DOES SIZE MATTER?

EMPLOYMENT RELATIONS IN SMALL FIRMS

ROWENA JOY BARRETT

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Department of Management
The University of Melbourne
ABSTRACT

In this thesis an integrated approach to analysing small firm employment relations is proposed and used to investigate the image of industrial harmony in small firms. This approach accommodates small firm heterogeneity, provides an analytical framework for ordering the effect of a range of factors (not simply size) on employment relations, and incorporates a dialectical relationship between structure and agency. In Chapters 2 and 3 some of the key theoretical and methodological gaps in small firm research, particularly their employment relations, are highlighted. At the conclusion of Chapter 2, it is suggested that an analysis of small firm employment relations must start with the totality of economic and social relations in a particular sector, and its contradictory constituents, rather than the small firm per se. Rainnie's (1989) heuristic device, drawing upon Marxist theory of combined and uneven development, is adopted to accommodate small firm heterogeneity. After reviewing studies of small firm industrial relations and human resource management, it is argued, in Chapter 3, that by incorporating the dialectical relationship between structure and agency with a labour process analysis, an explanation for why 'industrial harmony' appears to typify small firm employment relations can be sought.

As such the integrated approach is applied to small firms operating in the software development sector of the information industry. In Chapter 4, some characteristics of the information industry in Australia are outlined in order to provide a context and rationale for more specifically focussing (in Chapter 5) on the nature of software development work, its organisation, and the strategies used to manage employment relations. A consideration is given to issues surrounding the management of software developers, while the distinction between primary and secondary software products is used to elaborate the contradictory trends in strategies to control the software development labour process.

The critical social science basis of this integrated approach is discussed in Chapter 6, while the rationale for using multiple, complementary, quantitative and qualitative research methods is also elaborated. In Chapter 7, the structures within which employment relations are managed in the information industry are outlined using the results of a survey (N = 206). Where possible the data are analysed to draw out the effects of size, ownership characteristics, product market conditions and management style on the management of employment relations. Chapters 8 and 9 contain the detailed case studies of two small software development firms. In both cases, structure and agency are addressed and therefore the firm's development, product and labour market positions, type of work performed and by whom, how employment relations are managed and the workers' response are all explored. These two firms offer a number of points for comparison and contrast and in Chapter 10 a cross case analysis is conducted. Findings from this study are compared with others and future avenues for inquiry are suggested, while implications of the approach and findings for future small firm employment relations policy and research are addressed.
DECLARATION

This is to certify that:

(i) the thesis comprises only my original work, except where indicated in the preface;
(ii) due acknowledgement has been made in the text to all other material used, and
(iii) the thesis is less than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.

Signed:
PREFACE

The information in this thesis is derived from the research solely conducted by the author for the degree of Doctor of Philosophy. Any other source of information has been duly acknowledged in the text and cited in the references.

 Solely authored published papers associated with this thesis include:

Co-authored published papers associated with this thesis include:

D. Buttigieg’s contribution to these papers was in terms of statistical analysis, which does not contribute as original work for the purposes of examination of the thesis.
ACKNOWLEDGEMENTS

This thesis has been a long time in the making – 5 years to be precise. Along the way many people have provided support and assistance for which I am very grateful. However the person who has been with me throughout the whole process, and who deserves the most thanks, is my friend Marie McKee. Her unwavering belief that I could do this has helped me through the good and bad times. She has provided me with food, wine, shelter, ideas, laughter, perspective and even her adult children, Emma and Jason, to act as research assistants when needed. She has done all this unknowingly and unselfishly: long may we remain friends.

The relationship with my supervisors – Rick Iverson and Helen De Cieri – has not been so smooth but we have arrived at the end intact. I acknowledge their contribution and thank them for their input, however I remain convinced we will never agree on how big is ‘small’.

The Department of Management at Monash University (where I have been employed for most of my candidature) also deserves to be thanked for providing me with leave and conference funding. This allowed me to get out and talk to other people who were as interested as I was in small firms; one of whom is now my husband!

Without Al Rainnie’s mentoring, ability to discuss any and every idea, and constant enthusiasm, this project would not be in the shape it is currently. Unfortunately, it means that our son will probably be able to recite chunks of it, as he has had to be patient while it gets completed before he arrives in January 2001. It is to this child that I dedicate the thesis; mainly in the hope that one day he never thinks ‘ummm maybe I’ll be like Mum and Dad and write a PhD too’!

To Euan (Smidgelet) Barrett Rainnie.
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CHAPTER 1: INTRODUCTION, RATIONALE AND OVERVIEW

Objective of Chapter 1

In this thesis, an integrated approach to analysing employment relations in small firms is proposed to investigate the broad research question 'does size matter'. The purpose of this chapter is to briefly outline the rationale for this approach as well as the research questions it generates. In addition, the structure of the thesis is described.

Thesis Overview

Despite the recent interest in small firm employment relations it is possible to argue that literature claiming to be new, original or providing an overview of the state of play (see for example Chapman, 1999; Holliday, 1995; Ram, 1991; 1994; 1999; Wilkinson, 1999) does not really extend the earlier work by Curran and Stanworth (1979a; 1979b; 1981a; 1981b) or Rainnie (1989) for example, who established that small firm employment relations are not defined by the firm's size alone.

For example, in an overview of research on employment relations in small firms Wilkinson (1999) highlighted how descriptive, rather than analytical, most work is on the topic. He concludes that:

The type of further research that is needed is that which finally lays to rest the issue of whether size per se determines employment relations and shows clearly how it interacts with other factors such as labour markets and product market influences, ownership, dependency, relationships with customers and suppliers, technology, industrial subculture etc...If what constitutes 'smallness' is contextual and possibly subjective and interpretational -- then we need to examine what factors come together to explain patterns of employment relations rather than assume one particular type be it either 'small is beautiful' or 'bleak house' (Wilkinson, 1999: 214).

In attempting to get away from stereotypes on the one hand and size determinism on the other Wilkinson (1999) offers a list of factors that might be taken into account without a framework to assist ordering or prioritising the factors presented. This lack of clear analytical development allows these stereotypes to remain intact, and the 'small is beautiful' view (Schumacher, 1973) remains as a powerful rationale for government to support the development of small firms.

This study is undertaken in order to investigate the image of harmonious employment relations in small firms. The term 'employment relations' is used in this thesis to refer to the generic activity of managing
the individual and collective aspects of employment (Blyton & Turnbull, 1998; Gardner & Palmer, 1997; Kitay, 1997) at the workplace. Given that it has become clear in recent times that the label is unimportant (Blyton & Turnbull, 1998; Hyman, 1992) and ‘employment relations’ does not carry the ideological baggage of others such as ‘industrial relations’, ‘employee relations’, ‘personnel management’ or ‘human resources management’ (Kitay, 1997), then ‘employment relations’ is preferred in this thesis.¹ In this thesis employment relations is therefore used in a generic sense to accommodate the specific activities of industrial relations and human resource management (HRM) (although where necessary the specific terms are used). The use of this term does not imply a ‘paradigm shift’ (Godard & Delaney, 2000; Kochan, 2000) in the field of industrial relations, rather that the employment relationship provides a practical focus for the organisation of ideas and presentation of facts and explanations (Blyton & Turnbull, 1998; Fells, 1989).

By highlighting some of the key theoretical and methodological gaps in research on small firm employment relations (see Chapters 2 and 3), it is argued that an integrated approach is needed to analyse small firm employment relations. This approach is necessary to overcome the problem with more recent work where the small firm is partially dislocated from its socio-economic context. As attention is focused inside the small firm then the context is seen as setting out structures conditioning management’s attempts to manage employment relations, while the workers’ response is either seen in these terms or ignored.

This integrated approach therefore needs to achieve three aims. First, it must accommodate the heterogeneity of small firms in an economy. Second, it must provide an analytical framework for ordering the effect of a range of factors (not simply size) on small firm employment relations, and third, it must incorporate a dialectical relationship between structure and agency. Structure is the set of formal and informal rules that actors draw upon to generate common expectations and sanctions for modes of conduct in the processes of interaction (Giddens, 1982; 1984). Structure is enabling and constraining, being both the medium and outcome of interaction. Agency is the more precise conception of action (Thompson & McHugh, 1995), and agents deploy and reconstitute resources in the process of interaction (Giddens, 1984).² The reciprocal interaction of structure and agency produces patterns located in their historical and comparative socio-economic contexts.

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¹ Such an approach borrows from Sisson’s (1991) argument that if the field of industrial relations was being defined from scratch then the term ‘employment relations’ might be preferable for its inclusiveness of subject matter.
² Giddens (1982) argues “a human agent is...a highly knowledgeable and skilled individual, who applies that knowledgeability in securing autonomy of action in the course of day-to-day life” (p. 44).
In this thesis, labour process theory is used to underpin this integrated approach to small firm employment relations. The labour process under capitalism has specific characteristics, the most significant being the transformation of labour power into actual productive labour. In the employment relationship, control is the means to transform the capacity to work into profitable production. However, as control can also be gained by changes occurring outside the workplace (Kelly, 1998; Morgan & Sayer, 1988), most notably in product and labour markets, it is necessary to restrict the analysis to small firms within a particular sector. Moreover, at the heart of this analysis must lie the questions of extraction and realisation of surplus value as well as the contradictions between problems for management that arise at different moments in the circuit of capital. In structural terms, this means considering the firm within its sector and the sector's trajectory of development (in an historical sense). However, to overcome charges of this analysis being overly structuralist, then equal priority must be given to the reality of people's working lives within the firm, which entails considering how this reality is formed and constrained by the interplay of the labour market and the individual's expectations of work. Such an approach to analysing small firm employment relations must therefore start with the totality of economic and social relations in a particular sector and its contradictory constituents rather than the small firm *per se*.

**Research Questions**

In broad terms, the key question being addressed in this thesis is 'does size matter?' More specifically, this question can be phrased as:

**Q1** How does firm size affect the management of employment relations in small firms?

It is proposed that an integrated approach, which incorporates the dualism between structure and agency underpinned by labour process theory can be used to explain the variety of small firm employment relations and the conditions under which they are produced in a particular sector. The rationale for developing this integrated approach is outlined in Chapters 2 and 3.

This approach is applied to the information industry generally and firms engaged in software development specifically. The additional research questions to be addressed in this thesis therefore, include:

**Q2** What types of employment relations operate in the information industry?

**Q3** What are the influences on these employment relations?

3a) How are employment relations different in small and large firms?

3b) Can employment relations in small firms be described as harmonious (e.g. no union presence, no industrial action)?

3c) How are employment relations different in firms where the principal owner is present compared with those where the owner is absent?
3d) How are employment relations different in firms with competitive market conditions compared with those whose market conditions are not competitive?
3e) How are employment relations different in firms with different management styles?

Q4 How do managers and employees experience work in the software development sector of this industry in general and small firms in particular?

The contribution of this research is that rather than simply looking inside the small firm and describing the management strategies used to control the labour process, these firms are located in their wider socio-economic context while the workers’ response is also considered. In other words, a labour process analysis is incorporated into a broader, more encompassing and dialectical approach, which emphasises structural forces and human agency in the development of small firm employment relations. In doing so, a better understanding of why industrial harmony appears to prevail in small firms is gained.

**Thesis Structure**

In order to pursue the first (broad) research question of 'does size matter' or more specifically 'how does firm size affect the management of employment relations in small firms', the thesis is structured into ten chapters.

The purpose of Chapters 2 and 3 is to demonstrate the need for an integrated approach. In Chapter 2, **Defining the Small Firm**, part of the rationale for developing an integrated approach to analysing small firm employment relations is provided. The chapter begins with a brief review of the spread of small firms in Australia, while the issue of whether there exists a homogeneous small firm sector of the economy is central to this chapter. It is shown that most small firm employment relations research uses 'size of employment' as the primary basis for defining and categorising small firms. This is problematic as size is often used as a poor proxy for other influences on employment relations and therefore as Goss (1991a) argues, mono-causal explanations are provided for internal processes and characteristics of small firms. In addition, homogenising small firms means that findings are generalised to other industrial sectors where the definition is inappropriate (Scott, 1986). In this chapter it is argued that by reconsidering how small firms are defined, and their role in a modern economy theorised, then small firm heterogeneity can be accommodated in the proposed integrated approach.

The purpose of Chapter 3, **Managing Small Firm Employment Relations**, is to identify how an integrated approach to analysing small firm employment relations can take into account a range of influences, in addition to firm size. This purpose is achieved by considering studies of small firm employment relations from different theoretical perspectives. This is necessary as the underlying
theoretical approach taken to studying employment relations has implications for the focus of the research and whether structure and agency are both included in the analysis. Labour process theory is used to emphasise the reciprocal relations between management control strategies, which are “fundamentally a means for dealing with contradictions, uncertainties and crises in their socio-economic environment” (Thompson & McHugh, 1995: 20) and worker resistance. Although labour process theory does underpin more recent studies of small firm employment relations, it is argued that many of these approaches underplay structural elements and overlay the emphasis on the problems that arise for management from the necessity of turning the potential for work into actual profitable work. In so doing, the focus of much recent work (for example, Ram, 1991, 1994, 1999; Holliday, 1995) has been on managerial style and/or strategy. It is therefore argued in Chapter 3, that by incorporating a dialectical relationship between structure and agency with a labour process analysis then why ‘industrial harmony’ appears to typify small firm employment relations can be explained.

In order to further develop this integrated approach to studying small firm employment relations, in Chapters 4 and 5 the focus is on the information industry generally, and then the software development sector specifically. The rationale for focussing in this manner is that in Australia the information industry is fast becoming a critical sector for the economy as its development underpins employment in other sectors dealing in information or utilising information technology (IT) to produce goods or deliver services (Charles, Allen, & Buckeridge, 1997; Organisation for Economic Cooperation and Development [OECD], 1996). Further, a range of sources show that like most industries in Australia, the information industry is characterised by a few large firms and many small (less than 20 employees), local players (ABS, 1995a; 1995b; 1997a; 1997b; Charles et al., 1997; Houghton, Pucar & Knox, 1996). Therefore in Chapter 4, The Information Industry in Australia, some characteristics of the industry are outlined in order to provide a context and rationale for more specifically focussing on the software development component of this industry.

In Chapter 4, the information industry is defined and put into context in the Australian economy using a number of government and industry data sources. In addition, aspects of employment relations in the industry are discussed. This is problematic because the ‘information industry’ is a fuzzy concept (Markusen, 1999), which means there is an incomplete understanding of the types of jobs in the industry, who is employed in those jobs and just how employment is regulated in the industry. However, as software, not hardware underpins the ‘information age’ (Castells, 1996; Rifkin, 1995) then these issues are addressed in the context of the software development work in this industry.

The purpose of Chapter 5, Software Development Work in the Information Industry, is to consider the nature of software development work: how it is organised, managed and the strategies used to control the labour process. Therefore, in this chapter a range of literature, including that addressing issues of managing ‘knowledge work and workers’ (Carnoy, 1998; Castells, 1996; Reich, 1991; Rifkin, 1995) and
professionals (Abbott, 1991; Reich, 1991; Scarbrough, 1999; Trice & Beyer, 1993), in addition to studies of various aspects of employment relations in this sector (for example Causer & Jones, 1993; 1996; Dickson, MacLachlan, Prior & Swales, 1988; Findlay, 1992; 1993; MacInnes & Sproull, 1989; Schellenberg, 1996; Sproull & MacInnes, 1987 and edited collections by Gomez-Mejia & Lawless, 1990; 1992; Kleingartner & Anderson, 1987) are reviewed in order to expose some of the popular media images of software development work and workers. Storey's (1985) idea that management control strategies operate at different levels is used in conjunction with the distinction between primary and secondary software products to elaborate the contradictory trends in strategies to control the labour process of software development. In doing so, the dualism between structural forces and human agency is incorporated into explaining the variety of small firm employment relations and the conditions under which they are produced in the information industry generally and software development firms specifically.

In Chapter 6, Research Design and Methodology, the critical social science basis of the integrated approach to analysing small firm employment relations developed in this thesis is discussed. The rationale for using multiple, complementary, quantitative and qualitative research methods to examine the second, third and fourth research questions is discussed, while the advantages and limitations of the research design is elaborated.

In Chapter 7, Information Industry Employment Relations Structures, the results of the survey of employment relations in a sample of firms operating in the information industry (N = 206) is discussed. The survey addresses a range of issues including: workplace and workforce characteristics; management policies and practices; employment relations outcomes; labour and product market conditions; dependency relationships between firms; ownership characteristics; and other contextual issues. The findings of the survey are initially used to detail the nature of employment relations in small firms in this industry. Further, the data are analysed to draw out the effects of size, ownership characteristics, product market conditions and management style on how employment relations are managed in these firms. The primary purpose of this quantitative aspect of the research is to provide information about some of the structures within which employment relations are managed in firms in the information industry.

Chapters 8 and 9 contain the detailed case studies of management policies and practices in two small firms engaged in software development work in the information industry. The purpose of the case studies is to both describe what happens in terms of managing employment relations within the case study firms as well as to develop explanations for why this occurs. The case studies are largely constructed from semi-structured interviews with employees and management.

Chapter 8, Vanguard Software Pty Ltd, is the case study of Vanguard, a small private company making software for the retail banking industry with a total of 14 people at the workplace. Chapter 9, Webboyz
**Pty Ltd.** is the case study of Webboyz, a publicly listed company with a total of 23 people engaged in developing software for web page authoring and e-commerce solutions. Chapters 8 and 9 are structured to enable an exploration of both structure and agency. Thus, the development of the firm, its position within product and labour markets, the nature of the work performed and by whom, how employment relations are managed and the workers' response are all explored.

These two firms offer a number of points for comparison and contrast including size, age, ownership characteristics, stage of development, product, and work organisation. In the final, tenth, chapter, **Discussion, Conclusions and Future Inquiry**, a cross case analysis is conducted and the results are compared with conclusions from other studies. Future avenues for inquiry are suggested while implications of the findings for current and future policy in the area of small firm employment relations are addressed.

**Conclusion**

In this chapter, an overview of the thesis, the rationale and structure have been outlined. The key question under examination in this thesis is 'does size matter' or more specifically 'how does firm size affect the management of employment relations in small firms'. To overcome the homogenisation problem, to which such a line of questioning leads, it is argued that an integrated approach to analysing small firm employment relations will be developed in this thesis. The research questions that arise from this approach have been identified in this chapter and will be applied to firms engaged in software development work in the information industry. It is argued that this approach will further an understanding of why industrial harmony appears to typify small firm employment relations.

In the following chapter, part of the rationale for developing an integrated approach to analysing small firm employment relations will be explained. It will be argued that what is needed is a reconsideration of how small firms are defined, if heterogeneity is to be accommodated within the proposed integrated approach to analysing small firm employment relations.
CHAPTER 2: DEFINING THE SMALL FIRM

Small business is the engine room of the Australian economy – there are 900,000 small businesses – small business is where employment is growing – about 90% of job growth in Australia over the past decade has been in small business and this trend continues (Department of Workplace Relations and Small Business [DWRSB], 1997: 1).

Objective of Chapter 2

The objective of this chapter is to provide the rationale for an integrated approach to analysing small firm employment relations. In particular, the purpose of this chapter is to demonstrate that a reconsideration of how the small firm is defined is necessary if small firm heterogeneity is to be accommodated within this approach. The chapter begins with a brief overview of small firms in Australia, followed by a review of small firm definitions to show that primarily, in small firm employment relations research, ‘size of employment’ is used as the basis for defining and categorising small firms. It is argued in this chapter that the resulting homogenisation is problematic as ‘size’ is often a poor proxy for other influences on employment relations in small firms. The conclusion is therefore drawn that if small firms are defined relationally, and size is also incorporated into that definition, then the diversity that exists in an economy’s ‘small firm sector’ can be acknowledged and a understanding developed of that ‘sector’ in particular and employment relations in general.

Why Study Small Firms?

Small firms make up the bulk of firms in most industrialised economies and therefore account for a significant proportion of employment in these economies. However, until the mid-1970s the share of small firm employment had been declining in many countries. It was thought that, with technological advancements enabling more industries to exploit competitive advantage from economies of scale, small firms were becoming an anachronism (Loveman & Sengenberger, 1990; Rainnie & Scott, 1986). This ignored the fact that technological change can also reduce the optimal size of firms while movement in demand away from mass production towards specialised or niche products can similarly affect firm sizes (Piore & Sabel, 1984). Over a lengthy period of time, there has been a shift back to small firm employment, although the rate of increase slowed in some countries during the 1980s (Atkinson & Storey, 1994; Loveman & Sengenberger, 1990; Storey & Johnson, 1986; Storey, 1994). Although it is not fully
known the extent to which these changes in employment shares between small and large firms result from statistical quirks; transitory shifts in the business cycle; small firm taking cost advantages; government and managerial liberalisation; or flexible specialisation (Loveman & Sengenberger, 1990).

The Australian Bureau of Statistics (ABS) (2000a) shows that there are 951,100 small firms in the non-agriculture, private sector (see Table 2.1). These small firms represent 85.5% of all firms or around 96% of all private sector, non-agriculture firms and account for 37% of the total Australian workforce (see Table 2.1). In total, this sector accounts for just over 3.1 million people, 79% of who are employees, while the remaining work in their own firm either as employers or ‘own account’ employees (self-employed). In all Australian states and territories over 90% of firms are classified as small.

Table 2.1: Australian Firms: Structure and Employment

<table>
<thead>
<tr>
<th>Sector</th>
<th>No. Firms (% Total)</th>
<th>No. Employment (% Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private (All)</td>
<td>989,900 (89.0)</td>
<td>6,659,500 (78.8)</td>
</tr>
<tr>
<td>Private (Small)</td>
<td>951,100 (85.5)</td>
<td>3,119,600 (37.0)</td>
</tr>
<tr>
<td>Private (Large)</td>
<td>38,800 (3.5)</td>
<td>3,539,900 (41.8)</td>
</tr>
<tr>
<td>Public</td>
<td>5,100 (0.5)</td>
<td>1,455,200 (17.2)</td>
</tr>
<tr>
<td>Agriculture</td>
<td>117,200 (10.5)</td>
<td>336,000 (4.0)</td>
</tr>
<tr>
<td>Total</td>
<td>1,112,700 (100)</td>
<td>8,450,700 (100)</td>
</tr>
</tbody>
</table>

Source: Small Business in Australia 1999, Cat. No. 1321.0 (p. 7), ABS, 2000a, Canberra: AGPS.

