.55 - 3.11) and the public sector agency (mean = 2.7 - 3.57) indicated they had lower PDM levels than other employees. This difference is worth noting, particularly as these two organisations were into their second round of enterprise bargaining agreements, giving them a longer period of time to have well established practices in place. It may be that employees in the larger organisation have less opportunity to be directly involved in the process than in the smaller organisations, simply because of the logistics of size. Of Council 1 had the highest level of participation in decision-making (mean = 3.3 – 3.88) and this included the highest level of participation in the enterprise bargaining process (mean = 3.39). Employees from the private sector were least satisfied with facets of their jobs, with the lowest ranking given to satisfaction with pay (mean = 2.54 - 2.83), closely followed by satisfaction with

bargaining (mean = 2.65 - 2.96) and satisfaction with changes at work (mean = 2.73 - 3 09).

All respondents indicated their highest level of commitment was to the job, with little differences in means. Responses ranged from 4.24 in the public sector, to 4.35 in the private sector. The small manufacturing organisation (mean = 4.09) had the lowest level of support for job commitment; however, they rated job commitment more highly than commitment to their peers and the organisation. Affective commitment rated more highly than any other variable tested, with the highest response being for "*I care about what happens when there are problems at work*" (mean range of between 4.25 to 4.42); the exception again being the manufacturing company (mean = 3.65). In relation to job characteristics, all employees indicated that they had high levels of variety in their work (mean = 4.29 - 4.56) with the manufacturing company again the lowest (mean = 4.09). Task significance also rated highly (mean = 4.47 - 4.70; the manufacturing company mean = 3.74).

Perceptions of performance effectiveness were similar across all organisations; for example, responses to Item 4. "*I think employees here are achieving more with our time at work than we did in the past*", returned means ranging from 3.25 – 3.41 (local government), 3.58 (government) and 3.27 (hospitality) - 3.35 (manufacturing) with the lowest response coming from the hospital (mean, 3.17). Lowest satisfaction overall was with rewards gained from the enterprise bargaining process. Satisfaction was lowest in the private sector (mean = 2.52 - 2.78) followed by the public sector (mean = 2.74 - 3.02) with the most satisfied being the local government councils (mean = 2.94 - 3.32). The mean and standard deviation for each industry group as well as Group 1 and Group 2 are shown overleaf in Table 4.2. The means and standard deviations for each organisation are shown in Appendix B.2. The data was expected to be non-normal and therefore was examined to see if this was the case. An underlying assumption in multivariate analytical procedures is that data is normally distributed and where this is not the case, statistical inference is decreased (Tabachnick & Fidell, 1996). The further data depart from normality, the more problematic inference becomes; however there is no 'hard and fast rule' as to what extent constitutes non-normality (Tabachnick & Fidell, 1996).

**Table 4.2** = Means and Standard deviation of all Survey Items: Study 1.

| | | | Public n = 168 | | Private n = 211 | | Loc Gov n = 116 | | **Sample 1 n=248** | | **Sample 2 n=247** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Construct | | Text from Questionnaire | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| *Job-characteristics* | *1* | My job requires me to use different skills. | 4.38 | 0.79 | 4.49 | 0.77 | 4.37 | 0.79 | 4.39 | .79 | 4.35 | .84 |
| | *2* | My job lets me complete tasks from start to finish. | 3.74 | 1.14 | 3.58 | 1.13 | 3.73 | 1.02 | 3.58 | 1.10 | 3.69 | 1.12 |
| | *3* | My job affects other staff or clients. | 4.47 | 0.68 | 4.61 | 0.73 | 4.53 | 0.69 | 4.50 | .69 | 4.48 | .76 |
| | *4* | My job allows me the freedom to decide how I do my work. | 3.81 | 1.02 | 3.28 | 1.19 | 3.64 | 1.14 | 3.50 | 1.13 | 3.52 | 1.18 |
| | *5* | I can tell how good my work is just from doing my job. | 3.74 | 0.89 | 3.47 | 1.08 | 3.38 | 1.20 | 3.54 | 1.05 | 3.50 | 1.07 |
| | *6* | I have the chance to use a number of skills in my job. | 4.22 | 0.87 | 4.21 | 1.00 | 4.19 | 0.82 | 4.17 | .97 | 4.11 | .93 |
| | *7* | My job allows me to do "whole pieces" of work from beginning to end. | 3.77 | 1.15 | 3.27 | 1.2 | 3.64 | 1.10 | 3.53 | 1.14 | 3.48 | 1.20 |
| | *8* | My job is considered important to this organisation | 3.83 | 0.97 | 3.97 | 1.08 | 3.84 | 0.99 | 3.91 | 1.01 | 3.85 | 1.05 |
| | *9* | I am free to make decisions that affect the way I do my job. | 3.72 | 1.01 | 3.25 | 1.18 | 3.67 | 1.02 | 3.42 | 1.13 | 3.49 | 1.09 |
| | *10* | I get useful feedback on how I do my job. | 3.28 | 1.13 | 3.06 | 1.17 | 3.10 | 1.12 | 3.12 | 1.15 | 3.05 | 1.16 |
| *PDM* | *1* | I think that employees in this organisation do have 'a say' about working conditions. | 3,17 | 1.00 | 2,98 | 1.14 | 3.12 | 1.12 | 3.04 | 1.11 | 3.10 | 1.08 |
| | *2* | My suggestions on how I can do my job better are listened to. | 3.52 | 0.96 | 3.13 | 1.09 | 3.38 | 1.01 | 3.21 | 1.05 | 3.34 | 1.05 |
| | *3* | Employees in this workplace have the opportunity to have 'a say' in company policies and decisions that effect them. | 2.90 | 1.01 | 2.78 | 1.04 | 3.14 | 1.06 | 2.90 | .99 | 2.88 | 1.08 |
| | *4* | Generally my work group has 'a say' in how we do our work. | 3.57 | 0.93 | 3.29 | 1.08 | 3.67 | 1.01 | 3.47 | 1.02 | 3.43 | 1.04 |
| | *5* | The EB or WA has given (will give) employees a greater say in what happens in this workplace. | 2.70 | 0.93 | 2.61 | 1.0 | 3.24 | 0.96 | 2.81 | 1.01 | 2.77 | .96 |
| *Affective Commitment* | *1* | I would be very happy to stay with this employer for the rest of my working life. | 3.50 | 1.08 | 3.11 | 1.24 | 3.20 | 1.12 | 3.23 | 1.17 | 3.21 | 1.18 |
| | *2* | I have a strong "sense of belonging " in this workplace | 3.56 | 1.12 | 3.43 | 1.19 | 3.56 | 1.06 | 3.50 | 1.12 | 3.47 | 1.11 |
| | *3* | I care about what happens when there are problems at work | 4.25 | 0.75 | 4.24 | 0.77 | 4.30 | 0.62 | 4.25 | .66 | 4.16 | .83 |
| | *4* | I like to tell people where I work. | 3.92 | 0.94 | 4.03 | 0.93 | 3.77 | 0.96 | 3.92 | .94 | 3.85 | .97 |
| *Commitment - Foci* | *5* | I am proud of this organisation and it's achievements. | 3.77 | .93 | 3.74 | 0.96 | 3.53 | 0.86 | 3.70 | .90 | 3.59 | .99 |
| | *6* | I am proud of my work group and their achievements. | 4.07 | .89 | 4.02 | 0.85 | 4.13 | 0.76 | 4.05 | .80 | 4.02 | .90 |
| | *7* | I am proud of what I do in my job (or profession) | 4.24 | .74 | 4.31 | 0.78 | 4.35 | 0.75 | 4.31 | .75 | 4.22 | .77 |
| *Global Job Satisfaction* | *1* | All in all, how satisfied are you with your job? | 3.78 | 0.96 | 3.48 | 1.09 | 3.79 | 0.91 | 3.60 | .98 | 3.66 | 1.05 |
| | *2* | I you had to decide again whether or not to take your present job, would you? | 4.0 | 1.13 | 3.70 | 1.17 | 3.84 | 1.16 | 3.75 | 1.17 | 3.83 | 1.16 |
| | *3* | If you were free to go into any job you wanted - would you? | 3.30 | 1.24 | 2.98 | 1.37 | 3.31 | 1.22 | 3.12 | 1.33 | 3.19 | 1.31 |
| *Facet Satisfaction* | *4* | The amount of job security you have. | 3.53 | 1.09 | 3.62 | 1.03 | 3.58 | 1.00 | 3.63 | 1.04 | 3.51 | 1.04 |
| | *5* | The changes in your work conditions as part of the enterprise or workplace agreement. | 3.80 | 0.88 | 2.94 | 0.94 | 3,44 | 0.93 | 3.38 | .92 | 3.28 | 1.05 |
| | *6* | The amount of support and guidance you receive from my supervisor (this organisation). | 3.50 | 2.0 | 3.10 | 1.23 | 3,46 | 1.11 | 3.25 | 1.21 | 3.37 | 1.21 |
| | *7* | The changes to your work that have occurred (will occur) through the EB / WA | 3.04 | 0.75 | 2.78 | 0.79 | 3.15 | 0.91 | 2.97 | .83 | 2.91 | .81 |
| | *8* | The amount of pay and fringe benefits I receive. | 3.03 | 1.09 | 2.60 | 1.14 | 3.02 | 1.13 | 2.82 | 1.09 | 2.85 | 1.17 |
| *Performance* | *1* | I am working longer hours than I did in the past. | 3.71 | 1.90 | 3.17 | 1.42 | 3.06 | 1.28 | 3.42 | 1.34 | 3.26 | 1.31 |
| | *2* | I am putting in more effort than I did in the past. | 3.71 | 1.11 | 3.67 | 1.20 | 3.67 | 1.08 | 3.70 | 1.11 | 3.63 | 1.15 |
| | *3* | As a work group we are finding more effective (better) ways to work. | 3.70 | 0.90 | 3.42 | 0.96 | 3.68 | 0.92 | 3.56 | .91 | 3.51 | .96 |
| | *4* | I think that employees here are achieving more with our time at work than in the past. | 3.60 | 1.0 | 3.19 | 1.07 | 3.34 | 1.04 | 3.35 | .97 | 3.29 | 1.07 |
| | *5* | I think we are working more effectively (better) because we work as a team. | 3.50 | 1.10 | 3.60 | 1.04 | 3.50 | 1.05 | 3.49 | .99 | 3.53 | 1.07 |
| *Rewards* | *1* | Employees here are (will be) better of financially because of the EB / WA. | 3.02 | 0.87 | 2.52 | 1.07 | 3.34 | 1.02 | 2.81 | 1.05 | 2.87 | 1.03 |
| | *2* | I think our work conditions have (will) improved because of the EB/ WA. | 2.83 | 0.80 | 2.55 | 1.00 | 2.94 | 0.94 | 2.74 | .95 | 2.72 | .90 |
| | *3* | The workplace EB / WA means that employees have more chance to develop new skills. | 2.74 | 0.80 | 2.56 | 1.03 | 3.16 | 0.95 | 2.77 | .97 | 2.77 | .97 |
| | *4* | I think workers here are (will be) generally better off because of the EB or WA. | 2.85 | 0.84 | 2.53 | 1.01 | 3.08 | 0.89 | 2.73 | .94 | 2.77 | .95 |
| | *5* | Employees are now feel better informed about what is happening in this workplace | 2.85 | 1.02 | 2.78 | 1.04 | 3.12 | 0.97 | 2.92 | 1.06 | 2.82 | 1.0- |

Normal data is described as having "*each variable and all linear combinations of the variables (are) normally distributed*" (Tabachnick & Fidell, 1996:70) with a curve that peaks in the centre. Two ways of examining for normality are to identify the kurtosis, and skewness in the distribution (Tabachnick & Fidell, 1996:70; Hair, et al., 1998). Kurtosis relates to how narrowly or widely data is distributed and influences the 'peak' of distribution, giving either long thin tales when associated with positive kurtosis or short broad tails when associated with negative kurtosis (Tabachnick & Fidell, 1996). Skewness has to do with the symmetry of the distribution, whether it is normally distributed with the bulk of the data in the centre of the range or skewed either to the right or left. The distribution curve skewed to the left indicates negative responses such as dissatisfaction, whereas distribution skewed to the right indicates a positive skew toward, for example, being satisfied (Hair et al., 1998; Tabachnick & Fidell, 1996). When data is normally distributed the values of skewness and kurtosis are zero (Tabachnick & Fidell, 1996) and values outside the range of +1 or –1 demonstrate considerable degrees of non-normality (Hair et al., 1998).

Byrne (1994a) stresses that when variables are significantly non zero uni-variate distributed, they will not be normally distributed in multivariate analysis. The EQS output includes uni-variate statistics for kurtosis and skewness of all variables as well as multi-variate estimates of kurtosis as variants of the Mardia's coefficient (1970,1974) and this allows the contribution individual cases make to non-normality to be identified. The program provides a normalised estimate of the Mardia's coefficient (Bentler, 1994; Berkane & Bentler, 1988) that can be interpreted as a "*z score*" (Byrne, 1994a; Ullman, 1996). While not giving a cut-off value, the higher the value of the normalised Mardia's coefficient, the more indicative it is of either positive (+ve values) or negative (-ve values) kurtosis (Byrne, 1994a).

For these reasons the univariate kurtosis and skewness output from the calibration sample were examined and found to be indicative of non-normality. This was supported by a high Mardia's coefficient of 192.8 (normalised estimate 27.53). Further examination of the data identified that some of the job characteristic variables were both highly skewed and kurtosed (*jc1*. kurtosos 3.54, skewness –1.69; *jc6* kurtosis 2.42, skewness –1.55). Two other variables with high kurtosis values were later deleted from the model because of high residual values, these being the affective commitment

item *ac3* (kurtosis 2.78, skewness -99), and the job characteristic first item of task significance, *jc3* (kurtosis 4.08, skewness –1.7). The EQS program identifies specific cases that contribute to high levels of kurtosis, so multivariate non-normal cases can be deleted thereby increasing the reliability of analysis. Some cases contributing to high levels of kurtosis were initially removed, however deleting these cases increased problems with kurtosis and skewness, so this option was not pursued. Because data was non-normally distributed ML Robust was used for further analysis as recommended by Bentler (1995), Ullman (1996) and Byrne (1994a).

The benefit of using EQS is the Satorra-Bentler Scaled Statistic (S-B$\chi^2$) provides an adjusted, more robust measure of fit for non-normal and small sample data that is more accurate than the normal chi-square test statistic ($\chi^2$) (Bentler & Dudgeon, 1996; Ullman, 1996; Byrne, 1994a; Bentler, 1995). When the chi-square value is used to estimate the combined weighted fit, an accepted 'norm' is that the chi-square need not be significant for the model to be generaliseable (Hair et al., 1998; Ullman, 1996; Bentler, 1995; Byrne 1994a). Conventional thinking has been that a significant chi-square value indicates the model does not match the covariance matrix of the model being tested. However, as has previously been discussed, both small and large samples can pose problems.

In small samples, a very small chi-square may be a false indicator because of the relationship between the chi-square and degrees of freedom (Kelloway, 1995). Alternatively, in a large sample the chi-square may appear significant even when the model is quite acceptable (Bentler & Bonett, 1980). While the Satorra –Bentler chi-square (S-B$\chi^2$) is considered more reliable, having been adjusted to take account of sample size and non-normality; multiple measures of fit are recommended (Bentler & Dudgeon, 1996; Kelloway, 1995; Bollen, 1989). While the chi-square value should not be totally ignored (Byrne 1994a), both Bentler (1995) and Byrne (1994a) recommend the CFI is a more reliable measure of model fit, so this measure was chosen as the primary index for this study.

## PURIFICATION OF THE MEASUREMENT ITEMS WITH CONFIRMATORY FACTOR ANALYSIS.

This section discusses the steps taken with confirmatory factor analysis to purify the model of participative decision-making (PDM). Group 1 was used as the calibration sample and was tested to see if the measurement model contained factors that were independent of each other. The model was then validated against Group 2 for generalisability, as recommended by Byrne and colleagues (1989; 1994a).

Before conducting confirmatory factor analysis, demographic variables were removed from the data set. Model modifications were repeated in a number of runs in an attempt to develop a better fitting model for Group 1. The aim was to achieve alignment of the data and *apriori* model (Byrne, 1994a; Bentler & Wu, 1995). To achieve this, adjustments to the data were made by removing those residual items with higher values, as recommended by Bentler (1995; 1992), Byrne (1994a), and Bollen (1989).

EQS prints out a Standardised Residual Matrix that identifies the twenty most influential pairs of variables contributing to poor model fit. This approach recognises that the residual value is the discrepancy between the observed data and the hypothesized model (Bentler, 1995; Byrne, 1994a; Bollen, 1989). Variables having high levels of co-variance residual values in conjunction with a number of other variables are inadequately explained by the model, so these were removed one item at a time. The two single item questions on foci of commitment were removed prior to model fitting, as these questions were used for feedback to the organisations and did not fit the factorial design of the model.

Initially an 11-factor model with thirty-eight variables was tested. This comprised 10 questions relating to the five job characteristics of task variety, task identity, task significance, autonomy and feedback, with two questions for each characteristic. There were five questions relating to affective commitment, three questions relating to global job satisfaction and five questions for each of the constructs relating to participative decision-making, work performance, gains from enterprise bargaining and facets of job satisfaction. Two single item questions on foci of commitment (Items 6 & 7) that related to the "job" and "work group" were

omitted from the analysis as they did not fit the factorial design. (These items were used in non-parametric analysis that was reported directly to the organisations).

Initial analysis of the 38 variables allowed all parameters to be freely estimated by the program. No goodness of fit indices reached acceptable benchmark levels. The independence chi-square statistic reports the *"likelihood ratio test of the Bentler-Bonett null model"* (Byrne, 1994:54) and had a very high score ($\chi^2$ = 5269.969on 703dof) suggesting the null model was a very poor fit. The hypothesised model was also a poor fit, ($\chi^2$ =1310.581on 610 dof; S-B$\chi^2$ = 1104.81). Bentler (1995; 1992) has identified that the CFI is probably the most important fit index in small sample, non-normal data, however the fit in this model (CFI .847; Robust CFI .862) failed to reach the benchmark of 0.9. The only index that comes close to reaching a benchmark is the SRMR at .068 where values as high as 0.08 are acceptable (Byrne, 1994b), although the recommended benchmark for a good fit is 0.05 (MacCallum, Brown & Sugawara, 1996).

The initial analysis identified a high correlation of .870 between facet satisfaction and overall job satisfaction. While researchers are reluctant to define a specific correlation value benchmark because the model is an approximation (Bollen & Lennox, 1991; Byrne et al., 1989), Mathieu and Farr (1991) caution that correlations as low as the high .60's and .70's may cause multicollinearity problems; however, Hair and colleagues (1998) recommend a cut-off point for avoiding identification problems is ±0.90 or greater. Acknowledging variation in acceptable values Bentler (1995) recommends that high levels of correlation are likely to present identification problems with the exception being for the relationship between independent and dependent variables.

Because the job facets had a high level of correlation with global satisfaction the 5 items forming the facet satisfaction construct were removed from the model leaving 33 variables. The facet items were preferred for removal as the standardised loadings were generally weaker, suggesting greater error in these measures than in the overall satisfaction measures. The removal of the facet satisfaction variables *(js 4-8)* saw a slight improvement in the model fit. The chi-square decreased in size ($\chi^2$ = 965.488 on 450 dof; S-B$\chi^2$ = 804.4613). Although all fit indices remained outside

the benchmarks, they did move closer to the value of 1 (CFI .871; Robust CFI .886) and the residual values decreased toward 0.

The next four items removed included the first two performance variables, (*per.1*, "*I am working longer hours than I did in the past*"; and *per. 2, "I am putting in more effort at work than I did in the past*"). These were followed by one PDM item, *pdm5* ("*the enterprise or workplace agreement has given (will give) employees a greater say in what happens in this workplace"*), and the reward item *rewinf* ("*Employees are now better informed about what is happening in this workplace*"). Removing these variables reduced the model to 29 items. Benchmark levels were exceeded for the CFI (.939), the Robust CFI (.956) the IFI (.940) and the B-BNNFI (.925). The independence model was a poor fit ($\chi^2$ = 3950.580 on 406 *dof*), while the Chi-Square for the hypothesised model decreased ($\chi^2$ = 549.920on 332 *dof*; S-B$\chi^2$ = 449.9604; p = 00002) and the RMSEA fell to .052, indicating an improved fit.

The Job Characteristic task significance item *jc3* ("*My job affects other staff*") contributed to a high residual value with a number of other items, therefore items jc3 and jc 8, which formed the latent construct of "task significance" were removed, leading to a nine factor 27 item model. The next item removed was the commitment item *ac3*, ("*I care about what happens when there are problems at work*"). This left a 9 factor, 26 variable model for further testing. At this stage the first variable of the job characteristic construct "*feedback*" (*jc5*, "*I can tell how good my work is just from doing my job*") had a high residual value in conjunction with a number of other variables. This item also had a low standardised loading of .485, which contributed to a less than desirable reliability (Cronbach's alpha .65), so the construct was deleted. The next item deleted was *pdm3* ("*Employees in this workplace have the opportunity to have a say abut company policies and decisions that effect them*") leaving a 23 item, 8 factor model for further testing.

Although the Fit Indices had reached a number of acceptable benchmarks, one more reward item with high residual values across a number of other variables was deleted to improve model parsimony, ("*I think workers here are generally 'better off' because of the enterprise or workplace agreement*"). Attempting to fit the model further at this stage was likely to either reduce the number of items in

some factors, reducing reliability, or lead to the deletion of another factor, reducing the models explanatory power (Hair et al., 1996) therefore the data was accepted as a good fit to the model.

Acceptance of model fit was based on Hair and colleagues' (1998) recommendation that only some benchmarks from each class goodness of fit indices need be met. The classes of goodness of fit were detailed in Chapter Three and include: absolute measures of fit, which assess overall model fit, i.e. McDonald Fit Index; parsimonious measures of fit, where adjustments are based on comparisons between models, for example the CFI & NFI; and incremental measures of fit, which are based on a comparison of models, i.e. SRMR. The Calibration Model was validated against Group 2 and results are presented in Table 4.3.