In the period 1983-4 to 1998-9, the numbers of small and large firms grew at differential rates per annum (3.7% and 2.6% respectively). During the same period, employment in small firms grew by a total of 59% (or 3.1% per annum) compared to 48% (2.6% per annum) in large firms. In recent years, both the number of and employment in small firms has slowed. For example, for the period 1995-6 to 1998-9, employment in small firms grew by only 1.6%, while in the previous 15-year period it grew by 3.7% annually. Similarly, in the period 1983-4 to 1998-9, the numbers of small firms grew by 3.7% annually compared to 2% in the recent 3-year period to 1998-9. Part of this drop can be attributed to the decreasing numbers of non-employing firms: falling from 428,500 in 1995-6 to 423,400 in 1998-9

---

3 This ABS analysis of small firms is based upon data collected from ‘management units’. This is a somewhat imprecise analysis of small firms as a ‘management unit’ is simply the highest level accounting unit within a business operating in a given industry for which detailed accounts are maintained (Department of Industry Science and Tourism/Industry Commission [DIST/IC], 1997: 3). A management unit controls its own productive activities but in doing so may have a number of establishments. Furthermore, the management unit from which the data is collected may be part of a larger enterprise and, therefore, in some cases the data collected may or may not coincide with the legal entity owning the firm although DIST/IC (1997) does suggest that in nearly all cases the management unit coincides with the legal entity owning the firm (e.g. a company, partnership, trust, sole operator etc). The ABS (2000a: 2) defines a small firm as having a full-time equivalent (FTE) employment of less than 20 persons, a medium-sized firm as having between 20-200 people and a large firm as having 200+ people. It should also be noted that the ABS excludes Agriculture from their analysis as a small Agricultural firm is defined in terms of the Estimated Value of Agricultural Operations (EVOA): only if it is between A$22,500 and A$400,000 then the business is considered small (ABS, 2000a: 2).

4 The ABS (2000a: 2) defines a non-employing business as a sole proprietorship or partnership without employees.
This is an interesting result given the policy attention on small firm employment as it suggests people are turning away from self-employment.

When industries are aggregated into two sectors: 'goods producing' (Mining; Manufacturing; Electricity, Gas and Water; and Construction) and 'service producing' (Wholesale Trade; Retail Trade; Transport and Storage; Communication; Finance Property and Business Services; and Recreation, Personal and Other Service) the ABS (2000a) reveals that the service sector dominates. In 1998–9, this sector accounted for 75% of small firms and 77% of employment in small firms (ABS, 2000a). Such information can be used to support the argument that the re-emergence of small firms is a result of the changes in industrial structure with the shift away from manufacturing favouring small firm formation.

In Table 2.2, a select range of performance data is presented for the small firm sector from the ABS 1997–8 Economic Activity Survey (EAS). It must, however, be noted that not all small firms are counted in the EAS, for example non-employing and agricultural firms with an EVOA of less than A$22,500 are excluded. The ABS (2000a) does observe that their inclusion would only make a marginal difference to the results.

**Table 2.2: Economic Performance Data**

<table>
<thead>
<tr>
<th></th>
<th>Small Firms (% Total)</th>
<th>All Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>2,697,000 (42.0)</td>
<td>6,491,000</td>
</tr>
<tr>
<td>Wages and Salaries (A$ million)</td>
<td>55,932 (30.0)</td>
<td>186,099</td>
</tr>
<tr>
<td>Sale of Goods and Services (A$ million)</td>
<td>313,115 (30.0)</td>
<td>1,044,193</td>
</tr>
<tr>
<td>Operating Profit before Tax (A$ million)</td>
<td>40,230 (39.0)</td>
<td>103,497</td>
</tr>
<tr>
<td>Industry Value Added (A$ million)</td>
<td>86,217 (27.0)</td>
<td>320,541</td>
</tr>
</tbody>
</table>

*Source: Small Business in Australia 1999, Cat. No. 1321.0 (p. 87), ABS, 2000a, Canberra: AGPS*

In addition, data in Table 2.3 from the 1997–8 EAS summarises business performance in terms of various industry ratios. The profit margin ratio indicates the proportion, on average, of sales of goods and services that translate into profit and is a good measure of business efficiency. The return on assets ratio is an indicator of efficiency with which assets are employed to generate profits, while the return on net worth ratio measures the return on assets provided by shareholders. The ABS (2000a) argues that the low level of assets in small firms contributes to the strong result in the latter two performance measures. On a range of measures the data clearly indicates that small firms make a significant contribution to Australia’s economic performance.

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5 Although a wide range of economic data pertaining to national accounts is available there are no aggregates that are based on small firms generally (ABS, 2000c).
<table>
<thead>
<tr>
<th>Table 2.3: Performance Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit Margin</td>
</tr>
<tr>
<td>Small Firms</td>
</tr>
<tr>
<td>All Firms</td>
</tr>
<tr>
<td>Return on Assets</td>
</tr>
<tr>
<td>Small Firms</td>
</tr>
<tr>
<td>All Firms</td>
</tr>
<tr>
<td>Return on Net Worth</td>
</tr>
<tr>
<td>Small Firms</td>
</tr>
<tr>
<td>All Firms</td>
</tr>
</tbody>
</table>

Source: Small Business in Australia 1999, Cat. No. 1221.0 (p. 88), ABS, 2000a, Canberra: AGPS.

Small Firms and Job Generation

In recognition of the extent of small firms in the Australian economy, since the early 1990s federal governments have been promoting small firms as a means of alleviating some of the country's macro-economic problems, in particular unemployment. The resurgence of interest in small firms rests, in part, in their job generation potential. The notion of small firms as a force in generating new jobs came from the seminal work by Birch (1979), which considered job generation in the United States (U.S.). He claimed that over the period 1969–76, about two thirds of growth in employment, identified in a sample of 5.6 million U.S. establishments, came from firms with less than 20 employees. Further, independent firms within this sample (those that were not small establishments of larger firms) accounted for over one half of the recorded employment growth. Firms with less than 100 employees were found to generate nearly 80% of the employment increase recorded in this period. This research came at a time when increasing unemployment was beginning to concern many governments.

This research was highly controversial. Armington and Odle (1982), using the same data as Birch over the same time period, only estimated the small firm contribution to new jobs at 39%. A later study for the U.S. Small Business Administration (1985) put the small firm share at about 53%. Similar Australian and United Kingdom (U.K.) studies have also had diverging or inconsistent findings. (See Storey (1994) for a full discussion of the problems with U.K. job generation research and Parker (2000) and Revesz & Lattimore (1997) for an overview of the Australian research.)

The evidence as to whether small firms generate jobs is mixed. The question of whether jobs are generated within the small firm sector itself or by social, economic and technical changes favouring small firms is still to be resolved. Brown, Hamilton and Medoff (1990) argued that there is insufficient research to justify directing public policy (and hence public money) at the small firm sector as it is unclear whether it will have a greater impact on employment creation than if it is directed elsewhere. Such an argument is consistent with work by Storey, Keasey, Watson and Wynarczyk (1987) where they found that out of every 100 new ventures it is the largest four firms at the end of a decade that will contribute 50% of the jobs. Longitudinal studies are needed to find out the role small firms play in job generation (Harrison, 1994; Loveman & Sengenberger, 1990; Storey 1994).
Despite research revealing a great degree of variation in small firm performance this has not stopped policy makers making unsubstantiated claims about the role of small firms in job generation. Conservative and 'new' left politicians regularly make claims of the sort - 'if all small firms put on one extra person there would not be an unemployment problem'. In fact Cowling and Storey (1999) write: "Nowadays it is difficult to find politicians who fail to subscribe to the view that small firms are vital to job creation" (p. 8). The problem with such claims is that although they may be technically true, they ignore the differential employment growth across firms in different sectors of the economy. Moreover, such claims ignore the associated issue of the quality of jobs in small firms.

The Australian public policy interest in small firms is consistent with that in many other industrialised economies. For example, it is well documented that in the U.K. under the Labour government in the 1970s and then under the Conservative government of the 1980s and 1990s, there was a renewal of interest in small firms and particularly small firm employment. However, in addition to the job generation potential of small firms, a number of other factors contribute to the current interest in small firms. These factors include the potential for small firms to contribute to the economy in terms of innovation, competition, flexibility, and to act as 'seedbeds' for the development of new industries (Bureau of Industry Economics [BIE], 1992; Loveman & Sengenberger, 1990; Parker, 2000). For example, the idea that small firms have an important role to play with respect to innovation draws from Schumpeter's (1934) view that small firms initiate 'gales of creative destruction'. This is the case as although small firms often do not have the resources for research and development, their 'niche' role provides innovation potential and allows them to act as 'seedbeds' for new industries. Although studies such as Rothwell's (1986) showed that the Californian semi-conductor industry stemmed from the establishment of new, rapid growth small firms, and Shearmann and Burrell's (1988) showed a similar pattern in the U.K. medical laser industry during the 1980s, on the whole the evidence is mixed.

Enterprise Culture

The discourse of 'enterprise culture' (Burrows, 1991; Burrows & Curran, 1991; Keat, 1991; Rainnie, 1991a; Ritchie, 1991) acts as a justification for much of the reawakening of government interest in small firms. This is despite the problematic meaning of the term. As Burrows (1991) writes:

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*During the period of the Australian Labour Party (ALP) federal government (1983–96) a recognition of small firm job generation potential emerged in documents like *Working Nation* (the 1994 white paper on employment) and the *Karpin Report* (1995), where it was argued that major growth in future employment would be generated in small firms in the services sector. In addition industrial relations reforms, particularly the introduction of non-union enterprise bargaining, were made with small firms in mind (see Barrett, 1993). More explicit recognition and support for small firms has occurred under the current Coalition federal government and one of their first priorities was the appointment of a minister with responsibility for a small business portfolio. By placing that portfolio with those of Employment and Workplace Relations the current government made a clear statement about the role they saw for small firms.*
The right have viewed the emergence of the discourse of enterprise as an exhilarating ideological force causing the massive socio-economic changes we have been witnessing over the last decade or so. Many on the left have viewed its emergence as little more than the latest in a long line of mystifications designed to bamboozle the masses into a state of acquiescence whilst new and better forms of capitalist exploitation can take shape (p.19).

Two strands of meaning to ‘enterprise culture’ can be identified. The first strand lies in notions of ‘enterprise’ and ‘enterprising self’, while the second lies in economic policies designed to open up markets, introduce choice and reduce intervention in order to encourage ‘enterprise’ (Keat, 1991; Morris, 1991). Effort, hard work, independence, flexibility and personal responsibility characterise the first strand of meaning as the following quote indicates.

Enterprising individuals are self-reliant and non-dependent. They make their own decisions, rather than wanting or expecting others to make these for them; and they take responsibility for their own lives, so that when things go wrong they do not assume there is always someone else to blame, or whose job it is to put things right (Keat, 1991: 5).

Such ideas about enterprise and enterprising self, underlying the development of enterprise culture in the U.K., led to statements like the following:

We want to work with human nature, helping people to help themselves and others. This is the way to restore self-reliance and self-confidence: attempting to do too much, politicians have failed to do those things that should have been done. This has damaged the country, and the authority of the government. We must concentrate on what should be the priorities of any government (Conservative Manifesto, 1977 in Morris, 1991: 33).

As a result, a conscious effort was made by the Thatcher government to copy what it regarded as desirable from the U.S. where the entrepreneur was viewed as having a higher status in society, where business start up rates were much higher and where those successful in establishing businesses were able to reap material rewards (Keat, 1991).

These ideas based in free market ideology underlie recent Australian federal government initiatives to promote small firm ownership. They can be clearly seen in the following quote from the current Minister for Small Business’ 1997 Small Business Report:

Small business is vital to our social well being – not just our economy – small business is often a family business – where family members and friends experience their first taste of work – where the living standards of families are tied up in the success of the business – where almost as many women as men are small business operators – where new careers are made and self-esteem restored – especially after periods of unemployment or absence from the workforce (DWRSB, 1997: 1).

The New Enterprise Incentive Scheme (NIES), which assists the long-term unemployed (12 months or longer) develop and implement a business plan, is a Federal government initiative resulting from this ‘enterprising self’ aspect of enterprise culture.
The second strand of meaning to the term enterprise culture lies in economic policies designed to free markets and encourage enterprising behaviour amongst the population. As such the type of economic policies and reforms introduced by the Thatcher government in the U.K. were designed to make starting, running and expanding a small firm easier. To this end tax rates were lowered, trade union power reduced, public services privatised and a number of government policies introduced in order to promote small firms. Through these policies, and intervention in education through the development and promotion of vocational education and training, a massive program was undertaken in order to change the mindset of the British public from one of dependency to one of enterprise (Keat, 1991).

In a similar fashion Australian governments have also begun to devote resources and undertake reforms to promote and encourage more small firm formation. Developing an enterprise culture has been high on the political agenda in Australia during the 1990s. Enterprising Nation, otherwise known as The Karpin Report (1995), was the first explicit statement about the need to develop an enterprise culture in Australia. In fact Chapter 6 of the Report was entitled ‘Australia 2010 – The New Enterprise Culture’. Statements like “to survive and prosper...Australia must...be entrepreneurial and enterprising” (Karpin, 1995: 169) appear throughout the Report and are made in light of evidence pointing to economic and employment growth in nations with a strong enterprise culture. Some barriers to achieving such a goal are highlighted and amongst them are:

[The popular image of smaller companies as failing to provide worthwhile employment, careers and wealth opportunities...and...state welfare systems which may have the unintended effect of discouraging individuals from proactively seeking opportunities for economic improvement based on personal growth (Karpin, 1995: 184).]

A range of reforms were promised by the current Australian federal government following the release of the Report of the Small Business Deregulation Task Force, otherwise known as Bell Report (1996). The resulting reforms address issues of taxation and employment regulation as these were found by the Task Force to be one of the greatest concern to small business people. Proposed and enacted legislative changes include the following.

- Changes to the taxation regime, particularly to Fringe Benefits and Capital Gains Tax, as well as reporting and administrative procedures for small firms. (However the introduction of the Goods

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7 The Karpin Report (1995) was the result of three years of research by the Industry Task Force on Leadership and Management Skills in Australia. The Task Force was commissioned by the federal Cabinet in 1991 and chaired by David Karpin.
8 This Task Force was chaired by Charlie Bell (Managing Director of MacDonals Australia) and was commissioned by the current Prime Minister, John Howard, during his first term of office to examine the paperwork and compliance burdens faced by small firms.
and Services Tax (GST) in July 2000 superseded many of the proposed changes to the taxation system.)

- The establishment of the Small Business Innovation Fund, which is a $200M venture capital scheme providing government funds on a two to one basis with the private sector to finance up to 100 new high-tech companies.

- Fair trading reforms, which were announced in the September 1997 New Deal: Fair Deal policy statement and saw changes to the Trade Practices Act 1974 designed to give small firms legal protection against unconscionable conduct by large firms.

- Exemptions for employers of fewer than 15 people from unfair dismissal provisions in the Workplace Relations Act 1996.\(^9\)

It is possible to argue that the discourse of enterprise culture is a convenient ‘stalking horse’ for effecting what are in reality highly ideologically driven changes (Curran, 2000; Gibb, 2000; Goss, 1991a; Scase & Goffee, 1980). As Curran and Blackburn (1991) state: “the enterprise culture, in short, is a rationalising vocabulary whose principal role is to aid the successful achievement of change in a period of acute economic insecurity” (p. 4). This is a result of a lack of conceptual clarity about what constitutes a small firm and the uncertainty that exists about the role small firms play in the economy. As there are many ways in which a small firm can be defined and therefore the needs of those within the so-called sector understood and met, then it is possible to argue that public policy aimed at the ‘small firm sector’ of the economy may miss its target.\(^10\) For example policy focussed on increasing employment in small firms ignores Storey’s (1994) evidence that only 4% of new firms go on to create 50% of new jobs by the end of a 10 year period. A similar conclusion is drawn by Parker (2000) who uses Australian data to show that only a very small number of small and medium-sized enterprises (SMEs) make a significant contribution to net job creation and innovation. Such evidence begs the question of how small firms are defined and it is therefore necessary to reconsider this issue.

\(^9\) These unfair dismissal reforms were rejected twice by the Senate in 1998. In January 1999, the regulations in the Workplace Relations Act were changed to action the reforms but they were removed within days after their constitutionality was questioned.

Defining the 'Small Firm'

Any number of permutations and combinations of a range of qualitative and quantitative criteria can be used to define a small business. For example, small firms can be defined in terms of: ownership properties (self employed, partnership, subcontractors, constitutional corporations, sole traders, franchise, independent entity, small workplace or unit of larger firm); industry and/or sectoral characteristics (goods producing vs. service providing, public vs. private sector); and size (employment, assets, market share, annual turnover or sales).

Using data from the ABS 1991–2 EAS, Forsaith, Fuller, Pattison, Sutcliffe and Callachor (1995) show that measures of size, based on assets, employment and sales, are not readily interchangeable across the small firm sector. They conclude with the advice that qualitative definitions should be used wherever possible and, if quantitative measures are used, then they should be sector specific. This supports the statement made by Burrows and Curran (1989), who write: “it is misleading to talk about a small firm sector where that means there exists some population of firms with a set of characteristics that separates them clearly from other firms in the economy” (p. 530).

'Official' Definitions of Small Firms

The guiding principle when governments have formulated an ‘official’ definition of small firms has been to use a mix of qualitative and quantitative criteria. This can be seen in the official U.K., U.S. and Australian small firm definitions.

In the U.K., the Bolton Committee of Inquiry (1971) adopted a definition with three parts: that firms have a relatively small share of their marketplace; that firms are managed by owners or part-owners in a personalised way, and not through the medium of a formalised management structure; and that firms are independent, in the sense of not being part of a large enterprise. In order to quantify this definition, different size indicators were adopted for each of the nine sectors of economic activity covered by the Inquiry (see Table 2.4).
Table 2.4: Small Firms in the U.K.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>200 employees or less</td>
</tr>
<tr>
<td>Construction</td>
<td>25 employees or less</td>
</tr>
<tr>
<td>Mining and Quarrying</td>
<td>25 employees or less</td>
</tr>
<tr>
<td>Retailing</td>
<td>Turnover of £50,000 or less</td>
</tr>
<tr>
<td>Miscellaneous Services</td>
<td>Turnover of £50,000 or less</td>
</tr>
<tr>
<td>Motor Trades</td>
<td>Turnover of £100,000 or less</td>
</tr>
<tr>
<td>Wholesale trades</td>
<td>Turnover of £200,000 or less</td>
</tr>
<tr>
<td>Road Transport</td>
<td>Five vehicles or less</td>
</tr>
<tr>
<td>Catering</td>
<td>All, excluding multiples &amp; brewery-managed houses</td>
</tr>
</tbody>
</table>


Criticisms of these quantitative criteria include: the inability to compare the sectors; the upper limit of 200 employees in manufacturing being too large; inflation makes comparisons of monetary based definitions over time problematic; and currency fluctuations make international comparisons difficult (Curran & Stanworth, 1982; Storey 1994). However, the critical issue of adopting nine definitions is the acceptance that variations in combinations of employees, assets, and turnover occur between industries and, as a result, it is difficult, if not impossible, to find one universal numerical indicator to serve as a quantitative conceptualisation for small firms (Curran & Stanworth, 1982). The Bolton report did acknowledge this variation, as the following quote shows, although the report did not later reinforce this point.

Small firms are present in virtually every industry and the characteristics they share as small firms are sometimes not apparent because of the differences arising from the contrasting conditions of different industries. There is extreme variation...as regards efficiency, methods of operation, the nature of the market served and the size of the resources employed. Thus a manufacturing business employing up to two hundred people has very little in common with a small shop owned and run by a married couple (Bolton, 1971: xv).

In the U.S., the federal Small Business Administration also adopts a mix of qualitative and quantitative criteria for defining small firms. Essentially, a small firm is “one which is independently owned and operated and which is not dominant in its field of operation” (Small Business Administration Act s3(a)(1)). In order to quantify the market concentration component of the definition, proxy indicators based upon either the number of employees or total assets or annual sales volume are used (Thompson & Leyden, 1983). These size limits vary from industry to industry where employment size can range from 100 to 1500 people (although 500 is the standard) and assets or annual sales volume can range from US$0.5M to US$100M (Small Business Administration, 1998).
A similar position is taken in Australia. The Report of the House of Representatives Standing Committee on Industry, Science and Technology into Small Business in Australia (January 1990), better known as the Beddall report, defined an Australian small firm, acknowledging that what is small in one industry may not necessarily be small in another. Two sectors were distinguished: manufacturing and non-manufacturing and they were assigned quantitative criteria of less than 100 and 20 employees respectively. When proposed, these numerical criteria were to serve as a secondary element to the following qualitative criteria: independent ownership and operation; close control by owner and/or managers who also contributes most, if not all of the operating capital; and the principal decision-making functions resting with the owner and/or managers (Beddall, 1990: xiii).

Quantitative Definitions: Size of Employment

Many researchers experience difficulties trying to apply the official government definitions. Generally, it is only the quantitative part of the definition that is used, as is the case with the latest ABS data collected about small firms. The ABS (2000a) now uses the following numerical basis for defining small firms: ‘micro-businesses’ with a full-time equivalent (FTE) employment of 1–4 people; ‘small business’ with 5–19 FTE people; ‘medium business’ with 20–199 FTE people and large business with 200 or more FTE people.\(^{11}\)

Atkins and Lowe’s (1997) review of 50 articles on small firms published since 1989 “in leading journals with a range of different disciplines and functional foci” (p. 44) shows most researchers using firm size to define small firms. They found that in two thirds of the articles ‘size of employment’ was used as the criterion for defining a small firm.\(^{12}\) Further, when combined with some other criterion, they found that ‘size of employment’ was used in 80% of the articles.

The problem with much small firm research is that a convenient and arbitrary size of employment is often chosen to differentiate between small and large firms. Those conducting research in the U.S. are fairly consistent with using 500 employees as the upper limit, as are those in the U.K. with 200 employees. Table 2.5 contains a summary of size-based definitions used in key U.K. small firm employment relations research.

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\(^{11}\) It is interesting to note the difference between the size used by the ABS and that recently adopted by the European Commission (EC). The EC define a ‘micro-enterprise’ as one employing 0–9 employees, while a ‘small enterprise’ has between 10–99 employees, and a medium enterprise has between 100–499 employees (Loveman & Sengenberger, 1990). These differences serve to reinforce the ‘all depends’ relational argument for defining small firms.

### Table 2.3: Small Firm Definitions in Key British Employment Relations Research

<table>
<thead>
<tr>
<th>Author</th>
<th>Employment Size (Sample size)</th>
<th>Additional Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cully, Woodland, O’Reilly &amp; Dix, 1999</td>
<td>Less than 25, (N = 250)</td>
<td>Stand alone, private sector workplaces</td>
</tr>
<tr>
<td>Curran &amp; Stanworth, 1978; 1979a; 1979b; 1981a; 1981b</td>
<td>Less than 200, (N = 8)</td>
<td>Printing and electronics firms in Surrey</td>
</tr>
<tr>
<td>Goffee &amp; Scase, 1982</td>
<td>Less than 200, (N = ?, M = 6)</td>
<td>Building industry, small employers</td>
</tr>
<tr>
<td>Goss, 1987; 1988b</td>
<td>Less than 200, (N = 29)</td>
<td>Instant print firms, independently owned</td>
</tr>
<tr>
<td>Holliday, 1995</td>
<td>Less than ?, (N = 3, M = 27)</td>
<td>Manufacturing firms</td>
</tr>
<tr>
<td>Rainnie, 1984; 1985a; 1989</td>
<td>Less than 200 (ranging from 70–190) (N = 19)</td>
<td>Printing and clothing firms, independent, owner-managed in the North-East</td>
</tr>
<tr>
<td>Rainnie, 1991b</td>
<td>Less than 50 (N = 13)</td>
<td>Hi-tech firms, Hertfordshire</td>
</tr>
<tr>
<td>Ram, 1991; 1994</td>
<td>Less than 30, (N = 3)</td>
<td>Clothing firms, ethnic owned, West Midlands</td>
</tr>
<tr>
<td>Ram, 1999</td>
<td>Less than 15, (N = 3)</td>
<td>Business service firms</td>
</tr>
<tr>
<td>Scott, Roberts, Holyrod &amp; Sawbridge, 1990</td>
<td>Less than 200 (N = 397, M = 31)</td>
<td>High-tech, low-tech, manufacturing and services firms</td>
</tr>
</tbody>
</table>

Note: ? indicates size not given in paper.

However, in Australia, researchers are not very consistent: 100 employees; 50; 20; and even five have all been used at different times to distinguish a small from a large firm. Table 2.6 contains a summary of size-based definitions used in key Australian small firm employment relations research.
Table 2.6: Small Firm Definitions in Key Australian Employment Relations Research

<table>
<thead>
<tr>
<th>Author</th>
<th>Employment Size (Sample size)</th>
<th>Additional Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrett &amp; Buttigieg, 1999</td>
<td>20–99 (N = 10,135 individuals at these workplaces)</td>
<td>Private sector, single workplace in organisation</td>
</tr>
<tr>
<td>Callus, Morehead, Cully &amp; Buchanan, 1991</td>
<td>5–19 (N = 192)</td>
<td>Private sector, single workplace in organisation</td>
</tr>
<tr>
<td>Callus, Kitay &amp; Sutcliffe, 1992</td>
<td>5–19 (Non-Manufacturing), 5–99 (Manufacturing), (N = 564)</td>
<td>Private sector, single workplace in organization, manufacturing and non-manufacturing sectors</td>
</tr>
<tr>
<td>Isaac, 1993</td>
<td>Less than 50, (N = 953)</td>
<td>Workplaces that were members of the Australian Chamber of Commerce and Industry (ACCI)</td>
</tr>
<tr>
<td>Isaac, Kates, Peetz, Fisher, Macklin &amp; Short, 1993</td>
<td>Less than 60 (N = 20)</td>
<td>Retail, members various employer associations, Brisbane, QLD</td>
</tr>
<tr>
<td>Kitay &amp; Sutcliffe, 1989</td>
<td>Less than 60 (N = 20)</td>
<td>Retail, members various employer associations, Brisbane, QLD</td>
</tr>
<tr>
<td>Morehead, Steel, Alexander, Stephen &amp; Duffin, 1997</td>
<td>5–19 (N = 569)</td>
<td>Private sector, single workplace in organisation</td>
</tr>
</tbody>
</table>

Despite the lack of consensus Loveman and Sengenberger (1990) suggest that a precise answer to the question of ‘what is a small firm’ is not appropriate. They argue that there is “no value as such in studying size dimensions and consequently, there is no need to provide universal definitions” (p. 6). Notwithstanding their view, the value of using a consistent size in employment relations research would be the ability to make some form of comparisons between studies over time.

Unit of Analysis: Firms or Workplaces?

An additional problem with many studies is that the terms ‘firm’ or ‘enterprise’ and ‘workplace’ or ‘establishment’ are used interchangeably. Doing so ignores the advice of George, McNabb and Shorey (1977) who state: “although the distinction is not always clear cut it is important to determine whether it is the plant or the firm, which is being considered” (p. 266). A firm or enterprise is an ownership unit, while a workplace or establishment is a production unit. Loveman and Sengenberger (1990) argue that the use of the appropriate entity as the level of analysis depends upon the issue the research seeks to address. They go further to suggest that research concerned with control should focus on the ownership unit, whereas research concerned with production should focus on the production unit.13

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13 In the research for this thesis this problem is overcome by studying independent firms where control and production coexist.
The problem of level of analysis emerges in a number of the studies listed in Tables 2.5 and 2.6. For example, the unit of analysis for the Australian Workplace Industrial Relations Survey (AWIRS) is the "location" (Callus et al., 1991: 8; Morehead et al., 1997: 14). The ABS (1983) defines location to be "a single physical area occupied by the establishment from which it engages in productive activity on a relatively permanent basis" (p. 53-4). However, a location may contain more than one place of work, and the terminology 'workplace' is subsequently adopted in other studies (for example, Isaac, 1993; Isaac et al., 1993) to refer to the part of the location with the largest number of employees. As a result the 1995 AWIRS definition of a small firm is "a single workplace in a private sector organisation employing between 5-19 people" (Morehead et al., 1997: 300).

Qualifying Quantitative Definitions

Tables 2.5 and 2.6 also show that in most studies researchers combine a size-based definition with some qualitative element relative to the specific context of the research (Curran & Stanworth, 1982; Loveman & Sengenberger, 1990). In research on small firm employment relations four types of qualitative criteria are used. The first is 'sector' and small firms are often distinguished by whether they operate in the public or private sector (i.e.: Barrett & Buttigieg, 1999; Morehead et al., 1997). Sectoral distinctions have also been made between firms operating in high or low technology sectors of the economy (i.e.: Rainnie, 1991b; Scott, Roberts, Holyrod & Sawbridge, 1990), however the problem of homogeneity can occur at this level.

'Industry' is the second criterion. Studies of printing and clothing industries have been popular in the U.K. For example, Rainnie (1984; 1985a; 1989) considered small firms in the printing and clothing industries, while Goss (1987; 1988b) looked at small print firms as did Curran and Stanworth (1978; 1979a; 1979b; 1981a; 1981b), although they contrasted the printers with firms operating in the electronics industry. Ram (1991; 1994) and Holliday (1995) have also studied small clothing firms. 'Industry' can be a more concise concept than 'sector' if firms share some commonality such as a production process, if not then problems of homogeneity can still occur at this level.
‘Location’ is the third criterion often employed. In the U.K. small firms in a range of counties have been studied including: Hertfordshire (Rainnie, 1991b), Surrey (Curran & Stanworth, 1978; 1979a; 1979b; 1981a; 1981b), and the West Midlands (Ram 1991; 1994). A few regional studies of small firms in Australia have occurred in the Hunter Valley (Burgess, 1992) and the Illawarra (Markey, Hodgkinson, Murray, Mylett & Pompfret, 1999).14 Although such studies are consistent with some of the post-Fordist regional development literature (see later in this chapter) problems of homogeneity can still occur.

Finally, various ownership properties and/or characteristics are often used. For example, Ram (1991; 1994) and Lever-Tracey, Ip, Kitay, Phillips and Tracey (1991) used ethnicity, however this criterion is often used in conjunction with one of the above. For example Lever-Tracey et al. (1991) studied small ethnic restaurateurs in inner city Melbourne and Sydney.

Clearly in some of these studies a range of qualitative criteria is employed alongside a size-based criterion, giving weight to Loveman and Sengenberger’s (1990) argument that ‘it all depends’. However, it is somewhat difficult to discern which criterion is of primary importance as definitions are often created on an ad hoc, rather than theoretical, basis to facilitate data collection. The issue of data collection means that in most studies small firms are defined first by their size and this is then later qualified. The problem then arises that when the firm’s size of employment is used as the key independent variable, the outcome is that findings are generalised to other industrial sectors where the same size-based definition of the firm is inappropriate (Goss, 1991a). Such practice is underpinned by the assumption that employment size is a unifying property creating a homogeneous small firm sector (Scott, 1986).

An Homogeneous Small Firm Sector?

The assumption that there is an identifiable, homogeneous small firm sector has attracted a great deal of criticism. Atkinson and Storey (1994) state: “the notion that the small firm sector (is) an homogeneous entity, suffering similar problems and experiencing similar opportunities, is fundamentally misguided” (p. 4). As Rainnie (1991a) points out: “to say that smallness per se is a characteristic that, alone, will determine the internal operation and external relations of that unit is bizarre” (p. 177). Further, the following quote from Curran (1990) neatly points out the usefulness of this approach.

Size is not a very interesting or important attribute of an economic unit sociologically when set alongside others such as economic sector, technology, locality, labour and product markets etc, which are theoretically more significant. Of course size plays some part in the functioning of the organisation but only in relation to other factors (p. 129).

14 In both these studies the AWIRS small workplaces with 5–19 people were used to define small firms.
Despite the criticism the assumption remains pervasive and in employment relations research it is a frequent and recurring problem, which often leads to the conclusion that all small firms exhibit the same employment relations.

Curran and colleagues (Burrows & Curran, 1989; Curran, 1990; Curran & Stanworth, 1986; Curran & Burrows, 1993) suggest that a 'grounded definition' can overcome the homogeneity problem. By this, they propose that meanings of what is a small firm, shared by owner-managers, employees and other 'key players' involved in a particular sector, should be used. While this approach limits the ability to generalise across sectors, they argue that wanting to generalise in such a manner is inappropriate. They suggest that it is possible to make fruitful comparisons between sectors, not because small firms share the same employment size, but because they all share characteristics as a result of inclusion within a particular discourse, for example: 'owner-managers'; 'self-employed'; 'ethnicity', or 'female ownership' amongst others (Curran, 1990; Curran & Burrows, 1993). However, the application of this type of definitional approach is difficult and not attempted in this thesis. Instead, the importance of this approach, and its usefulness to this thesis, is the recognition of the need for a relational definition of small firms.

Adequate critical research on small firms (and in particular their employment relations) necessitates differentiating between types of small firms as well as considering their relationship with the large firms in the economy. Prior to this occurring, it is necessary to consider different ways of theorising the role of small firms in the economy.

The Role of Small Firms in the Economy

Since the 1970s, transformation and change in the international economy have had profound implications for small firms and interest in them. You (1995) points to seven possible lines of argument for the resurgence of interest in small firms. They include:

- De-industrialisation and expansion of the services sector where lower economies of scale and demand for services is individualised thus leading to a rise in small firms.
- Expansion of the small firm sector during periods of economic recession.
- Technological change reducing the optimal scale of operation.
- Increased uncertainty arising from global competition, volatile exchange rates and demand facilitating the rise of small firms, which can act flexibly.
- Increases in the supply in the lower segment of the labour market or in the availability of finance.
- Demand for differentiated goods and services enlarging the market niche for small firms.
- Smaller units resulting from the restructuring strategies of large firms.

This final point is similar to Loveman and Sengenberger's (1990) conclusion that the shift back to smaller firms can be broadly summarised as a function of industrial restructuring, which has seen the
decentralisation and vertical disintegration of large firms as well as the formation of new business communities.

Storey (1994) provides similar reasons based on U.K. data where a clear pattern is evident in the re-emergence of small firms from the latter half of the 1960s. For descriptive purposes he distinguishes between supply-side factors (i.e.: technological changes, fragmentation/cost advantages, labour force/unemployment, Government ‘ideology’ and prices) and demand-side factors (i.e.: structural changes, uncertainty of demand, macro-economic conditions, and economic development). In essence, criticisms of various theoretical explanations of the economic role of small firms are underpinned by these different sets of factors.

Despite these wide ranging reasons for the re-emergence of small firms, the economic role ascribed to small firms is far from clear (Burrows & Curran, 1991). While free market thinking posits a central role for small firms in an economy (as was shown in the earlier discussion about developing an enterprise culture), from a more radical, Marxist tradition small firms were, until recently, relegated to relative unimportance. For Marxists, the doctrine of ‘increasing centralisation and concentration of capital’ meant that small firms only exist where they have been forced into niches “which modern industry has only sporadically or incompletely got hold of” (Marx, 1854: 587). The resulting monopoly capitalism saw small firms as an historical irrelevance. By emphasising the unevenness of this process of centralisation and concentration writers like Shutt and Whittington (1987) have been able to account for the continued existence and growth of small firms. Such thinking proposes a role for small firms alongside large firms.

Different conceptions of the economic role for small firms are offered from post-Fordist and neo-Fordist perspectives based on the relationship between large and small capital. Each, however, has opposing implications for the nature of the firm’s internal and external relationships, particularly employment relations. Broadly, these implications can be summarised as ‘small is beautiful’ under post-Fordism or flexible specialisation and ‘small is brutal’ under neo-Fordism. An examination of both, and their attendant implications, is undertaken in the next section.

Post-Fordism and Flexible Specialisation

A number of writers, most notably Piore and Sabel (1984), have proposed a transition from one phase of capitalist development to another. This transition, or crossing the ‘industrial divide’, has been from a Fordist to a post-Fordist paradigm of industrial organisation. The period of Fordism, roughly from the 1930s to the 1970s, is characterised by mass production and consumption, the rise of the vertically integrated firm, the Keynesian welfare state and mass trade unionism (Bagguley, 1991). However, the resolution of the crisis of the 1970s lay in the emergence of a new set of economic institutions. The post-Fordist model of capitalist development is characterised by short-run, batch type production in small or
decentralised firms, the rolling back and partial privatisation of the welfare state and the decline of trade union membership and power in the context of globalisation. The central components of this economic and social restructuring include new forms of production and market strategies, which can be generalised in terms of the flexible specialisation thesis.

The core of the flexible specialisation thesis is that flexible technologies promote the viability of small firms, who combine “flexibly whilst specialising in particular products and services” (Storey, 1994: 42). During the 1970s, when society and firms were confronted with a choice of technological modes, changes in the character of competition brought on by the internationalisation of production provided a rationale for the adoption of flexible production (Audretsch, Sleuwaegen & Yamawaki, 1989; Carlsson, 1996). A contraction of manufacturing and manufacturing employment, coupled with a shift away from mass production systems to ‘just-in-time’ and economies of scope, rather than scale, resulted. Moreover, differentiated patterns of consumption for new goods and the associated pressure on profitability (Acs, Audretsch and Carlsson, 1990) led to organisational fragmentation and the growth of small firms and small firm employment (Acs et al., 1990; Carlsson, 1996; Loveman & Sengenberger, 1990; Piore & Sabel, 1984). The effect of this is neatly summarised in the following quote.

The large vertically integrated corporation is viewed as a dinosaur, unable to compete in a ‘postindustrial’ world characterised by continually fluctuating consumer demands, heightened international competition, and the need for more ‘flexible’ forms of work and inter-firm interaction. Many of the big firms are expected to collapse under their own weight, even as a panoply of small, flexible enterprises rushes to fill the ecological void (Harrison, 1992: 471).

The idea that smaller firms are more dynamic, innovative and responsive to market changes than are large firms (Nolan & O’Donnell, 1991) is critical.

The organisational arrangements sustaining flexible specialisation that Amin (1994) provides can be summarised as:

- A division of tasks within the production cycle between specialist, autonomously run units or independent firms, which maximise economies of scale and expertise gained from specialisation in one field but also allow variation in volume and shape of the final product without loss of efficiency.
- The reintegration of research and design, management, white- and blue-collar work to maximise on inventiveness and speed of reaction to market signals.
- A greater reliance on skills, ‘polyvalence’ or multiskilling, worker participation and collaboration in pursuit of product quality and the flow of ideas, knowledge and workers between task and product areas.
- Decentralisation of authority to encourage employee responsibility and responsiveness.
- The deployment of multi-purpose technologies to be used flexibly across task and volume commitments.
A culture of cooperation, trust and negotiability embedded within and between firms. As proximity facilitates these organisational arrangements, flexible specialisation encourages the geographic clustering of production (Piore & Sabel, 1984; Sabel, 1994). Supporting evidence relies heavily on the examples of the craft-based industrial districts of the 'third Italy' (for example Piore & Sabel, 1984), technopoles such as Silicon Valley (for example Saxenian, 1994) or specialist niches in industries like film (for example Storper & Christopherson, 1987). Through cooperative and collaborative networks (Nolan & O'Donnell, 1991) small firms are able to achieve high levels of vertical integration by linking together different stages of production. This type of theorising is dismissed by some for its utopianism when they argue the reality is a world composed of many fractured local economies, disempowered regions and fragmented local cultures (Amin & Thrift, 1994). This utopianism can be continued at the workplace level where flexible specialisation is said to go "some way towards restoring to workers their skills, job satisfaction, involvement in decision-making process and control over the pace and flow of work" (Amin, 1991: 121). The implied cooperation leads to high trust cooperative relations in and beyond the workplace and as a result of this highly 'optimistic' (Bagguley, 1991) reading of flexible specialisation, industrial harmony is said to characterise small firm employment relations.

The idea of industrial harmony in small firms originated in research from the 1950s and 60s and was promoted with the work of Ingham (1970) and with the publication of the Bolton Report (1971). Despite many studies challenging this idea, it is still a very pervasive one and it is represented most strongly in the following quote from the Bolton Report.

In many respects the small firm provides a better environment for the employee than is possible in most large firms. Although physical working conditions may sometimes be inferior in small firms, most people prefer to work in a small group where communication presents fewer problems: the employee in a small firm can more easily see the relation between what he is doing and the objectives and performance of the firm as a whole. Where management is more direct and flexible, working rules can be varied to suit the individual. Each employee is also likely to have a more varied role with a chance to participate in several kinds of work...No doubt mainly as a result of this, the turnover of staff in small firms is very low and strikes and other kinds of industrial disputes are relatively infrequent. The fact that small firms offer lower earnings than large firms suggests that the convenience of location and generally the non-material satisfactions of working in them more than outweigh the financial sacrifice involved (Bolton, 1971: 21).

Studies prior to the Bolton Report obviously informed this view of industrial harmony, as there was no research into small firm employment relations undertaken for the Bolton committee. Publications from the 1950s by Revans (1956; 1958), for example, pointed to closer and warmer relations between employers and employees in small firms when compared with large firms. They also showed that morale was higher and absenteeism lower in small firms. In Ingham's (1970) influential research he argued that employees self-select into work environments most sympathetic to their own attitudes to work. The 'non-economistic expressive orientation' to work, which small firm employees had, meant they preferred the interesting
work and satisfying social relations with others, especially supervisors in the small firm. This could be contrasted with employees in large firms who had an 'economistic instrumental orientation' to work. Ingham's (1970) work was conducted under the banner of 'human relations' except, rather than the idea of small teams as a means of redressing worker's social needs, the argument was that small firms provided the environment to satisfy worker's needs. The view that industrial harmony typifies small firm employment relations is encapsulated in Schumacher's (1973) declaration that 'small is beautiful'.

Legge (1995) provides an overview of the criticisms of flexible specialisation, which has come in for a "critical hammering" (p. 153). Criticisms focus on: the extent to which flexible specialisation is purported to be an alternative to Fordism; its concentration and application to firms in manufacturing, which is a declining sector in advanced economies; the dismissal of evidence showing there has always been niche specialist markets for some commodities that small firms fill; and the neglect of evidence showing differentiated patterns of mass consumption for some commodities, for example, demand for electronic goods, is increasing. In effect, these criticisms rest on the fact that only the demand-side factors underlie the re-emergence of small firms.

**Neo-Fordism and Core–Periphery Relations**

Other less radical accounts of restructuring offer a more recognisable role for small firms in the economy. For example, core–peripheral restructuring of Fordist-type organisations (Atkinson, 1984; Atkinson & Gregory, 1986; Atkinson & Meager, 1986) sees the emergence of 'flexible firms'. Such an argument extends the core-peripheral thesis offered by Atkinson (1984) from the firm level to the industry or economy and suggests a particular economic role for small firms. The continued existence of small firms is attributed to their functional necessity for the continued and stable profitability of large monopoly firms. The basis for this relationship is the structural division between small firms, which form the periphery (of the industry or economy) while large monopoly firms comprise the core. Small firms survive in the periphery because they supply goods and services, such as transport, catering, cleaning and security, cheaply and flexibly to large firms in the core.

This type of thinking sees small firms in a competitive and dependent role as they exist 'at the leisure' of large monopoly firms. This dependence affects the type and nature of employment relations in small firms as goods and services must be provided more competitively and flexibly than is possible by large firms. To this end Loveman and Sengenberger (1990) present considerable evidence of lower labour costs in small firms, and also argue that sub-contracting from large to small firms is a means of evading labour standards. In other words, 'small is brutal'. This scenario sees small firms as being dictatorially run with employees suffering poor working conditions, including inadequate occupational health and safety standards, while having little or no involvement in the operation of the firm (Rainnie, 1989). Furthermore, the development of core and peripheral sectors leads to a paralleling division in the labour market. This is
used to explain the high incidence of women, part-timers, unskilled workers and youths in the small firm sector (Goss, 1991a). Further, the nature of work in the periphery means that employment patterns are self-reinforcing: those in the core are not attracted to the periphery, while those in the periphery do not have a chance to gain the necessary skills or qualifications enabling them to enter the core. A further paralleling of management styles or control strategies can occur in core and periphery firms, for example, reflecting the difference between direct control and responsible autonomy (Edwards, 1979; Friedman, 1977).