**Table 4.3. Calibration and Confirmation of Model: Study 1**

| | **Group 1** | | | **Group 2** |
|---|---|---|---|---|
| Goodness of Fit Measures | 38 item / 11 factors | 26 item / 9factors | 22 item / 8 factors | 22item / 8 factors |
| Ind Model | 5269.969 | 3647.176 | 2925.857 | 2981.197 |
| Degrees of Freedom | 703 | 325 | 231 | 231 |
| $\chi^2$ | 1310.581 | 499.734 | 276.234 | 329.444 |
| df | 610 | 264 | 182 | 181 |
| p | <.001 | <.001 | <.001 | <.001 |
| S-B$\chi^2$ | 1104.8096 | 408.2770 | 239.487 | 272.5341 |
| S-B$\chi^2$ , p | .00000 | <.00000 | .00273 | .00001 |
| NFI | .751 | .863 | **.906** | .889 |
| NNFI | .823 | **.913** | **.956** | **.931** |
| CFI | .847 | **.929** | **.965** | **.946** |
| Robust CFI | .862 | **.944** | **.972** | **.954** |
| IFI | .850 | **.930** | **.966** | **.947** |
| MFI | .244 | .622 | .827 | .738 |
| GFI | .788 | .872 | **.913** | .895 |
| AGFI | .742 | .830 | .879 | .853 |
| RMR | .079 | .089 | **.047** | .054 |
| SRMR | .075 | .077 | **.044** | .052 |
| RMSEA | .068 | .060 | **.046** | .058 |
| 90% Conf. Interval | .063 - .073 | .052 -.068 | .034 -.056 | .048 -.068 |

Note: The numbers depicted in bold indicate where benchmark levels have been exceeded.

Three cases in Group 2 contributed twice as much to the Mardia's coefficient than other cases, so these were deleted with a subsequent improvement in the fit indices and reduction of the normalised Mardia's coefficient (25.38 reduced to 21.9). The validation sample was found to be an acceptable fit (CFI. .946, RMSEA .058), suggesting the model was consistent across both samples. On this basis the 22 item 8 factor model was accepted as a good fitting parsimonious model and the results of confirmatory factor analysis for both Group 1 and Group 2

**RELIABILITY ESTIMATES**

As well as ensuring acceptable fit indices, the instrument reliability was also examined. Generally there are three approaches to estimating reliability, with all three used in this study. The first approach is to examine the correlation between comparable forms of the same measurement as a cross-sectional analysis and this is presented in Chapter Five. A second approach is to examine correlations over time, or retest the model as a longitudinal study, as presented in Chapter Six. The third approach is to check the correlation between comparable parts of the same measure for internal consistency, as is achieved by examining the Cronbach's alpha (Bedeian, Day & Kelloway, 1997). As well as the Cronbach's alpha, the construct reliability and variance extracted were also examined to identify the internal consistency and reliability of the variables in the model.

While similar to the Cronbach's alpha reliability estimate, the composite reliability of a construct obtained through SEM is less likely to underestimate reliability (Bedeian et al., 1997; Hair et al., 1998). This occurs because the Cronbachs alpha is calculated *assuming* unidimensionality, whereas the composite reliability tests unidimensionality (Hair et al., 1998). The generally accepted level for composite reliability measure is .7, which is similar to the Cronbach's alpha, with the closer the value to 1, the greater the reliability (Hair et al., 1998). The variance extracted measures the amount of variance in the indicators that make up a latent construct and this measure ideally should exceed .50 (Hair et al., 1998). The formulae of these two measures are presented below.

The composite reliability of a construct can be calculated as:

$$(\sum \text{standard loadings})^2 / (\sum \text{standard loadings})^2 + \sum \varepsilon j$$

Whereas the variance extracted measure is calculated as:

$\sum$ standard loadings$^2$ / $\sum$ standard loadings$^2$ + $\sum \varepsilon j$

Although all items in both groups exceeded the Cronbach's alpha reliability benchmark of .7, the composite reliability of the job characteristic latent variables of *"autonomy"* (Group 1 =.67; Group 2 = .68) and *"task variety"* (Group2= .69) did not quite reach the benchmark. While a good fit for reliability is judged to be above .7, these values are still reasonable (Hair et al., 1998). The variance extracted reliabilities for Group 1 (0.44) and Group 2 (0.44) were also just outside the benchmark. It is likely that the previously identified high level of positive kurtosis associated with this job characteristic construct contributes to the construct's reduced reliability. This problem with the job characteristics model was not entirely unexpected; although many researchers have found the job characteristics model a reliable instrument (Pearson & Duffy, 1999; Cordery & Sevastos, 1993; Pearson, 1991), others have found variation in the model (Fried, 1991; Fried & Ferris, 1987). The reliability measures for both groups are shown in Table 4.4.

**Table 4.4: Reliabilities for Latent Constructs: Groups 1 & 2: Study 1**

| | Group 1 n=448 | | | Group 2 n=444 | | |
|---|---|---|---|---|---|---|
| | Composite Reliability | Variance extracted | Cronbach's Alpha | Composite Reliability | Variance extracted | Cronbach's Alpha |
| Task Variety | **.75** | **.65** | **.75** | .69 | **.53** | **.76** |
| Task Identity | **.67** | **.5** | **.8** | **.75** | **.6** | **.85** |
| Autonomy | .67 | **.5** | **.76** | .68 | **.52** | **.78** |
| Aff. Commitment | **.8** | **.5** | **.86** | **.78** | **.5** | **.84** |
| PDM | **.75** | **.5** | **.82** | **.75** | .5 | **.83** |
| Performance | **.7** | .44 | **.78** | **.7** | .44 | **.78** |
| Rewards | **.81** | **.59** | **.89** | **.8** | **.58** | **.88** |
| Job Satisfaction | **.74** | **.5** | **.81** | **.78** | **.54** | **.8** |

Note: values recorded in bold exceed benchmarks for acceptability.

## CORRELATION ANALYSIS

Correlational analysis of both sets of data was undertaken to examine relationships among the latent constructs. Similar response patterns were noted for each group. Relations between the job characteristics were more strongly correlated than among other independent variables, with autonomy being the most influential in relation to identity, variety, PDM, affective commitment and job satisfaction. Correlations between all constructs are shown in Table 4.5.

**Table 4.5: Correlations among Latent Constructs: Study 1**

| | Variety | Identity | Aut | A/Com | PDM | Perf. | Reward | J.Sat |
|---|---|---|---|---|---|---|---|---|
| F1. Task Variety | | .217 | .407 | .334 | .413 | .353 | .259 | .317 |
| F2. Task Identity | .330 | | .616 | .275 | .429 | .257 | .177 | .259 |
| F3. Autonomy | .448 | .618 | | .517 | .755 | .277 | .358 | .532 |
| F4. Affective Commitment | .272 | .462 | .535 | | .705 | .596 | .413 | .893 |
| F5. PDM | .353 | .493 | .643 | .615 | | .546 | .423 | .703 |
| F6. Performance | .247 | .243 | .334 | .487 | .621 | | .323 | .537 |
| F7. Rewards | .100 | .355 | .435 | .321 | .420 | .177 | | .428 |
| F8. Job Satisfaction | .370 | .492 | .627 | .839 | .484 | .347 | .351 | |

**NB:** Correlations for Group 1 are presented in the lower left quadrant; Correlations for Group 2 are presented in the upper right quadrant

The high correlation between affective commitment and job satisfaction was noted in both data sets (Group 1, r =.839; Group 2, r =.893) and warranted further investigation that is discussed below. While Bentler (1995) comments that high correlations are acceptable among dependent variables in some cases, the correlation between job satisfaction and affective commitment questioned if these were tapping the same construct. Bollen (1989) and Bentler and Chou (1987) suggest a reliable method to discriminate factors in structural analysis is to test the relationship by incorporating the pathway as well as the correlation. This is achieved by testing the two constructs as separate items then testing the constructs as a single item and comparing the results as shown in Table 4.6 (Part A). A second approach recommended by Bollen (1989) is a similar comparative test, with the first test freeing the two latent factors to covary, while the second test fixes the covariance at 1.0. The results of this test are shown in Table 4.6 (Part B). Results of both tests

show a significant difference in the chi-square. These findings support retaining job satisfaction and affective commitment as two separate constructs, as the two factors provided a significantly better explanation of the data, than would be explained if they were combined.

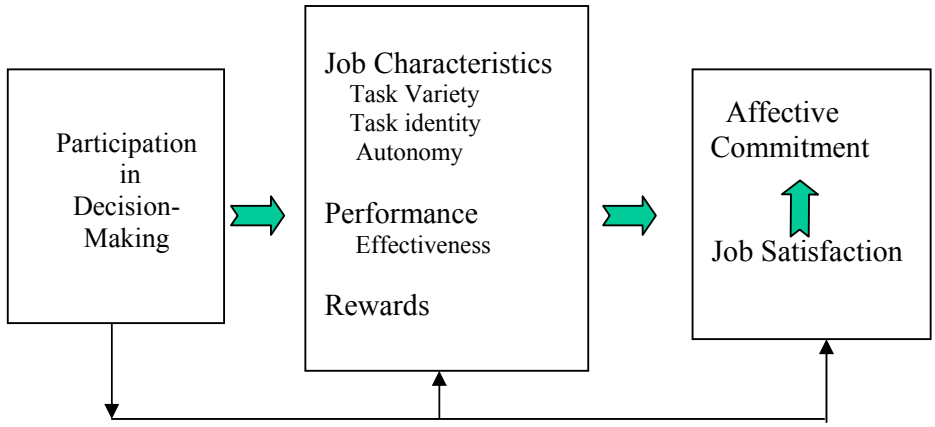
**Table 4.6: Discrimination between Affective Commitment and Job Satisfaction: Study 1: Model Fit: Part (a), 7 factor and 8 factor models; Part (b), Discriminant analysis**

| Model | $\chi^2$ | dof | S-B $\chi^2$ | p | Robust CFI | CFI | RMSEA | (conf limit) |
|---|---|---|---|---|---|---|---|---|
| **Part A** | | | | | | | | |
| 7 Factors | 329.32 | 189 | 282.98 | .00001 | .955 | .948 | .055 | (.045 - .064) |
| 8 Factors | 276.23 | 181 | 272.53 | .0027 | .972 | .965 | .046 | (.034 - .056) |
| **Part B**. | | | | | | | | |
| Free | 17.08 | 13 | 15.039 | .30490 | .997 | .995 | .036 | (.000 - .077) |
| Fixed | 59.31 | 14 | 50.75 | .00000 | .949 | .949 | .115 | (.085 - .144) |

$\chi^2$, 95% conf limit p <.05; 99% conf limit p<.01

In summary the confirmatory factor analysis identified 22 items forming eight constructs provided the best model fit to the data. These eight constructs being: affective commitment, job satisfaction, PDM, task variety, task identity, autonomy, perceptions of performance effectiveness and rewards, are presented below in Figure 4.3, in a revised version of the conceptual schema

**Figure 4.3: Revised conceptual schema for participation in decision-making within the Enterprise Bargaining context**



## CONFIRMING THE MODEL'S GENERALISABILITY

To confirm the models generalisability across both samples, a multi-group analysis was undertaken with Group 1 tested against Group 2. Multi-group analysis in EQS allows simultaneous analysis of different samples. The first step is to confirm the baseline model across the samples, then the samples are simultaneously tested in an ordered process that checks for equality of the factor loadings, variances and covariances in increasingly restrictive models (Byrne, 1994a; Bentler, 1995). The purpose of constraints is to test more restrictive models to identify significant differences (Ullman, 1996).

A further test of invariance can be undertaken to assess the equivalence of error parameters; however, Ullman (1996), Byrne (1994a) and Bentler (1995) suggest this approach is so restrictive it is seldom applied. In fact Byrne (1994) advises it is overly restrictive and therefore should not be used and this advice was heeded. Once the fit of the constrained model does not differ significantly from the unconstrained model, the constrained model is accepted as the more parsimonious (Ullman, 1996).

To evaluate the parameters within a model, EQS uses two different tests to assess the significance of equality constraints in multi sample analysis. The Lagrange Multiplier (LM) test identifies potential improvements in the model if some parameter constraints are released, whereas the Wald test evaluates improvements in the model if free parameters are removed (Bentler, 1995). Where significant differences in the chi-square are found, the parameters are different between the groups and the constraints need to be released.

The baseline invariance test of the two samples was undertaken with all but the fixed parameters within the model being freely estimated as recommended by Bentler (1995) and Byrne (1994a). This test suggested the model fit was consistent in both samples. The CFI (.955) and the RMSEA (.037) supported a good fitting model. The independence chi-square was a poor fit at 5907.05 while the chi-square was 605.66 on 363 *dof.* As the chi-square value is based on the uncorrelated statistic, it is expected to be larger than the Satorra-Bentler scaled statistic (Bentler,

1995), which along with the Robust ML solution, is not yet available in multi sample analysis. The next test was for equality of regression coefficient parameters between the two samples. Summarised results of the model invariance tests from the multi-sample analysis are presented in Table 4.7. A table showing all goodness of fit measures is attached in Appendix B.3.

**Table 4.7: Invariance testing of Multi-sample and Combined sample fit: Study 1**

| Hypothesis | $\chi^2$ | *dof* | $\nwarrow\chi^2$(*dof*) | CFI | IFI | RMSEA |
|---|---|---|---|---|---|---|
| Baseline | 605.66 | 363 | | .955 | .956 | .037 |
| Factor loadings | 612.25 | 377 | 7.41 | .957 | .957 | .036 |
| Cov & var | 644.5 | 404 | 32.25 | .956 | .956 | .035 |
| Combined Sample | 360.84 | 181 | | .966 | .967 | .045 |

When equal factor loading (lambda) constraints were imposed, the chi-square increased to 612.25 on 377 *dof,* however there was a small improvement in Goodness of Fit Indices. The CFI (0.957) increase and the RMSEA (.036) decrease were marginal. In EQS, the LM test identifies improvements in the Goodness of Fit chi-square that will occur when specific equality constraints are removed (Ullman, 1996; Bentler, 1995; Byrne, 1994a). Generally, where probability values exceed 0.05 for 1 degree of freedom, the hypothesised equality of the factor loadings holds (Byrne 1994). This indicates there are no significant differences in factor loadings and the measures are operating in the same way for both groups. However, Ullman (1996) cautions that using .05 for the chi-square difference test in small samples increases the risk of Type 1 errors, and her recommendation of adopting the more stringent criteria of $p<.01$ was applied for this research.

The next step is to test for equality of structural parameters, so the variances (Beta and Gamma) and then covariances (phi) were constrained for equality testing between both groups. The chi-square (644.5) increased, while the CFI (.956) and RMSEA (.035) showed a very slight depreciation in fit. In this instance, the LM test identified two constraints below the chi-square value of .05 for one degree of freedom, however all were above the more stringent critical level of $p< 0.1$.

Establishing invariance in Group 1 and Group 2 data allowed the samples to be combined to test the causal relationships in the model. While the concern over the ratio of cases to parameters in the model has previously been discussed, combining the two groups of data allowed the model to be tested on a larger sample (n = 492) so this problem was overcome. This model returned acceptable fit indices ($\chi^2$, 360.8: S-B$\chi^2$, 302.86; Robust CFI .970 and RMSEA .045). In accordance with Bentler's (1994) recommendation for non-normal data and sample size, this gives a model above the 5:1 baseline, with 72 free parameters and a ratio of just under 7:1.

In summary the confirmatory factor analysis identified eight constructs provided a good fitting model to the data. The next step was to test the structural relationships within the model.

## THE PRELIMINARY TEST OF THE STRUCTURAL MODEL

The advantage of using SEM is it allows the hypothesized model to be tested against the observed data and allows multiple relationships to be explored simultaneously, while making allowances for measurement error (Hair et al., 1998; Bentler, 1995). In this research, the relationships in the postulated model were tested in Study 1 using Group 1 (n = 248) as the calibration sample. Once the structural relationships were established with a good fitting model, this was cross-validated against Group 2 (n=244).

The high level of non-normality identified during the confirmatory analysis became a problem when the initial run of the postulated structural model had a lower boundary constraint in the error term of variable 4, the second item in the skill variety construct. This occurs because, unlike other programs, EQS is unable to deal with negative values. In this case it is likely that the high positive kurtosis contributed to little standard error or variance, and as Bentler (1995:189) points out, "*If a parameter estimate has no standard error or variance, there will be a non-positive diagonal element in the covariance matrix of estimates".* Negative values in the error term, do not make sense and are referred to as Heywood cases (Hair et al., 1998). As EQS is unable to deal with such negative values, Bentler (1995) and Ullman (1996) recommend fixing the error term to a minute positive value (.001 or .005) as this allows the EQS program to run without further problems and has little

impact on the analysis. The estimate of the error term was checked and found to be just outside the positive boundary at a value of -.018, so it was subsequently fixed at .005. While an alternative option would have been to delete this construct because of its lack of variance (Hair et al., 1998), retention was preferred because the intent of this study was to examine the relationship between the model constructs rather than variance within them.

It is also important to consider the possibility that an alternative model may be a better fit to the data. Previous investigators have found there is often not just one true model, but a number of models may fit the data equally well (MacCallum & Austin, 2000; MacCallum, Wegener, Uchino & Fabrigar, 1993). As recommended by MacCallum and colleagues (2000; 1993) different models of PDMs' role were tested and returned much poorer fitting models to the data than the one postulated for testing. For example, when PDM was considered as an independent variable, the CFI (.844) and RMSEA (.093) indicated a poor fit. When PDM was considered as a moderating variable, the CFI (.846) and RMSEA (.091) also indicated a poor fit.

The initial run of the model with Group 1 suggested a good fitting model (chi-square 331.012 based on 192 degrees of freedom, $p<.001$; Satorra-Bentler chi sq 285.58, p.000, CFI .948, Robust CFI .955, Bollen IFI .949 and RMSEA .054). The model was then evaluated to see if the fit could be improved. Ullman (1996) recommends three approaches be used to evaluate model improvement and these include: the difference in chi-square, the Lagrange Multiplier (LM) and the Wald tests. The chi-square difference test is suited to evaluating differences in nested models, with a decrease in Chi-square indicating a reduction in misfit between the covariance matrix and the estimated population (Ullman, 1996). While acknowledging the problems associated with using the chi-square for small sample, non-normal data, it is still useful as a guide if used in conjunction with other goodness-of-fit measures. A timely reminder here is Ullman's (1996) caveat that small sample size is likely to increase Type 1 errors; therefore, the more stringent criteria of $p < .01$ was preferred and used for both the LM and Wald tests.

The LM test was the next step undertaken. This test is comparable to forward stepwise regression and identifies parameters that would improve model fit if they

were either freed or added to the model (Ullman, 1996). However as Ullman (1996) and Chou and Bentler (1990) stress, these should only be made if they make theoretical sense. Both Ullman (1996) and Byrne (1994) recommend caution in adding parameters, as seeking small changes in chi-square for little gain in model fit runs the risk of over-paramatising the model. Subsequent adjustments to the fit are shown in Table 4.8.

**Table 4.8: Fit adjustments to the calibration model with the Lagrange Multiplier Test: Study 1.**

| Model | $\chi^2$ | dof | $\Delta\chi^2$ | S-B$\chi^2$ | p | CFI | Rob CFI | RMSEA |
|---|---|---|---|---|---|---|---|---|
| Baseline | 331.0 | 192 | | 285.58 | .00001 | .948 | .955 | .054 |
| Pathway F3>F2 | 311.2 | 193 | 19.8 | 269.08 | .00027 | .955 | .962 | .051 |

The LM Test suggested the insertion of a pathway between F3 (autonomy) and F2 (task identity) would decrease the $\chi^2$ (19.09, p< .000). The premise that greater autonomy would lead to increased sense of task identity appears reasonable and inherent in the job characteristics' model. This pathway was added, leading to an improvement in the fit indices and a decrease in $\chi^2$ of 19.78, as shown in Table 4.9. While expressing concern about making post-hoc model adjustments, Byrne, Shavelson and Muthén (1989) and MacCallum (1986) recommend improvements in a good fitting robust model are acceptable as long as they do not alter major parameters in the model; as was the case with this adjustment.

Further testing was carried out with the LM test; however, in deference to the previously discussed concerns about small sample size, non-normal data and to observe cautions that post hoc modifications be based on "compelling" substantive reasons (Ullman, 1996; Hoyle & Panter, 1995; Byrne, 1994a) no further adjustments were made. Therefore based on Robust CFI (.962), 96% of the data was already explained, and the apriori model was accepted as a good fit. The results of further testing with the LM Test are attached in Appendix B.4.

The second test conducted to examine model fit for parsimony was the Wald Test. This test takes the opposite approach to the LM test, using stepwise regression

to identify parameters in the model that could either be fixed to zero or removed from the model without impairing the model fit (Ullman, 1996). In other words, these parameters contribute very little to the model and fall well short of being significant. The Wald Test is based on the z *statistic* (Hair et al., 1998), which usually has a critical value of $p<0.5$. Acknowledging the risk of error in small samples and non-normal data, the risk of over-paramitising the model, plus the need to maintain the apriori model, it was decided that any adjustments based on the Wald Test would need to be extremely conservative.

The Wald test identified six parameters that were not significant in the model and would contribute to a negligible increase in $\chi^2$ if removed, and these are shown in Appendix B.5. Although the Wald Test identified that removing six parameters would lead to a negligible increase in $\chi^2$ of 4.456 (S-B $\chi^2$, 2.56) for an increase of 6 degrees of freedom, parameters need to be removed one at a time (Hoyle & Panter, 1995). Although deletion of the parameters may well have led to a more parsimonious model, these parameters were not deleted at this stage so the apriori model could be validated against Group 2.

Once the baseline model was established with the calibration sample (Group 1), the Group 2 sample was tested to validate the model. The chi-square for Group 2 was slightly higher than in Group 1 ($\chi^2$ 349.279 on 192 *dof*; S-B 336.7, p = .00001) and other goodness of fit indices were marginally lower (CFI .942; Robust CFI .951 and RMSEA .059). Overall the results suggest a good fitting model for both samples. A summary of the goodness of fit indices for Groups 1 and 2 plus the multi-sample are presented in Table 4.9. All measures are presented in Appendix B.6.

**Table 4.9: Goodness of fit indices of the Parsimonious Structural Models: Study 1**

| Model | $\chi^2$ | dof | S-B $\chi^2$ | p | CFI | Robust CFI | RMSEA | Conf Int. |
|---|---|---|---|---|---|---|---|---|
| Group 1 | 311.26 | 193 | 269.1 | .0002 | .956 | .963 | .050 | .04 - .06 |
| Group 2 | 349.27 | 192 | 336.7 | .00001 | .942 | .951 | .059 | .048-.068 |
| Multi-sample | 660.5 | 382 | N/A | | .949 | N/A | .039 | .034-.043 |

## INVARIANCE OF THE STRUCTURAL MODEL

The next stage was to assess the model fit for invariance or equality across both samples. While recognising that the baseline models are identical, it also needs to be acknowledged that there could be variances in distribution within groups (Bentler, 1995; Byrne et al., 1989). The multi-sample function in EQS allows the covariance structures of each sample to be tested simultaneously to ensure the model fits each group within sampling accuracy (Bentler, 1995). Multi-sample analysis provides one of two outcomes. Firstly, if the parameters of each group are identical, and each group takes on the same values as the other group they can be deemed to be from the same population. Alternatively, the groups may fit the same model yet have variances in some parameters indicating they are from different populations (Bentler, 1995).

Invariance of the structural model is tested using the same approach as for the confirmatory factor analysis cited in Chapter Four. Increasingly restrictive cross-group constraints are applied to the model to assess significant implications for a single goodness of fit chi-square in the process recommended by Ullman (1996), Bentler (1995), Byrne (1994a) and Byrne and colleagues (1989). Bentler (1995) points out that if a model is not invariant at one stage, it will not become so at a more constrained level; therefore, further restrictive testing need not be pursued. Notwithstanding this, Byrne and colleagues (1989) suggest it is more practical to accept a partially invariant model.

The first step was to constrain the factor loadings and ensure these held as equal between groups. The next, more restrictive test was for equality of variances and covariances between the factors, being mindful that endogenous variables in the Bentler-Weeks model are not allowed to vary or covary with other variables as structural parameters. The equality of regression coefficients was tested next, followed by the equality of residual variances. Testing for invariance between the error variances and covariances was not undertaken, as it is considered overly restrictive (Ullman, 1996; Byrne, 1994a; 1998). Changes in the Goodness of Fit indices resulting from the increasingly restrictive models are presented in Table 4.10

The equality of the multi-sample cross group constraints were evaluated by the LM Test to identify if significant differences occurred in the chi-square when specific parameter constraints between groups were released. Where the chi-square and fit indices showed the regression coefficients, variances, covariances and disturbances are the same across the groups the samples are validated as representing one population.

The baseline assessment of the multi sample was undertaken without parameter constraints and the goodness of fit indices are shown in Table 4.10. The initial analysis shows a good fitting model for both samples ($\chi^2$ 660.35 on 380 *dof*, CFI .949, RMSEA .039) based on the guideline that the Chi-square should be less than the ratio of 2:1 with the degrees of freedom (Ullman, 1998). The Satorra-Bentler chi-square is not yet available in multi-sample analysis. The independence chi-square was a poor fit ($\chi^2$, 5907.05 on 462 dof). Subsequently, more restrictive tests for equality show the factor loadings, the variances and covariances, and endogenous disturbance variances and covariances upheld the model as invariant across both Groups as shown below in Table 4.10.

**Table: 4.10**: **Study 1; Testing for invariance and the model structure of Sample 1 and sample 2:**

| Hypothesis | $\chi^2$ | *dof* | $\nwarrow\chi^2$(*dof*) | CFI | IFI | RMSEA |
|---|---|---|---|---|---|---|
| Baseline (In1) | 660.475 | 380 | | .949 | .949 | .039 |
| Factor load (inv2a) | 670.463*# | 493 | 9.99 | .949 | .950 | .038 |
| Cov & var (in1b) | 707.519 # | 414 | 37 | .946 | .947 | .036 |
| F-F F5-F5 constrained (in1b2) | 707.634 # | 415 | .115 | .946 | .947 | .038 |
| Dist (in1b3) | 711.199 # | 421 | 3.65 | .947 | .947 | .038 |

NB: at the baseline model is specified the same for both samples. Increasingly restrictive variance constraints are imposed in subsequent models.
#= parameter change not significant p<.01;
*= parameter change not significant p<.05

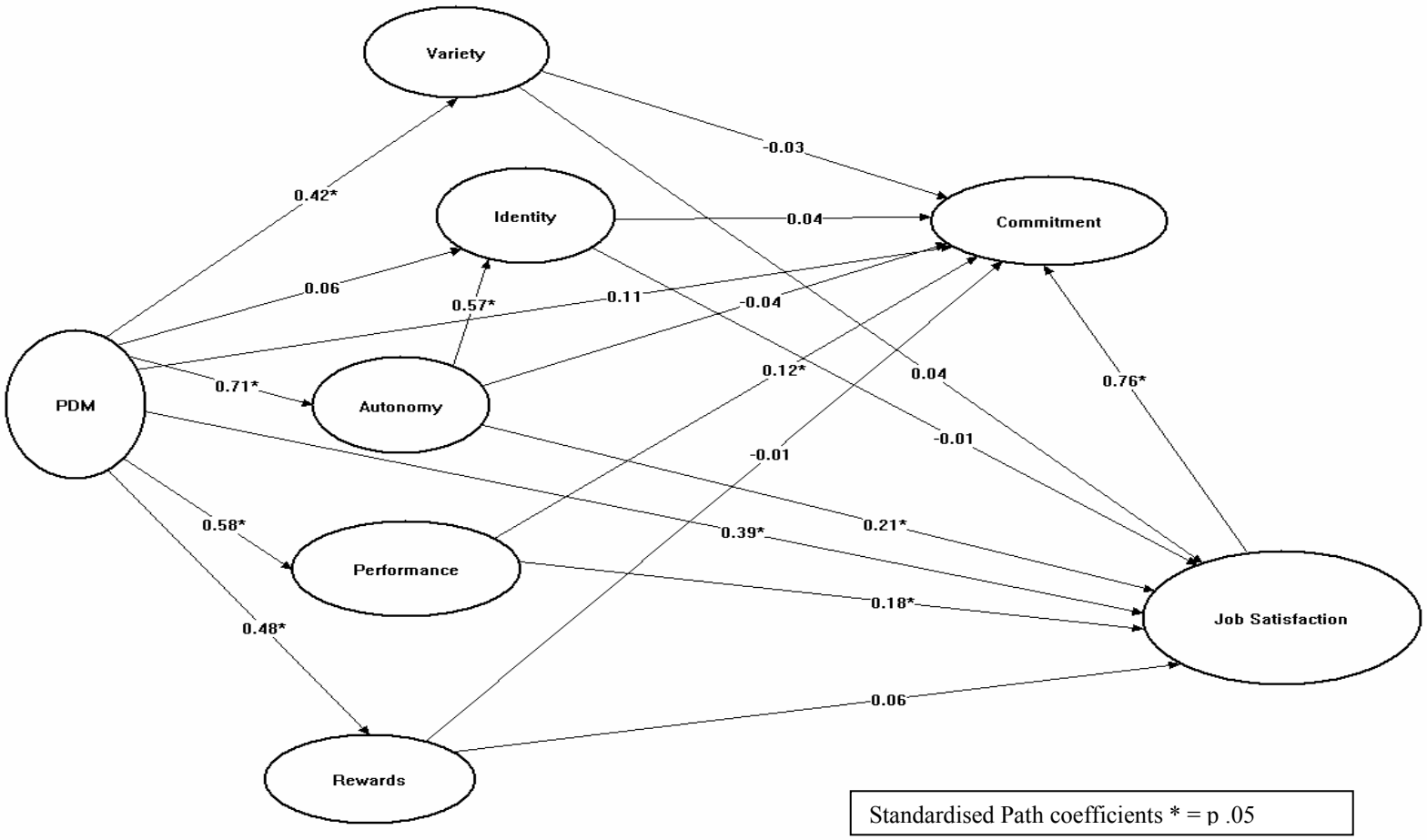
## RESULTS OF THE STRUCTURAL RELATIONSHIPS

As the model was invariant for both groups, the data from Groups 1 and 2 were recombined into one sample to test the causal relationships in the model. The structural coefficients within were identified to provide information about the strength and direction of relationships, using Robust Maximum Likelihood estimates as preferred for non-normal data. The *z score* test, based on unstandardised co-efficients provides a standardised test of statistical significance with critical values of 1.96 at the .05 probability level and 2.68 at the .01 level (Ullman, 1996; Bentler, 1995). Goodness of fit measures for the combined Group model were acceptable ($\chi^2$ 401.027 on 191 dof; S-B$\chi^2$ 335.54; CFI .961; Robust CFI .964; RMSEA .047). Both direct and indirect relationships were examined and the results for the structural relationship are reported below in Table 4.11 and direct effects are shown diagrammatically in Figure 4.4.

**Table 4.11: Significant structural relationships within the PDM model: Study 1**

| Hypothesised Structural Model Path | Postulated Path | Standardised coefficient | Z score | Robust Z score |
|---|---|---|---|---|
| PDM significantly influences Task Variety (F1). | + | .42 | 7.83 | 6.57 |
| Autonomy (F3) significantly influences Task Identity (F2). | + | .57 | 6.08 | 4.95 |
| PDM (F5) significantly influences Autonomy (F3). | + | .71 | 12.87 | 12.03 |
| PDM (F5) significantly influences Performance (F6). | + | .58 | 10.15 | 8.46 |
| PDM (F5) significantly influences Gains (F7). | + | .48 | 9.45 | 8.93 |
| PDM (F5) significantly influences Job Satisfaction (F8). | + | .39 | 4.13 | 3.23 |
| Job Satisfaction (F8) significantly influences Affective Commitment (F4). | + | .76 | 10.61 | 10.24 |
| N*B: Significant at Robust p ≤.05 0-* | | | | |
| Performance (F6) significantly influences job satisfaction (F8). | + | .18 | 2.95 | 2.66 |
| Performance (F6) significantly influences Affective Commitment (F4). | + | .12 | 2.27 | 2.03 |
| *NB: Significant at p ≤.05; (Not at Robust p ≤.05)* | | | | |
| Task Autonomy (F3) influences Job Satisfaction (F8). | | .21 | 2.37 | 1.94 |

**Figure 4.4: Study 1, Standardised path coefficients of the cross sectional structural model of PDM**



**Direct Effects**

The significant direct relationships in the model are identified in the path coefficients between measured variables and latent factors and were accepted if significant at $p \geq .01$. The variance of dependent constructs can be predicted from the equation; $1\text{-(Disturbance)}^2$. Based on standardised loadings and using this formula, the predictors accounted for 77% of variance in Affective Commitment [$1-(.477)^2 = .77$] and 52% of the variance in Job Satisfaction [$1-(.696)^2 = .52$]. Within these relationships, PDM accounted for: 17% of variance in task variety; 51% of variance in autonomy; 34% of variance in perceptions of performance effectiveness and 23% of variance in rewards. PDM and autonomy combined account for 38% of variance in task identity.

The results indicate that higher levels of PDM promote greater Task Variety, Autonomy, Perceptions of Performance Effectiveness, and Rewards, however these variables do not have significant direct influence on job satisfaction. PDM is a direct predictor of Job Satisfaction. Those with higher levels of PDM enjoy greater Autonomy, which in turn significantly predicts Task Identity. Higher levels of Job Satisfaction and Perceptions of Performance Effectiveness are significant predictors of Affective Commitment.

**Indirect Effects**

One of the advantages of using Structural Equation Modelling is that indirect relationships can also be identified. The EQS program provides specific information on indirect effects in the unstandardised decomposition of effects and these unstandardised values are reported below as unstandardised coefficients (unst. coeff). Mediating relationships occur when an independent variable affects the dependent variables through an intermediary (Baron & Kenny, 1986). These relationships are found in EQS in the "decomposition of effects, parameter indirect effects" and reported in non-Standardised values (Ullman, 1996). In accordance with recommendations by Bentler (1995) only significant relationships are interpreted.

While PDM has a strong direct influence on Job satisfaction, this relationship does not appear to have any significant indirect affects through other endogenous variables. In contrast, respondents perceived affective commitment was indirectly

affected by PDM through the job characteristic of autonomy (unst. coeff. .131; z = 2.64) and perceptions of performance effectiveness (unst. coeff. .130; z = 2.87). PDM also has an indirect effect on task identity (unst. coeff .419, z = 5.66) through task autonomy.

These results provide support for some hypotheses and only partial support for others. $H_2$ was supported as PDM was found to have a significant direct effect on increased job satisfaction. Job satisfaction also had a significant positive direct effect on affective commitment. $H_3$ was supported with PDM having a significant effect on the job characteristics of task variety and autonomy, and through autonomy, a significant indirect effect on task identity. $H_4$ and $H_5$ were supported with PDM having significant positive effects on perceptions of performance effectiveness and rewards. $H_1$ was only partially supported as PDM does not have a direct effect on affective commitment, but does have an indirect effect through the task characteristic of autonomy and through perceptions of performance effectiveness.

## CONCLUSION AND SUMMARY

This Chapter presented an overview of Study 1, describing development of a testable model of PDM with confirmatory factor analysis and structural analysis using the statistical program EQS. Data from seven separate organisations that formed the cross-sectional multi sample was briefly described. The data was initially combined, then split into two groups so the model could be calibrated and validated independently. Once the Confirmatory and Measurement models were established as invariant, data was re-combined for testing.

Means and standard deviations of the responses of both groups were similar. Correlation analysis identified a high correlation between affective commitment and job satisfaction however, subsequent analysis clearly supported these as two separate constructs. The model was refined in repeated runs, where items with high residual values were removed sequentially, until a parsimonious, good fitting model was achieved. The models' reliability was supported by Cronbach's alpha, construct reliability and variance extracted measures that in most cases reached or exceeded benchmarks levels. The parameters of the model were found to be invariant for

Group 1 and 2, and a combined sample analysis suggested the data was a good fit to the model.

Once the measurement model was accepted as a good fit, the structural relationships among the endogenous and exogenous variables were tested. The influence of PDM on the causal variables of the job characteristics, rewards and perceptions of performance effectiveness and their relationship with the dependent variables of job satisfaction and affective commitment were analysed. The relationships in the model were justified in the Literature Review presented in Chapter Three and this justification led to 5 hypotheses that were converted into formula for the relevant causal paths. While both indirect and direct effects of PDM have been postulated as part of the enterprise bargaining model, the previous literature has not clearly traced the impact of these relationships on job satisfaction and affective commitment.

Acceptable measures of fit were developed for the model to test both the calibration and cross validation samples, prior to testing for invariance between the two samples. The structural model was also found to be invariant and thus the two samples were re-combined to test relationships in the model. Next, the path estimates were presented and show that PDM does have a direct affect on the task characteristics of variety, and autonomy, with autonomy having a mediating effect on task identity. PDM also directly affects rewards, perceptions of performance and job satisfaction, with job satisfaction leading to increased affective commitment.

The expectation that employee participation would influence other antecedent variables to mediate and increase job satisfaction and affective commitment was only partially supported. Task autonomy and perceptions of performance effectiveness indirectly influenced affective commitment. However, PDM does not directly engender employees' affective commitment. PDM does however influence job satisfaction, which in turn increases commitment. Perceived employee performance effectiveness engenders affective commitment but not job satisfaction.

While this section of the research has provided findings on the structural relationships within the causal model, this does not however establish causation. The purpose of this research is to test the role PDM fulfils within the enterprise

bargaining context, and this includes understanding causal relationships that can only be established over time. For this purpose Study 1 has identified important structural relationships that will be investigated for causality with the analysis of Longitudinal matched sample data that forms Study 2, presented in Chapter Five.

# CHAPTER FIVE

# LONGITUDINAL STUDY OF THE PDM MODEL – STUDY 2

## INTRODUCTION

Chapter Four presented Study 1, which incorporated confirming the factorial structure of the participative decision-making (PDM) model and then testing the causal relationships within the postulated model. This Chapter reports Study 2; the longitudinal test of the PDM model, using two matched samples of data collected 18 months apart. While the study so far supports positive structural relationships within the model, this does not provide support for causation, which can only be established over time. The aim of this Chapter is to test the model over time to establish if the findings in the cross-sectional study can be replicated and to investigate causal links over time.

Section 2 of this Chapter provides details of the longitudinal matched sample that form Study 2. Data was collected in 1998 and 1999 using the same survey instrument and Methodology reported in Chapter Three. The data for the first wave of Study 2 was collected at Stage 1, the same time as the cross-sectional data used in Study 1 and reported in Chapter Four. All data that could be matched at the second stage of data collection was exempted from the cross-sectional analysis and reserved for a panel design (Scheck, Kinicki & Davy, 1995) longitudinal analysis. Therefore, the matched sample data and analysis is independent of the data used in Study 1 and the preliminary test of the model to more stringently meet Anderson and Gerbing's (1988) recommendation that tests of the measurement and structural models be separated. The following section presents the findings of comparative analysis of the model between Stages 1 and 2, prior to a summary of the findings.

## THE LONGITUDINAL SAMPLE

At the time of the first survey, respondents were invited to include their name and address to be part of a follow-up survey. Surveys were mailed to this group at their home address, with the exception of those respondents who requested the survey be sent to them at work. Pre-paid and return addressed envelopes to the researcher were attached to the surveys to encourage responses and protect confidentiality. Individual cases returned at Stage 2 were matched to data collected at Stage 1, to form the matched longitudinal sample. A small number of respondents did return the survey with advice that they were no longer employed by the organisations under study. In such cases, where respondents had completed the survey, these were not included as useable data. In all, 176 useable surveys were returned, giving a response rate of 50 %. While broad details of the demographic distribution of the matched sample is presented below, a full disclosure of the distribution is attached in Appendix A.2.

The gender distribution of the combined sample is presented below in Table 5.1. This table shows the response rate was slightly higher for females (52%) than males (48%), with the highest proportion of females (83%) coming from the hospital sample balanced with the high proportion of males (71%) in the public sector sample. There were equal numbers of males and females from the local government sample although gender balance did vary between individual organisations.

**Table 5.1. Study 2: Gender distribution of Longitudinal Sample.**

| | Public | Private | Local Government | | | Total |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | |
| Useable Sample Size | 66 | 53 | 24 | 18 | 15 | 176 |
| Proportion of multi-sample | 37% | 30% | 13% | 10% | 8% | |
| **Gender** | | | | | | |
| Female | 19 (29) | 44 (83) | 11 | 11 | 5 | 92 (52) |
| Male | 47 (71) | 9 (17) | 13 | 7 | 10 | 84 (48) |

Note: Numbers in parenthesis are percentages

Age distribution was similar to the cross sectional sample reported in Chapter Three, and is presented below in Table 5.2. This sample shows the majority of respondents being in the 43-54 years (41%) age bracket, and the 31-42 years (35%) age bracket. The second local government agency had a slightly younger workforce with six of eighteen (33%) being under 30 years of age, whereas private sector employees were older with 30 (45%) over 43 years.

**Table 5.2. Study 2: Age distribution of respondents**

| | Public | Private | Local Government | | | Total |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | |
| Under 23 years | 1 | 1 | 1 | 3 | - | 6(3) |
| 23 - 30 years | 5 | 8 | 2 | 3 | 3 | 21 (12) |
| 31 - 42 years | 25 | 21 | 5 | 5 | 6 | 62 (37) |
| 43 - 54 years | 30 | 20 | 13 | 7 | 4 | 74 (42) |
| 55 years or over | 5 | 3 | 3 | - | 2 | 13 (7) |

Note: Numbers in parenthesis are percentages

For all organisations, excepting the hospital, the majority of workers (over 80%) were full-time employees. Overall the majority of respondents were permanent employees' with 71% being permanent full-time and 17% being permanent part time, with the majority of the part-timers being from the hospital sample. Nearly half of the hospital employees were either permanent part time (43%) or employed on a casual basis (2%). While 126 of employees were employed on a permanent full-time basis, 30 were employed on a permanent part-time basis. Outside the core workforce, 12 (7%) were employed on a full-time contract basis whereas 2 (1%) were employed on a part-time contract basis and 6 (3%) were employed on a casual basis. Tenure distribution is shown in Table 5.3.

**Table 5.3. Study 2: Tenure at Distribution of respondents.**

| | Public | Private | Local Government | | | Total |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | |
| **Organisational Tenure** | | | | | | |
| Permanent Full Time | 54 | 25 | 19 | 13 | 14 | 126 (71) |
| Permanent Part Time | 4 | 23 | 1 | 2 | - | 30 (17) |
| Casual - Full Time | - | - | | - | - | - |
| Casual - Part Time | - | 4 | 2 | - | - | 6 (3) |
| Contract - Full Time | 6 | 1 | 2 | 2 | 1 | 12 (7) |
| Contract - Part Time | 2 | - | | | - | 2 (1) |

Note: Numbers in parenthesis are percentages

Numbers in Italics represent individual samples from Local Government

Professional staff (37%) accounted for the largest proportion of respondents, followed by management (18), administrative and clerical staff (16%) and semi-skilled workers (14%), giving a broad cross-section of worker classifications. While there still seemed to be some misunderstanding among public sector workers as to the type of agreement they were employed under, all the employees from the hospital and local government, with the exception of 7 local government contract or casual staff, are employed under the terms of enterprise agreements.

Matched sample data collected over time from five different organisations formed the longitudinal sample. While this data was collected at Stages 1 and 2 of the study, as stated previously, the data was quite independent of data used for Study 1. Means and standard deviations for all variables in the model, showing the pattern of responses for both stages 1 and 2 are presented in Table 5.4. While there are some minor differences over time the general trends within the data remain similar, therefore further differences between the data are not discussed further here as they form the basis of further analysis within the causal model.