A "battering of the flexible firm model" (Legge, 1995: 153) has occurred on a number of fronts (see Legge (1995) for an overview of the criticisms of the flexible firm literature). Some of these criticisms are specific to flexible firms while others can be extended to the relationships between core and periphery firms. In particular, criticisms centre on the over simplification and generalisation of relationships between the core and periphery (Goss, 1991a). The idea that all firms in the core are large and all in the periphery are small, neglects the diversity of small firms in an economy, the nature of relationships between firms, and the complexities of restructuring. For example, Rainnie (1993) shows in a study of subcontracting relationships between firms in Hertfordshire, that such relationships are not uniformly between large and small firms, as small firms frequently "will not enter the frame as primary status suppliers" (p. 49). Instead, he argues that restructuring has resulted in alliances between large firms and large primary suppliers.

Equally, to suggest an inevitability of small firms providing employment in the secondary labour market disregards the range of products developed and services offered by small firms (Goss, 1991a). Furthermore, it ignores the reality that many self-employed persons are highly innovative, skilled or educated (Curran, 1990; Goss, 1991a), and the core-periphery theorising relegates these people to the secondary labour market. The major weakness of this theorising is that by assuming homogeneity the role small firms play in the economy is marginalised.

The inability to see small firms as anything other than an homogeneous and flexible mass inadequately theorises the role of small firms in the economy. The symbiotic and cooperative role for small firms under post-Fordist, flexible specialisation is as problematic as the competitive and dependent role proposed by neo-Fordist, core-peripheral relations. Rainnie (1989; 1991a) suggests that part of this problem lies in a less than systematic analysis of the complexity of power relationships between small and large firms. Acknowledging such would, he argues, help to begin unravelling the range of potential approaches to small firm employment relations and overcome the 'beautiful' or 'brutal' stereotyping.
A Relational Definition: Capital to Capital

The implication of the foregoing is that an approach to analysing small firm employment relations must start with the totality of economic relations and its contradictory constituents rather than the small firm per se. Rainnie’s (1989; 1991a) heuristic device, which outlines four different types of relationships between small and large firms, can be used to overcome some of the deficiencies exposed in the theorising about the role of the small firm in the economy. These relationships locate the small firm “firmly within the context of wider capitalist economic relations” (Goss, 1991a: 159) by drawing upon the Marxist theory of ‘combined and uneven development’ and Shutt and Whittington’s (1987) work to dispel small firm homogeneity. The relational approach sees size as being of lesser importance to the small firm’s relationship with the wider economy (Curran, 1990) and, as Rainnie (1989, 1991a) argues, this relationship determines the organisational and social framework of the firm.

According to Rainnie’s (1989; 1991a) heuristic device, dependent firms are those which complement and service the interests of large firms through, for example, subcontracting relationships. These small firms fit with the core–periphery model as they are constrained by the dictates of the market and these in turn are determined by the activities of the large firms within the market. Control is exerted by larger firms, which influence operational and organisational aspects of the small firm (Rainnie, 1989; 1991a). A case in point is the subcontracting relationship between Marks and Spencer and a range of clothing manufacturers (Rainnie 1991a) in the U.K., where demands for quality improvements or cost reductions from the large firm cannot be ignored if the contract is to be renewed each year.

The second relationship is one of domination. This occurs when firms compete through intense exploitation of machinery and labour. Again, large firms exert control as small firm survival is based on having lower operating costs. An example of domination can be seen in the impact of large shopping centres on small suburban retailers. The small surviving firms may take the form of unadaptive strugglers using family labour or fill the ‘8-til-late’ market niches and in doing so access unskilled labour at low wage rates. Sassen (1998) argues that the expanding low income populations in large urban centres are increasingly having their consumption needs met by small manufacturing and retail outlets, which rely on family labour and often fall below minimum health and safety regulations. Scase (1995) points out that proprietors of these small firms are compelled by their market position to offer lower rates of pay and relatively poorer working conditions, and for this reason they often attract employees with limited bargaining power and job opportunities.

Isolation is the third type of relationship between small and large firms. Isolated firms operate in specialised niches of demand or geographically discrete markets which are unattractive to large capital for the insufficient return they offer. Scase (1995) is of the opinion that many sectors of the leisure, hospitality and catering industries would be found here, however franchising has developed as a form of business
whereby it is possible for large capital to exploit the small firm form in these sectors where potential returns are attractive (see Felstead, 1993). These isolated firms are vulnerable because of their relationship with large firms but not in the same way as innovative firms.

Innovative firms are those that operate in often founding or developing markets creating specialised and/or new products or markets. The nature of the innovative firm's activities makes them vulnerable to take-over or acquisition by large capital. Scase (1995) suggests that these small firms are likely to have a relationship with large firms, for example, undertaking research, which is too 'risky' for them to pursue. When the potential of the new product or service is realised, the larger firm either takes control of the small firm or of the product (Scase, 1995). Many examples of this behaviour occur in the IT industry where there is a tradition of large firms either directly or indirectly encouraging spin-offs or small firm formation then appropriating success. Acs, Carlsson and Karlsson (1999) provide evidence of this when they argue that the greater the extent to which an industry is composed of large firms the greater will be the innovative activity, but, ceteris paribus, the increased innovative activity will tend to emanate from small, rather than large, firms. This follows from the fact that whilst small firms may be more innovative, large firms are in a better position to appropriate the results.

The importance of this heuristic device is the acknowledgement of uneven development in that there are small firms that are largely untouched by large capital as well as those that compete with them. It also acknowledges combined development in that all categories of firms operate in spheres dominated by large capital that affect the role of the small firm (Rainnie, 1989; 1991a). However, the diversity of firms existing within each type makes it unlikely that they all share the same employment relations practices. For example, Rainnie's (1984; 1985a; 1985b) case studies of dependent small firms in the U.K. clothing industry found that owner/managers were unable to provide employees with a high degree of latitude with respect to employment relations. The management style was highly authoritarian and the control strategy characterised by direct control (Friedman, 1977), but the actual employment relations practices within the small firms differed, based on the type of people employed and their response to the management strategy.

This relational approach to small firms takes into account the full circuit of capital and thus draws attention outside the walls of the small firm. The value of this heuristic device to an integrated approach to studying small firms is that by examining small firms in the totality of their economic relations (for example, their competitive situation with respect to large firms) heterogeneity can be accommodated. Further, insofar as this device sets down some of the forces that delimit action, a deterministic argument can be overcome as no set forms of employment relations are ascribed to particular types of small firms. The analysis is then dynamic and evolving, laying down certain parameters but not in a universal, deterministic or unchanging fashion. A set of employment relations cannot simply be read off from the device itself, as agency is also vital. This has led Goss (1991a; 1991b) and Rainnie (1989) to argue that if
Industrial harmony is to be explained in the small firm, then how employment relations are experienced by the actors and why employees remain cooperative must be explored.

The intention in this thesis is to apply this device in the context of the information industry to consider the relationship between small and large firms and the impact on employment relations within small firms in that sector. The significance of this device is in the way in which it highlights the degree of choice available to managers when structuring employment relations. However, in order to ascertain what structures of employment relations exist in the industry and how these enable and constrain action within firms then some quantitative definition of small firms must also be included but only as a secondary classificatory device. As such the quantitative aspect to the small firm definition that will be used in this thesis is consistent with the ABS (2000a) definition that small firms employ less than 20 FTE people. The inclusion of this component provides some point of comparison with other studies of small firm employment relations.

Conclusion

It is largely uncontested that small firms are important at the end of the twentieth century. However the reasons why they are important are more difficult to discern, while the question of whether small firms have re-emerged or that there has simply been a rekindling of interest is a moot point. Certainly changes in the structure of industry since the 1970s contribute to this increased focus on small firms, although attempts to theorise the new economic role for small firms are contradictory. Despite theorising small firms in either a competitive, dependent or symbiotic, cooperative role these attempts share the same problem: the assumption that small firms are a homogeneous mass. This assumption pervades most research on small firms, particularly that considering employment relations where small firms are defined by their employment size. The resulting conclusion is that small firm employment relations are either ‘beautiful’ or ‘brutal’.

An adequate critical analysis of small firms must acknowledge the diversity across the ‘small firm sector’. Small firms need to be placed within their economic context and it has been argued in this chapter that a relational conceptualisation of small firms based upon the interaction between small and large capital can be used to locate small firms in this manner. Rainnie’s (1989; 1991a) conceptualisation of small firms based upon the relationship between small and large capital, suggests one way that small firm homogeneity can be accommodated. Rainnie’s (1989; 1991a) heuristic device emphasises the diversity between small firms as well as the fact there is no one type of small firm employment relations.
In this thesis, small firm heterogeneity will be further acknowledged by limiting the study to firms operating within a single sector: the information industry. (The rationale for and problems with choosing this sector are examined in Chapters 4 and 5.) However, to provide some point of comparison with other studies, small firms are also defined quantitatively and an upper limit of 20 FTE people is used in this thesis to reflect the ABS (2000a) small firm definition.

In the following chapter, how the proposed integrated approach to analysing small firms can take into account a range of influences on employment relations, in addition to firm size, is considered. Studies of employment relations in small firms are reviewed from their different theoretical perspectives in order to evaluate their implications for incorporating a dialectical relationship between both structure and agency in the analysis and explanation of why ‘industrial harmony’ appears to typify small firm employment relations.
CHAPTER 3: MANAGING SMALL FIRM EMPLOYMENT RELATIONS

Objective of Chapter 3

The objective of this chapter is to show how the integrated approach to analysing small firm employment relations can take into account a range of influences in addition to employment size. Studies of industrial relations and HRM in small firms are examined to show that the underlying theoretical approach taken to studying employment relations has implications for whether the analysis is purely structuralist or incorporates the dialectical interaction between structure and agency to explain industrial harmony. Labour process theory is then used to show how the reciprocal relations between management control strategies and worker resistance can be integrated and help explain why ‘industrial harmony’ appears to typify employment relations in small firms.

Employment Relations Research: Structure and Agency?

In Chapters 1 and 2 it was argued that an integrated approach to analysing small firm employment relations must start with the totality of economic and social relations in a particular sector and its contradictory constituents rather than the small firm per se. The application of a relational conceptualisation of small firms based upon the interaction between small and large capital can facilitate such an analysis and locate the firm within its sector and the sector’s trajectory of development (in an historical sense). However, to overcome charges of this analysis being overly structuralist, then equal priority must also be given to the reality of people’s working lives within the firm, which entails considering how this reality is formed and constrained by the interplay of the labour market and the individual’s expectations of work. The resulting research, where diversity in an economy’s ‘small firm sector’ is acknowledged, enables more meaningful analysis of employment relations in small firms and why there is an appearance of industrial harmony.

However, many studies of small firm employment relations (or more specifically industrial relations and HRM) start with the small firm, as the following review shows, and structuralist research results. Structure is the set of formal and informal rules that actors draw upon to generate common expectations and sanctions for modes of conduct in the processes of interaction (Giddens, 1982; 1984). To a large degree, agency and how agents deploy and reconstitute resources in the process of interaction (Giddens, 1984), is excluded from the analysis. As a result, the conclusion drawn from these studies is that industrial harmony (for example, evidenced through a lack of union organisation and industrial action) typifies small firm
employment relations. Excluded from the analysis is the understanding that structures are enabling and constraining (Giddens, 1982; 1984) and therefore, why harmony exists, is not explained. The research focus, as will be shown, is largely on management strategies to control the transformation of labour power into actual productive labour at the point of production rather than on how control can also be gained by changes occurring outside the workplace (Kelly, 1998; Morgan & Sayer, 1988) most notably in product and labour markets. When questions of extraction and realisation of surplus value are at the heart of this analysis, and the contradictions between problems for management that arise at different moments in the circuit of capital are considered, then a better explanation can be provided for why industrial harmony is seen to typify small firm employment relations.

In this thesis, labour process theory is used to underpin this integrated approach to small firm employment relations. The labour process under capitalism has specific characteristics, the most significant being the transformation of labour power into actual productive labour. In the employment relationship control is the means to transform the capacity to work into profitable production. The reason why labour process theory is used is made clear in the following review of studies of small firm employment relations (or more specifically industrial relations and HRM in small firms) and the repercussions these have for whether industrial harmony is seen to typify small firm employment relations.

**Industrial Relations Research and Small Firms**

Although the question of "what are industrial relations" has been subject to much debate, an underpinning pluralist perspective (Fox, 1966; 1971) has meant that the concern of much industrial relations research has been with the maintenance of order and stability rather than the processes through which disputes and disagreements are generated (Hyman, 1975). The 'problem of order' focuses attention on the 'problem of control' to the detriment of an analysis of the structures of power within and beyond the workplace (Blyton & Turnbull, 1998; Hyman, 1989). An emphasis is then placed on studying the institutional framework in which order is established rather than "the real, active men and women whose activities are

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15 A pluralist perspective underpins most thinking about industrial relations where there is an emphasis on the creation of rules to manage conflict between the parties at the workplace. For example, Dunlop's (1958) systems model of industrial relations promotes the definition of industrial relations as a 'network of rules', which govern the workplace and work community. Flanders (1970) and others belonging to the so-called 'Oxford School' develop this further to say that "the study of industrial relations may be described as a study of the institutions of job regulation" (Clegg, 1979). From a pluralist perspective, a firm is seen as a coalition of interests, each group has its own legitimate interest with a legitimate right to wield power and take action to pursue their interest (Fox, 1966). Trade unions are accepted as a legitimate representative of employees' interests and welcomed as they facilitate joint regulation of the employment relationship. Power is diffused amongst competing groups so that no one group dominates. Bargaining is the means by which groups collaborate to find a balance between the different interests. For pluralism to work there must be an underlying philosophy of mutual survival (Fox, 1971) — interests must not be so divergent that collaboration between the groups is not possible. The role of management is therefore to try to maintain some form of dynamic equilibrium but their right to manage is not automatic and this must be actively pursued and maintained. Fox contends that pluralism is a form of enlightened unitarism, where the firm is conceived as a team or family with only one source of authority and one focus for loyalty (Fox, 1966). Groups are not free to pursue their interests because they have been indoctrinated, socialised and trained to accept the status quo. Bargaining only addresses issues at the margins, never questioning the basic fabric of society. This is why it is the role of the state to act as referee and maintain the balance of power between capital and labour. As such a pluralist perspective acknowledges that conflict occurs at the workplace but does not provide an explanation why such conflict occurs.
industrial and employee relations" (Hyman, 1975: 13). Such a structural analysis fails to sufficiently account for human agency or how "people react, adapt, modify, and consent to work relations" (Thompson & McHugh, 1995: 20).

Strategic choice theory (Child, 1972; 1997) is an attempt to incorporate both structure and agency and when applied to industrial relations, states that actors make strategic choices in light of their own values as well as environmental concerns. Kochan, Katz and McKersie (1986) identified three levels at which such choices could be made in an industrial relations system: long term strategy and policy making at the top level; collective bargaining and personnel policy; and workplace activity. However, as Godard (1997) and Kochan et al. (1986) point out, within strategic choice theory it is simply the agency or actions of management or 'key decision makers' that is of concern. Those managerial actions are based upon ideologies that Fox (1971) describes as "margins of notions" (p. 125), which "justifies management's" behaviour, legitimises management's rule, evokes loyalty and commitment on the part of lower as well as higher participants and serves as support for those norms and values which are congruent for management's goals" (p. 124). The conclusion Godard (1997) draws from his research into whether managerial industrial relations ideologies matter, is "their role requires clearer specification" (p. 226). As a result, he suggests strategic choice theory should be married with greater interdisciplinary research in the industrial relations field. Other critiques of strategic choice theory have pointed to its classificatory value (i.e. simply listing the parties to industrial relations and their interactions) rather than its explanatory and predictive power (Blyton & Turnbull, 1998; Donaldson, 1997; Edwards, 1995).

The resulting focus of research has largely been on the parties (specifically trade unions), the rules governing the interaction between the parties and the outcome of those interactions. This can be seen in Australian research where, in quite general terms, trade unions, legislation, outcomes of bargaining and industrial action have been considered rather than causes of conflict either at the workplace or more broadly in society. These themes are also evident in the studies of small firm employment relations and have lately been facilitated by the availability of large-scale survey data such as the 1990 and 1995 AWIRS (Callus et al., 1991; Morehead et al., 1997) and the Australian Chamber of Commerce and Industry Survey (ACCIS) (Isaac, 1993; Isaac et al., 1993).16 As the following discussion reveals,

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16 There is an issue of how representative these data are of small firms. For example, the first AWIRS gathered data from a telephone survey of 349 small workplaces employing between 5–19 persons (Callus et al., 1991: 9). Of these workplaces 55% (N = 192) could be categorised as small firms (defined as being a single workplace organisation employing between 5–19 employees). The second AWIRS gathered information by telephone interview with senior managers in 1,073 small workplaces employing between 5–19 employees (Morehead et al., 1997: 18). Five hundred and sixty nine of these workplaces were classified as small firms (defined as private sector single workplace organisations employing between 5–19 persons). The ACCIS (Isaac et al., 1993: 2) had only 953 useable returns from the 6,000 firms surveyed who employed less than 50 employees, representing a corrected response rate of nearly 16%.
industrial relations research of this type, underpinned by a pluralist perspective, takes a very structuralist approach while often leaving out questions of agency.\(^{17}\)

**Unionisation**

In terms of trade unions and small firms, the data show that small firm employees are unlikely to be union members.\(^{18}\) For example, the ABS (1999) shows that union membership has been steadily dropping to the current rate of 25.7% of Australian workers with only 19.6% of private sector workers being members of a union. Earlier data from the ABS (1995a) also shows that as the size of a location decreases so too does the proportion of employees who are union members.

This finding that small firms are less likely to be unionised has been consistently reinforced by other (Australian) surveys.\(^{19}\) The Small Business Index (1994: 8) found that 91% of small business proprietors employed no union members.\(^{20}\) The ACCIS (Isaac et al., 1993) showed that 58% of small firms had no union members present. Callus, Kitay and Sutcliffe (1992) used 1990 AWIRS data to show that there was a dramatic difference in unionisation rates between small and large firms, specifically that 77% of large firms had union members present while there were union members present at only 36% of small firms, and these members tended to be in the minority.\(^{21}\) Most recently the 1995 AWIRS shows (in Table 3.1) that the majority of small workplaces do not have employees who are members of a trade union.\(^{22}\) Further, when small firms are defined being single workplace organisations with less than 20 employees, the 1995 AWIRS data show that the proportion of small firms without trade union members is 83% (Morehead et al., 1997: 301).

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\(^{17}\) Ichinowski, Kochan, Levine, Olsen and Strauss (1996) concur, arguing that studies like AWIRS “provide a wealth of data about the incidence of practices, but tell us little about their impacts” (p. 303).

\(^{18}\) Other types of studies also support this finding of low unionisation in small firms (see for example studies by Abbott, 1993; Dundon, Grugulis & Wilkinson, 1999; Hartley, 1992; McLaughlin & Gourlay, 1992).

\(^{19}\) The British Workplace Industrial Relations Survey [WIRS] (Millward, Stevens, Smart & Hawes, 1992) and Workplace Employee Relations Survey [WEIRS] (Cully et al., 1999) also show that small firms (25–99 employees) employ few union members.

\(^{20}\) These data were gathered from telephone interviews with 809 proprietors of firms employing less than 20 people.

\(^{21}\) Callus et al. (1992) re-analysed the 1990 AWIRS data adopting the quantitative aspects of the Beddall report’s (1990) definition. The sample of 564 small firms was drawn from those manufacturing workplaces employing between 5–99 people and those non-manufacturing workplaces employing between 5–19 people. The sample of 1,483 large firms included those in manufacturing employing 100+ people and non-manufacturing employing 20+ people.

\(^{22}\) Note that these data are based upon the size of the workplace, which may or may not coincide with the legal entity owning the firm (i.e.: a company, partnership, trust or sole proprietor).
Table 3.1: Unionisation – AWIRS 95

<table>
<thead>
<tr>
<th>No union members (% workplaces)</th>
<th>Union members (% workplaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 20+ employees</td>
<td>26</td>
</tr>
<tr>
<td>All 5+ employees</td>
<td>57</td>
</tr>
<tr>
<td>5–19 employees</td>
<td>71</td>
</tr>
<tr>
<td>20–49 employees</td>
<td>36</td>
</tr>
<tr>
<td>50–99 employees</td>
<td>22</td>
</tr>
<tr>
<td>100–199 employees</td>
<td>12</td>
</tr>
<tr>
<td>200–499 employees</td>
<td>7</td>
</tr>
<tr>
<td>500+ employees</td>
<td>2</td>
</tr>
</tbody>
</table>

Note: Unweighted N = 3,076 (1,075 workplaces 5–19 employees; 2,001 workplaces 20+ employees).

Industrial Action

Industrial action has been decreasing over time in all sectors: the ABS (2000c) reveals that there were some 729 industrial disputes recorded in 1999 involving some 460,900 employees at a cost of 650,400 working days lost. In 1997, the lowest number of disputes was recorded since 1940, however, in the past two years there has been a slight increase in the number of disputes, as well as the number of employees involved and working days lost. On balance the evidence suggests that organised industrial action is a fairly rare occurrence. Information from AWIRS supports this contention and also shows that industrial action is least likely to occur in small workplaces (Table 3.2). Furthermore, this data shows that only 1% of small firms (defined as single workplace organisations with less than 20 employees) experienced any industrial action (Morehead et al., 1997: 595).

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23 See previous footnote.
### Table 3.2: Industrial Action in Previous 12 Months – AWIRS 95

<table>
<thead>
<tr>
<th></th>
<th>No industrial action (% workplace)</th>
<th>Industrial action (% workplaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 20+ employees</td>
<td>78</td>
<td>22</td>
</tr>
<tr>
<td>All 5+ employees</td>
<td>92</td>
<td>8</td>
</tr>
<tr>
<td>5–19 employees</td>
<td>98</td>
<td>2</td>
</tr>
<tr>
<td>20–49 employees</td>
<td>82</td>
<td>18</td>
</tr>
<tr>
<td>50–99 employees</td>
<td>75</td>
<td>25</td>
</tr>
<tr>
<td>100–199 employees</td>
<td>77</td>
<td>23</td>
</tr>
<tr>
<td>200–499 employees</td>
<td>62</td>
<td>38</td>
</tr>
<tr>
<td>500+ employees</td>
<td>51</td>
<td>49</td>
</tr>
</tbody>
</table>

Note: Unweighted N = 3,076 (1,075 workplaces 5–19 employees; 2,001 workplaces 20+ employees).
Source: Changes at Work: The 1995 Australian Workplace Industrial Relations Survey (Table AA.12, p. 613), Morehead et al., 1997, Longman: Australia.