The first wave of the data was tested against the model developed previously in Chapters Three and Four. Initial examination of the data showed that the data was non-normal with the normalised estimate for the Mardia's coefficient (14.03) raised above the accepted level of 10 for normality. Further investigation showed the job

| **Table 5.4. Study 2: Means and Standard Deviations for all questions.** | | 99matched | | 98 matched | |
|---|---|---|---|---|---|
| Construct | Questions in Survey Instrument | Means | Std. Dev. | Means | Std. Dev. |
| *Job Characteristics* | My job requires me to use different skills. | 4.557 | 0.592 | 4.557 | 0.674 |
| | My job lets me complete tasks from start to finish. | 3.869 | 1.053 | 3.778 | 1.091 |
| | My job affects other staff or clients. | 4.580 | 0.671 | 4.676 | 0.598 |
| | My job allows me the freedom to decide how I do my work. | 3.744 | 1.135 | 3.693 | 1.115 |
| | I can tell how good my work is just from doing my job. | 3.795 | 0.928 | 3.591 | 1.054 |
| | I have the chance to use a number of skills in my job. | 4.443 | 0.573 | 4.398 | 0.749 |
| | My job allows me to do “whole pieces” of work from beginning to end. | 3.761 | 1.141 | 3.642 | 1.201 |
| | My job is considered important to this organisation | 3.938 | 0.987 | 3.926 | 0.997 |
| | I am free to make decisions that affect the way I do my job. | 3.727 | 1.124 | 3.727 | 1.066 |
| | I get useful feedback on how I do my job. | 3.290 | 1.137 | 3.318 | 1.111 |
| *Affective Commitment* | I am proud of this organisation and it's achievements. | 3.824 | 1.007 | 3.847 | 0.865 |
| | I am proud of my work group and their achievements. | 4.210 | 0.780 | 4.159 | 0.827 |
| | I am proud of what I do in my job (or profession) | 4.370 | 0.662 | 4.386 | 0.740 |
| | I would be very happy to stay with this employer for the rest of my working life. | 3.352 | 1.219 | 3.392 | 1.126 |
| | I have a strong "sense of belonging " in this workplace | 3.631 | 1.149 | 3.580 | 1.183 |
| | I care about what happens when there are problems at work | 4.386 | 0.692 | 4.420 | 0.627 |
| | I like to tell people where I work. | 3.915 | 1.025 | 4.034 | 0.919 |
| *Participation In Decision making* | I think that employees in this organisation do have ‘a say’ about working conditions. | 3.165 | 1.075 | 3.108 | 1.072 |
| | My suggestions on how I can do my job better are listened to. | 3,517 | 1.008 | 3.466 | 1.008 |
| | Employees in this workplace have the opportunity to have ‘a say’ in policies and decisions that affect them. | 3.011 | 1.090 | 2.994 | 1.050 |
| | Generally my work group has ‘a say’ in how we do our work. | 3.636 | 1.033 | 3.580 | 0.988 |
| | The EB or WA has given employees a greater say in what happens in this workplace | 2.726 | 1.090 | 2.841 | 1.035 |
| *Performance* | I am working longer hours than I did in the past. | 3.142 | 1.334 | 3.290 | 1.370 |
| | I am putting in more effort than I did in the past. | 3.722 | 1.012 | 3.733 | 1.182 |
| | As a work group we are finding more effective (better) ways to work. | 3.636 | 0.884 | 3.688 | 0.894 |
| *Rewards* | I think that employees here are achieving more with our time at work than in the past. | 3.509 | 1.044 | 3.494 | 1.080 |
| | I think we are working more effectively (better) because we work as a team. | 3.48 | 0.991 | 3.562 | 1.114 |
| | Employees here are (will be) better of financially because of the EB / WA. | 3.028 | 1.212 | 3.057 | 1.062 |
| | I think our work conditions have (will) improved because of the EB/ WA. | 2.665 | 1.119 | 2.801 | 0.956 |
| | The workplace EB / WA means that employees have more chance to develop new skills. | 2.682 | 1.064 | 2.795 | 0.970 |
| | I think workers here are (will be) generally better off because of the EB or WA. | 2.790 | 1.093 | 2.847 | 0.982 |
| | Employees are now feel better informed about what is happening in this workplace | 2.869 | 1.042 | 2.937 | 1.032 |
| *Facet Satisfaction* | The amount of job security you have. | 3.540 | 1.079 | 3.591 | 1.043 |
| | The changes in your work conditions as part of the enterprise or workplace agreement. | 3.250 | 0.941 | 3.463 | 0.987 |
| | The amount of support and guidance you receive from my supervisor (this organisation). | 3.455 | 1.175 | 3.375 | 1.174 |
| *Global Satisfaction* | The changes to your work that have occurred (will occur) through the EB / WA | 3.051 | 0.837 | 3.028 | 0.845 |
| | The amount of pay and fringe benefits I receive. | 2.909 | 1.172 | 2.909 | 1.187 |
| | All in all, how satisfied are you with your job? | 3.682 | 1.048 | 3.756 | 0.993 |
| | I you had to decide again whether or not to take your present job, would you? | 3.898 | 1.310 | 3.977 | 1.126 |
| | If you were free to go into any job you wanted - would you? | 3.347 | 1.291 | 3.244 | 1.215 |

characteristic construct "*task variety"* was both kurtosed and skewed, as it was in the cross sectional sample (*jc1*, Kurtosis 5.1; Skewness -1.8 and *jc6* Kurtosis 3.19; Skewness -1.5) identifying this construct as problematic in this sample. Data collected at Stage 2 two had a more normal distribution of data for this construct (*jc1,* Kurtosis 2.928; Skewness – 1.29 and *jc6,* Kurtosis 0.43, Skewness - 0.599), however the Mardia's co-efficient (89.73; normalised estimate 18.32) remained high.

Mindful of Ullman (1996) and Bentlers' (1995) warning that small sample size and non-normal data violate the assumptions underpinning chi-square estimation thereby reducing reliability the following steps were taken. The model was developed using separate data for the calibration and validation samples and for testing the longitudinal model. The more robust Satorra-Bentler scaled chi-square was used when available and also the more conservative probability level of $\alpha \leq .01$ was applied to reduce the risk of Type 1 errors (Ullman, 1996).

Means, standard deviations and Cronbach's alpha reliability for each construct are presented in Table 5.5, and show a very similar pattern of responses at both data collection times.

**Table 5.5. Study 2; Means, standard deviations and Cronbach's alpha reliability for Stage 1 & 2 Data.**

| | Stage 1 | | | Stage 2 | | |
|---|---|---|---|---|---|---|
| | Means | S.D. | Alpha | Means | S.D. | Alpha |
| F1. Task Variety | 4.48 | .63 | .74 | 4.5 | .52 | .71 |
| F2. Task Identity | 3.71 | 1.05 | .80 | 3.82 | 1.02 | .85 |
| F3. Autonomy | 3.71 | 1.03 | .87 | 3.74 | 1.07 | .88 |
| F4. Affective Commitment | 3.71 | .82 | .78 | 3.68 | .89 | .82 |
| F5. PDM | 3.35 | .85 | .81 | 3.39 | .90 | .82 |
| F6. Performance | 3.58 | .88 | .81 | 3.54 | .85 | .84 |
| F7. Rewards | 2.81 | .89 | .90 | 2.71 | .99 | .88 |
| F8. Job Satisfaction | 3.66 | .93 | .78 | 3.64 | 1.03 | .84 |

The Cronbach's alpha reliability all exceeded the critical level of 0.7. The highest level of satisfaction at both stages was that task variety, whereas the lowest level of satisfaction was with rewards, satisfaction with rewards showing a slight decrease over time. Job satisfaction, affective commitment, performance and PDM results have remained constant over time.

**Correlation Analysis**

The correlation matrixes of both samples used in this study are presented in Table 5.6. Findings show a similar pattern of correlations as was found in the cross-sectional analysis. High correlations were noted between job satisfaction and affective commitment (Stage 1, .842; Stage 2, .860), PDM and affective commitment (Stage 1, .804; Stage two, .820) as well as PDM and job satisfaction (Stage 1, .766; Stage 2, .808). Higher correlations between exogenous and endogenous variables are not such a problem as overlap is expected if one variable informs about the other (Bentler, 1995). However these correlations were sufficiently high to warrant discriminant analysis between the factors. The approach to discriminating between factors recommended by Bollen (1989) and Bentler and Chou (1987) and previously presented in Chapter Four was again used to test whether the factors did discriminate or explained the same response.

Discriminant analysis was conducted on Stage 1 samples. The initial test freed the factors to co-vary and results of this test were compared the fit when the covariance was fixed to unity (1.0). In each case discriminating between the factors provided a better fit to the data, with single item measures nearly doubling the chi-square magnitude (for example, Stage I, job satisfaction and affective commitment; $\chi^2$ = 22) with results well in excess of the $\chi^2$ (3.68, $p \geq .01$) significance test for one degree of freedom. Other Goodness of fit indices also offered less support for the single factor model, for example, the Robust CFI (.975) for the job satisfaction and affective commitment two-factor model decreased to CFI Robust .931 in the single factor model. Full details of the discriminant analysis results are presented in Appendix C.1. In terms of other correlations among the latent constructs, there were moderate correlations among the job characteristics with autonomy being most highly related to Identity. Autonomy was also highly related to PDM and performance.

**Table 5.6. Study 2:Correlations among Latent Constructs.**

| | F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 |
|---|---|---|---|---|---|---|---|---|
| F1. Task Variety | | .252 | .301 | .469 | .431 | .324 | .294 | .352 |
| F2. Task Identity | .173 | | .655 | .509 | .584 | .440 | .399 | .569 |
| F3. Autonomy | .226 | .731 | | .588 | .698 | .526 | .477 | .631 |
| F4. Affective Commitment | .230 | .418 | .535 | | .820 | .521 | .564 | .860 |
| F5. PDM | .342 | .504 | .660 | .804 | | .753 | .683 | .808 |
| F6. Performance | .252 | .371 | .486 | .685 | .736 | | .514 | .516 |
| F7. Rewards | .163 | .240 | .315 | .406 | .477 | .351 | | .582 |
| F8. Job Satisfaction | .279 | .449 | .494 | .842 | .766 | .577 | .309 | |

NB: Stage 1 Correlations in the Lower Left Quadrant

Stage 2 Correlations in the Upper Right Quadrant

**The Longitudinal Model**

Byrne (1994) points out a number of approaches can be taken to cross-validating models with the choice being based on the focus of the study. The purpose of this study was to explore the influence of PDM within the enterprise bargaining context and to investigate whether participation in decision-making (PDM) had a causal influence over time so cross-lagged analysis was undertaken (Bentler, 1995; Wong, Hui & Law, 1998; 1987; Kenny, 1979). The first step was to test the measurement and structural model developed in Chapter Four was stable and a good fit to the data, before testing for changes over time and causal relationships (Scheck et al., 1995; Hom & Griffeth, 1991). Once model fit was confirmed, the next step was to develop a single composite measure to represent each construct. Composite measures were deemed appropriate because they not only reduce parameters to overcome problems related to increased model size and non-normal data, they also improved stability in small samples (MacCallum & Austin, 2000; West, Finch & Curran, 1995; Kishton & Widaman, 1994). Consequently the multiple indicators of each construct were averaged to a composite indicator per construct to reduce the demands on the model and conserve degrees of freedom (Hair et al., 1998; Scheck, Kinicki & Davy, 1995; Hom & Griffith, 1991; Crano & Mendoza, 1987; Kenny, 1979). The approach uses a single indicator for each construct based on an independent reliability estimate (Kenny, 1979; Hair et al., 1998; Wong et al., 1998).

Kenny (1979) recommends using an independent reliability to fix the construct measures to protect against internal bias. For this reason, the reliability estimates were fixed using the Cronbach's reliabilities from sample one of the cross-sectional study applying the methodology described by Kenny (1979) and Hair et al., (1998) described below. First, the loading of the observed ($\lambda$) indicator is fixed to the square root of the estimated reliability. Next, the variance in the error is calculated by subtracting the value of the Cronbach's reliability of the construct from 1, then multiplying this figure by the variance of the measured variable. Hair and colleagues (1998:600) advise that specifying both the error term and loading value delivers the most parsimonious model. The next step "*requires a careful analysis of the parameters of the model, as well as this status as a fixed, free or constrained parameters"* (Bentler, 1995:35). All analysis was conducted using the covariance matrix to maintain information about the variance in the data (MacCallum & Austin, 2000; Bentler, 1995). Using the modelling technique recommended by Byrne (1994a), auto-regressive influences were tested simultaneously to reduce the risk of biased effects (MacCallum & Austin, 2000; Gollob & Reichardt, 1991).

## RESULTS

Data collected at Stage 1 and Stage 2 were tested against the structural model and although not quite as good a fit as for the cross-sectional data in Study 1, were found to be acceptable. The CFI exceeded the .9 benchmark in both samples (Stage 1, .948; Stage 2, .929) and although the RMSEA exceeded .05, (Stage 1, .056; Stage 2; .071) it was less than .08, which can be regarded as an acceptable fit (MacCallum & Austin, 2000; MacCallum, Browne & Sugawara, 1996; Brown & Cudeck, 1989). The fit indices are presented in Table 5.7.

**Table 5.7. Study 2: Test of the baseline model for Stage 1 and Stage 2.**

| Model | $\chi^2$ | dof | S-B $\chi^2$ | p | CFI | Robust CFI | RMSEA | Conf. Int. |
|---|---|---|---|---|---|---|---|---|
| Stage 1 | 294.68 | 191 | 257.22 | .0001 | .948 | .954 | .056 | .043-.068 |
| Stage 2 | 357.537 | 190 | 290.12 | .0000 | .929 | .941 | .071 | .059-.082 |

The factor structures were tested for equivalence by placing incremental constraints on the multi sample, and the factor structures were found to be equivalent for data collected at stages 1 and 2. However applying constraints to the error terms saw a dramatic decrease in model fit (CFI. 336; RMSEA .140), suggesting carry-over effects (Byrne, 1994a). The findings of these tests are reported more fully in Appendix C.2.

Further testing of the longitudinal model was conducted using the reliability indicators of the independent sample to fix the values of each construct composite as recommended by Kenny (1979) and Hair and colleagues (1998). The model was then tested for direct relationships across time, for example, participation at Stage 1 leads to participation at the Stage 2, as well as crossed lagged responses where, for example, participation at Stage 1 leads to satisfaction at Stage 2.

In processes similar to those discussed in Chapter Four, EQS uses the Lagrange Multiplier (LM) and Wald tests, as well as a retest feature, to aid modelling relationships over time. The LM test provides feedback on amendments that can be made to improve model fit, whereas the retest feature of EQS incorporates these improvements. These tests were both used and subsequent improvements in model fit are shown in Table 5.8. Differences in respondent interpretation of the instrument items over time can be identified in the error values of the constructs, so the LM test was specifically set to identify correlations among errors. The first test of the cross-lagged model returned a CFI (0.903) that did exceed the .9 benchmark, however other goodness of fit indices identified this as a poor fitting model ($\chi^2$ = 198 on 50 dof; RMSEA .130). The LM test identified the model fit would improve markedly if five error covariances between Stages 1 and 2 were allowed to covary. Byrne (1994a:274) points out that correlated error terms over time are "likely indicators of memory carry over effects". Subsequent freeing of a number of error terms by allowing them to covary led to a marked improvement in model fit ($\chi^2$ = 78.9 on 45 dof; CFI .978; RMSEA .066). The error terms freed to co-vary included; Stage 2 job satisfaction with Stage 1 PDM and job satisfaction; Stage 2 task identity with Stage 1 autonomy; Stage 1 PDM with Stage 2 affective commitment and performance effectiveness.

**Table 5.8. Study 2: Improvements in Model Fit based on the LM and Wald Tests**

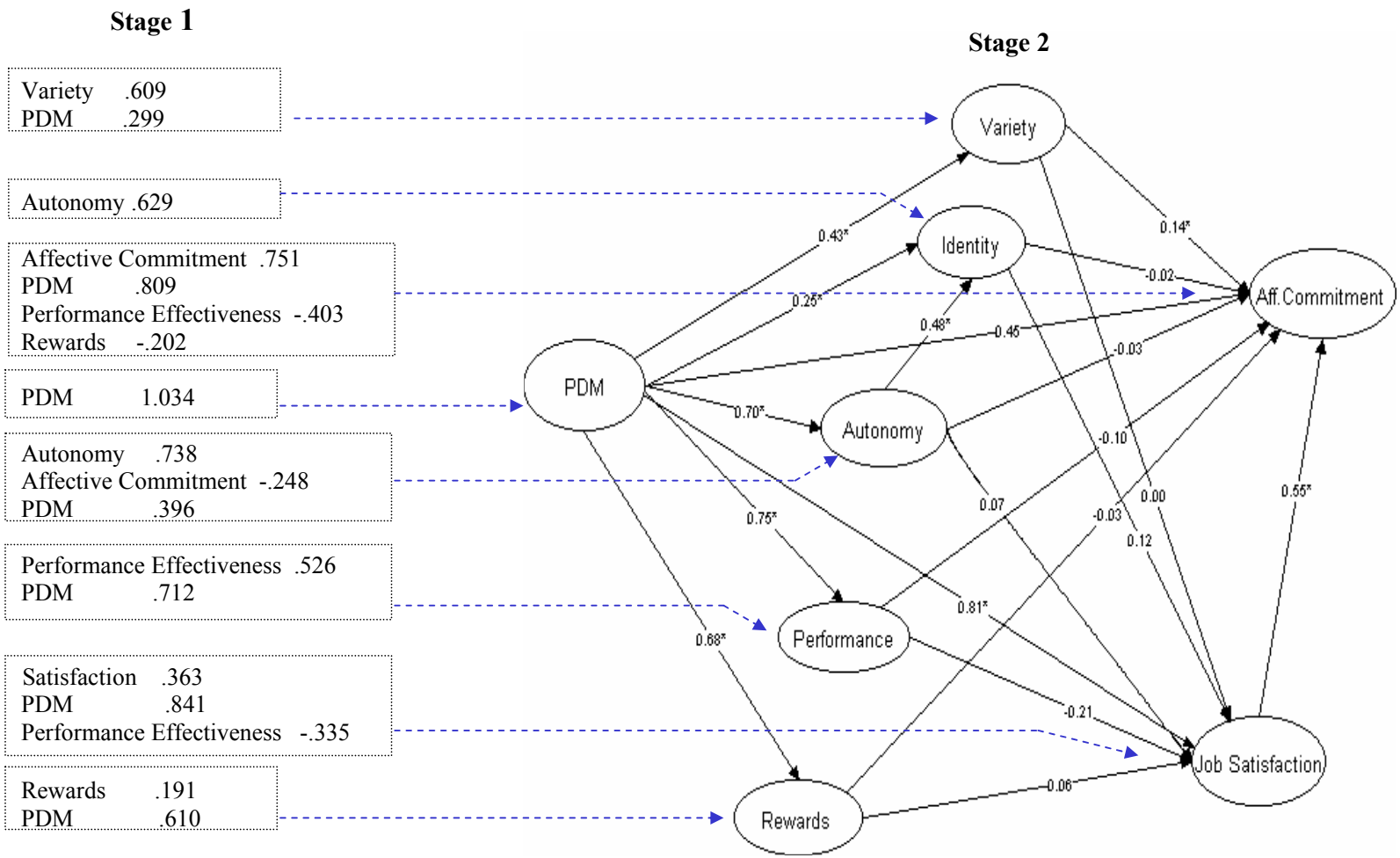
| Model | $\chi^2$ | dof | p | CFI | Bollen IFI | RMSEA | Conf. Int. |
|---|---|---|---|---|---|---|---|
| Baseline | 197.997 | 50 | .001 | .903 | .907 | .130 | .111- .149 |
| LMTest | 78.944 | 45 | .00132 | .978 | .979 | .066 | .041- .089 |
| Wald Test | 79.018 | 50 | .005 | .981 | .982 | .058 | .031-.081 |

The decision had been taken to maintain the "apriori" model developed from the literature, so all the postulated relationships could be tested over time. While recognising that modifying the model may well have improved the fit, it would also have increased the risk of Type 1 errors (Ullman, 1996; Hoyle, 1995). Quite distinct from post hoc model modification was the removal of non-significant parameters from the final tests of the model. The Wald test in EQS identifies parameters that contribute so little to the model that their deletion leads to minimal increases in the chi-square, while improving model parsimony. Based on the Wald test, five non-significant parameters were removed sequentially, one at a time and led to minimal increase in the $\chi^2$ ($\nabla$ .072), with slight improvements in the CFI (.981) and RMSEA (.058). Likely alterations in the chi-square for each of the parameters being removed are shown in Appendix C.3. The non-significant parameters identified were;

- Stage 1 Task Variety did not significantly influence Stage 2 performance.
- Stage 1 Performance did not significantly influence Stage 2 rewards.
- Stage 1 Affective Commitment did not significantly influence Stage 2 job satisfaction.
- Stage 1 Rewards did not significantly influence Stage 2 job satisfaction
- Stage 1 Affective commitment did not significantly influence Stage 2 PDM.
- Stage 1 Affective commitment did not significantly influence Stage 2 rewards.

Figure 5.1 presents a summary of the structural relationships within the model at Stage 2 and shows significant path coefficients between Stage 1 and Stage 2. Using the formula 1-(Disturbance)$^2$, the variance in the dependent based on standardised loadings supported that the model explained 97% of affective

**Figure 5.1**: Study 2: Path Coefficients of the Longitudinal Structural model.
Stage 1 presents significant causal influences between Stages 1 and 2 (N=176)
Stage 2 presents structural relationships within the PDM model at Stage 2 (N=176)




Stage 1: $\chi^2$ 79.02, CFI .981, RMSEA .058 impac on Stage 2 data

Stage 2: $\chi^2$ 357, CFI .921, Rob CFI .941, RMSEA .071

Path Coefficients are shown as standardised * = p<.05

commitment and 88% of job satisfaction over time. It is important to note that when negative coefficient values appear, this indicates a relationship where an increase in the exogenous variable leads to a lower level in the endogenous variable (Ullman, 1996; Bentler, 1987). For example, in the context of this study increases in performance effectiveness leads to lower job satisfaction (-.21 at Stage 2 and -.335 over time between Stages 1 and 2).

All latent variables in the structural model were significantly directly influenced by PDM. When the unstandardised in-direct parameter effects within the model were examined for significant differences identified through a z test (Bentler, 1994; Ullman, 1996), no significant in-direct effects of PDM were identified in the model. Other significant relationships were a small positive affect between task variety and affective commitment (.14) and job satisfaction and affective commitment (.55). All Gamma pathways linking Stage 1 variables to their counterparts at Stage 2, except for task identity, were statistically significant ($z \geq 1.96$, p.05). The significant paths in the model are reported below as standardised co-efficients and support PDM having direct rather than indirect-effects on the other variables under study.

**$H_1$. Affective Commitment will be positively affected by participation in decision-making, the job characteristics of task variety, task identity and feedback, perceptions of performance effectiveness, rewards and job satisfaction**.

Hypothesis one was only partially supported. Higher levels of PDM had a positive influence on affective commitment over time (.809), however, commitment is eroded by higher demands for performance effectiveness (-.403) and rewards (-.202). There was also a significant relationship between affective commitment at Stage 1 influencing affective commitment at Stage 2 (.751). While higher levels of job satisfaction were antecedent to affective commitment, the results show that satisfaction in the current environment has a non-significant (-.206) negative influence on commitment over time.

**$H_{.2}$. Job Satisfaction is positively affected by participation in decision-making, job characteristics of task variety, task identity, task significance, feedback and autonomy, perceptions of performance effectiveness and rewards.**

Hypothesis 2 was well supported for direct effects, with higher levels of PDM having a significant positive and direct influence on job satisfaction (.841) over time. Employees reporting increased performance effectiveness (-.335) felt this had a negative impact that led to decreasing job satisfaction over time. While, there was a significant positive relationship between job satisfaction at Stage 1 influencing job satisfaction at Stage 2 (.363), there were no other significant indirect causal relationships.