### Implications for Industrial Harmony

Overall, this information reveals that small workplaces (and small firms) are less likely to have employees who join a trade union or engage in industrial action. Such information can be (and usually is) contrasted with the situation in large workplaces where employees are more likely to join a trade union and engage in industrial action (Morehead et al., 1997). The problematic use of low unionisation and a lack of industrial action as proxies for ‘industrial harmony’ in much of the small firm literature has meant that the ‘small is beautiful’ stereotype is reinforced in research which draws on such a structuralist analysis. This is problematic as it forms a powerful rationale for government to encourage the development of small firms through the promotion of an ‘enterprise culture’ and supportive legislative changes. For example, in terms of unfair dismissal, why else would governments seek legislation that exempts employees in small firms? This has been the case in Australia where the federal government has, since 1998, sought amendments to the Workplace Relations Act 1996 to exclude new employees in firms with less than 15 employees from unfair dismissal provisions (DEWRSB, 1999a; 1999b). Similarly in the U.K., Tony Blair has also sought to withdraw a range of employment rights from workers in firms with less than 20 employees. The Employment Relations Bill reportedly included plans to restrict access for small firm employees to unfair dismissal provisions, employment tribunals, minimum wage regulations and working time arrangements (Milne, 1999).

However, rather than interpreting low unionisation and the absence of industrial action as being indicative of ‘good’ or ‘harmonious’ relations (Callus et al., 1992), these features of small firm employment relations can be accounted for by the absence of systemic factors. Levels of unionisation can be explained in terms of the growth of group consciousness among employees in similar work situations and the standardisation of terms and conditions of employment by management (Curran & Stanworth, 1979b; 1981a; Stanworth & Curran, 1989), something that does not always occur in small firms. Similarly, the
lack of unionisation in small firms may be the result of difficulties in unionisation or isolation of shop
stewards (Rainnie, 1989), rather than reflecting attitudes of employees to unionism in firms of different
sizes. When Barrett and Buttigieg (1999) use individual, rather than workplace, data available with the
1995 AWIRS, they argue that low unionisation in small firms may be explained by the differences in
employer opposition and fewer union services available to employees in small firms. That is, there are
high opportunity costs of joining a trade union where the employer opposes trade unions, especially where
there is poor union presence at the workplace.

Moreover, although strike action is often taken as a good measure of the level of industrial action, doing
so ignores that industrial action can take a range of overt and covert forms other than strike action (Deery,
Plowman & Walsh, 1997). In small firms, where there is not the collective organisation needed for strike
action, then conflict may be expressed through a range of individual means. There are various studies
(mainly U.K. based) that show a greater tendency for small firm employees to be unfairly dismissed (for
example, Dickens, Jones, Weekes & Hart, 1985; Westrip, 1982) and high labour turnover in small firms
(for example, Curran & Stanworth, 1979a). Goss (1991a) summarises the evidence to say that “conflict is
common in small firms but it tends to be manifested at an individual level” (p. 156). Furthermore, as
Barrett and Buttigieg (1999) find that there are higher levels of pay dissatisfaction and fewer alternative
(formal) mechanisms for communication and grievance procedures for employees in small firms, then
such individual responses may be the only way of resolving conflict.

The point being made is that such a structural analysis is inadequate and it is necessary to include agency
if the appearance of harmony in small firms is to be explained. In other words, as Goss (1991a; 1991b)
and Rainnie (1989) argue, an employee perspective must be included in any analysis of small firm
employment relations in order to explain qualitative aspects such as how structures of employment
relations constrain and enable action and why employees remain cooperative. However, rather than take
this path, the absence of traditional features of industrial relations in small firms has led to a questioning
of whether HRM exists in or is applicable to small firms.24

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24 Such a search relies on the idea that the underlying values of HRM are more unitary and individualist than those of industrial
relations, which are more pluralist and collectivist (for example see Godard & Delaney, 2000; Guest 1995). Although elements of
HRM are collective, the way in which HRM has been espoused, practised and analysed may simply reflect its pedigree in
sophisticated mainly American, non-union firms (Appelbaum & Batt, 1994), rather than any inherent incompatibility with trade
HRM Research and Small Firms

The concern in this chapter is not with the more general questions of strategic HRM (see for example Delery & Doty, 1996; Dyer & Kochan, 1995; Lengnick-Hall & Lengnick-Hall, 1988; Wright & Snell, 1998) or indeed with critiques of the general HRM approach (see for example Keenoy, 1997; Legge 1995). Rather the focus here is on writers who have suggested that the small firm might be an ideal site for the application of employment initiatives derived from an HRM approach. A number of writers have sought to apply insights from the extensive HRM literature to questions of management in small firms. There are a number of studies seeking to ascertain the extent of adoption of HRM practices in small firms (see for example Benmore & Palmer, 1996; Desphande & Golhar, 1994; Hornsby & Kuratko, 1990; Marlow & Patton, 1993; Ram, 1999; Wagar, 1998), however most are fraught with conceptual problems and can be questioned as to whether they are really studies of small firms. For example, the study by Wagar (1998) is based on survey responses from 991 small employers (20–500 employees) in Atlantic Canada (M = 69.5 employees). Similarly, Desphande and Golhar’s (1994) study of HRM in small (less than 500 employees) and large manufacturing firms relies on data from 100 respondents spread across a range of industries in the U.S. Midwest.

Of the more critical studies seeking to ascertain the types of HRM practices adopted in small firms, the studies by Duberley and Walley (1995)26 and Bacon, Ackers, Storey and Coates (1996)27 are of some significance. In order to research the adoption of HRM practices in small, traditional brownfields manufacturing organisations in the East and West Midlands and South Yorkshire, U.K., Duberley and Walley (1995) draw on the practices from Storey’s (1992) list of 27 items. Bacon et al. (1996) consider 11 critical initiatives indicative of the ‘new management’ including: culture change, devolved management, team-working, flexibility and quality task forces.

The conclusions drawn from these studies are interesting. Duberley and Walley (1995) find that the most common HRM practices in small firms are: business need as the prime guide to action; conflict de-

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25 There are many different ways in which HRM can be understood, although it is said to essentially comprise a set of policies designed to maximise “strategic integration, high commitment, high quality and flexibility amongst employees” (Guest, 1987: 42; 1997). Generally, specific policies relate to: planning and forecasting human resource requirements; recruitment and selection of employees; appraisal, compensation and employee motivation; designing and implementing employee training and development programs; and establishing and maintaining effective working relationships, while the overall thrust is that employees that best fit the needs of the organisation should be attracted (for an early example of this type of thinking see Schuler & Jackson, 1987). These people must then be retained and motivated to perform at higher levels for which they are rewarded, and if all functions and activities are integrated or bundled then competitive advantage will result (Delaney & Huselid, 1996; Dyer, 1993; Dyer & Kochan, 1995; Dyer & Reeves, 1995; Huselid, Jackson & Schuler, 1997; Pfeffer, 1994; 1998).

26 Duberley and Walley’s (1995) research is based on comparative case studies of 16 organisations, which may or may not be independent firms (the owner/manager was only present in six of the firms), ranging in size from 120–425 employees (Md = 231 employees) with a turnover of less than £25M.

27 Bacon et al.’s. (1996) research is based on telephone interviews with 95 small (15–25 employees) and 134 small and medium-sized (26–199 employees) companies spanning a range of sectors including manufacturing, distribution, business services, transport and other services. In addition, they conducted 13 case studies (constructed only from interviews with company directors) in firms of different sizes and spread across different sectors, which had indicated a high take up of new HRM initiatives.
emphasised; values/mission; customer orientation; speedy decision making; general business management to the fore; and increased direct communication. This leads them to argue; “it would appear that many of the companies studied had seen a definite change in their employment practices in recent years” (Duberley & Walley, 1995: 900). However, the question of whether these changes represent an adoption of HRM principles and practices is addressed when they state, “it appears that, instead of wide-ranging strategic changes, what we often saw were piecemeal ‘quick fixes’ to perceived problems” (Duberley & Walley, 1995: 900). To this end, they suggest a return to the fundamental issue of labour management. This is suggested, as their findings do not make clear whether the existence of certain HRM practices in small firms result from the adoption of HRM or are merely there as a result of the way small firms always operate. Some similarities arise with Bacon et al.’s (1996) conclusions when they suggest that team working, team briefing, and flexibility between jobs were the top scoring new management practices in small firms.

Bacon et al. (1996) argue on the strength of their results that “the research…indicates it would be inaccurate to assume [bleak house] was the norm in the small business sector” (p. 98). ‘Bleak house’ (Sisson, 1993) can be said to describe a unitary view of authority (Rainnie, 1989) as well as the informal routinisation (Scott et al., 1990) of personal control in small firms. Goss (1988a) argues that this is the case as the personal factor leads to employees being more aware of the consequences of behaviour incongruent with the employer’s expectations, hence, in order to preserve some measure of employment security, compliance is elicited. This ‘bleak house’ view is that flexibility is no more than instability as there are few procedures or processes for employees to work within. Further, unitarism (or family style) is really a form of authoritarianism, as employees do not have the ability to challenge the prerogative of small firm owner/managers (Wilkinson, 1999).

Bacon et al. (1996) draw the following conclusions from their research:

First, the small business is in many ways the ideal site for the development of a HRM approach in two ways. Communications are more direct, people have to work more flexibly, the hierarchy is flatter, the impact of each employee on organisational performance is clearer and the greater insecurity makes the organisation more responsive to changes in market and customer demands. Second, the nature of change programmes in small business appears to be much more informal and organic. As such, they carry greater meaning and indicate a more authentic approach than the relatively bureaucratic change programmes of larger organisations. This suggests that large organisations have much to learn from the informal nature of change in small businesses. Rather than taking the absence of large formal programmes to be a weakness of HRM in small organisations, it may be the competitive advantage of the smaller organisation. Finally, as a result of the internal power structure, when a small business manager decides to change things s/he can more easily bring about change (p. 89).
This quote is most telling about the rhetoric of HRM in small firms, which resonates the ‘small is beautiful’ stereotype. This quote indicates, and particularly in the last line, the vulnerability of employees in small firms rather than any new found set of working relationships.

These studies, whether of industrial relations or HRM in small firms, based upon a particular theoretical approach to employment relations, have particular implications for industrial harmony in small firms. As the review shows, small firm industrial research, underpinned by a pluralist approach, largely focuses on structures and is facilitated by data gathered in large-scale surveys of industrial relations. Where those aspects of traditional industrial relations are absent, the focus has turned to whether HRM (underpinned by a unitary perspective) has been adopted in small firms. Structures are again the focus when HRM in small firms has been investigated, however the structures in this situation are HR practices. When agency is neglected, as it has been in the studies cited as examples, the conclusion can be drawn that industrial harmony prevails in small firms. It is not being argued that such a conclusion is wrong, only that it provides a partial explanation for employment relations in small firms. As Hyman (1978) argues:

Understanding would be better assisted by a radically different approach: a sensitivity to the contradictory dynamics of capitalistic production, the antagonistic structure of material interests within the labour market and labour process, and the consequent and persistent generation of conflict and disorder within the very institutions and procedures designed to bring order and stability to employer – employee relationships (p. 35).

Structure and Agency from a Marxist Approach

If both structure and human agency are to be taken into account then the influence of the owners and managers upon the firm as well as the structural determinants that both “form the preconditions, and inform the content, of strategic choice” (Whittington, 1988: 533) need to be considered. In terms of understanding small firm employment relations, this means that it is necessary to consider both the environment within which small firms operate, as well as the impact of this on, and the effect of, managerial choice (Hyman, 1987; Whittington, 1988). At the heart of this analysis must lie questions of extraction and realisation of surplus value as well as the contradictions between problems for management that arise at different moments in the circuit of capital (Kelly, 1998). However, to overcome charges of this analysis being overly structuralist – where “behaviour is seen as determined by and reacting to structural constraints” (Astley & Van de Ven, 1983: 247) – then equal priority must be given to how structures constrain and enable action, and in particular how the reality of people’s working lives is formed and constrained by the interplay of the labour market and their expectations of work. Such an approach to analysing small firm employment relations must therefore start with the totality of economic and social relations in a particular sector and its contradictory constituents rather than the small firm per
se, as has been argued above. To paraphrase Marx, 'people make their own history but not in circumstances of their own choosing'. In other words, structural forces lay down broad parameters within which action takes place, but in confronting structural forces, to varying degrees, actors change both the nature of those forces and indeed themselves.

A Marxist analysis of industrial relations specifically and employment relations generally, is located within a broader analysis of capitalist society and in particular social relations of production and dynamics of capital accumulation (Blyton & Turnbull, 1998). The capitalist mode of production is one where the essential elements – capital and labour – are owned by distinct social groups, thus an inequality of power is an inherent feature of the capitalist mode of production negating the pluralist view of groups competing for scarce resources. In a capitalist society, production is geared to the maximisation of profit and this objective alone dictates the behaviour of the capitalist. The main task for management, as the representative of the owner of capital at the workplace, is to convert workers capacity to perform work – labour power – into actual work effort – labour. Edwards (1979) make this clear when he writes:

Labour power can be bought, but between the purchase of labour power and the real appropriation of useful labour comes a wedge: the will, motivation and consciousness of the worker dramatically affects the workforce's productivity (p. 11).

Labour relations in the capitalist mode of production are therefore antagonistic. Managers are the agents of the capitalist system and as such are engaged in maintaining both organisational systems and the structure of the capitalist system. Ultimately, management is representing the interests of capital and acts to ensure that the basic structure remains in the favour of capital (Hyman, 1975).

Hyman (1975) takes a Marxist approach when he defines industrial relations as the “study of processes of control over work relations” (p. 12) This alerts the researcher to ‘the fluidity of the process of control’ arising from the fact that the employment relationship is “a continuous and shifting relationship that can never be effectively frozen in a formal rule” (p. 31). The indeterminacy of the employment relationship is such that control is central to any analysis. Hyman suggests that his definition also indicates that “the continuous relationship of conflict...stems from a conflict of interests in industry and society which is closely linked with the contradictory tendencies in the capitalist economic system” (p. 31). Further, the contradictions inherent in any capitalist structure lead Hyman (1987) to argue; “there is no ‘one best way’ of managing these contradictions, only different routes to partial failure” (p. 30).

A Marxist analysis, which can be applied to all firms regardless of size, places an contradiction and change: a dialectical, rather than a deterministic, process of reciprocity between structure and human agency (Thompson & McHugh, 1995). In other words, in “the material features of social life, especially the economics of production, limit available for the organisation of human existence, but do not determine behaviour” (E
It is argued that by taking this radical view of employment relations then structure and agency can be accommodated in the integrated approach to small firm employment relations.

**Labour Process Theory and Typologies of Control**

Typologies of control over the labour process have been developed based upon Marx’s analysis of capitalism as a social system. The Marxist view sees management emerging as a distinct activity in society with the growth of the industrial enterprise. Management has the task of supervising and controlling labour on behalf of the capitalist owners. Control is necessary because the labour process becomes the responsibility of the employer, who, in purchasing labour power is purchasing something of an indefinable quantity and quality. As such, the labour process under capitalism has specific characteristics, the most significant being the transformation of labour power into actual productive labour that was originally elaborated by Marx (1978) [1867]. In the employment relationship, control emerges as a means to transform the capacity to work into profitable production. Furthermore, it is the fact that capitalist work organisations are in a competitive relationship with each other that forces employers to seek means of increasing the rate of extraction of surplus value or surplus labour from the employee. The outcome is a process of accumulation, from which no organisation can stand aside and which compels capital to constantly reorganise production (Thompson & McHugh, 1995). Thus exploitation and domination are characteristics of the system of capitalism rather than aspects within the control of the individual employer.

However, not all changes in the labour process are driven simply by management’s need for control over labour. This is made clear when Hyman (1987) writes: “Capital confronts labour not merely within the workplace but in commodity markets, in political life, in the sphere of culture and ideology. Men and women become wage-labour before they enter the gates of factory or office” (p. 47). Achieving control within the organisation, then, depends as much on factors outside as inside (Salaman, 1981). However, it is beyond the scope of this chapter to detail the mechanisms by which men and women are constituted as wage labour prior to becoming wage labourers. This is despite ample evidence that, for example, firms seek to shape both public attitudes and state policies in ways which can sustain a social and economic order which is conducive to their interests (Hyman, 1987). Obvious examples are reflected in efforts to ensure that industrial relations legislation enshrines the dominance of capital over labour and that the educational system produces a labour force with appropriate skills and attitudes towards work.

Control is a central concept based on the fact that the employment contract is open-ended. The transformation of labour power into actual productive labour can only occur through the establishment of structures of management control. However, not all employees may accept such control willingly and thus Littler and Salaman (1984) argue that:
All forms of control contain, in different degree, two dimensions of control: the specification of levels of performance (and this may vary from highly specified to highly autonomous) and some effort to develop some level of consent, or acceptance of the legitimacy of the employment relationship. Both dimensions are necessary for any work relationship. The utility of the specification of levels of performance depends absolutely on some minimal levels of compliance (p. 57).

This leaves management with two potential contradictions of needs: to exploit the workforce and to create the conditions under which this is possible. Successive labour process theorists have developed this idea to create typologies of control strategies. Braverman (1974) built upon Marx's original work, focusing on the emergence of new methods of management control in the context of monopoly capitalism. Braverman (1974) argued that the logic of capitalist production was to de-skill the labour process. The tendency, for employers under capitalism, was to subdivide tasks and separate conception and execution through the application of new technology. Deskilling provided for increased capitalist control over production because opposed centres of knowledge were destroyed and the labour process fragmented. Although there are many critiques of Braverman's (1974) work (see Thompson & McHugh, 1995 for an overview) it has served to refocus attention on relations at the workplace and particularly managerial strategies.

Friedman (1977; 1984) pointed to the use of two broad strategies of control, the choice of which would be dependant upon variations in the stability of labour and product markets, mediated by the interplay of worker resistance and managerial pressure. The first strategy, direct control, was similar to that expounded by Braverman (1974). The second strategy of control, responsible autonomy, attempted "to harness the adaptability of labour power by giving workers leeway and encouraging them to adapt to changing situations in a manner beneficial to the firm" (Friedman, 1977: 78).

The progressive model of simple, technical and bureaucratic management strategies developed by Edwards (1979) was based upon his study of American companies. He suggested that each strategy tended to be predominant at different stages of development of American business and as such "reflected worker resistance and changing socio-economic conditions" (Thompson & McHugh, 1995: 116). The first strategy, simple control by employers or supervisors and relatively unsophisticated piecework systems, was said to prevail during the competitive capitalism of the late nineteenth and early twentieth centuries. The second, technical control, involved "designing machinery and planning the flow of work to maximise the problem of transforming labour power into labour as well as maximise the purely physical-based possibilities for achieving efficiencies" (Edwards, 1979: 112). However, although technical control kept worker discretion to a minimum, it also set up the potential for worker opposition and militancy by ensuring a common experience of work. In contrast, the third strategy of bureaucratic control "established the impersonal force of 'company rules' or 'company policy' as the basis for control" (Edwards, 1979: 152). Worker loyalty, gained through positive rewards and a graded hierarchy, was returned with personnel policies for secure, long-term employment opportunities.
Burawoy (1979; 1985) also pointed to different strategies of management control distinguished by the stage of development of capitalism. He argued that employers were able to obscure their fundamental imperative and as a result diffuse worker resistance to it through the development of internal labour markets and internal states within organisations. Despotic and hegemonic were the initial modes of control identified by Burawoy (1979) – the former being similar to Edward’s (1979) simple control or Friedman’s (1977; 1984) direct control, the latter having parallels with bureaucratic control referring to more sophisticated means of winning consent. Subsequently Burawoy (1985) elaborated on these types of management strategies adding a third – hegemonic despotism, which basically refers to the new balance of economic forces arising from the greater mobility of capital (Bray & Littler, 1988).

It is argued that Braverman (1974), Edwards (1979), and Burawoy (1979; 1985) largely assume a linearity in their management strategies of control, with each strategy being linked to successive phases of capitalism. However, Friedman (1977; 1984) focuses more on the nature of choice and that managers have a choice of strategies, which in turn, depends upon the degree of competition in labour and product markets. The problem nevertheless was the identification of a simple dichotomy of strategies, although Friedman (1984) did later argue that direct control and responsible autonomy should be conceived:

[Al]s two directions towards which managers can move, rather than two pre-defined states between which managers can choose. There is, therefore a wide range of possible positions between extreme forms of responsible autonomy and direct control as well as different paths leading in each direction (Friedman, 1984: 3).

Writers investigating questions of managerial style, strategy and employment relations have implicitly or explicitly drawn upon Friedman’s later, more sophisticated analysis (as will be the case in this thesis).

Implications for Researching Small Firm Employment Relations

The issue highlighted by the above review of strategies to control the labour process is whether what occurs in small firms can be adequately explained, as these typologies were derived from studies of large firms. Although employment relations in small and large firms are alike in that they are based upon a basic exchange of wages for work, they differ in the extent to which personal relationships penetrate the industrial relationship. Studies of small firms by Newby (1977), Curran and Stanworth (1979a; 1979b; 1981a; 1981b), Rainnie (1984; 1989), Scott et al. (1990), Ram (1991; 1994), Holliday (1995) and Wilkinson (1999) all point to the effect of the owner/manager as well as labour and product market conditions on small firm employment relations. The proximity of the owner/manager and the physical environment affect the development of employment relations as is made clear in the following quote:

Whilst these factors are clearly important, it would be wrong to over stress the extent to which order is produced by the naked exercise of power and control across the employment relationship….one of the key factors in understanding how small firms work is an appreciation of
the interpenetration of personal and public statuses, the very real way in which personal relations become industrial relations issues (Scott et al., 1990: 46).

Ownership Structures and Control

These issues have been raised in a number of studies seeking to investigate managerial strategies and control structures in small firms. For example, the typology of small firm ownership structures developed by Scase and Goffee (1980; 1982; 1987) and Goffee and Scase (1982; 1985) serves to differentiate those who are often labelled as petit bourgeoisie by the relative mix of capital utilised and labour employed. They argue that the ‘entrepreneurial middle class’, which “consists of those who own property which, together with their own and others’ labour, they use for productive purposes” (Scase & Goffee, 1982: 23), actually composes four sub-categories. The four types of ownership structures they identify allow consideration of how strategies employed by the small firm owners “to obtain or command the allegiance of their staff” (Scase, 1995: 584) function within the context of personal face-to-face relations. As such, this typology serves to highlight the issue of agency by attempting to account for how the entrepreneurial middle class is reproduced within society.28

The self-employed are those who work for themselves and formally employ no labour (Goffee & Scase, 1985). However, they are usually dependent upon the unpaid services of others, particularly family members. This leads to a fairly rudimentary division of labour that replicates, or is similar to, that which exists in the home (Scase, 1995). In other words, the division of labour is often realised along the lines of gender based authority relations. The self-employed differ from small employers who work alongside their employees as well as take on administrative and managerial tasks associated with running their business (Goffee & Scase, 1985). In such firms, the nature of employment relations is complex and often contradictory as owners are often employers as well as employees. Proximity and personal relationships reinforce contradictions while employing friends and family can cause further complications (Scase, 1995). As a result, decision-making is constrained and can lead to tension and friction when exercising proprietorial prerogative. The familial cultures and the family firm are motifs that recur throughout the literature (see for example, Holliday 1995; Ram, 1991, 1994; Scott et al., 1990).

Owner-controllers are those who do not work alongside their employees but are instead solely and singularly responsible for administering and managing their firm (Scase & Goffee, 1982). Attention needs to be paid to the development of effective employee – employer relationships as well as mechanisms of

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28 The authors chose the building and construction industry in the South East of England as the site to study the factors that account for the continued reproduction of the entrepreneurial middle class. They argued that this industry could be used as “a critical case” (Scase & Goffee, 1982: 27) of an environment that brings together the characteristics and economic and social processes most favourable to the formation and growth of small-scale business units. The research draws upon interviews conducted with 90 general building proprietors, some of their wives and 10 senior building managers during 1979. Twenty-five interviews were conducted with men in each of the four categories.
supervisory control. Systems to ensure appropriate employee behaviour need to be developed, as do those that recognise and reward employees (Scase, 1995). In contrast, owner-directors own and control firms with management hierarchies and within which executive decision-making is relegated to senior management staff (Goffee & Scase, 1985). Employment relations within these firms are variable and may range from personality-based strategies relying on charismatic leadership by the owner to more formal bureaucratic forms (Scase, 1995).

Determining different proprietorial roles based upon the mix of capital and labour does not imply that there are unvarying forms of practice (Edwards, 1995) within each of these types. This conceptualisation of small firms based on proprietorial roles shows that there is no generic type of small firm employment relations. For instance, owner-director firms are characterised by their division between capital and labour, however the limited size of some owner-director firms may be conducive to the generation of employment relations that are "more particularistic, informal and rarely institutionalised" (Scase, 1995: 584). As such, the need to consider both structure (effect of external forces, particularly the relationship between small and large capital) and agency, is highlighted. However, the concentration on forms of ownership prioritises managerial agency over labour, which remains a residual element in the equation. That structural elements remain underplayed goes some way to account for the fact that although this approach is centred on a notion of the petit bourgeoisie, there is no notion of contradiction and certainly no notion of contradictory class location (Wright, 1978), which could only be derived from a more structural approach.

Employer Strategies of Control

Goss (1991a) develops a fuller typology of small firm employer control strategies. He draws on Goffee and Scase's (1982) study of small employers in the building industry holding fraternalistic and paternalistic attitudes towards employees. Goss argues that the notion of control is essential to explain why employment in small firms elicits from employees behaviour that appears to support the industrial harmony thesis. The typology takes into account the dual nature of control as it is based on the dimensions of the extent of employer's economic dependence on employees, and the ability of employees to resist the exercise of proprietorial prerogative. The four types he identifies are: sweating; benevolent autocracy; paternalism and fraternalism (see Figure 3.1). The characteristics of each type of control strategy and the conditions under which each is more likely to be appropriate are briefly described.29

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29 These types can be referred to as "management styles" as they represent the philosophies and values that influence action (Purcell, 1987) rather than the action (industrial relations or HRM practices) itself.
Figure 3.1: Employer Control Strategies in Small Firms


The management style of sweating arises when the principal factor in the employment relationship is cost. The power imbalance is firmly in the favour of the employer as employees can easily be replaced and as a result, there is no need to develop relations beyond those narrowly set by the market. This differs from benevolent autocracy, which is adopted where the employer’s positional power defines their role in relation to their employees and thus the power imbalance removes control from the negotiation arena (Goss, 1991a). The high levels of interaction with employees temper the employer’s autocratic behaviour and therefore relations are friendly and informal but limited by the enterprise boundaries. However, as the distinction between benevolent autocracy and sweating is blurred, Scase (1995) merges the two and simply calls them autocracy. However, autocracy, whether benevolent or sweating, is simply a version of direct control as elaborated from a labour process perspective (Friedman, 1977; 1984), but equally exhibits all the failings of the monochromatic control school of labour process analysis.

Paternalism as a management style “tries to secure employee identification with the employer’s aims by strong personal relations and mutual duties and obligations extending beyond work to life more generally” (Stanworth & Gray, 1991: 204). This is possible as the employer is (to a certain extent) dependent on the employee for the economic success of the firm but the employee is also heavily dependent upon the individual employer for a job. To a degree, the adoption of paternalism as a management style requires a level of isolation to surround the employment relationship so that employees have limited access to alternative meaning systems and other types of employment.

Fraternality differs from paternalism in the extent to which employees possess competencies, which are more general and transferable between enterprises. Therefore, in contrast to paternalism, where employee
identification is fostered within interpersonal relations of difference, fraternal management strategies emphasise the importance of identification while differences between the employer and employees are a secondary element in the employment relationship (Scase, 1995). Essentially, fraternalism can be adopted in situations where employees can easily become employers, and where the employer most probably has been (at some stage) an employee. Given this likelihood of movement from employee to employer, Scase (1995) argues that there is "a high degree of mutual understanding of work processes and the difficulties and constraints which workers often face in the accomplishment of their tasks" (p. 558). The employer working alongside employees fosters identification, and therefore fraternalism is likely to occur in Goffee and Scase's small employer category (see above). An employee share ownership scheme, which serves to minimise the difference between employer and employees, can also reinforce identification.

Fraternalism is therefore characterised by a strongly egalitarian ethos pervading the relationship as the employer negotiates with, rather than controls, the employee. The fraternal 'first among equals' style can only be used in situations where there is a small socio-economic gap between employers and employees. This dependence is a result of the employee's ability to provide critical skills to the firm. Fraternalism is dependent in a large part upon the prevailing economic conditions (a tight labour market), and Goss (1991a) argues that under any other conditions employees would view such a management style with suspicion. This style is highly resonant with Friedman's (1977; 1984) management strategy of responsible autonomy.

A number of problems can be identified with this typology. First, Goss (1991a) argues that neither fraternalism nor paternalism can claim to be typical and that benevolent autocracy is more likely to represent the management style in small firms. Such an argument implies an homogeneous small firm sector, which is inconsistent with Goss's own theorising, and generalises from his research in six independent firms employing between one to six people (a total of 18 people employed) in the instant print sector of the U.K. general printing industry. Clearly there would be benefits from applying this typology in a greater range of industries. Second, the typology takes little else into account but control. As Chapman (1999) points out, the typology indicates that, for example, where employers are highly dependent upon employees and they have a corresponding ability to resist the exercise of managerial prerogative, then fraternalism will result. Agency exists only insofar as a worker's position in the labour market allows for some degree of bargaining power, and as such, Chapman's (1999) charge of determinism appears appropriate.

**Family Firms and Paternalism**

This focus on issues of management control can also be seen in the following approaches to employment relations in small firms where the concentration has been upon the relationship between the family firm and the family form. The way in which family structures, paternalism or patriarchal control structures are
utilised to create the industrial harmony is a recurring theme in more critical literature. For example, in Rainnie’s (1989) study of small firms in clothing and printing industries in the Northeast of England, attention is drawn (albeit briefly) to the notion of the family firm. In the 19 interviews with owner-managers, many described their firms as a family firm and drew on a traditional, patriarchal and highly idealised image of the family to legitimate an autocratic managerial style. As pater familias, the owner-manager saw the workforce as children, thereby legitimating their decision-making and defined any disagreement on behalf of the workforce as recalcitrant.

This point is also developed by Scott et al. (1990) who consider the effect of employing direct family members in obscuring the nature of the employment relationship. Scott et al. (1990) argue that:

The evidence from our sample supported the view of the importance of non-formal channels of management and the existence of a network of interconnected particularistic relationships between the employer and the employed....This ‘system’ of management serves to minimise the potential for a collective stance on behalf of the workers, although differences in ‘industrial subculture’ are important here. The internal heterogeneity of particularistic relationships established a form of ‘organic solidarity’ within the firm. Our evidence suggests, however, that this should not be mistaken for harmony, as the obedience of individual workers may be the product of ‘submission agreement’. The key to the specific quality of relationships in these small firms is to be seen in the interpenetration of personal and industrial relations, the way in which the employment relationship is obscured by family and affective ties (p. 52).

In Ram’s (1991; 1994) one-year case study of three Asian small businesses in the West Midlands clothing industry, this issue is also pursued.30 The concern in this study, involving a four-month period of observational fieldwork followed by weekly visits to the three firms (made easier as Company A was owned and operated by members of Ram’s immediate family), is with the negotiated order in small firms. In doing so, Ram concentrates first on the role of management and second on the connections between ethnicity and the labour process. Ram argues that rather than Asians in the West Midlands having any cultural flair for enterprise they are instead pushed into the clothing industry by an absence of opportunities in the mainstream. In other words, ethnicity cannot be examined in isolation from the wider context of racism, as well as considerations of the values and customs of the minority group in question. While employers struggle to survive, they do so mainly because they can draw upon family and community labour. In mainstream studies this is commonplace, but Ram stresses that as mainstream studies minimise the impact of racism, such studies neglect the fact that reliance on community resources is a predictable outcome of racism. Furthermore, community and family labour usually means family labour. Ram (1994) concludes that:

30 The owners of these small businesses are actually Indians who have migrated to Britain although Ram refers to t
It is this unpaid or poorly rewarded labour that keeps minority enterprise afloat. The case study findings demonstrated the central role that women played in the production and management of the enterprise. Yet sexist and racist immigration legislation classified them as ‘family’ women and confined them to a subordinate position at home and in employment. This was compounded by the patriarchal nature of familial ideology within Asian culture (p. 152).

Ram (1994) is critical of Rainnie’s (1989) approach arguing that his stress on the large firm-small firm relationship is overly deterministic leading to a monochromatic view of autocracy as the dominant small firm management style. As a result, he disagrees with Rainnie’s findings and instead suggests that ‘control is not simple’, rather that autocracy may be related to the firm size and market competition – as firm size increases and markets become unstable, there is a greater probability of autocracy. Against notions of harmony or autocracy, Ram poses the informal, complex and conflictual nature of the workplace. The effort bargain is contested, as employers are dependent on workers’ skill, therefore he argues that a polarised picture is misleading given the bargained but informal nature of relations on the shopfloor. Ram (1994) therefore characterises the management style in his case studies as negotiated paternalism: continual negotiations over the effort bargain mediated by product and labour market conditions, the time of the year, caste and culture. Ethnicity further shapes the character of employment relations but its impact also has to be interpreted and negotiated.

Similarly, Holliday (1995), in her investigation of the organisation of production in small firms, uses negotiated paternalism and concurs with Ram in suggesting the powerful but complicated way that notions of family are used within small firms. She uses the notion of ‘familial culture’ to explore employee relations in case studies of three small manufacturing firms employing 17, 55 and 15 people. These case studies are constructed out of semi-structured interviews, observation, and analysis of company documents conducted during a process of active participant research when Holliday worked as an employee within each of the firms. Her argument is that the boundaries between family and work overlap, leading to the adoption of paternalist management styles and therefore a family culture may be cultivated by the owner-manager in order to promote trust and increase the degree of alignment between the goals of managers and employees. As a result those who join the firm are joining a family and therefore must fit into the family or leave. She concludes that familial cultures have wide reaching implications for working conditions:

Family metaphors were adopted by managers to promote a paternalistic style of control although this was found not to be as simple as some theorists have argued. Thus, such metaphors imposed obligations as well as affording benefits to management. ‘Negotiated paternalism’ was found to be a more apt description of management patterns of control. The benefits of belonging to the ‘family’ were gendered, as buying into it frequently resulted in lower status for women whose caring roles were seen as ‘natural’ rather than skilled. Finally, family cultures were frequently exclusive, resulting in splits between so-called core and transient workers’ (Holliday 1995: 174).
However, by imposing homogeneity on small firms, the usefulness of the family metaphor for analysing small firm employment relations is diminished.

For example, Scott et al. (1990) point to important differences between the four sectors they study (high and low technology manufacturing and services).\footnote{Data for this study are drawn from interviews with managers responsible for decisions on employment policy in 397 small (mainly less than 50 employees), independent establishments in the areas surrounding Edinburgh, Cambridge, Leeds and Newcastle in the U.K. In addition 30 case studies are conducted involving interviews with managers and employees as well as analysis of company material where available.} Scott et al. (1990) conclude that the cluster of differences that serve to define industry and sector often exercise greater determinacy over relationships than size \emph{per se}. However, they then proceed to argue that ‘informality’ is the defining characteristic of the labour process in small firms. Similarly, Ram (1991; 1994) disagrees with the conclusion of autocracy in Rainnie’s study of small clothing firms, but in doing so fails to acknowledge how the sectoral dynamics differ between his and Rainnie’s (1989) study, where dependency relationships between small and large capital are critical. For instance, when Ram (1994) writes that “above a certain size of firm...such traditional and personal means of control tend not to be effective” (p. 165) and that “it is likely therefore that the processes described within companies in the West Midland’s clothing sector are probably ‘typical’ of ethnic-dominated inner city firms operating in competitive markets” (p. 169), he is falling back into the trap of attributing certain labour process characteristics to small firms. Equally, Holliday (1995) points to the fact that small firms tend to be homogenised in quantitative studies and stresses the importance of qualitative research in bringing out the differences within and between firms. However, as has been shown, she then proposes \emph{negotiated paternalism} as a defining characteristic of all small firms.

\textbf{Implications for Industrial Harmony}

It is possible to categorise the patterns of employment relations found in the range of different studies into Goss’s (1991a) typology of management styles. For example, Ram’s (1991; 1994) and Holliday’s (1995) findings of negotiated paternalism fit within the ‘paternalist’ style. Rainnie (1984; 1989) found evidence of autocracy in his study of small clothing and printing firms, while Goffee and Scase’s (1982) study of the building industry was the basis upon which Goss (1991a) developed paternalism.

The problem that emerges is that under each management style it is possible to see industrial harmony as the response of employees. For example, industrial harmony appears in Goss’s (1988a; 1991a) study of the instant printing industry where he finds a management style of benevolent autocracy. In that situation employees’ awareness of their position meant they sought not to jeopardise their job with behaviour that might be incongruent with their employer’s expectations. Similarly, paternalism and fraternalism give the appearance of industrial harmony. For example, in Newby’s (1977) and Newby, Bell, Rose and Saunders’s (1978) research drawing on interviews with 71 farmers and 233 farm workers within an area of 44
parishes in East Suffolk, U.K., a paternalistic management style meant that an inegalitarian and hierarchical social order could be maintained as:

On the one hand its interest is to maintain a degree of hierarchical differentiation over those whom it rules; on the other hand it wishes to cultivate their identification by defining the relationship as an organic partnership in a co-operative enterprise (Newby et al., 1978: 129).

The resulting absence of industrial conflict is a pragmatic acceptance of the rural class structure, rather than a function of harmony brought on by the proximity of the parties in the employment relationship.

Holliday (1995) implies harmony as the outcome of negotiated paternalism when she equates employees continuing to work in a firm with satisfaction, loyalty or commitment. This can be seen when she concludes that employees who work long hours when required without time off in lieu or overtime payment do so out of “loyalty” (p. 158). The evidence she draws upon is the employees’ expression of their ambition in terms of the firm’s development rather than their own personal growth. In doing so she ignores that there may be limited, or no other available, options to employees for earning a living. Further, she neglects to consider that unless a small firm develops, which could be as simple as staying in business, there may be little opportunity, or indeed a job, for these employees.

In small firms there can be an appearance of harmony even where there is an autocratic management style. For example, after studying small firms in the clothing and printing trades, Rainnie (1984; 1989) argues that worker compliance could be accounted for by management’s ability to resort to the use of autocratic strategies of control, which is legitimated by management’s reference to competitive market forces. The existence of a piecework and bonus system of payment in the clothing industry ensured that female workers work at a pace set and enforced by management. Further, this strategy is effective in circumstances where unionisation is not an option either because of the employers’ opposition to unionism and employees’ awareness of that opposition or through a lack of supply of union services (Rainnie, 1989). The evidence would therefore seem to suggest that Ram (1994) is wrong to argue that autocracy is the alternative to harmony in small firms: “One view is that the workplace is harmonious. An alternative paints a picture of autocracy” (p. 2).

Scase (1995) argues that methodological difficulties with studying small firms could account for the finding of industrial harmony. He points to problems of access – that the researcher often must rely on the ‘goodwill’ of employers, who are the owners, for access and therefore conduct research on their terms – that mean that ‘unfavourable’ or ‘bad’ employment relations are not uncovered. Further, the case study method, which is used by many small firm researchers, also holds problems of validity and reliability. For example, it is possible to argue that essentially Ram’s (1991; 1994) and Holliday’s (1995) work suffers from over-familiarity with their case study firms. Their interpretations are heavily reliant on a managerial interpretation of employee behaviour – not surprising given that Ram’s immediate family owned his main case study firm, and access to other firms was gained through family contacts. As such, he overlooks
unconventional forms of resistance in his case studies of small clothing factories. For example, Ram (1994) argues that when employees hoarded the easy work they preferred, so as not to have to do the work that was harder and therefore paid less under the piecework rate system, this was “not a deliberate strategy of worker resistance” (p. 111). Or similarly, when employees refused to use the expensive pocket welting machine, because it de-skilled their work, this was “not evidence of resistance” (p. 117).

Curran and Stanworth’s (1979a; 1979b; 1981a; 1981b) studies of small manufacturing (printing and electronics) firms reveal that employment relations in small firms are not conflict-free and harmonious, they only appear that way. They argue this on the basis that the employment relationship involves choices by both employers and employees. This contradicts the earlier work by Ingham (1970), who suggested that people self-select into small firms as the firm’s work environment was most sympathetic to their attitude to work.32 Furthermore, Curran and Stanworth (1979a; 1979b; 1981a; 1981b) find little evidence of small firm employees developing stable work orientations over time, as there is much evidence of job changing, often done on an involuntary basis and in light of short-term considerations. Curran and Stanworth’s (1979a; 1979b; 1981a; 1981b) studies also show that all small firms are not alike, instead their research establishes that different industries have different ‘cultures’, which affect the relationship between the employer and employees in firms in particular industries. Rather than relations being close and conflict-free across all industries, which is assumed by the industrial harmony thesis, face-to-face relations and attitudes of the parties vary between industries.

Goss’s (1988b; 1991b) studies of two contrasting sectors of the print industry also highlight the relevance of product market conditions as well as skill in shaping the nature of employment relations and the adoption of particular management styles. He argues that in the instant print sector of the industry, where young employees are largely unskilled and untrained and unions are not present, management is able to resort to an autocratic management style and thus elicit worker compliance. However in the craft based sector of the print industry such a strategy is inappropriate as employers are dependant on the skills of their employees, while employees exercise a fair degree of control over their work process as a result of the strong tradition of craft printing and unionisation (Goss, 1988b).

An additional problem with much of the small firm literature is the tendency to focus on low-skill manufacturing enterprises, leading to gaps in knowledge about the nature of employment relations in high-skill enterprises where employers are dependant upon employee’s professional, expert or creative skills of one kind or another (Scase, 1995). In high-technology firms, particularly those concentrating on product innovation, it is the intellectual capacity, creativity and talent of employees that makes up the employer’s trading capital and, as a result, the way in which management converts the potential to work into actual

32 See Rammie (1989: 160–77) for an extended critique of Ingham’s (1970) work: essentially he did not study small firms and as a result his conclusions are highly questionable, as is the subsequent work relying on his conclusions.
productive work in these firms is likely to be quite different to that in more traditional firms. It is the intention in this research to investigate this in the context of the information industry generally and software development work specifically.

**Conclusion**

It is proposed in this thesis that the integrated approach to analysing small firm employment relations will build upon the insights of recent work in addition to overcoming some of their deficiencies. In doing so the structure of employment relations (the specific industrial relations and HRM practices) in small firms will be described as the first step to exploring how these structures enable and constrain employee responses so that industrial harmony appears to typify small firm employment relations.

Marxist labour process theory will be used to facilitate this analysis and although other studies of small firm employment relations draw on this approach, the review in this chapter highlights the centrality that labour process theorists afford to the control of labour, while the question is whether this is reflective of actual management practice. For example, Ram (1991; 1994) and Holliday (1995), who arguably draw upon a Marxist labour process analysis, prioritise internal management and external labour market arrangements over the effect of the product market. In other words, they prioritise problems of extraction of surplus value over realisation problems. Little is told of the sectoral trajectories of development of their case study firms, or what the relationship is between large and small firms in those sectors or indeed the role(s) that small firms play, which is vital to understand the structural constraints and contradictions that beset managerial action and worker response. Thus although Ram (1994), for example, concludes that his study is located within an emergent trend which emphasises the importance of informal regulation, continuous and individualised negotiation in the workplace, and the distinctive nature of product and labour market arrangements, the reality is somewhat different. Similarly, Chapman (1999) draws briefly on labour process literature, but continues like Ram, to rely upon the control of labour motif. Indeed, after criticising Goss' (1991a) typology of management control strategies for being overly deterministic, and thus ignoring the question of human agency, Chapman (1999) concludes that the contradictory relationship between employees and employers challenges any implication of a simple deterministic relationship between product market conditions, the skill level of workers and the labour process.

The problem with these studies is that despite acknowledging that product and labour markets, worker resistance and other internal and external factors influence the nature and type of strategies adopted by management to control the labour process, the concentration is on control at the point at which surplus value is extracted. Kelly (1985) draws upon the idea of the ‘full circuit of capital’ to argue that attention should also be focused on the realisation of surplus value through the sale of commodities as well as the
prior purchase of labour. He goes on to make the point that “there is no sound reason for privileging any moment in the circuit” (p. 32). Moreover, such ‘privileging’ of one part of the circuit arises when it is assumed that one part determines what happens in another (Edwards, 1987). Managerial strategies in particular and labour process characteristics in general are not driven solely by managerial attempts to control the indeterminacy of labour, important though these may be.