**$H_3$. The job characteristics of task variety, task identity, task significance, feedback and autonomy are positively affected by participation in decision-making.**

This hypothesis was supported with employees reporting higher levels of PDM believing had a direct positive influence on the task characteristics of variety (.299) and task autonomy (.396), with an indirect influence on task autonomy, to positively influence task identity (.629). A positive reinforcing relationship within the job characteristics was noted; employees with higher levels of task variety at Stage 1 also reported higher levels of task variety at Stage 2 (.609). This result was similar for task identity at Stage 2 (.629) and autonomy at Stage 2 (.738).

**$H_4$ Perceptions of performance effectiveness are positively affected by participation in decision-making.**

The fourth hypothesis was supported. Higher performance effectiveness at Stage 1 positively impact on performance effectiveness at Stage 2 (.526), and PDM has a positive influence on performance effectiveness over time (.712).

**$H_5$. Participation in decision-making will positively affect rewards.**

Hypothesis five was supported with employees reporting higher PDM positively influenced rewards over time (.610). The level of satisfaction with

rewards at Stage 1 also influenced the level of satisfaction with rewards at Stage 2 (.191).

A complete table of results showing the measurement equations and unstandardised co-efficients and z-scores is presented in Appendix C.4. Structural coefficient's for both Stage 1 and Stage 2 relationships within the model are presented in Appendix C.5.

**Testing for causal predominance.**

Tests for causal predominance of relationships in the model examined the direction of the relationship as two competing pathways. For example, Test 1 examines whether PDM leads to increased job satisfaction, or whether it is job satisfied employees who are more willing or able to participate. "*This is accomplished by first estimating a model in which the competing parts are constrained equal and then comparing the fit of this model with one in which the same paths are specified as free*" (Byrne, 1994a:277). Statistical significance is determined by the difference in chi-square, (p.05, $\chi^2 = 3.84$) and the parameter with the larger estimate is deemed the dominant causal path.

An important point to note when interpreting these results is that the size of the chi-square difference does not necessarily relate to the value of the relationship (MacCallum & Austin, 2000). For example in Test 8 the value of PDM and performance effectiveness are almost identical despite quite a significant difference in chi-square when the variables are constrained to be equal. This supports the two constructs as being different with each being influential, but the causal dominance is quite weak. A number of the significant relationships within the model were tested for causal predominance, providing these relationships made substantive sense for the relationship to exist. While the test results are reported in Table 5.9, the findings are briefly summarised below.

**Table 5.9. Study 2: Test of alternative paths of causal predominance over time.**

| Structural Model Path | Estimate | z-score | $\chi^2$ Change |
|---|---|---|---|
| **Test 1** | | | |
| Stage 1 PDM leads to Stage 2 satisfaction as opposed to satisfaction leading to PDM. | -1.178 (vs .938) | 8.78 | 177.4 |
| **Test 2** | | | |
| Stage 1 performance effectiveness leads to Stage 2 satisfaction as opposed to satisfaction leading to more effective performance | .629 (vs .430) | 5.70 | 60.75 |
| **Test 3** | | | |
| Stage 1 task variety leads to increased Stage 2 PDM as opposed to PDM increasing variety | .548 (vs .221) | 3.27 | 17.8 |
| **Test 4** | | | |
| Stage 1 PDM participation leads to Stage 2 Autonomy as opposed to Autonomy leading to PDM | 1.02 (vs .517) | 7.5 | 99.1 |
| **Test 5** | | | |
| Stage 1 affective commitment leads to Stage 2 job satisfaction as opposed to satisfaction leading to commitment. | 1.427 (vs .860) | 7.7 | 221.8 |
| **Test 6** | | | |
| Stage 1 affective commitment leads to Stage 2 performance effectiveness as opposed to performance leading to commitment | 1.11 (vs .987) | 11.1 | 103.5 |
| **Test 7** | | | |
| Stage 1 affective commitment leads to satisfaction with Rewards at Stage 2, as opposed to rewards leading to commitment. | 1.00 (vs .222) | 5.7 | 51.9 |
| **Test 8** | | | |
| Stage 1 performance effectiveness is causally predominant over Stage 2 PDM as opposed to PDM leading to performance effectiveness. | .774 (vs .756 | 7.31 | 110.97 |
| **Test 9** | | | |
| Stage 1 job satisfaction leads to Stage 2 autonomy as opposed to autonomy leading to satisfaction | .812 (vs .453) | 6.76 | 58.2 |
| **Test 10** | | | |
| Stage 1 PDM is causally predominant over Stage 2 affective commitment as opposed to commitment leading to Participation. | 1.290 (vs 1.05) | 8.4 | 192.98 |
| **Test 11** | | | |
| Stage 1 Rewards were causally predominant over Stage 2 PDM as opposed to PDM leading to Rewards. | .944 (vs .291 | 6.72 | 60.64 |

*Note*: All estimates are standardised. The Coefficient values of the alternative pathways are reported in italics. Only the z-score of the dominant pathway is reported.

These results show that the increases in PDM are in fact related to decreases in job satisfaction over time (-1.178). Higher levels of affective commitment were found to be causally pre-dominant over higher levels of job satisfaction (1.427), performance effectiveness (1.11) and improved rewards (1.0) over time. While the relationship between PDM and affective commitment was not significantly within the structural model, PDM is strongly causally predominant over affective commitment (1.290) over time. It is performance effectiveness that increases job satisfaction (.629), as well as PDM (.774) over time, and this seems related to task variety increasing levels of PDM (.548). Both a job satisfaction (.812) and PDM (1.02) increase task autonomy. The ability to influence rewards increased the level of PDM over time (.944).

## CONCLUSION

This Chapter has provided details of the longitudinal matched sample and results of testing the causal relationship within the PDM model. Section 2 described the sample and presented basic descriptive data that showed little variation in response patterns over time. High correlations were noted between the affective commitment and job satisfaction constructs, as well as the PDM and job satisfaction constructs, so these relationships were tested with discriminant analysis and accepted as independent constructs. The apriori model confirmed in Chapter Four was tested and found to be an acceptable fit for data collected at both Stage 1 and Stage 2 of Study 2.

As the data was non-normal and the sample size was small, the data was collapsed so a single composite variable represented each construct. To deal with the bias of measurement error the model was specified using independent reliability estimates from the cross-sectional study as recommended by Kenny (1979) and Hair et al., (1998). While acknowledging that amendments to the apriori model based on the LM and Wald tests may well have improved the fit, no amendments were made. This approach was taken because such amendments increase the risk of capitalising on chance and also, because the aim of this study was to test the postulated model. The structural relationships clearly showed that higher levels of PDM positively influences the job characteristics of variety, identity and autonomy, performance

effectiveness and employee' rewards. Higher levels of PDM also directly and positively influences job satisfaction and affective commitment. However, higher levels of PDM did not have any indirect effect through the independent variables of the job characteristics, rewards or performance effectiveness, neither were these variables significant predictors of job satisfaction or affective commitment.

In terms of causal relationships measured between Stage 1 and Stage 2, PDM has a direct positive influence on all variables over time however, higher levels of autonomy, rewards, performance effectiveness and job satisfaction are leading to decreased affective commitment. While higher levels of participation lead to higher levels of task variety, autonomy and performance effectiveness, contrary to expectations, a greater ability to influence rewards does lead to higher levels of PDM rather than PDM influencing rewards. The implications of these findings will be discussed in the following and final Chapter Six.

# CHAPTER SIX

# DISCUSSION AND CONCLUSIONS

## INTRODUCTION

This thesis examines the role of participation in decision-making (PDM) within the enterprise bargaining context, and in particular explores whether PDM directly or indirectly influences organisational commitment and employee job satisfaction outcomes. Previous Chapters dealt with the background to the research, the methodology, analysis and findings. This Chapter summarises those findings, synthesises their meaning and discusses the research implications prior to providing an overall summary and conclusion.

The Chapter begins with a detailed, integrated discussion of the major findings from the analysis reported in Chapters Four and Five. Findings were drawn from the co-relational, structural and causal relationships identified in both the cross-sectional (Study 1) and longitudinal (Study 2) data. The next section discusses the theoretical implications and contribution the research makes to the existing literature on both PDM and employee attitudinal changes occurring within, but not necessarily because of, the enterprise bargaining context. This includes the contribution the research makes in relation to size, sample distribution, the analytic methodology and robustness of the analysis. Some practical implications are then drawn from the research, particularly in relation to the role PDM plays within the enterprise bargaining context. A number of deficiencies in the methodology were identified as the research progressed, and these limitations, along with suggested strategies for future research are discussed. In view of the research findings and limitations, areas requiring further investigation from applied researchers and practitioners are discussed prior to the Chapter concluding with a general summary.

## THE MAJOR FINDINGS AND CONCLUSIONS

This thesis examined the role of PDM within the enterprise bargaining context. The more specific research objectives were to:

> Determine the impact of participation in decision making on employee attitudes to job satisfaction and affective commitment over time.
>
> Determine if PDM has a direct influence on job satisfaction and affective commitment or whether it has an indirect effect by changing work practices, conditions and employee benefits to improve satisfaction and commitment within the enterprise bargaining context.

To meet these aims, a model of PDM was developed from the literature to test the attitudinal responses of employees operating under either an enterprise or workplace agreement. The PDM model sought to examine the influence of PDM on changes to work practices, employee perceptions of performance and changes in rewards and the influence of these on job satisfaction and affective commitment outcomes. Understanding these relationships will assist researchers and allow practitioners to better manage workplace relations to achieve the desired outcomes of satisfaction, commitment and productivity. Relationships within the model were tested on a broad cross-section of employees from different industry sectors over time. In Study 1 the model accounted for 77% of variance in affective commitment, and 52% of variance in Job Satisfaction, whereas in Study 2, at Stage 2, the model accounted for 97% of variance in affective commitment, and 88% of variance in Job Satisfaction.

The results of the cross sectional analysis undertaken in Study 1 indicated that participation directly influenced all variables in the model, although some significantly different findings emerged when the data was analysed over time in Study 2. For this reason the following section briefly explains the relationships and trends identified in relation to the hypotheses, prior to presenting an integrated discussion of the findings.

**Direct and Indirect influences of Participation in Decision-Making on Affective Commitment**

Overall, PDM was found to be causally dominant over affective commitment, supporting the hypothesis that PDM positively and directly influences affective commitment. Higher levels of PDM were directly correlated with higher levels of affective commitment over time (.809). It also turned out that higher levels of affective commitment were strongly correlated to higher levels of job satisfaction (1.427), and affective commitment (.751) over time. There was only limited support for any indirect or mediated relationships. In the short term at Stage 1, the relationship between PDM and affective commitment appeared to be mediated by job satisfaction, however, at Stage 2 this relationship was not significant (-.206), although job satisfaction was found to be causally antecedent to affective commitment.

The hypothesis that other factors mediated the relationship between PDM and affective commitment was only partially supported. Task autonomy was identified as the only significant mediator of the relationship between PDM and affective commitment. Study 2 revealed that higher levels of PDM correlated positively to task autonomy (.396) and task variety (.299). While higher levels of PDM positive affected perceived performance effectiveness and rewards, higher levels of perceived performance effectiveness (-.403) and rewards (-.202) negatively influenced commitment over time.

**Direct and Indirect influences of Participation in Decision-Making on Job Satisfaction**

The second hypothesis that PDM has a positive direct influence on job satisfaction was supported, with no support for any indirect relationships. PDM was a significant predictor of job satisfaction (Study 1 .394: Study 2, .841) with a significant causal influence over time (1.06). Two other causal influences on job satisfaction were found. Firstly, there was a significant positive correlation between high levels of Stages 1 and 2 job satisfaction (.363). Secondly, there was a negative correlation between job satisfaction and perceptions of performance effectiveness (-.335), suggesting that those who believe they perform effectively have lower levels of satisfaction than other employees.

Indirect relationships in hypothesis 2 were not supported and no significant influences for PDM mediating changes in the task characteristics of variety, identity and autonomy, perceptions of performance effectiveness or rewards was identified in the short term. Although it seems reasonable to suggest that these variables are mutually reinforcing, as postulated by Zeffane (1994) who found that combining PDM with task variety increases job satisfaction, this was not found to be the case in this study.

**Direct and Indirect influences of Participation in Decision-Making on Task Characteristics**

The third hypothesis that PDM positively and directly influences the job characteristics of task variety, task identity and autonomy was supported in both studies, with only limited support for an indirect influence on outcomes of job satisfaction and affective commitment. Higher levels of PDM correlated with higher levels of the task characteristic of task autonomy, and task autonomy mediated the influence of PDM on task identity, supporting previous findings that task autonomy and identity increase job involvement (Brown, 1996; Kanungo, 1982). A positive correlation among the job characteristics was noted over time, with higher levels of individual characteristics at Stage 1 influencing higher levels at Stage 2 (task variety influences task variety =.609; task identity influences task autonomy =.629; and task autonomy influences autonomy =.738). While higher levels of PDM and task variety (.299) correlate, causal path analysis suggested that task variety increases PDM, rather than participation increasing variety. Over time, higher PDM correlated with higher levels of autonomy (.396) whereas, unexpectedly, higher levels of affective commitment were associated with lower levels of autonomy (-.248).

**Direct and Indirect influences of Participation in Decision-Making on Performance Effectiveness**

The fourth hypothesis that PDM would positively influence performance effectiveness over time was only partially supported. In the short term employees believe higher levels of PDM gives them a greater 'say' in what happens in the workplace and having a greater 'say' in decisions allows them to perform their work more effectively. Both studies identified strong support for high levels of PDM being correlated with perceptions of performance effectiveness as evidenced in the

strong relationship over time, in Study 2 (.712). However, when this relationship was tested for causality over time, it was found that the perception of being able to perform effectively was causally dominant and increased PDM. As employees' perceptions of performing effectively increased, this was found to negatively impact job satisfaction (-.335) and affective commitment (-.403).

**Direct and Indirect influences of Participation in Decision-Making on Rewards**

The fifth hypothesis that PDM would positively influence rewards was only partially supported. Higher levels of PDM were found to positive influence rewards over time (.610), whereas satisfaction with rewards was negatively correlated to affective commitment (-.202). Rewards were not a significant predictor of job satisfaction. However, when causal influences were examined, it was found that the ability to influence rewards was causally dominant over PDM, suggesting employees' motivation to achieve and influence rewards actually promotes PDM. Similar to findings with the other variables in the research, positive attitudes toward rewards were correlated overtime (.191).

## DISCUSSION

Overall the findings clearly support higher levels of PDM has both direct and indirect positive effects on affective commitment and job satisfaction. Higher levels of PDM directly and positively influences task variety, task autonomy, perceptions of effective performance and rewards, with indirect effects on autonomy. Contrary to the above findings, reward increases have a negative impact on job satisfaction, employees' perceptions of performance effectiveness and affective commitment in the current work context.

The findings generally support previous research that employee participation in decisions affecting them leads to positive affective responses (Black & Gregersen, 1997; Sagie & Koslowsky, 1996). Support was found for Schuster and colleagues (1997) contention that PDM does positively influence job satisfaction and affective commitment. When examined over time, affective commitment was found to be causally dominant over PDM, with employees with more positive attitudes toward PDM at Stage 1 have more positive attitudes at Stage 2. This supports previous

findings that the relationships between PDM, job satisfaction and affective commitment are reciprocal and mutually reinforcing (Meyer, et al., 1993; Allen & Meyer, 1990; Cook & Wall, 1980) as the benefits from participation accrue over time (Black & Gregersen, 1997; Stanton, 1993; Cotton et al., 1988).

Despite that rewards and perceptions of performance effectiveness negatively influenced outcomes of satisfaction and affective commitment, affectively committed employees are more likely to be job satisfied, suggesting that committed employees are either more forgiving toward the organisation, or more involved than those less committed. It would appear that more committed employees are prepared to 'soldier on' and perform more effectively to derive greater job satisfaction when task demands increase, whereas those less committed are not. It could also be that the longitudinal Study 2 sample represented a distinct group that was more highly affectively committed. Even if this was the case, it is clear that those with positive attitudes towards affective commitment are maintaining those attitudes overtime.

Participation's positive influence on perceptions of performance effectiveness, job satisfaction and affective commitment suggests performance effectiveness is valued and PDM is viewed as a means of achieving this out-come. The fact that perceptions of performance effectiveness are causally dominant over PDM could be interpreted in one of two ways. One explanation could be related to work intensification and increasing workloads, where employees perceive that it is the need to perform effectively that makes them either seek or be granted PDM. The alternative interpretation could be that employees seek greater levels of participation believing this enhances their ability to perform effectively, supporting the proposition of a reciprocal relationship (Yammarino & Naughton, 1992). Either interpretation could equally apply when one considers that performance effectiveness in the current context is negatively related to job satisfaction (-.335) and affective commitment (-.403). While high performance demands, increasing workloads and lack of training to support those workloads are eroding satisfaction and commitment, PDM provides employees with a survival tool to better cope with such a work environment. These findings lend support to concerns about spiralling negative effects and worker demoralisation that have been raised by a number of researchers (ACCIRT, 1999; Callus, 1997; Heiler, 1996; Quinlan, 1996).

While PDM does promote positive relationships, it seems in the current context, that employees perceive lower levels of PDM are reducing opportunities for task autonomy, perceived performance effectiveness and rewards. This does not mean that commitment to the organisations is falling, but rather that any gains are being compromised by dissatisfaction with these elements. PDM has not increased over time and it does seem that any potential for greater commitment through PDM is not being harnessed and limiting the gains being achieved.

In regards to the job characteristics, task variety was found to be causally dominant over PDM, with PDM positively influencing autonomy, however neither variety or autonomy were predictors of performance effectiveness ($\chi^2$.✍ ns. at 3.3). These findings may well be contextual. For example, task variety may well be an outcome of downsizing, multi-skilling and work intensification and the demands of these multiple roles require greater levels of participation. A result of this may be that the breadth and range of work limit the employee's ability to perform effectively. In other words, PDM and greater autonomy are required so employees can deal with the multiplicity of roles and responsibilities, with the most positive interpretation being that committed employees view increased autonomy and PDM as means to improve performance effectiveness. The more negative interpretation could be that employees see participation as a mechanism that allows them to cope with role overload, rather than PDM being a philosophical choice made by employers.

Overall, the above findings imply that PDM is perceived as a necessary survival tool for employees to be able to work effectively because of the range of tasks and duties they perform. Higher levels of autonomy can also be related to the upper levels of Black and Gregersens' (1997) five dimensions of PDM, where higher levels of control and involvement promote satisfaction. In terms of causality, the research identified that PDM increases autonomy over time, supporting Mueller and colleagues (1999) contention that autonomy mediates the influence of PDM on commitment. Taken together, these two points sustain Kappelman and Prybutok (1995) findings that empowerment, rather than PDM, contributes more to positive attitudinal outcomes. In fact, one could suggest that autonomy that is supported by

employees having the relevant facts and other task and outcome related information (Purser & Cabana, 1997; Yingling, 1997; Collins & Porras, 1995) finds an operational foundation in PDM. Considering that autonomy is a predictor of commitment and affectively committed employees are more likely to report being job satisfied, this finding is not surprising.

The relationship of rewards to other variables in the model suggests that although employees value the opportunity to influence rewards through PDM, they are not satisfied with those rewards. The model tested in this study did not postulate a relationship between rewards and perceptions of performance so the reason fro dissatisfaction with rewards is unclear. It may be that gains in rewards are considered insufficient on their own, or that gains in rewards are insufficient because they do not compensate employees for what they perceive as improved performance effectiveness. Given qualitative comments and feedback from employees the most likely explanation for rewards neither promoting satisfaction or commitment, is that rewards are not perceived as commensurate with the performance effort put in. These findings lend support to previous findings in the American literature (Doucouliagos, 1995; Cotton et al., 1988) that have found rewards do motivate performance and when performance outcomes are linked to rewards, employees are more motivated to achieve these (Lawler, 1996; Lawler, et al., 1993).

While the findings suggest that PDM is important as part of the process to positively change perceptions of performance effectiveness and gain rewards, these negative effects are weaker than the positive influence PDM exerts over job satisfaction and affective commitment. This supports Pendleton and colleagues' (1998) finding that there is a reciprocal relationship between productivity, satisfaction and affective commitment, but also recognises that rewards or, lack of rewards, can undermine these relationships posing a threat to employee satisfaction and affective commitment and employer productivity in the long term. In the short term feedback from the participating organisations on key performance indicators showed varying productivity improvements in relation to reduced operating costs, improved quality and customer service and reduced absenteeism. However, these finding do support concern for the longer-term implications of negative impacts on employees and through them, organisations.

In summary, PDM contributes positively and directly to task autonomy, performance effectiveness, rewards, job satisfaction and affective commitment. The relationship between PDM and affective commitment is reciprocal with higher levels of affective commitment leading to higher levels of PDM over time. Nonetheless, dissatisfaction over rewards and perceptions of lowered performance effectiveness, are undermining the benefits of PDM on job satisfaction and affective commitment.

## CONTRIBUTION OF THIS RESEARCH

This section of the Chapter identifies specific contributions the research makes to extend the knowledge surrounding the role and influence of PDM, and specifically, PDM within the enterprise bargaining context. Of particular importance were the differing trends identified when relationships in the PDM model were tested for causality over time, rather than at one point in time. Also important, was the finding that when tested over time, job satisfaction and affective commitment within the enterprise bargaining context are being maintained, despite employees having concerns about autonomy, rewards and performance effectiveness.

### Causal analysis of the outcome variables

This research in part addresses the call from previous researchers for longitudinal and or multi-sample studies (Tjosvold, 1998; Yammarino & Naughton, 1992) so the influence of PDM can be better understood. This research tested multi-sample data from across three industry groups. Structural Equation Modelling was used as a powerful tool for testing structural relationships and pathways within the model, and causal relations over time (Schumacker & Lomax, 1996; Kelloway, 1995). The choice of causal modelling was important, as the differences that emerged in causal relationships over time could not have been identified without this methodology. As it eventuated, the data were highly non-normal in distribution, and the choice of the EQS statistical SEM package with robust adjustments for non-normality was important to improve reliability (Ullman, 1998; Bentler, 1995; Byrne, 1994a). These two latter points add to the contribution, particularly as a study such as this one of the role of PDM within the enterprise bargaining context has not previously been undertaken.