The purpose of Chapter 3 (and Chapter 2) was to demonstrate the need for an integrated approach to analysing small firm employment relations. In Chapter 2 it was argued that small firm homogeneity could be overcome by applying Rainnie’s (1989; 1991a) heuristic device, and in this thesis the study is limited to firms operating within a single sector: the information industry. In Chapter 3 it was argued that Marxist labour process theory could be used to examine the effect of the ‘full circuit of capital’ on employment relations in small firms in a particular sector. Combining analysis at the level of the workplace with that at the individual level can incorporate the dialectical interaction between structure and agency and why there is an appearance of industrial harmony in small firms can be examined.

In the Chapter 4 the scope of the information industry in Australia is considered. A first attempt is made at outlining aspects of employment relations in the industry, drawing upon existing sources, which demonstrate, inter alia, how little is currently known about work and employment relations in this industry.
CHAPTER 4: THE INFORMATION INDUSTRY IN AUSTRALIA

Objective of Chapter 4

The objective of this chapter is to outline some of the structures of the sector in which the integrated approach to small firm employment relations is to be applied. The information industry, populated by a large number of small firms, is new and becoming important to the Australian economy. In this chapter the information industry is defined and put into context in the Australian economy using a number of government and industry data sources. In addition, aspects of employment relations in the industry are discussed in order to provide a context and rationale for more specifically focusing on the work of software development.

What is the Information Industry?

The ‘coming of the information age’ (Rifkin, 1995), where information and communication technologies have precipitated the third industrial revolution, has meant that in Australia the information industry is fast becoming a critical sector for the economy as its development underpins employment in other sectors dealing in information or utilising IT to produce goods or deliver services (Charles, Allen, & Buckeridge, 1997; OECD, 1996). Broadly defined, the ‘information industry’ consists of firms engaged in the provision and production of new, innovative products and services, which have the capacity to improve not only the performance of the industry itself but also the performance and competitiveness of virtually all other industries. Emerging from the current technological revolution, this new industry is characterised by “the application of knowledge and information to knowledge generation and information processing/communication devices, in a cumulative feedback loop between innovation and the uses of innovation” (Castells, 1996: 32).

In Australia this industry takes into account firms involved in the manufacture of hardware and software, provision of network and computer services, telecommunications, multimedia, data processing, information storage and retrieval and wholesaling of electrical and electronic equipment (Charles et al., 1997) (see Figure 4.1). A range of sources show that like most industries in Australia, the information industry is characterised by a few large firms and many small (less than 20 employees), local players (ABS, 1995b; 1995c; 1997a; 1997b; Charles et al., 1997; Houghton, Pucar & Knox, 1996).
Figure 4.1: The Value Chain of the Australian Information Industry.


Figure 4.1, developed by Charles et al. (1997) for the federal government’s Information Industries Task Force, shows how firms engaged in diverse activities are linked in a value-adding process in a continuously evolving and dynamic environment where technological change is rapid and product lifecycles short. In Figure 4.1 the solid lines illustrate the value-adding process, while the dotted lines show the relationship between the different structural components of the industry, mainly how the technology building blocks, architectures and end-user products feed into the business structures. However, the inter-dependence and inter-relationship between computing, communications and the media cause rapid changes to the structure of the industry. This conceptualisation of the information industry focuses on supply taking into account firms that manufacture hardware and software, provide network and computer services, telecommunications, multimedia, data processing, information storage and retrieval and wholesale electrical and electronic equipment. End users, except for audiovisual products, electronics and print media, are excluded from this conceptualisation.

Officially the ‘information industry’ does not exist as elements are scattered throughout a range of other industries. For example, aspects such as computer hardware manufacture, which can be found in the semiconductor and components, systems and subsystems boxes of Figure 4.1, form part of ANZSIC 2841 (computers and business machine production), while much of the telecommunications equipment production form part of ANZSIC 2842 (telecommunications, broadcasting and transceiving equipment manufacture). Furthermore, elements of computer software production appear in ANZSIC 2430 (recorded

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33 Official existence comes with an Australian and New Zealand Standard Industrial Classification (ANZSIC) code.
media and manufacturing), while computer services are spread throughout a number of service classifications including some related to education, business, professional and hiring and leasing services (Houghton et al., 1996: 25–26).

In addition, the information industry is referred to in a number of ways depending upon what is seen to be the core of the industry. For example, those who see it as primarily centring on computers (hardware, component manufacturing, software development and computer related services) will refer to the IT industry or industries (Houghton et al., 1996). Others include telecommunications and therefore refer to it as either the ‘Information Technology and Telecommunications’ (IT&T) industry (as does the Australian Information Industry Association [AIIA]) or the ‘Information and Communications Technology Industry’ (as does the World Information Technology and Services Alliance [WITSA]). Whether seen in broad or narrow terms the information industry is not a closed system but instead a highly complex and diffuse multi-edged network of firms spanning diverse activities and processes (Castells, 1996).

The ‘information industry’ is therefore a ‘fuzzy concept’ as it has “two or more alternative meanings and thus cannot be readily identified or applied by readers or scholars” (Markusen, 1999: 870). In this case, the fuzziness arises from the newness of the concept and its use simply serves to focus attention on a phenomenon worthy of greater scrutiny. In addition, the information industry is a ‘chaotic concept’ as it incorporates a variety of firms with activities, which “neither form structures nor interact causally to any significant degree and many which lack anything significant in common” (Sayer, 1992: 139). In essence, the computer is the only common element in the diversity of firms, as they do not for example share a common production process. Additionally, firms may be small or large, local or foreign owned, while the work within them may be skilled or unskilled. As such, a chaotic concept can be used as a category for descriptive purposes but trouble arises when attempts are made to ascribe causal powers to objects or to suggest that objects within this concept behave in a similar fashion (Sayer, 1992). In this thesis the term ‘information industry’ is therefore used in a descriptive manner to acknowledge a convergence of diverse firms around IT development and applications.

**The Australian Information Industry in Context**

A number of sources can be drawn upon to put the information industry in context and in particular to explore the industry’s size, the size distribution of the firms, employment and income data. However, care must be taken with their use as they are all based upon different conceptualisations of the information industry.
The ABS produces two relevant survey series. The survey of the Computer Services Industry (Catalogue Number 8669.0) (ABS 1989; 1995c; 1997b) is based on a narrow conceptualisation and consists of firms classified to the following four ANZSIC codes: 7831 Data Processing Services; 7832 Information Storage and Retrieval Services; 7833 Computer Maintenance Services; and 7834 Computer Consultancy Services. This differs from the IT Industry survey (Catalogue Number 8126.0) (ABS, 1995b; 1997a), which incorporates the Computer Services Industry within a broader conceptualisation, representing an attempt by the ABS to produce a comprehensive overview of the production and trade of IT goods and services.

In the survey of the IT Industry for the reference period 1992–3 the ABS (1995b) acknowledges that “neither the International Standard Industrial Classification (ISIC) nor the ANZSIC define an IT industry in ways which fully meet the conceptual needs of users” (p. 3). To this end the ABS collects data from firms that predominantly earn income from IT goods and services as well as those that earn income from IT goods and services as a secondary activity. The result is that a range of ANZSIC classifications are included in this survey, which would not normally be considered part of the IT industry (see Table 4.1).

Table 4.1: ANZSIC Classifications Forming the IT Industry*

<table>
<thead>
<tr>
<th>ANZSIC No.</th>
<th>ANZSIC Classification Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2841</td>
<td>Computer and Business Machine Manufacturing</td>
</tr>
<tr>
<td>2842</td>
<td>Telecommunications, Broadcasting and Transceiving Equipment Manufacturing</td>
</tr>
<tr>
<td>2849</td>
<td>Electronic Equipment Manufacturing (not elsewhere counted)</td>
</tr>
<tr>
<td>2852</td>
<td>Electric Cable and Wire Manufacturing</td>
</tr>
<tr>
<td>4613</td>
<td>Computer Wholesaling</td>
</tr>
<tr>
<td>4614</td>
<td>Business Machine Wholesaling</td>
</tr>
<tr>
<td>4615</td>
<td>Electrical and Electronic Equipment Wholesaling (not elsewhere counted)</td>
</tr>
<tr>
<td>7120</td>
<td>Telecommunication Services</td>
</tr>
<tr>
<td>7743</td>
<td>Plant Hiring or Leasing**</td>
</tr>
<tr>
<td>7831</td>
<td>Data Processing Services</td>
</tr>
<tr>
<td>7832</td>
<td>Information Storage and Retrieval Services</td>
</tr>
<tr>
<td>7833</td>
<td>Computer Maintenance Services</td>
</tr>
<tr>
<td>7834</td>
<td>Computer Consultancy Services</td>
</tr>
</tbody>
</table>

*Another 5 classifications are considered by the ABS to be part of the IT industry, but are excluded from the survey; **Not surveyed in 1995–6 reference period.

Source: Information Technology, Australia 1993–6, Cat. No. 8126.0, ABS, 1997a, Canberra: AGPS.

By taking this approach, the ABS tries to capture firms that earn income from the following goods and services: computer and communications hardware; packaged software; and computer and communication services. The ABS labels firms within these ANZSIC classifications as either IT Specialists or Secondary IT Producers. The second (1995–6) survey in this series includes data on sub-assemblies, electronic components and printed circuit boards, which are not separately identified in the 1992–3 survey (ABS,
1997a: 2). This leads the ABS to note that about a 10% growth in the industry between the two survey periods is due to improvements in coding and coverage of firms recorded as being in the IT Industry. The survey results for the reference periods 1992–3 and 1995–6 can be directly compared for both the Computer Services Industry and the IT Industry.

The Computer Services Industry

Some of the main features of the 1992–3 and 1995–6 surveys of the Computer Services industry are listed in Table 4.2. These data show that, with the exception of profit margins, most aspects of this industry nearly doubled in the three-year period to 1995–6. There was a 98% growth in the number of firms and an 83% increase in employment. Although income grew by 97%, expenses also grew by slightly more than 100%, which accounted for profit margins decreasing by around 40%. Disaggregation of these data show that 76% of firms either made an operating profit before tax or broke even. Of the 24% of firms making a loss, more than half incurred a loss of less than A$5,000 (ABS, 1997b: 13).

<table>
<thead>
<tr>
<th>Table 4.2: Main Features of the Computer Services Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firms (number)</td>
</tr>
<tr>
<td>Employment (number)</td>
</tr>
<tr>
<td>Income (A$ million)</td>
</tr>
<tr>
<td>Total Expenses (A$ million)</td>
</tr>
<tr>
<td>Labour Costs (% Total Expenses)</td>
</tr>
<tr>
<td>Operating Profit before Tax (A$ million)</td>
</tr>
<tr>
<td>Operating Profit Margin</td>
</tr>
<tr>
<td>Industry Gross Product (A$ million)</td>
</tr>
<tr>
<td>Source: Computing Services Industry. Australia 1995–6 (Table 1, p. 7), Cat. No. 8669.0, ABS, 1997b, Canberra: AGPS.</td>
</tr>
</tbody>
</table>

In Table 4.3 these data clearly indicate that the majority (97%) of firms are small (less than 20 employees), however 51 large (100+ employees) firms account for 42% of employment.

<table>
<thead>
<tr>
<th>Table 4.3: Employment Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Firms (% Total)</td>
</tr>
<tr>
<td>0–4</td>
</tr>
<tr>
<td>20–49</td>
</tr>
<tr>
<td>50–99</td>
</tr>
<tr>
<td>100+</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Source: Computing Services Industry. Australia 1995–6 (Table 5, p. 13), Cat. No. 8669.0, ABS, 1997b, Canberra: AGPS.</td>
</tr>
</tbody>
</table>

71
The limited occupational data gathered by this ABS (1997b) survey shows that of the 55,046 persons employed in the industry, only 497 are working proprietors and owners while the rest are employees. Of these employees 51% are computer and technical staff, while the rest are either working directors or classified as ‘other’ (presumably administrative or sales/marketing staff). The majority of persons (87%) are employed on a full-time basis and 94% of the 27,797 computer and technical staff in the industry work on a full-time basis.

The Information Technology Industry

Using a broader conceptualisation of the information industry meant that the ABS surveys a larger group of firms, which are classified as IT Specialists if they earn greater than 50% of their turnover from IT&T revenue or as Secondary IT Producers if they earn less than 50% (ABS, 1997a: 26). Table 4.4 contains some of the key features of the 1992–3 and 1995–6 surveys and shows that the number of IT specialists grew by around 88% in the three-year period, while employment increased by around 49%.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>No. Firms</td>
<td>Employment</td>
</tr>
<tr>
<td>IT Specialists</td>
<td>7,243</td>
<td>136,788</td>
</tr>
<tr>
<td>Secondary IT Producers</td>
<td>260</td>
<td>8,664</td>
</tr>
<tr>
<td>Total</td>
<td>7,303</td>
<td>145,452</td>
</tr>
</tbody>
</table>

Sources: Information Technology in Australia 1992–3 (Tables 1 and 3, pp. 7–8), Cat. No. 8126.0, ABS, 1995b, Canberra: AGPS; Information Technology in Australia 1995–6 (Table 1, p. 7), Cat. No. 8126.0, ABS, 1997a, Canberra: AGPS. 1997a.

The limited occupational data gathered by this ABS survey shows that of the IT&T specialists computer and technical staff make up the following proportions of the employees in the various sub-industry sectors: 20% of manufacturing; 35% of wholesale trade; 52% of telecommunication services; and 68% of computer services. Therefore, using this conceptualisation of the industry only 26% of the 183,683 employees are engaged in any technical or computing roles. In addition, the majority (95%) of those total computer and technical staff work full-time and 78% are male (ABS, 1997a: 12). The majority (87.5%) of this employment is located on the eastern seaboard of Australia (42% in NSW, 31% in Vic, 12% in QLD and 2.5% in the ACT). However it is NSW and Victoria combined that have the largest share of employment (73%), wages and salaries (74%) and income (75%) (ABS, 1997a: 21).

The definition of employee included working directors of incorporated companies and trusts as well as managerial and executive employees (ABS, 1997b).
In Table 4.5 the data show that the overwhelming majority of IT specialists are small (less than 20 employees), which remained unchanged between the two survey periods (94.7% and 94.6% respectively). Seventy one percent of these firms are in the Computer Services industry, generating 17% of turnover and 27% of the employment. Using the 1995–6 data the ABS (1997a: 11) shows that the 1% of firms with more than 100 persons account for 70% of the employment within this industry.

<table>
<thead>
<tr>
<th></th>
<th>1992–3 No. Firms (%Total)</th>
<th>1995–6 No. Firms (% Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–9</td>
<td>6,858 (94.7)</td>
<td>12,799 (94.6)</td>
</tr>
<tr>
<td>20–49</td>
<td>248 (3.4)</td>
<td>461 (3.4)</td>
</tr>
<tr>
<td>50–99</td>
<td>58 (0.8)</td>
<td>130 (0.9)</td>
</tr>
<tr>
<td>100 +</td>
<td>79 (1.1)</td>
<td>146 (1.1)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,243 (100.0)</strong></td>
<td><strong>13,535 (100.0)</strong></td>
</tr>
</tbody>
</table>

*Note: the ABS excluded non-employing businesses and employment size refers to the total number of people engaged by the business who received some form of remuneration.
Sources: Information Technology in Australia 1992–3 (Table 2, p. 7), Cat. No. 8126.0, ABS, 1995b, Canberra: AGPS; Information Technology in Australia 1995–6 (Table 3, p. 11), Cat. No. 8126.0, ABS, 1997a, Canberra: AGPS.

An increase of 75% in IT&T revenue between the two survey periods is shown in Table 4.6. Further, when these data are disaggregated they show a 148% increase in revenue from computer wholesaling over the three-year period (ABS, 1997a: 10). Disaggregation also reveals that 38% of the 1995–6 total revenue is generated by telecommunications services (equivalent to A$17,937.5 million) (ABS, 1997a: 10). Wages and salaries represent a significant component of expenses in both periods (24% and 21% respectively), although in 1995–6 purchases were the major component (40%), whereas capital expenditure contributed only 16% to total expenses in 1992–3. When the profitability data are broken down they show that 31.5% of the IT specialists made less than A$1 in profit in 1992–3, while 26% operated at a loss in 1995–6 (ABS, 1997a: 11).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IT&amp;T Revenue (A$ million)</td>
<td>26,837.5</td>
<td>46,976.7</td>
</tr>
<tr>
<td>Total Income (A$ million)</td>
<td>27,448.5</td>
<td>48,913.1</td>
</tr>
<tr>
<td>Wages and Salaries (A$ million)</td>
<td>5,994.1</td>
<td>9,247.8</td>
</tr>
<tr>
<td>Total Expenses (A$ million)</td>
<td>24,830.3</td>
<td>44,637.4</td>
</tr>
<tr>
<td>Operating Profit before Tax (A$ million)</td>
<td>2,665.1</td>
<td>4,546.7</td>
</tr>
</tbody>
</table>

Source: Information Technology in Australia 1995–6 (Table 2, p. 10), Cat. No. 8126.0, ABS, 1997a, Canberra: AGPS.

Table 4.7 reveals that the greatest contribution to revenue from own production was made by communication and other services (telecommunications), while between the two survey periods the largest
growth in revenue came from computer services. Packaged software contributed the least (2.2% and 2.6%) to revenue. In both survey periods, computer hardware made up the bulk of imports (68% and 61% respectively), however at the same time it contributed to about half of the export earnings (51% and 49% respectively).

<table>
<thead>
<tr>
<th>Table 4.7: Production, Imports and Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Computer Hardware</td>
</tr>
<tr>
<td>Communications Hardware</td>
</tr>
<tr>
<td>Packaged Software</td>
</tr>
<tr>
<td>Computer Services</td>
</tr>
<tr>
<td>Communication &amp; Other Services</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Sources: *Information Technology in Australia* 1992–3 (Table 18, p. 15), Cat. No. 8126.0, ABS, 1995b, Canberra: AGPS; *Information Technology in Australia* 1995–6 (Table 12, p. 19), Cat. No. 8126.0, ABS, 1997a, Canberra: AGPS.

Although revenue from own production grew by 52% over the three-year period, the value of imports to revenue increased from 27% to 29% while the value of exports to revenue only increased from 8% to 11%. In both periods, more IT goods and services were imported than exported and therefore the trade deficit grew by 46%: from A$3,777.7 million in 1992–3 to A$5,523.4 million in 1995–6 (ABS, 1997a: 20). The ABS (1997a: 21) shows that in 1995–6 imports largely came from the U.S. (32%) followed by Japan and Singapore (12% each). The principal destination for exports was New Zealand (19%), followed by the U.S. (14%) and Singapore (13%).

Although these data are drawn from surveys based on different conceptualisations of the industry they both show that the industry is a) growing in terms of numbers of firms and employment; b) largely populated by small firms; c) employing people on a full-time basis; and d) importing more than is exported.

The Business Longitudinal Survey

General information about the type of firms in the information industry can also be drawn from the Business Longitudinal Survey (BLS), which is a four-year longitudinal survey of non-agricultural employing (private sector) firms in the Australian economy. Only the first wave of the BLS, conducted in 1994–5 (*N* = 8,750 firms) (DIST/IC, 1997) reported data for the IT industry (defined as firms classified to the ANZSIC codes in Table 4.8), in addition to reporting by the usual industry classifications.
Table 4.8: ANZSIC Classifications Forming the IT industry for the BLS

<table>
<thead>
<tr>
<th>ANZSIC No.</th>
<th>ANZSIC Classification Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>2841</td>
<td>Computer and Business Machine Manufacturing</td>
</tr>
<tr>
<td>2842</td>
<td>Telecommunications, Broadcasting and Transceiving Equipment Manufacturing</td>
</tr>
<tr>
<td>4613</td>
<td>Computer Wholesaling</td>
</tr>
<tr>
<td>4614</td>
<td>Business Machine Wholesaling</td>
</tr>
<tr>
<td>4615</td>
<td>Electrical and Electronic Equipment Wholesaling (not elsewhere counted)</td>
</tr>
<tr>
<td>7831</td>
<td>Data Processing Services</td>
</tr>
<tr>
<td>7832</td>
<td>Information Storage and Retrieval Services</td>
</tr>
<tr>
<td>7833</td>
<td>Computer Maintenance Services</td>
</tr>
<tr>
<td>7834</td>
<td>Computer Consultancy Services</td>
</tr>
<tr>
<td>9111</td>
<td>Film and Video Production</td>
</tr>
<tr>
<td>9112</td>
<td>Film and Video Distribution</td>
</tr>
<tr>
<td>9113</td>
<td>Motion Picture Exhibition</td>
</tr>
<tr>
<td>9121</td>
<td>Radio Services</td>
</tr>
<tr>
<td>9122</td>
<td>Television Services</td>
</tr>
</tbody>
</table>


The unweighted number of IT firms covered by the BLS was 614 (DIST/IC, 1997). This conceptualisation of the industry includes the ANZSIC classifications used by the ABS in their survey of the Computer Services industry (Cat. No. 8669.0) but was broader than that used by the ABS for their survey of the IT industry (Cat. No. 8126.0).

Some general characteristics of information industry firms were that 90% operated from a single location, with an average of 8.26 people per location. This was similar to ‘all industry’ where there was a dominance of single location firms with an average of 8.27 people per location (DIST/IC, 1997: 31). The majority of IT firms were aged between 2–20 years (78.8%), while only 2.9% were more than 20 years old and 3.9% were less than one year old. The proportion of IT firms between 5–10 years (30.6%) exceeded the ‘all industry’ average (25.2%) and was the highest of any type of industry (DIST/IC, 1997: 42). The average number of working proprietors in IT firms was 1.6, which was the same as the ‘all industry’ average, while the average number of other full-time managers was 0.9 (compared with the ‘all industry’ average of 0.8) (DIST/IC, 1997: 47). The average number of employees in IT firms was 10.6, which was almost the same as the ‘all industry’ average of 10.5 (DIST/IC, 1997: 47). Essentially these data show that firms within the industry, however defined, are small and young.
The Australian Information Industry Association Survey

In addition to the ABS and BLS surveys, there are a number of other more general sources of information considering aspects of the size and contribution of the information industry. For example, the Australian Information Industry Association (AIIA), which is the largest trade association in the information industry (formed in 1978), conducts surveys each year of its members on a range of aspects dealing with income and employment. Members of the AIIA include large and small, local and international incorporated companies operating in the industry. In 1999, the AIIA had around 350 members whose activities included: developing, producing and distributing IT&T hardware, software and services; telecommunication carriers; developing multi-media; and providing on-line services (AIIA, 1998a). Some 60% of the AIIA’s members are local companies, while less than 10% of those have an annual turnover in excess of A$5 million.