The research investigated the correlational and causal relationships of PDM to job satisfaction and commitment outcomes over time. While the research supports previous findings that PDM is a predictor of job satisfaction and affective commitment, there has been considerable debate about which of the outcome variables is antecedent to the other. Some researchers have found that job satisfaction is antecedent to organisational commitment, claiming satisfaction is an immediate response, whereas commitment builds over time (Meyer, et al., 1993, Williams & Hazer, 1986; Mowday et al., 1982). Others suggest the two variables are reciprocally related and mutually reinforcing, so the relationship is better examined simply as a correlating one (Hackett, et al., 1994; Brooke et al., 1988). However, in the context of this research, affective commitment was found to be antecedent to job satisfaction, supporting previous findings by Vandenberg and Lance (1992) and Bateman and Strasser (1984). This finding may well be contextual to the prevailing workplace climate, where negative media reports of concerns by Union, workers, other employee advocates and some researchers may have fuelled a more negative environment to the extent that it is the more highly committed employees who report higher levels of satisfaction.

**Performance effectiveness and job satisfaction**

Previous research supports *performance leading to satisfaction* is stronger than *satisfaction leading to performance* (Iaffaldano & Muchinsky, 1985; Zeffane, 1994) and with the inclusion of PDM, should promote higher performance (Yammarino & Naughton, 1992). However, overall rigorous analysis of performance outcomes within the enterprise bargaining context has been a neglected area. While productivity generally in Australia has increased since enterprise bargaining was introduced, whether it is employees who are more effective or gains are the product of technology improvements, increased workloads, work intensification and workforce casualisation has not previously been substantially investigated. The findings in this research support some of the early findings of performance being antecedent in the job satisfaction performance relationship (Iaffaldano & Muchinsky, 1985; Lawler & Hall, 1970). Lowered perceptions of performance effectiveness leads to lower job satisfaction and while job satisfaction is currently being

maintained, ongoing concern with compromised performance effectiveness clearly has the potential to undermine levels of satisfaction.

**Participation and rewards**

There is increasing recognition that employees in the enterprise bargaining context are disenchanted with their rewards (ACCIRT, 1999), therefore this research fills a gap in the literature by examining causal links between the influence of PDM on rewards, and employee outcomes of job satisfaction and affective commitment. Beyond enterprise bargaining, this is an area that has received little research in the broader literature. The research found that while employees perceived they have the opportunity to influence the rewards they receive and this influence was valued, the relationship between PDM and job satisfaction is not significantly influenced by rewards. However, the relationship between PDM and affective commitment is negatively mediated by rewards over-time. It was surprising that affective commitment was causally predominant over rewards. This suggests that affectively committed employees were either more likely to perceive they influence the rewards they receive, or they actually participate more in, or have greater faith in the process because of their higher level of commitment.

## IMPLICATIONS FOR THEORY AND PRACTIONERS

This section briefly discusses the implications of this research for other researchers and practitioners. The first implication is the value of using longitudinal studies for identifying trends in attitudinal responses, particularly in times of dynamic change. The next section discusses how the PDM model can assist researchers and practitioners understand the development of PDM and its relationship to work practices, conditions and outcomes of satisfaction and commitment. The final section discusses the implications of this research for practitioners.

Analysis of first stage data in Study 2 generally failed to capture mediating influences within the model. However, as attitudinal changes occur over time as benefits accrue, the use of structural equation modelling to test for causality over time allows this stronger pattern of relationships to be identified. The advantage of

understanding which variables were antecedent in the relationship will allow practitioners to manipulate the appropriate variable to achieve their desired outcome. For example, in the first stage of analysis the only significant indirect or mediating effects apparent were for autonomy mediating task identity, and performance effectiveness mediating affective commitment. Using matched samples over-time in Study 2 allowed trends in attitudinal responses to emerge and provided a much more powerful interpretation of the data. In fact some of the Stage 1 data in Study 2 subsequently turned out to be quite misleading; for example, the direct effect on rewards influencing job satisfaction is insignificant, until this relationship is tested over the two stages.

Another feature of the longitudinal design in this research was that the Stage 2 data did not show the decline in the attitudinal responses that has generated much of the debate about enterprise bargaining outcomes and appeared evident in the first stage of data collection. At the first stage there was a far greater inclusion of negative comments in the qualitative section of the survey. Many respondents referred to increasing workloads, work intensification and dissatisfaction with rewards that were perceived as inequitable commensurate to employee efforts. There was also considerable concern expressed over perceived lack of influence on the enterprise bargaining process, despite the fact that the organisations stated they actively sought participation and had strategies, ranging from consultative committees, team meetings and autonomous work teams, in place to support participation.

Despite the very noticeable reduction in the number of negative comments received at Stage 2 data collection there was essentially no change in the response patterns. A number of issues may have influenced this. Firstly, negative public perceptions surrounding the enterprise bargaining process may well have elicited responses where connections between PDM and the other exogenous variables were more distorted at Stage 1 because of widely publicised concerns in the media. A second and perhaps more credible inference is coupled with feedback from the first survey and experience over-time, the organisations are becoming more advanced and skilled in the process of enterprise bargaining, and this tempered employees' understanding and attitudinal responses. It is also likely that this is abetted by

narrowing agendas for bargaining precipitating less dramatic change and therefore attitudinal responses are not as affected by organisational instability.

This research has a number of implications for practitioners. The finding that employees perceive autonomy as a mediator of affective commitment, and that affective commitment is antecedent to PDM suggests that autonomy is a critical variable in the relationship. Increased PDM will give greater autonomy, which leads to a stronger sense of ownership or identity with the job (Zeffane, 1994). While it is clear that increased autonomy and PDM are strongly valued by employees, it needs to be stressed differing levels of autonomy may need to occur for different levels of employees. Appropriate levels of job or content knowledge must support autonomy and PDM should be promoted to the highest practicable level for all employees. To do this, organisations need to be very clear about the extent and level of PDM employees can enjoy, so mismatched expectations do not cause dissatisfaction and undermine commitment. Another very useful piece of knowledge was that employees believed they could influence rewards through PDM and valued this. While not unexpected, the finding that dissatisfaction with influence over rewards negatively influences job satisfaction and commitment suggest that employees would be more committed if they had increased PDM to influence the rewards they receive.

The most unexpected finding was that of employees' concern with lower levels of perceived performance effectiveness. Given there was a positive relationship between PDM and performance effectiveness, and a positive relationship between PDM and affective commitment, the fact that lowered perceptions of performance effectiveness erodes affective commitment suggests this poses the greatest risk to employee commitment. There are several likely reasons for this. Firstly, rewards in the enterprise bargaining context are tied to performance effectiveness and failure to meet performance targets can result in lower salary increments, limited advancement opportunities or even threaten job security. This may mean that employees feel under greater pressure to perform effectively and seek PDM so they can do this. The second reason may reflect that reduced organisational commitment is emerging and employees are shifting toward individual orientations of career and job commitment. Lowered perceived effectiveness would inhibit personal and career growth, intrinsic satisfaction and reduced advancement

opportunities. Another possible explanation is the need for rewards to be equitable in response to performance outcomes (Cordery et al., 1993; Hackman & Oldham, 1980). Although the model did not test a link between perceived performance effectiveness and rewards, as this link was not part of the *apriori* model, those employees who perceive they are working more effectively would feel discouraged if their performance achievements and efforts are inadequately rewarded.

The lower level of satisfaction from employees who perceive they perform effectively should concern practitioners. While in the short-term perceptions of performance effectiveness increases job satisfaction, over-time it in fact undermines job satisfaction supporting concerns about work over-load and intensification. For this reason it is important that practitioners ensure workloads are realistic, and staff are adequately trained and resourced, as ongoing declines in job satisfaction will eventually diminish performance and commitment.

Another issue some respondents seemed confused about was the link between task changes, performance effectiveness and rewards. While employees perceived PDM in the enterprise bargaining process influences rewards, it seems they did not necessarily perceive changes to work practices that led to working more effectively as being related to enterprise bargaining. This suggests some confusion over the role of participation within the enterprise bargaining context. For example, a small number of employees commented that while they were able to “have a say,” they were not “listened to” and their suggestions or concerns were not acted upon. The question was deliberately phrased in a way that captured "voice" in participation, rather than control over the outcome, which is the highest level of the Black and Gregersen’ (1997) hierarchy discussed in Chapter Two. This choice was made to reflect the reality that participation in the enterprise bargaining context was about giving employees the opportunity to participate in the process, rather than control the process. “Voice” also recognises that acting on every individual employee recommendations could well result in chaos. The differing interpretation of the role of PDM highlights the need for practitioners to be very clear in specifying the process and level of PDM that employees operate within.

It also needs to be noted that changes occurring in the current industrial environment of enterprise bargaining are nurturing an environment where commitment is given to the job and peers, rather than the organisation. Responses to single item questions on different foci of commitment clearly indicated that employee commitment was most strongly aligned to "the job" in preference to the work group, or organisation. This is useful knowledge in harnessing employee commitment because it allows employees to develop strategies to build commitment to specific foci. Even if commitment is to the job, and employees view performance effectiveness as important for allowing job mobility and security, this will still promote higher levels of performance.

Overall, the research identified a number of key ingredients for evaluating the desired outcomes of PDM within the enterprise bargaining context. Firstly, improving employees' perceptions of performance effectiveness is critical. To achieve this, organisations need to recognise that task variety is causally influencing PDM, rather than PDM increasing variety. The distinction between what is driving the process is subtle but important. The fact that variety is driving PDM suggests that employees are trying to cope with too broad a range of activities and this limits their ability to perform affectively. Secondary to this, is the erosion of job satisfaction when employees perceive effective performance is inadequately rewarded.

The fact that autonomy acts as a mediator for the relationship between PDM and affective commitment is also important, particularly in an environment where employees feel overloaded. Increasing autonomy in relation to employees' jobs, providing they have the requisite knowledge and skills, would allow employees more control over task variety with the added benefit of increasing affective commitment. Findings suggest it is important for managers to clarify the role of participation in decision-making carefully. Employees need very clear guidelines on the role and process of PDM so their expectations are realistic and perceived as equitable. One way of avoiding overloading employees or demanding excessive intensification is to maintain constant dialogue with employees where their feedback is included in the decision-making process.

## LIMITATIONS

In all, five limitations were identified in the research. The first limitation was the possibility of overlap between commitment foci when respondents answered questions on organisational commitment. The second was the research relied on a self-report data, and is therefore subject to bias. Thirdly, the research relied primarily on quantitative data. The fourth possible limitation was the research methodology and design, while the fifth was related to non-response bias. These limitations are discussed in detail in the following sub-sections.

### Foci of Commitment

This research utilised the Allen and Meyer (1993) affective commitment scale to tap the constructs of affective commitment, as this scale has been repeatedly tested and found reliable (Lam, 1998; Ko et al., 1997; Allen & Meyer, 1996; Hackett et al., 1994; Meyer et al., 1993; McFarlane-Shore & Wayne, 1993). The intent was to capture the concept of affective organisational commitment, therefore all questions on commitment referred to the organisation, workplace or employer. This terminology was preferred in recognition of previous researchers' concerns that employees tend to associate themselves with the part of the organisation they work in, rather than the organisation as a whole (Brown, 1996). This choice of terminology allowed greater flexibility for the survey, recognising the diversity across the participating organisations. However, it must be acknowledged that for some employees' workplace, organisation, work group and job could be considered synonymous so specific questions on "foci" of commitment were included in the survey.

Given the concern raised in Chapter One that organisational commitment is declining because of downsizing and reductions in benefits and conditions, a number of employers sought feedback on the foci of commitment. Previous research suggests that commitment is stronger if closely connected to the individuals' work, or at the level of the work group or supervisor (Becker, 1992; Becker et al., 1996). In deference to this dilemma, and recognising that employees may be committed to a number of different foci, three specific questions on foci were included in the research. These related to: the organisation; the work group; and the specific job or profession. Responses to these foci questions were excluded from the Model

analysis, as they did not fit the primary research design; nonetheless, the responses were analysed and non-parametric results obtained. The pattern of responses across each organisation was similar, with commitment to the job or profession being more positive than commitment to the work group or the organisation. Employee commitment to foci was rated as follows: to "the job" (mean range, 4.22 – 4.35, with 89-95% support), followed by "the work team or supervisor" (mean range, 4.02 – 4.13, with 76-83% support) in preference to the organisation (mean range, 3.53 – 3.77, with 42-66% support).

**Self-report data**

A sound rationale for using self-report data recognises that employees respond to their perception of reality. However, self-report data raises concern that employee responses may be biased by a number of factors. Respondents may be encouraged to give what they see as socially desirable responses or, exaggerate their response either positively or negatively in response to day-to-day changes in the work place (Ree, Earles & Teachout, 1994; Blau, 1993). The concern is that either of these response patterns can reduce the internal validity and reliability of the research. However, not all researchers agree that self-rater bias is such a problem. For example, Blau (1993) recorded performance on security cameras and found employee's perceptions and performance to be consistent, as did Benkhoff (1997) when objective measures were used.

Two strategies were used to overcome some of the concerns inherent in using self-report data. Firstly, by using longitudinal data, particularly data gathered with such a long time lapse, i.e. 18 months, respondents are unable to recall at Stage 2, their responses at Stage 1. Secondly, in line with the approach taken in a number of studies that have sought objective feedback from the organisation, each organisation participating in this study provided feedback on performance and productivity indicators at the organisational level. This was preferred over seeking any other objective measures related to individual respondents, as confidentiality was a concern for employers, employees and unions. All parties perceived the independence of this research as a benefit; however, concerns regarding confidentiality, no matter how unfounded, could have increased bias in the data.

Each organisation claimed that productivity had improved over-time, in terms of the organisations' ability to meet key performance indicators or reduce costs. The type of examples organisations reported included; "achieving more with less staff"; "competitive tendering"; "improvements in productivity and quality"; "changes in technology"; "improved customer service" and "reduced costs".

**Use of Quantitative Data only**

Given the number and diversity of organisations participating, and organisational preferences for illustrative data, a quantitative approach was preferred. This does raise concerns that are inherent in quantitative methodologies. Such analysis of necessity takes a "broad brush" approach that limits the data's ability to give meaning and understanding to the information gained.

The research intent was to gather broad information about participation in decision-making to identify patterns and trends in the enterprise bargaining context. The data has been able to answer such questions as: whether or not employees believe they have the opportunity to participate; whether or not employees believe they are performing more effectively; and whether or not they are job satisfied. However, the data is unable to explain reasons for response patterns beyond the variables in the model. The researcher must interpret results and such interpretation may be open to the researcher's subjective or interpretive bias. To reduce the risk of subjective interpretation of the data, some limited qualitative data was gathered when respondents were invited to add further comments.

**Methodology and Research Design**

Using a structural equation modelling methodology allows causal relationships to be tested over-time and structural relationships within the model to be evaluated simultaneously. While SEM provides advantages as discussed in Chapter Three to support the rationale of using this approach, the technique has attracted some criticism and these are addressed in this section. The limitations related to the non-normal data, small sample size and model design as well as the survey design were noted and these are also discussed more fully below. Another limitation associated with the methodology could be the use of an *apriori* model that

fails to include other influential variables within the enterprise bargaining model and while still supported, this choice is also discussed.

Some criticisms have been made of SEM as an analytical technique. While the methodology and concerns about modelling have been addressed extensively in Chapters Four and Five, further concerns are briefly addressed here. The first of these relates to the complexity of structural modelling, and suggests that simpler methods may be just as effective. Superficially this seems a very relevant criticism; however, the methodology should be a response to the research question that requires answering. In the case of this research, SEM is an ideal methodology to test for underlying structural pathways in an *apriori* model and test for causality (Kelloway, 1995). The notion of causality has also caused concern particularly in relation to the proposition that an identified model establishes causality, rather than infers causal relationships (Kelloway, 1995). As with any statistical technique, interpretation of the data, are only as good as the data. Other criticisms relate to the use of "global fit" when fitting a model to the data. While the *apriori* model was maintained for analysis a number of different models were tested as recommended by MacCallum and Austin (2000) and found to be poor fits to the data. As some readers may be unfamiliar with this methodology, the process of data analysis has been outlined in some detail in the relevant Chapters.

Both small sample size and non-normal data can reduce reliability in structural equation modelling (Ullman, 1998; Byrne, 1994a; Bentler, 1992). For this reason, EQS was the statistical package used for analysis because this package offers the Satorra-Bentler chi-square and robust CFI. Both these measures offer adjustments for non-normal data, when it is not practical to normalise the data. Concerns about small sample size were dealt with by using the more stringent probability levels of $p<.01$, and remaining conservative when considering model modifications. Another concern regarding sample size relates to the ratio of free parameters in the model by comparison to the number of cases being analysed. This in turn places limits on the size of the model; for example, Bentler (1995) recommends a ratio 5:1, whereas MacCallum and Austin (2000) recommend the number of variables within a model not exceed 30.

To accommodate some of these difficulties, a parsimonious research design was developed, and in hindsight this design was overly parsimonious. Although the Job Characteristics Model has been well tested, relying on two variables per construct in this research proved problematic. Problems associated with a negative variance for the job characteristic "task variety" were related to the low number of observed variables (Bentler, 1995) and contributed to poor reliability of the "task significance" construct, resulting in this latter construct being deleted from the research. Using an inadequate number of measures was also a problem for the construct intended to measure "working harder". Initially the construct seemed straightforward; however, items did not capture employee responses well and the analysis contained high residual values. This may be due in part to contradictions within the groups; for example, while the registered nurses from the private hospital sample are actually working reduced hours, their work has intensified. This suggests the construct needs further refinement and consideration before future use.

Another problem with the design was an overlap between the job satisfaction measures. Although there is evidence to suggest that these are two distinct concepts (Rice et al., 1991; Locke, 1976) some previous researchers have also found a high correlation between global and facet satisfaction (Knoop, 1995). Using single items of facet satisfaction provided useful information for the organisations, but did not form a composite that was appropriate for use in modelling relationships.

As well as the above, other minor limitations in the form of sample bias and data collection times were identified. To make up a representative sample, employee data was collected from seven different organisations across three different industries. The organisations were at varying stages of enterprise bargaining and it is likely that experiences in the process could influence responses. For example, the third state government agency was in the early stages of negotiating their agreement at Stage 1 of data collection, and employees in this organisation were experiencing some anxiety regarding the process. This is in contrast to employees in the smallest state government agency, Council 1, who had already received benefit from a negotiated agreement.

Another reason for bias related to timing could have been associated with rewards. Data was collected over a number of months to avoid critical time frames or incidents in the process, but these may still have been influential to differing degrees across the organisations. It is possible that localised outcomes occurring at differing stages within the organisations may have positively or negatively biased some employee' responses. Another factor that could cause bias was the variation in response rates across the different organisations. For example, the highest response rate was from the smallest Council at 50%, and the lowest response rates were from the hotel at just below 20% and the manufacturing company at 23%. It may well be that either more positive or more negative feelings engendered employee's to respond to the survey and this could have introduced response bias.

## IMPLICATIONS FOR FUTURE RESEARCH

During the course of this research, a number of issues warranting further investigation were identified. These include: the opportunity to explore the data further to identify within and across-group trends; the need to replicate the findings from this research using larger cross-sectional and longitudinal samples; the opportunity to explore a number of other relevant contextual variables that were linked in the literature and excluded from this research.

### Replication using Independent Samples

In support of previous research, further studies using longitudinal and multi-sample data to explore relationship between PDM work activities and performance (Yammarino & Naughton, 1992; Tjosvold, 1998) are required. This is even more important in relation to the enterprise bargaining context where the expected links of changes in work practices being causes of satisfaction and commitment were not found. A number of the specific relationships within the PDM model tested in this research require further investigation, for example, the finding that task variety is antecedent to PDM, or alternately, the relationship between PDM, autonomy and performance effectiveness.

The model used in this research was developed from the literature and tested constructs specifically related to the enterprise bargaining context. The small sample

size does raise some questions as to how representative this research is of the wider population. Although alternative structural models were tested, and the postulated model was consistently a better fitting model to the data, the PDM model still needs to be validated and tested more widely.

Future replication of the research would need to include a larger number of measures for the job characteristics' model, individual facets of job satisfaction and differing measures for the concept of working harder. The five job satisfaction facet items formed five different constructs rather than one. Two constructs from the job characteristics' model, namely 'task significance' and 'feedback' were found to have high residual values in the PDM model that was tested. Had these constructs contained more items, they would more likely have been reliable measures. Similarly, the construct 'working harder' may well have benefited with the inclusion of a larger number of variables.

**Secondary analysis**

The ability to participate and level of participation is likely to vary among individuals (Yammarino & Naughton, 1992; Stanton, 1993). Therefore further investigation is warranted to explore within and between group responses. Greater in-depth analysis of differences between organisations or industries, differences among genders, and differences among those with higher levels of participation versus those with low levels of participation are warranted. Differences among these demographic groupings may return more in-depth understanding of individual experiences and give greater understanding of the contextual implications of PDM, particularly within the enterprise bargaining context.

**Investigation of constructs not included in this research**

This research found that participation in decision-making had a causal effect on all other aspects of the model over-time; however, there may be other aspects of the enterprise bargaining work context that influence the relationship that were not part of this research. Investigation of the following constructs might add to a richer understanding and help explain employee responses. These constructs include: notions of fairness and equity (Hunter et al., 1998; Roberson et al., 1999; Greenberg, 1990) and the influence of these concepts on goal setting and achievement (Beeler &

Henton, 1997), as well as differentiation between the impacts of procedural and distributive justice (Martin & Bennett, 1996).

While the decision was taken not to include justice in this research, in hindsight this may have added insights into the relationships uncovered. For example, the link between task variety increasing PDM but having no impact on either satisfaction or affective commitment could well be related to goal achievement and or issues of justice. It may be that employees use participation to survive and achieve goals set by the organisation when task variety increases their workload. This could be viewed as a response to work intensification rather than PDM for the sake of involvement. If work intensification is causing the change, increased PDM may be valued as a side benefit but undermine perceptions of justice.

Differences also exist in relation to the individuals' choice and opportunity to participate (Yammarino & Naughton, 1992). While this research identified if employees believed they had the opportunity to participate, further insights might be gained from exploring whether or not they had adequate choice to participate and how they exercised their choice. Such an investigation may help explain why commitment in the current environment leads to satisfaction, which suggests that employees who are committed to the task, job or work group are more likely to exercise choices for participation.

## GENERAL SUMMARY

The objective of this thesis was to explore the role of PDM within the enterprise bargaining context. The research sought to identify whether PDM is in fact changing work practices and employee perceptions of performance effectiveness to positively influence job satisfaction and affective commitment outcomes. Within this research context participation was defined as participation in decision-making and a model of PDM related to specific aspects of the enterprise bargaining context was developed. The model included the direct effects of PDM on the job characteristics of task variety, task identity and autonomy as well as perceptions of performance effectiveness and rewards to examine the direct and indirect effects of PDM on job satisfaction and affective commitment outcomes.

Data for the research was collected in two stages during 1998 and 1999. Seven organisations participated in the research at Stage 1 of data collection in 1998. These organisations included three from the private sector, three from local government and one division of a large public sector agency. Data collected in the first stage was then separated into two separate studies. Study 1 comprised a cross-sectional sample from the seven organisations that excluded all data that could be matched at Stage 2 of data collection in 1999. Study 2 comprised five organisations and tested data collected at Stage 1 that could be matched to cases collected at Stage 2. The two small private sector organisations withdrew from the research, as both downsized for economic reasons related to the "Asian Economic Crisis" during the time intervening data collection.

All data was analysed with the Structural Equation Modelling statistical package EQS 5.7b. SEM was preferred as this technique allows path relationships within the model to be tested simultaneously and causal inferences to be tested over-time. Data analysis is presented in two Chapters in the thesis. Chapter Four presents the findings of the cross-sectional analysis as Study 1, and Chapter Five reports causal analysis of the longitudinal and matched sample as Study 2.

The data collected for Study 1 was divided into two samples. Sample 1 was used to calibrate the data to the *apriori* model developed from the literature and Sample 2 was used to validate the model. Once the *apriori* model was confirmed as acceptable, structural relationships within the data were tested. When Confirmatory Factor Analysis was undertaken, the constructs measuring “task significance” and "performance effort" did not reach acceptable benchmark levels for reliability. The task construct of “feedback” was found to overlap considerably with PDM, and the “facet satisfaction” items were highly correlated with the “global satisfaction” construct, so these four constructs were deleted from further analysis. Results of Study 1 indicated PDM was a reliable a predictor of a task variety and autonomy, and autonomy was a predictor of task identity. PDM was also a predictor of perceived performance effectiveness, satisfaction with rewards, job satisfaction and affective commitment.

The next step was to test for relationships between Stage 1 and Stage 2 – for causal inferences -time. The longitudinal matched sample data that formed Study 2 was analysed for this purpose. Study 2 identified that higher levels of PDM were correlated with higher levels of autonomy, job satisfaction and commitment over-time. While those with higher levels of PDM perceived they also performed more effectively, this positive result correlated with negative impacts on commitment and rewards, suggesting that lowered levels of performance effectiveness and low satisfaction with rewards are eroding affective commitment. While it appears that PDM has been influential in maintaining job satisfaction and affective commitment, gains could have been greater if respondents were more satisfied with their perceived level of performance effectiveness and the rewards received. The research also infers higher levels of task variety positively affect PDM, suggesting PDM is a response to multi-skilling and role overload. Granting employees higher levels of PDM to increase autonomy may well be one way to address this concern and at the same time, improve perceptions of performance effectiveness. Over all the results of this research were more positive than expected. Despite the concerns about performance effectiveness and rewards, PDM is occurring and positively influencing organisational outcomes of job satisfaction and affective commitment outcomes.

A number of other inferences about job satisfaction and affective commitment outcomes can be drawn from these findings. It is clear that the ability to be effective at work is most important to employees' job satisfaction, and the increased autonomy that participation brings is important in achieving this. The fact that PDM, perceptions of performance effectiveness and affective commitment are so important to employees raises several alternative possibilities. The maintenance of positive attitudinal responses could suggest a more stable work environment with a cultural shift emerging as workers accept the changes associated with enterprise bargaining. Another possible explanation could be that employee commitment is shifting toward aspects that the employee sees as being important to "their" long-term employability, such as "their job, or profession" rather than the organisation. Even if this were the case, the gain to organisations is that "committed" employees positively value perceptions of performance effectiveness, regardless of the foci.

Although employees who perceive themselves as performing effectively are less satisfied with the rewards they are receiving in return for their efforts, this response undermines, but so far has not reduced job satisfaction and affective commitment. This finding lends some support to the concerns expressed by previous researchers who have indicated that longer hours, work intensification and increasing disenchantment with the work environment have reduced job satisfaction and affective commitment (ACCIRT, 1999). Overall, it should be of concern that employees' perceive opportunities to improve performance are either not being realised or are undervalued. The fact that there is a link between higher levels of affective commitment and perceptions of performance effectiveness adds to this concern and suggests that affective commitment is still an important variable in the employee and employer relationship.

This research did not find evidence to support concerns of declining satisfaction and commitment. However, rewards not being commensurate with effort and employee perceptions of negative trends in performance effectiveness must risk undermining both job satisfaction and affective commitment in the longer term. One can only hope that the reverse is true and employee confidence in the changes taking place matches the productivity gains achieved by employers.

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# Appendices

## Appendix A.1: Items comprising the Survey Instrument

| *Constructs* | *Items* | *Survey Questions* |
|---|---|---|
| *Job characteristics*<br>Hackman & Oldham<br>JCM. Wording modified | Variety<br><br>Identity<br><br>Significance<br><br>Autonomy<br><br>Feedback | My job requires me to use different skills and experience<br>In my job I use a number of complex or high level skills.<br>My job lets me complete tasks from start to finish.<br>My job allows me to do "whole pieces" of work from beginning to end.<br>My job is important to this organisation.<br>How well I do my job affects other staff or clients.<br>My job allows me the freedom to decide how I do my work.<br>I can make decisions that let me do my job properly.<br>My job is one where I can see for myself how well I am doing.<br>I can tell how good my work is, from just doing my job. |
| *Participation*<br>Developed - from concepts by Cotton et al., (1988), Locke & Sweiger (1979) regarding routine personnel functions and company policies, work itself and working conditions. | Job<br>Goal Setting<br>EBA<br><br>Conditions<br>Work Practices/ | My suggestions on how I can do my job better are listened to.<br>Generally employees in my work group have 'a say' in how we do our work.<br>The enterprise/workplace agreement has given (will give) employees a greater say in what happens in this workplace.<br>I think that employees here do have a say about working conditions.<br>Employees in this workplace have the chance to have 'a say' in company policies and decisions that affect them. |
| *Affective Commitment*<br>Modified - based on (Allen & Meyer 1991; Meyer, Allen & Smith 1993) | Identification | I would be very happy to stay with this employer for the rest of my working life.<br>I like to tell people where I work.<br>I have a strong "sense of belonging " in this workplace<br>I feel as if work problems are my own. |
| *Commitment -Foci*<br>Developed from Becker (1992; Becker & Billings (1993) and Becker et al., 1996). | Organisation<br>Work Group<br>Job or Occupation | I am very proud of this organisation and it's achievements.<br>I am very proud of my work group and their achievements.<br>I am very proud of my job (or profession |
| *Overall job satisfaction*<br>Quinn and Staines 1979<br>3 questions from 5 item scale. | Global<br>Satisfaction | All in all, how satisfied are you with your job?<br>If you had to decide again whether or not to take your present job, would you?<br>If you were free to go into any job you wanted - would you? |
| *Job satisfaction - facets.*<br>Modified from Hackman and Oldham (1980) Job Diagnostic Survey.<br>*(Growth & Social aspects excluded)* | Security<br>Pay ?Benefits<br>Conditions<br>Supervisor<br><br>EBA changes | The amount of job security I have.<br>The amount of pay and fringe benefits I receive.<br>The changes in my work conditions as part of the enterprise agreement.<br>The amount of support and guidance I receive from my supervisor (this organisation).<br>The changes to my work that have occurred (will occur) through the enterprise/workplace agreement. |
| *Performance*<br>Effort or "working harder")<br>(Blau, 1993; Brown & Leigh, 1996. Effective or "working smarter". Brown (1993) | Working longer<br>Effort<br>Innovation<br>Achievement<br><br>Co-operation | I am working longer hours than I did in the past.<br>I am putting in more effort than I did in the past.<br>As a work group we are finding better ways to work.<br>I think that we are achieving more with our time at work than we did in the past.<br>I think we are working more effectively (better) because we work as a team. |
| *Rewards*<br>Developed - Related to EB context<br>(Niland, 1992; Quinlan, 1996; Callus, 1997). | Wages<br><br>Conditions<br>Skill Development<br><br>EBA<br><br>Informed | Employees here are (will be) better of financially because of the enterprise/ workplace agreement).<br>I think our work conditions have (will) improved.<br>The workplace enterprise/workplace agreement has meant /will mean that employees now have more chance to develop new skills.<br>I think we are (will be) better off because of the enterprise /workplace agreement.<br>Employees are now feel better informed about what is happening in this workplace |
| *Demographics* | Length of Tenure<br>Status<br>Position<br>Age<br>Gender<br>Agreement<br>Context | How long you worked for your current employer?<br>What is your current employment status?<br>Please indicate your current position.<br>Age<br>Gender<br>Do you have a Workplace or Enterprise Agreement |

## Appendix A.2: Matched Sample Demographic Data.

| | Public | Private | Local Government | | | | Total |
|---|---|---|---|---|---|---|---|
| | | | Combined | 1 | 2 | 3 | |
| Useable Sample Size | 66 | 53 | 57 | 24 | 18 | 15 | 176 |
| Proportion of multi-sample | 37% | 30% | 33% | | | | |
| **Gender** | | | | | | | |
| Female | 19 | 44 | 29(51) | 11 | 11 | 5 | 92 (52) |
| Male | (29) | (83) | 28 | 13 | 7 | 10 | 84 (48) |
| | 47 | 9 (17) | (49) | | | | |
| | (71) | | | | | | |
| **Ages** | | | | | | | |
| Under 23 years | 1 | 1 | 1 | 1 | 3 | - | 3 (1) |
| 23 - 30 years | 5 | 8 | 8 | 2 | 3 | 3 | 21 (12) |
| 31 - 42 years | 25 | 21 | 17 | 5 | 5 | 6 | 63 (35) |
| 43 - 54 years | 30 | 20 | 22 | 13 | 7 | 4 | 72 (41) |
| 55 years or over | 5 | 3 | 9 | 3 | - | 2 | 17 (9) |
| **Organisational Tenure** | | | | | | | |
| Permanent Full Time | 54 | 25 | 47 | *19* | *13* | *14* | 126 (71) |
| Permanent Part Time | 4 | 23 | 3 | *1* | *2* | - | 30 (17) |
| Casual - Full Time | - | - | - | | - | - | - |
| Casual - Part Time | - | 4 | 2 | *2* | - | - | 6 (3) |
| Contract - Full Time | 6 | 1 | 5 | *2* | *2* | *1* | 12 (7) |
| Contract - Part Time | 2 | - | - | | | - | 2 (1) |
| **Current Position** | | | | | | | |
| Administration or Clerical | 11 | 5 | 13 | 5 | 5 | 2 | 29 (16) |
| Trade | 1 | 8 | 7 | 6 | 1 | - | 16 (9) |
| Semi-skilled | 11 | 1 | 13 | 4 | 5 | 2 | 25 (14) |
| Professional | 25 | 24 | 16 | 4 | 3 | 3 | 65 (37) |
| Management | 16 | 11 | 5 | 1 | - | 5 | 32 (18) |
| Other | 2 | 4 | 3 | 4 | 4 | 3 | 9 (5) |
| | | | | | | | |
| **Time with employer** | | | | | | | |
| 0 - 2 years | 6 | 13 | 7 | 6 | 5 | 5 | 26 (14) |
| 3 - 5 years | 9 | 26 | 16 | 4 | 7 | 3 | 51 (29) |
| 6 – 10 years | 11 | 8 | 19 | 10 | 3 | 3 | 38 (21) |
| 11 -15 years | 8 | 1 | 7 | 2 | 1 | 3 | 16 (9) |
| 16 -20 years | 12 | 3 | 5 | 1 | 1 | 1 | 20 (11) |
| 21 years or more | 20 | 2 | 3 | 1 | 1 | | 25 (14) |
| **Time in Workforce** | - | | | | | | |
| 0 - 2 years | 2 | 1 | 1 | 1 | 1 | - | 4 (2) |
| 3 – 5 years | 4 | 1 | 2 | 4 | 1 | - | 7 (4) |
| 6 – 10 years | 4 | 5 | 5 | 1 | 1 | 2 | 14 (8) |
| 11 -15 years | 11 | 13 | 8 | 3 | 5 | 2 | 32 (18) |
| 16 -20 years | 12 | 9 | 6 | 15 | 3 | 4 | 27 (15) |
| 21 years or more | 35 | 24 | 35 | | 7 | 7 | 94 (53) |
| **Type of Agreement** | | | | | | | |
| Workplace Agreement | 34 | | - | | | | 34 (19) |
| Enterprise Agreement | 28 | 53 | 50 | 22 | 15 | 14 | 131 (74) |
| Unsure /Neither | 4 | | 7 | 2 | 3 | 1 | 11 (6) |

**Note:** Numbers in brackets are percentages

**Appendix B.1 : Structural relationships of the PDM model: Algebraic explanation**

The EQS statistical program uses the Satorra-Bentler Chi Squared and is based on the Bentler-Weeks model making this program more reliable for analysing small sample and non normal data (Bentler, 1995: Byrne, 1994a). Before the linear structural equations for the five hypotheses are presented, the Bentler-Weeks regression equation is briefly explained. While similar to the standard regression equation ($Y = \beta_1 X_1 + \beta_2 X_2 + \beta_p X_p + \in$), the Bentler-Weeks model does have some important differences (Bentler, 1995).

In the Bentler-Weeks model all variables are defined as either dependent (endogenous) or independent (exogenous) (Bentler, 1995; Byrne, 1994a; 1995), and this includes the error in the observed score and latent factors. The regression coefficients, variances and covariances of the independent variables form the parameters of the model (Bentler, 1995; Byrne, 1994a; Ullman, 1998). The concept of an independent variable within the Bentler-Weeks model extends to include any variable that is not a dependant variable, and this includes error terms. While all variances and covariances of independent variables are important parameters for estimation, the variances and covariances of dependent variables are not model parameters (Bentler, 1995). While the algebraic formula for the LISREL structural model is expressed as $\eta=\Gamma\xi+\beta\eta+\zeta$ (Hair, et.al., 1998), the Bentler-Weeks model is expressed as $\eta=\beta\eta+\gamma\xi$ (Ullman, 1996) which can be explained as follows ;

> $\eta$ (eta - the matrix of dependent variables) = $\beta$ (beta- the matrix of regression coefficients for the dependant variables), $\eta$ (eta - dependant variables matrix) + $\gamma$ (gamma - Regression coefficient matrix among independent variables), $\xi$ (xi – the independent variable matrix).

Analysis is based on the eta and xi matrices, though these are not actually estimated as part of the model. The variances and covariances of the independent variables are included in the structural model, with the $\Phi$(phi) matrix analysed for these parameters.

It is also important to point out that the Bentler-Weeks model within EQS uses a much simpler language than other programs. The Beta is designated with a star (*) when the parameters are free to be estimated. The endogenous (y) and exogenous (x) variables remain the same, while the $\zeta$ (the error value) of the independent variable is referred to as a disturbance (*d*) and the unobserved error of the measured variable as (*e*) (Ullman, 1996).

An example, the algebraic explanation of the hypotheses can be summarised in the following formula..

$H_1$ Affective Commitment (y4) is proportionally affected by task variety (x1), task identity (x2), autonomy (x3), participation in decision-making (x5), performance effectiveness (x6), rewards (x7) and job satisfaction (y8)

$$y4 = \gamma_4 x1 + \gamma_4 x2 + \gamma_4 x3 + \beta_4 x5 + \gamma_4 x6 + \gamma_4 x7 + \beta_4 y8 + \zeta d_4$$

The model presented in Figure 4.2, shows the relationships between the latent factors or unobserved variables. Latent factors are comprised of the data collected from the observed variables and the disturbance or residual error of the construct (Hair et.al., 1998). Because observed variables contain error, they therefore do not correlate perfectly with the latent variables they represent (Bentler, 1995, Byrne 1995a; Ullman, 1996, Bollen, 1989). The direct and indirect relationships form the linear constructs of the model to measure the level of explained and unexplained variance within the model. A feature of SEM is that the relationships between the dependent variables are also included (Ullman, 1996).

**Appendix B.2: Means and Standard deviation for each Organisation in the Cross sectional Sample**

| | Government 234 | | Council 1 | | Council 2. | | Council 3 | | SJOG | | Hospitality | | Manufacturer | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Std.D | Mean | Std. D | Mean | Std.D | Mean | Std.D | Mean | Std. D. | Mean | Std. D | Mean | Std.Dn |
| JC1 Variety | 4.38 | .79 | 4.37 | .76 | 4.46 | .80 | 4.29 | .82 | 4.56 | .71 | 4.31 | .79 | 4.09 | 1.08 |
| JC2 Identity | 3.74 | 1.14 | 3.81 | 1.03 | 3.56 | .96 | 3.80 | 1.07 | 3.49 | 1.14 | 4.00 | 1.06 | 3.96 | 1.02 |
| JC3 Significance | 4.47 | .68 | 4.54 | .75 | 4.54 | .71 | 4.52 | .60 | 4.70 | .55 | 4.58 | .95 | 3.74 | 1.21 |
| JC4 Autonomy | 3.81 | 1.02 | 3.56 | 1.29 | 3.89 | .98 | 3.43 | 1.09 | 3.23 | 1.18 | 3.38 | 1.10 | 3.61 | 1.34 |
| JC5 Feedback | 3.74 | .89 | 4.37 | 1.27 | 3.53 | 1.23 | 3.87 | .74 | 3.62 | .94 | 2.81 | 1.30 | 2.78 | 1.48 |
| JC6 Variety | 4.22 | .87 | 4.27 | .72 | 4.19 | .88 | 4.07 | .87 | 4.29 | .91 | 3.92 | 1.16 | 3.74 | 1.36 |
| JC7 Identity | 3.77 | 1.15 | 3.64 | 1.20 | 3.67 | 1.02 | 3.59 | 1.07 | 3.23 | 1.19 | 3.65 | 1.20 | 3.22 | 1.24 |
| JC8 Significance | 3.83 | .97 | 3.92 | 1.04 | 3.79 | 1.00 | 3.80 | .94 | 4.00 | 1.07 | 3.96 | .96 | 3.70 | 1.26 |
| JC9 Autonomy | 3.72 | 1.01 | 3.73 | 1.10 | 3.79 | .96 | 3.48 | 1.01 | 3.21 | 1.16 | 3.65 | 1.09 | 3.13 | 1.39 |
| JC10 Feedaback | 3.28 | 1.13 | 2.75 | 1.18 | 3.32 | 1.02 | 3.23 | 1.10 | 3.09 | 1.16 | 3.04 | 1.15 | 2.74 | 1.36 |
| Org Commitment. | 3.77 | .93 | 3.73 | .85 | 3.60 | .82 | 3.25 | .86 | 3.74 | .92 | 3.54 | .99 | 3.87 | 1.22 |
| Group Com. | 4.07 | .89 | 4.17 | .83 | 4.14 | .74 | 4.07 | .71 | 4.04 | .80 | 4.04 | 1.00 | 3.83 | 1.11 |
| Job Com. | 4.24 | .74 | 4.42 | .72 | 4.30 | .78 | 4.30 | .76 | 4.33 | .76 | 4.35 | .69 | 4.09 | 1.00 |
| Affective Com 1 | 3.50 | 1.08 | 3.24 | 1.06 | 3.25 | 1.11 | 3.11 | 1.22 | 3.13 | 1.21 | 2.73 | 1.28 | 3.26 | 1.42 |
| Affective Com.2 | 3.56 | 1.12 | 3.58 | 1.05 | 3.70 | 1.02 | 3.41 | 1.11 | 3.44 | 1.19 | 3.38 | 1.06 | 3.39 | 1.41 |
| Affective Com.3 | 4.25 | .75 | 4.27 | .72 | 4.33 | .64 | 4.29 | .49 | 4.28 | .67 | 4.42 | .58 | 3.65 | 1.34 |
| Affective Com.4 | 3.92 | .94 | 3.81 | .90 | 3.84 | .96 | 3.64 | 1.03 | 4.05 | .89 | 3.96 | 1.11 | 3.91 | 1.08 |
| PDM 1 | 3.17 | 1.00 | 3.47 | .97 | 3.37 | 1.10 | 2.48 | 1.03 | 2.93 | 1.11 | 3.00 | 1.20 | 3.39 | 1.31 |
| PDM 2 | 3.52 | .96 | 3.42 | .97 | 3.61 | .92 | 3.11 | 1.09 | 3.11 | 1.09 | 3.12 | 1.03 | 3.30 | 1.18 |
| PDM 3 | 2.90 | 1.01 | 3.49 | .94 | 3.42 | .98 | 2.48 | .99 | 2.72 | 1.01 | 3.00 | 1.13 | 3.13 | 1.14 |
| PDM 4 | 3.57 | .93 | 3.88 | .89 | 3.79 | 1.00 | 3.30 | 1.06 | 3.30 | 1.04 | 3.15 | 1.32 | 3.30 | 1.15 |
| PDM-Bargaining | 2.70 | .93 | 3.39 | 1.07 | 3.16 | .82 | 3.16 | .99 | 2.55 | .95 | 2.85 | 1.12 | 2.91 | 1.24 |
| Perf. Hours | 3.71 | 1.19 | 2.90 | 1.30 | 3.49 | 1.26 | 2.82 | 1.19 | 3.06 | 1.41 | 3.58 | 1.39 | 3.74 | 1.36 |
| Perf. Effort | 3.71 | 1.11 | 3.59 | 1.12 | 3.79 | 1.15 | 3.61 | .98 | 3.63 | 1.22 | 3.92 | .89 | 3.74 | 1.36 |
| Perf. Better | 3.68 | .88 | 3.85 | .93 | 3.67 | 1.01 | 3.50 | .79 | 3.40 | .92 | 3.54 | .99 | 3.52 | 1.27 |
| Perf. Achieve | 3.58 | .97 | 3.41 | 1.13 | 3.35 | 1.08 | 3.25 | .90 | 3.17 | 1.08 | 3.27 | .96 | 3.35 | 1.15 |
| Perf. Effect | 3.47 | .90 | 3.58 | 1.19 | 3.51 | 1.00 | 3.39 | .97 | 3.60 | 1.00 | 3.65 | 1.16 | 3.48 | 1.27 |
| Reward Financial | 3.02 | .87 | 3.61 | 1.07 | 3.28 | .98 | 3.12 | .95 | 2.48 | 1.01 | 2.73 | 1.31 | 2.61 | 1.31 |
| Reward Conditions | 2.83 | .79 | 2.95 | 1.04 | 2.77 | .82 | 3.14 | .90 | 2.50 | .94 | 2.73 | 1.19 | 2.83 | 1.27 |
| Reward Skill | 2.74 | .79 | 3.24 | 1.06 | 3.14 | .93 | 3.14 | .86 | 2.44 | .94 | 2.81 | 1.33 | 3.39 | 1.12 |
| Reward Better | 2.85 | .84 | 3.10 | 1.06 | 2.96 | .73 | 3.16 | .85 | 2.48 | .98 | 2.69 | 1.23 | 2.78 | 1.00 |
| Reward Informed | 2.85 | 1.02 | 3.19 | 1.04 | 3.35 | .88 | 2.86 | .94 | 2.70 | .95 | 2.62 | 1.27 | 3.70 | 1.15 |
| Sat. Security | 3.53 | 1.09 | 3.44 | 1.21 | 3.72 | .82 | 3.61 | .91 | 3.65 | 1.04 | 3.42 | .90 | 3.57 | .99 |
| Sat. Changes | 3.79 | .88 | 3.36 | .91 | 3.40 | .82 | 3.57 | 1.06 | 2.94 | .94 | 2.73 | .87 | 3.09 | 1.08 |
| Sat. Supervisor | 3.49 | 1.19 | 3.46 | 1.09 | 3.53 | 1.09 | 3.41 | 1.17 | 3.04 | 1.24 | 3.38 | 1.10 | 3.30 | 1.22 |
| Sat. Bargaining | 3.04 | .75 | 3.10 | 1.01 | 3.09 | .83 | 3.27 | .86 | 2.78 | .71 | 2.65 | .94 | 2.96 | 1.19 |
| Sat. Pay | 3.03 | 1.09 | 3.25 | 1.12 | 3.16 | 1.00 | 2.68 | 1.19 | 2.58 | 1.13 | 2.54 | 1.14 | 2.83 | 1.27 |
| Overall Satisfaction | 3.78 | .96 | 3.76 | .90 | 3.88 | .93 | 3.70 | .89 | 3.51 | 1.04 | 3.42 | 1.17 | 3.30 | 1.43 |
| Want Same Job | 3.99 | 1.13 | 4.05 | .99 | 3.89 | 1.18 | 3.55 | 1.26 | 3.71 | 1.15 | 3.65 | 1.16 | 3.70 | 1.36 |
| Want to Stay | 3.30 | 1.24 | 3.47 | 1.01 | 3.19 | 1.34 | 3.23 | 1.31 | 2.92 | 1.33 | 3.00 | 1.52 | 3.57 | 1.44 |

**Appendix B.3: Invariance of Multi - sample and combined sample Goodness of Fit Indices: Study 1**

| Testing Model Relationships with increasing constraints | Multi-sample Free estimates | Multi-sample factor loads | Variances & covariances | Combined |
|---|---|---|---|---|
| Independence Model | 5907.055 | 5907.055 | 5907.055 | 5592.546 |
| dof | 462 | 462 | 462 | 231 |
| $\chi^2$ | 605.666 | 612.250 | 644.5 | 360.837 |
| df | 363 | 377 | 404 | 181 |
| p. | <.001 | <.001 | <.001 | <.001 |
| Satorra-Bentler $\chi^2$ | n/a | n/a | n/a | 302.8608 |
| p. | | | | .00000 |
| NFI | .897 | .896 | .891 | **.935** |
| NNFI | **.943** | **.947** | **.949** | **.957** |
| CFI | **.955** | **.957** | **.956** | **.966** |
| Robust CFI | N/A | | | **.970** |
| IFI | **.956** | **.957** | **.956** | **.967** |
| MFI | .608 | .618 | .611 | .833 |
| GFI | **.904** | **.903** | .897 | **.940** |
| AGFI | .866 | .870 | .872 | **.916** |
| RMR | **.050** | .054 | .061 | **.038** |
| SRMR | **.048** | .051 | .057 | **.037** |
| RMSEA | **.037** | **.036** | **.035** | **.045** |
| 90% Confidence Interval of RMSEA | 0.032 -.042 | .030 -.041 | .030 -.040 | .038 -.052 |
| | | lowest p .140 | Low .094 | |

Note: The numbers in bold indicate where benchmark levels have been exceeded. If probability values of 0.01 are used - all constraints hold.

**Appendix B. 4: The results of testing cross-sectional data with the LM Test: Study1**

The LM test also recommended adding a pathway directly between the variable V16 (performance effectiveness) and F4 (affective commitment) for a change in $\chi^2$ of 22.15 (p .000). Such a relationship would imply that part of performance effectiveness (V16) has a direct influence on affective commitment rather than all the influence transmitting through the latent factor (Ullman, 1996). However, the relationship already formed part of the model, and as the intention was to test the apriori model, the pathway was deemed inappropriate and not added. The next part of the model to be examined with the LM Test was the correlated errors. Correlations among the errors occur when attitudes co-vary in a way that is not common to the latent factor (Ullman, 1996). The error covariance for the job characteristic *jc9 "I am free to make decisions that affect the way I do my job",* covaried with the error of the performance variable *"I think employees here are achieving more with our time at work than in the past*" met the requirement statistically. While this relationship seems likely and meets the probability criteria, this parameter was not added as the risk of capitalisation on chance for a small gain in $\chi^2$ (15.6) also seemed quite high.

**Appendix B.5: Parameters identified by the Wald Test as not contributing to the model: Study 1**

| | Multivariate Statistics | | | | | Univariate Increment | |
|---|---|---|---|---|---|---|---|
| | Step | Parameter | $\chi^2$ | Dof | p | $\chi^2$ | p |
| 1st run | 1 | F4,F3 | 0.057 | 1 | 0.811 | 0.057 | 0.811 |
| | 2 | F4,F7 | 0.199 | 2 | 0.905 | 0.141 | 0.707 |
| | 3 | F8,F7 | 0.493 | 3 | 0.920 | 0.295 | 0.587 |
| | 4 | F8,F1 | 1.392 | 4 | 0.846 | 0.899 | 0.343 |
| | 5 | F4,F1 | 2.003 | 5 | 0.849 | 0.611 | 0.434 |
| | 6 | F8,F2 | 2.922 | 6 | 0.819 | 0.919 | 0.338 |

NB: Amendments were not made so the apriori model could be maintained.

**Appendix B. 6: Goodness of fit indices for the Parsimonious structural models Groups 1, 2 and Multisample: Study1**

| Goodness of Fit Measures | Group1(1abw2 | Group 2(2Labw2) | Multi-sample Base Invariance (in1a) |
|---|---|---|---|
| Ind | 2925.857 | 2981.197 | 5907.055 |
| dof | 231 | 231 | 462 |
| $\chi^2$ | 311.265 | 349.209 | 660.353 |
| df | 192 | 191 | 380 |
| p | <.001 | <.001 | <.001 |
| Normal theory RLS $\chi^2$ | 286.530. | 336.704. | n/a |
| Satorra-Bentler $\chi^2$ | 269.0942 | 288.3006 | n/a |
| P | .00020 | .00001 | n/a |
| NFI | .894 | .883 | .888 |
| NNFI | **.947** | **.930** | **.937** |
| CFI | **.956** | **.942** | **.949** |
| Robust CFI | **.963** | **.951** | n/a |
| IFI | **.956** | **.943** | **.949** |
| MFI | .786 | .723 | .563 |
| GFI | **.905** | .888 | .897 |
| AGFI | .874 | .852 | .862 |
| RMR | .057 | .058 | .058 |
| SRMR | .054 | .056 | .055 |
| RMSEA | **.050** | .059 | **.039** |
| 90% Confidence Interval | **.040** -.060 | **.048** -.068 | **.034 - .044** |

Note: Figures in bold exceed Goodness of Fit Benchmarks

**Appendix C.1. Discrimination between Affective Commitment and Job Satisfaction: Study 2**

| Model | $\chi^2$ | dof | S-B $\chi^2$ | p | Robust CFI | CFI | RMSAE | (conf limit) |
|---|---|---|---|---|---|---|---|---|
| **Stage 1 Data: Job Satisfaction and Affective Commitment** | | | | | | | | |
| Free | 26.99 | 13 | 22.11 | .053 | .975 | .973 | .079 | (035 -.120) |
| Fixed | 49.8 | 14 | 39.21 | .0003 | .931 | .931 | .121 | (.085 -.158 |
| **Stage 2 Data: Job Satisfaction and Affective Commitment** | | | | | | | | |
| Free | 34.48 | 13 | 23.06 | .04 | .978 | .967 | .097 | (.058 -.137) |
| Fixed | 69.2 | 14 | 46.01 | .00003 | .929 | .916 | .150 | (.115 -.185) |
| **Stage 2 Data: Job Satisfaction and PDM** | | | | | | | | |
| Free | 46.9 | 8 | 24.47 | .002 | .953 | .928 | .167 | (.122 -.214) |
| Fixed | 82.7 | 9 | 46.3 | .0000 | .893 | .863 | .217 | (.174 -.259) |

**Appendix C.2: Equivalance of Factor structures over time. Goodness of Fit for Invariance of the Longitudinal Multi-sample: Study 2**

| *Model* | $\chi^2$ | *dof* | *p* | $\nabla\chi^2$ | *CFI* | *IFI* | *RMSEA* | *Conf Interval* |
|---|---|---|---|---|---|---|---|---|
| *Baseline* | *657.3* | *383* | *<.001* | | *.937* | *.938* | *.045* | *.039-.051* |
| *Lambda* | *688.64*[#] | *407* | *<.001* | *31.34* | *.935* | *.936* | *.045* | *.039-.050* |
| *Gamma* | *701.35* | *416* | *<.001* | *12.71* | *.934* | *.935* | *.044* | *.038-.050* |
| *INV5A. DIST* | *3312.9* | *424* | *<.001* | ***2611.5*** | ***.336*** | *.342* | *.140* | *.135-.144* |

*Example of difference between the x-sectional sample and Longitudinal sample*
*Long 2 1a test of full model and 1999 data - with all pathways*

**Note:**

The factor structures were tested for equivalence over time using the approach recommended by Bentler (1995), Byrne (1994) and Dukes and colleagues (1997). Goodness of Fit was measured by a 2:1 ratio between the chi-square and degrees of freedom, as well as CFI > 0.9 and RMSEA <.05. The fit indices for the Stages 1 and 2 increasingly constrained multi-sample analysis shows the factor structures were equivalent over time. As expected, applying constraints to the error terms in the model lead to an extremely poor fitting model ($\chi^2$ 2611.5; CFI .342; RMSEA .140) suggesting that even though the factor loadings and structural patterns remained the same the alternate model was not acceptable.

**Appendix C.3: Univariate Increments identified through the Wald Test as contributing Non significant parameters to the PDM Model: Study 2.**

| Wald Test Results | | | dof | $\chi^2$ | p |
|---|---|---|---|---|---|
| **Time 2** | ← | **Time 1** | | | |
| Performance | ← | Task Variety | 1 | .003 | .956 |
| Rewards | ← | Performance effectiveness | 2 | .018 | .894 |
| Job Satisfaction | ← | Affective Commitment | 3 | .029 | .864 |
| Job satisfaction | ← | Job Satisfaction | 4 | .019 | .891 |
| PDM | ← | Rewards | 5 | .023 | .879 |

**Note:** These parameters were deleted from the final test of the Model.

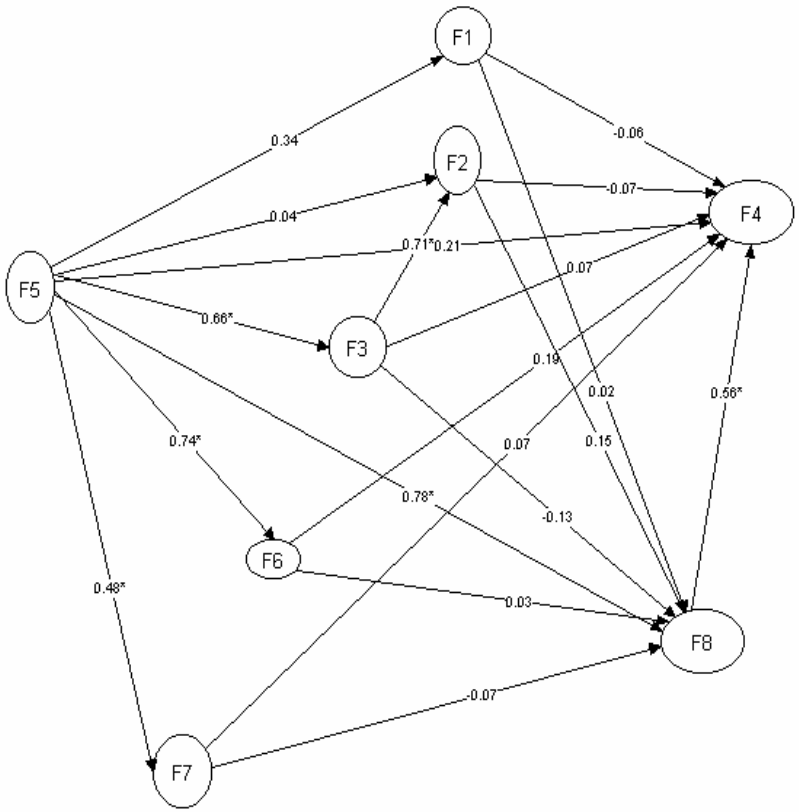
**Appendix C.4: Measurement equations with standard errors and unstandardised test statistics for the final test of the longitudinal model of PDM.**

| TIME 2 | TIME 1 | | | | | | |
|---|---|---|---|---|---|---|---|
| Endogenous Variables | Exogenous Variables | | | | | | |
| Task Variety F9 = | **.447***F1 | + **.170***F5 | ( un-standardised co-efficient) | | | | |
| | .072 | .048 | (standard error ) | | | | |
| | **6.167** | **3.518** | (z score ) | | | | |
| Task Identity F10 = | .207*F2 | + **.630***F3 | - .100*F4 | + .158*F5 | | | |
| | .179 | .240 | .179 | .198 | | | |
| | 1.159 | **2.620** | -.557 | .800 | | | |
| Autonomy F11 = | **.773***F3 | **- .328***F4 | **+ .519***F5 | | | | |
| | .098 | .149 | .153 | | | | |
| | **7.857** | **-2.194** | **3.394** | | | | |
| Affective F12 = | **.803***F4 | + **.859***F5 | **- .402***F6 | **- .200***F7 | - .194*F8 | | |
| Commtiment | .177 | .126 | .112 | .066 | .132 | | |
| | **4.549** | **6.797** | **-3.583** | **-3.043** | -1.473 | | |
| PDM F13 = | .107*F1 | - .081*F2 | + .092*F3 | + **1.139***F5 | - .111*F6 | - .116*F7 | -.126*F8 |
| | .087 | .097 | .109 | .147 | .103 | 072 | .096 |
| | 1.229 | -.839 | .844 | **7.735** | -1.073 | -1.619 | -1.316 |
| Performance F14 = | -.094*F2 | + .156*F3 | - .235*F4 | + **.714***F5 | + **.495***F6 | - .125*F7 | - .168*F8 |
| Effectiveness | .119 | .131 | .203 | .168 | .123 | .088 | .146 |
| | -.788 | 1.197 | -1.155 | **4.261** | **4.034** | -1.422 | -1.146 |
| Rewards F15 = | -.035*F4 | + **.731***F5 | + **.214***F7 | | | | |
| | .136 | .136 | .083 | | | | |
| | -.257 | **5.372** | **2.559** | | | | |
| Job F16 = | -.165*F1 | + .174*F2 | - .087*F3 | + **1.059***F5 | **- .396***F6 | + **.405**F8 | |
| Satisfaction | .099 | .109 | .121 | .161 | .122 | .155 | |
| | -1.656 | 1.601 | -.720 | **6.594** | **-3.260** | **2.608** | |

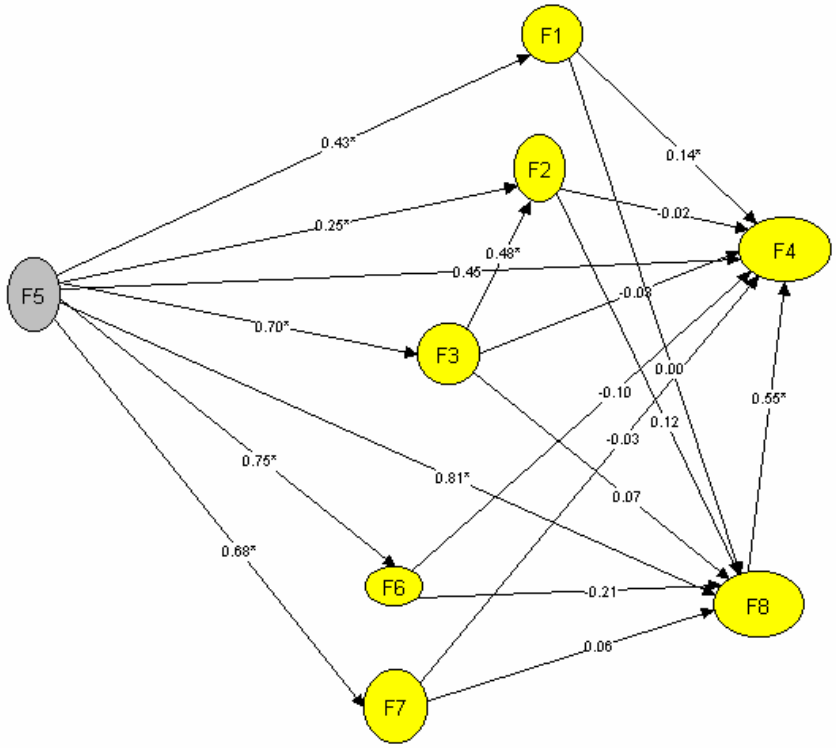
**Note:** Values significant at p = .05 ( z ≥ 1.96) p = .01 (z ≥ 2.68) highlighted in bold. Results are interpreted as follows: Line 1 reports the unstandardised coefficient; Line 2 is the standard error; and Line 3 reports the z score.
The Factors refer; F1 - task variety, F2 - task identity, F3 - autonomy, F4 - affective commitment, F5 - PDM, F6 - performance effectiveness, F7 - rewards, and F8 - job satisfaction.

**Appendix C.5:** Structural relations within the PDM model at Stage 1 and Stage 2 in Study 2
Diagram present M L Robust 1998 standardised co-efficients; *= p > .05.

**STAGE 1**




**STAGE 2**



**In Text :** Demographic distribution of cross sectional samples

| **Sample Details** | **Govt.** | **Private** | | | **Local Government** Councils (separated) | | | **Total** |
|---|---|---|---|---|---|---|---|---|
| **Collection Method** | | Mailed to researcher | | | *Ballot Box or Mail* | | | |
| | | Hospital | Manuf. | Hospitality | 1 (K) | 2 (F) | 3 (M)) | |
| **No. distributed** | 500 | 730 | 150 | 150 | 110 | 200 | 157 | |
| **Useable responses** | 168 | 162 | 23 | 26 | 36 | 39 | 41 | 495 |
| ***Gender*** Female | 64 | 140 | 2 | 13 | 14 | 20 | 18 | 271 |
| Male | 103 | 22 | 21 | 13 | 22 | 19 | 23 | 223 |
| Missing | 1 | | | | | | | 1 |
| **Age** | | | | | | | | |
| Under 23 yrs | 8 | 3 | - | 7 | - | - | 2 | 20 |
| 23 - 30 yrs | 29 | 26 | 7 | 9 | 9 | 8 | 5 | 93 |
| 31 - 42 yrs | 64 | 64 | 9 | 6 | 9 | 14 | 12 | 178 |
| 43 - 54 yrs | 50 | 62 | 6 | 2 | 13 | 15 | 20 | 168 |
| 55 yrs or over | 17 | 7 | 1 | 2 | 5 | 2 | 2 | 36 |
| **Tenure** | | | | | | | | |
| Perm.F/T | 119 | 75 | 19 | 14 | 30 | 28 | 35 | 320 |
| Perm. P/T | 17 | 67 | - | 6 | 4 | 6 | 4 | 104 |
| Casual – F/T | 2 | 2 | 4 | 2 | - | - | - | 10 |
| Casual – P/T | 1 | 14 | - | 4 | - | - | - | 20 |
| Contract - F/T | 22 | 3 | - | -- | 1 | 1 | 1 | 31 |
| Contract - P/T | 6 | 1 | - | -- | 1 | 4 | 1 | 9 |
| Missing | 1 | | | | | | | 1 |
| **Current Position** | | | | | | | | |
| Admin. or Clerical | 52 | 15 | 4 | 5 | 10 | 11 | 8 | 105 |
| Trade | 4 | 5 | - | 4 | - | 2 | 8 | 13 |
| Semi-skilled | 21 | 25 | 11 | 10 | 8 | 12 | 7 | 85 |
| Professional | 47 | 98 | - | 3 | 3 | 6 | 6 | 170 |
| Management | 27 | 16 | 3 | 2 | 9 | 2 | 2 | 69 |
| Other | 17 | 2 | 5 | 2 | - | 6 | 9 | 30 |
| Comm. Services. | - | 1 | | | 6 | | 1 | 22 |
| Missing | 1 | | | | | | | 1 |
| **Years with employer** | | | | | | | | |
| 0 - 2 years | 35 | 56 | 6 | 18 | 11 | 18 | 12 | 156 |
| 5 years | 17 | 80 | 4 | 7 | 10 | 8 | 10 | 136 |
| 6 – 10 years | 38 | 12 | 3 | 1 | 8 | 7 | 9 | 78 |
| 11 -15 years | 32 | 6 | 2 | - | 4 | 3 | 5 | 52 |
| 16 -20 years | 17 | 5 | 2 | - | - | 1 | 3 | 28 |
| 21 years or more | 29 | 3 | 6 | | 3 | 2 | 2 | 45 |
| **Years working** | | | | | | | | |
| 0 - 2 years | 7 | 2 | 1 | 6 | - | 2 | 2 | 18 |
| 5 years | 10 | 10 | 1 | 3 | 2 | 7 | 2 | 30 |
| 6 – 10 years | 16 | 18 | 3 | 5 | 6 | 9 | 2 | 57 |
| 11 -15 years | 31 | 24 | 5 | 4 | 5 | 5 | 6 | 84 |
| 16 -20 years | 26 | 37 | 4 | 2 | 8 | 16 | 8 | 90 |
| 21 years or more | 78 | 71 | 9 | 6 | 15 | - | 21 | 216 |
| **Type of agreement** | | | | | | | | |
| Workplace | 93 | | 5 | 26 | - | 11 | | 135 |
| Enterprise | 70 | | 18 | - | 36 | 28 | 41 to be neg | 321 |
| N/A or Unsure | 5 | | | | | | | 39 |
| **No. in Sample 1** | 84 | 81 | 12 | 13 | *19* | *19* | *20* | 248 |
| **No. in Sample 2** | 84 | 81 | 11 | 13 | *17* | *20* | *21* | 247 |