Key findings of the September 1997 survey (AIIA, 1998a; 1998b) were that member companies had experienced:

- an increase of 12% in company revenue since 1996 to over A$33 billion;
- a 4% increase in employment in 12 months to 116,062 persons;
- a 10% increase in exports since 1996 to over A$2.1 billion;
- almost a 10% increase in imports to around A$3.9 billion;
- investments of A$5.6 billion; and
- research and development (R&D) spending of A$0.5 billion.

Despite the AIIA’s membership being predominantly large firms, a number of these findings are consistent with those of the ABS, particularly with respect to growth and imports.

Government Policy

The Australian government has had an information industry strategy since 1987. Two key government initiatives to encourage local production, increase research and development (R&D) spending, and exports have been the Computer Bounty (introduced in July 1984) and the Partnership for Development (PfD) program (introduced in September 1987). The purpose of the Computer Bounty was to assist local production by paying manufacturers a percentage of the value added in Australia. From December 1996 to December 2000 the bounty rate was set at 5%, aligning it with the general rate of tariff for manufacturing industries (Houghton et al., 1996), however the Howard government phased out the Computer Bounty in mid 1997. The purpose of the PfD program was to encourage international IT corporations to invest in "strategic, longer term and sound business activities in Australia" (DIST, 1995: 66). Obligations imposed on companies participating in the program included a requirement for them to achieve exports of at least 50% of the value of their hardware imports as well as spending a minimum of 5% of turnover on R&D activities (Shadur, 1997).
After the election of the Howard federal government in March 1996, the decision was made to review the national information industry strategy and the job of advising the government on a new strategy was given to the Information Industry Task Force, which was chaired by Professor Ashley Goldsworthy. The single largest study of the information industry commissioned by the Task Force was that conducted by Charles et al. (April 1997) entitled Spectator or Serious Player: Competitiveness of Australia’s Information Industries. This study was then used as the basis for the Task Force’s final report (the Goldsworthy report) entitled The Global Information Economy: The Way Ahead, which was released in July 1997.

In Spectator or Serious Player, Charles et al. (1997: 8) adopt a definition of the information industry that includes the complete value chain from electronics and software to communications platforms and telecommunication services to content providers (see Figure 4.1). Clearly this large and diverse group of firms span manufacturing and service provision, private and public sectors, small and large, domestic and international firms, and involves skilled and unskilled work. However, the advantage of the value chain approach is that it shows relationships between industries making up the information industry. A further advantage of this conceptualisation is that it accommodates the industry’s dynamism.

According to Charles et al. (1997), in 1995 the information industries employed around 0.5 million people, half of whom were involved in production and maintenance of production and services, with the other half involved in distribution and advertising/direct marketing. In addition, the information industries generated revenues of between A$66–69 billion in 1995. This accounted for around 7.5% of total Australian economic activity (which was around A$907 billion in 1994–5). The revenue was generated in the following manner through the value chain: electronics (A$5 billion); computing, telecommunications platforms, office equipment and consumer electronics (A$18 billion); telecommunications carriage and services (A$19 billion); IT services (A$10 billion); and information and entertainment services (A$16 billion). Multi-national corporations dominated a number of the industry segments. For example, in the area of hardware, software, electronics and office equipment, most products were imported with little local manufacturing or content added. Furthermore, in this area although there were a large number of local companies, they were very small without the scale to develop a significant export presence. A similar situation existed with the telecommunications systems and equipment segment, while in telecommunications services the full effects of deregulation were still to be felt. In software there were a substantial number of small local firms with a domestic market focus. An estimated 400 software and services firms were engaged in exporting software and applications, although only 20 of them exported more than A$1 million per year. Australian software developers were largely engaged in adapting imported software, while those who did create packaged software occupied specialised niches of demand.
Charles et al. (1997) pointed out that Australia was yet to produce a software product or electronic content firm that achieved more than A$50 million in sales per annum.\(^{35}\)

Although in 1995 Australia’s export earnings from IT exceeded A$4 billion, placing the industry amongst the top revenue raisers (surpassed only by exports of coal, tourism, gold and various processed and unprocessed minerals) only 29 of the top 50 exporters, were Australian owned, while only three Australian firms made it into the top 10 (Charles et al., 1997: 56). Australia was found to lag well behind other nations generating only 0.3% of the US$595 billion total world IT&T exports (MacMahon, 1997: 33). Australia’s balance of trade deficit of IT products and services was estimated in 1995 to be around A$14 billion but as Charles et al. (1997) argued, this was likely to exceed A$30 billion by 2005 if government policy remained the same.

To redress this situation the Information Industries Task Force made 51 recommendations under seven key challenges. The following were identified as the key challenges.

1. Recognising the size, impact and strategic importance of the information industries.
2. National leadership.
3. Proactive investment attraction.
4. Going global – exporting information and communication technology to the world.
6. Enhancing skill formation, education and training.
7. Enhancing research, development and innovation (Goldsworthy, 1997).

The Federal Government’s response has been to implement a number of the recommendations to provide:


In March 1997 the federal government announced it was establishing the Small Business Innovation Fund: a A$200 million venture capital scheme providing government funds on a 2:1 basis with the private sector to provide start up capital for up to 100 emerging high technology companies. This fund is also established in light of recommendations made by the Bell Report (1996). In more recent times, changes to the capital gains taxation regime have been made in response to the recommendations from the Ralph Report (1999), while further changes have been made to the business taxation system through the wide-ranging reforms introduced in July 2000.\(^{36}\) Changes to the PhD program in September 1999 seek to encourage alliances between international partners and small to medium enterprises (Department of

\(^{35}\) A survey of small and medium Australian IT&T firms found that 95% of their respondents (N = 233) had a revenue of less than A$35 million (Benson, Bull & Standen, 1999). Other information from this survey is not used as the authors omitted to define an IT&T SME anywhere in this report.

\(^{36}\) This is deemed necessary as a high capital gains tax is said to discourage investment by venture capitalists (Charles et al., 1997; DIST, 1998).
Communication, Information Technology and the Arts [DoCITA], 2000a). This is linked to the Building on IT Strengths (BITs) program, which is an A$158 million federal government initiative to build the strength and competitiveness of the Australian information industries. One of the core components is to increase the rate of SME formation by providing funding (A$70 million) for the establishment of a number of IT incubators (DoCITA, 2000b).

State and Territory governments have also been active in promoting the information industry, while the Victorian Kennett government (1993–1999) was the most aggressive in attracting investment. The lack of a dedicated portfolio and Minister following the election of the Bracks ALP government in 1999 was initially seen as a major loss for the industry, however the announcement on 11 November 1999 of Connecting Victoria, a major strategy for growing the State’s information and communications technology (ICT) industry, signaled the continuation of this aggressive stance.

Developing an Australian Silicon Valley?

The success of Silicon Valley, popularly seen as the epitome of entrepreneurship and innovation, has fuelled much of state and federal government activity and policy for the information industry (Charles et al., 1997). As Larsen and Rogers (1984) write:

Silicon Valley represents a special kind of super capitalism – a system resting on continuous technological innovation, entrepreneurial fever and rigorous economic development…. Unfettered market forces pass final judgement on the boom and bust of firms and of individuals. Silicon Valley is high technology capitalism run wild. There is nothing quite like it anywhere else in the world (pp. 273–4).

Australian governments are not alone in attempting to create local versions of Silicon Valley. Other attempts to replicate the success of the region include those in ‘Silicon Glen’ (central Scotland), ‘Silicon Fen’ (the Cambridge region of the U.K.), ‘Silicon Bog’ (Ireland), ‘Silicon Alley’ (New York), ‘Silicon Wadi’ (Israel), Route 128 (around Boston, U.S.), the M4 Corridor (around Berkshire and Buckinghamshire, U.K.), the Cyberport (Hong Kong) and the Multimedia Super Corridor (Malaysia) amongst others. As Robert Metcalfe is quoted as saying in Info World: “Silicon Valley is the only place on Earth not trying to figure out how to become Silicon Valley” (in Gromov, 1998).

37 Responsibility for IT currently resides in the State and Regional Development portfolio held by John Brumby, MP.
What government would not want to develop a place where in a 50 mile strip of land 7,000 IT companies operate, with a market capitalisation (in 1997) in excess of US$450 billion; 11 new companies are founded every week; one company goes public every five days; and 62 new millionaires are created every day? (World Competitiveness Report, 1998). The combined worth of core Silicon Valley companies such as 3Com, Cisco, Hewlett-Packard, Intel, JDS Uniphase, Oracle and Sun Microsystems is currently estimated at US$1.5 trillion (Crowe, 2000). In 1999 it was estimated that 11% of the households in Santa Clara County (at the heart of Silicon Valley) had a net worth of more than US$1 million, while the average salary in the Valley was US$53,700 (compared to the national average of US$33,700) (Crowe, 2000). The huge growth of the Internet ensures that for the immediate future Silicon Valley’s record of success will continue. In March 1999 it was estimated that over 163 million people used the Internet, up from the 4 million users 5 years ago (Kehoe, 1999). The Internet boom saw Silicon Valley’s software industry add 7,000 jobs (to the total 68,000) (‘Silicon Valley job growth slowed in 1998’, 1999). The success of the Internet can perhaps be seen in the meteoric rise in price of American Internet stocks since 1998 particularly on the National Association of Securities Dealers Automated Quotation (NASDAQ) stock exchange.38

The ‘Industry’ in Summary

A diversity of data can be drawn on to assess the structure, size and contribution of the information industry to the Australian economy. Despite the fuzziness of the industry its importance is its growth potential, both in terms of absolute numbers of firms, employment and revenue. The increasing trade deficit, although not in itself a bad thing, representing as it does a high level of IT adoption, can have a negative impact on the economy if it is sustained at the same rate. If the trade deficit is to be reduced then industry growth needs to be translated into greater export earnings. The trade deficit is, however, partly indicative of the large number of small, young local players and the domination of a small number of large multi-national corporations (MNCs) in the supplier segment of the industry who import IT products without any addition of local manufacturing or content. The accusation has been made that many of the major IT firms in Australia are simply ‘box shifting outfits’ (Kaplan, 1997 in MacMahon, 1997: 27). This has implications for the nature of work in this industry, which does not fit the popular impression of a highly educated and skilled workforce engaged in creative, intellectual and knowledge-based work.

This has not stopped Australian governments from providing legislative assistance to encourage investment and growth, and the information industry therefore acts as an ideal site for the promotion of enterprise culture. One of the main thrusts of all government policies for the information industry is job

38 The NASDAQ Stock Exchange is the world’s first electronic stock market. A large proportion of IT and Internet firms have listed on the NASDAQ including a few Australian IT firms. A downward ‘correction’ to stock prices occurred on the NASDAQ in April 2000, which flowed on to other exchanges around the world including the Australian Stock Exchange (ASX). However, only about 3% of stock listed on the ASX falls within the information industry (Johnston, 1999).
creation and growth. By 2005 it is suggested that attracting MNCs and building new local ventures will create up to 100,000 new jobs in the industry with flow on effects into the rest of the economy (Charles et al., 1997). What has not been made clear in any of these reports is the types of jobs these will be or what conditions people will work under.

Although there is a need to develop a better understanding of the types of firms that operate within this industry, by outlining these data a first attempt is made to understand some of the structures within which small firm employment relations exist. This is necessary for later considering the effect of these on how employment relations are managed within the small software development firms in this industry.

*Employment Regulation in the Information Industry*

There is not a great deal of information about the structures of employment relations that can be gathered from industry and government sources. The BLS contains limited information pertaining to unionisation and award coverage in the industry. For example, Table 4.9 shows that 94.2% of IT firms have no union members, which is exceeded only by businesses in the Property and Business Services industry (95.1%). This finding can be compared with the proportion of firms (88.5%) across all industries with no union members (DIST/IC, 1997: 66). By June 1996 the proportion of all firms without unionised employees rose to 91% (DWRSB, 1998: 19).

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*AWIRS (Callus et al., 1991; Morehead et al., 1997) cannot be analysed here as two digit ANZSIC codes were used and therefore it is not possible to identify ‘information industry’ workplaces within the sample.*
Table 4.9: Union Membership in the IT Industry

<table>
<thead>
<tr>
<th></th>
<th>IT Industry* (% firms)</th>
<th>All Industries** (% firms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No union members</td>
<td>94.2</td>
<td>88.5</td>
</tr>
<tr>
<td>1–10%</td>
<td>2.3</td>
<td>3.1</td>
</tr>
<tr>
<td>11–25%</td>
<td>0.6</td>
<td>1.1</td>
</tr>
<tr>
<td>26–50%</td>
<td>1.9</td>
<td>2.8</td>
</tr>
<tr>
<td>51–75%</td>
<td>0.5</td>
<td>1.2</td>
</tr>
<tr>
<td>76–100%</td>
<td>0.5</td>
<td>3.3</td>
</tr>
</tbody>
</table>

*Weighted N = 614. **Weighted N = 8,911.
Q16. Please estimate the percentage of persons working for this business that were union members as at 30 June 1995.

In addition, the BLS found that in terms of employment arrangements, the majority of IT firms use individual contracts or agreements of employment (between the employer and individual employee) to regulate employment relations. The low level of unionisation might be part explanation for such high incidence of individual contracts. This, as can be seen in Table 4.10, represents a far higher proportion than the ‘all industry’ average and is the highest proportion across the industries (the second highest is 61.8% in the Property and Business Services industry). Award arrangements apply in 20.1% of firms, which is the lowest proportion across the industries (the second lowest is 28.3% in the Finance and Insurance industry) (DIS/IC, 1997: 71).

Table 4.10: Employment Arrangements in the IT Industry

<table>
<thead>
<tr>
<th></th>
<th>IT Industry* (% firms)</th>
<th>All Industries** (% firms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Enterprise Agreement</td>
<td>1.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Unregistered Enterprise Agreement</td>
<td>3.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Individual Contracts or Agreement of Employment</td>
<td>68.3</td>
<td>43.9</td>
</tr>
<tr>
<td>Award Arrangements</td>
<td>20.1</td>
<td>52.2</td>
</tr>
<tr>
<td>Other</td>
<td>16.8</td>
<td>6.9</td>
</tr>
</tbody>
</table>

*Weighted N = 614. **Weighted N = 8,911.
Q17. What form of employment conditions operated in this business during the last pay period in June 1995?

Whether these are federal or state awards in Table 4.10 is unclear, as is who is covered by these award arrangements. In the federal industrial relations jurisdiction the Business Equipment Industry (Technical Services) Award 1978 has the ability to cover a range of technical employees in the industry. However, the diversity of firms and work performed in this industry, means that a range of other awards could also

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40 For example, this information may mean that administrative employees in these firms are covered by an award.
cover employees. In recent times two different unions have attempted to gain award coverage in the industry, however on both occasions employers have strongly opposed the unions.

In 1993 the Australian Services Union (ASU) sought an award to cover employees in the software sector of the industry (AIIA, 1993; Shadur, 1997). The ASU served a log of claims on 23 large IT firms with the intention of creating a dispute in the federal industrial relations commission. The ASU’s purpose was to establish a set of minimum conditions for IT workers that could then be used as the basis for negotiating individual agreements. However, the Metal Trades Industry Association (MTIA), acting on behalf of the AIIA, successfully argued in the Australian Industrial Relations Commission (AIRC) that there was no dispute to be found.\footnote{Although the AIIA is an employer association, it is not a ‘registered organisation’ under the industrial relations legislation (current or previous) and therefore cannot represent its members in the AIRC although it does provide limited industrial relations advice.}

In March 1996, the Association of Professional Engineers, Scientists and Managers of Australia (APESMA) served a log of claims on 528 employers nationwide in the information industry. On April 30, 1996, a dispute was notified and on August 8, 1996, the AIRC found an industrial dispute to exist between APESMA and 74 companies (Case Number 32158 of 1996). The Australian Industry Group (AIG), representing 75 employers, appealed this dispute finding on two issues. The first issue was that the log had been inappropriately served and, to rectify this, on November 22, 1996 APESMA served a second log of claims on 110 employers nationwide and a dispute was notified (Case Number 36688 of 1996). However this served to complicate matters and the AIRC decided to hear both cases together. The second issue upon which the employers appealed was that APESMA did not have the ability to cover IT, and primarily software, workers as their rules were restricted to recruiting professional scientists and engineers. The employer’s arguments centred on the notion that although software workers were often called software engineers they are not technically ‘engineers’. On the June 23, 1998, after numerous hearings with appearances by expert witnesses from academia and industry, and in excess of 800 pages of transcript, the Full Bench of the AIRC dismissed the appeal. The Information Technology Industry (Professional Engineers) Award 1999 (a consent award made under section 211(1)(b) of the Workplace Relations Act 1996), a ‘first award’ covering terms and conditions of employment for professional engineers working in the industry was handed down.

The Information Technology Industry (Professional Engineers) Award 1999

The IT industry is defined in the award (at clause 6.2) to include: the design and manufacture of computers and computer peripherals; the design and manufacture of telecommunications equipment; the design and manufacture of computer software; computer system installation, repair and maintenance;
computer consultancy services; computer programming; and systems analysis services. To this end the award initially applied to 50 companies (or 120 workplaces) across Australia who were members of the AIG, however this has since increased to 70 companies (or 200 workplaces) through the application of a 'roping-in award'. Many of the respondents are large MNCs including: Fuji-Xerox, Hewlett-Packard Australia, IBM Australia, Novell, Olivetti Australia, and Sun Microsystems Australia amongst others.

Despite concerns from employers, the award contains fairly standard and basic terms and conditions of employment including: classifications; salaries; hours; leave; dispute resolution; termination; redundancy; part-time, casual and fixed term employment; and enterprise flexibility or agreement making provisions. There are four classification levels in the award with the award rates of pay for full-time, part-time and casual employees as set out in Table 4.11.

**Table 4.11: Classifications and Rates of Pay**

<table>
<thead>
<tr>
<th>Award Classification</th>
<th>Full-time* (A$ per week)</th>
<th>Part-time** (A$ per hour)</th>
<th>Casual*** (A$ per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 Graduate Engineer</td>
<td>589.40</td>
<td>15.75</td>
<td>18.51</td>
</tr>
<tr>
<td>Level 2 Experienced Engineer</td>
<td>721.50</td>
<td>18.99</td>
<td>22.31</td>
</tr>
<tr>
<td>Level 3 Professional Engineer</td>
<td>805.00</td>
<td>21.18</td>
<td>24.89</td>
</tr>
<tr>
<td>Level 4 Professional Engineer</td>
<td>930.10</td>
<td>24.48</td>
<td>28.76</td>
</tr>
</tbody>
</table>

*It must be assumed that full-time employees work a 38-hour week as the only reference to hours is in clause 21 where the award states: "The ordinary hours of work of an employee should not exceed the ordinary hours of duty in the particular industry or sector of industry in which the employee is employed".

**Part-time employees are defined in clause 17 as "engaged to work on a part-time basis for a constant number of hours".

***Casual employees "engaged and paid as such" (clause 18).

Source: Information Technology Industry (Professional Engineers) Award 1999.

In the award a ‘professional engineer’ is defined in terms of duties requiring qualifications of the employee as (or at least equivalent to) those of a graduate member of the Institute of Engineers, Australia (see Figure 4.2). Such a definition may exclude many software workers whose qualifications (if they hold any) come from a science discipline, for example Computer Science or Information Systems degrees.

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42 The roping-in award is known as the Information Technology (Professional Engineers) Roping-In Award No. 1 of 1999.
**Figure 4.2: Definition of Professional Engineer**

4.2 **Professional engineering duties** shall mean duties carried out by a person in any particular employment the adequate discharge of any portion of which duties requires qualifications of the employee as (or at least equal to those of) a graduate member of The Institution of Engineers, Australia.

4.3 **Professional Engineer** shall mean an adult person qualified to carry out professional engineering duties as above defined. The term Professional Engineer shall embrace and include 'Qualified Engineer' and ' Experienced Engineer' as hereinafter defined.

4.4 **Qualified Engineer** shall mean a Professional Engineer other than an Experienced Engineer as hereinafter defined, that is, it shall mean a person who is or is qualified to become a graduate member of The Institution of Engineers, Australia.

4.5 **Graduate Engineer** shall mean a Qualified Engineer who is the holder of a University Degree (four or five years course) recognised by The Institution of Engineers, Australia, or is the holder of a degree, diploma or other testamur which:

4.5.1 has been issued by a Technical University, an Institute of Technology, a European Technical High School (Technische Hochschule) or Polytechnic, or other similar educational establishment;

4.5.2 and is recognised by the Institution as attaining a standard similar to a University degree;

4.5.3 and has been issued following:

4.5.3(a) a course of not less than four years' duration for a full-time course after a standard of secondary education not less than the standard of examination for matriculation to an Australian University; or

4.5.3(b) a part-time course of sufficient duration to attain a similar standard as a four years’ full-time course, after a similar standard of secondary education.

4.6 **Experience Engineer** shall mean a Professional Engineer with the undermentioned qualifications in any particular employment the adequate discharge of any portion of the duties of which employment requires qualifications of the employee as (or at least equal to those of) a member of The Institution of Engineers, Australia. The aforesaid qualifications are as follows:

4.6.1 that he/she is a member of the said Institution; or

4.6.2 that he/she, having graduated in a four year or a five year course at a University recognised by the said Institution, has had four years experience on professional engineering duties since becoming a Qualified Engineer; or

4.6.3 that he/she, not having so graduated, has had five years of such experience.

Source: Information Technology Industry (Professional Engineers) Award 1999

The Chief Executive Officer (CEO) of the AIIA has said that the award is “limited in scope” (Maher, 1999), while another spokesperson from the AIIA has questioned the award’s relevance. In effect, the
award provides a safety net of conditions for employees while also acting as a base from which enterprise bargaining negotiations can proceed. However, low levels of unionisation and limited coverage of the award, combined with preferences for individual contracts (as the BLS indicates), would suggest that any collective enterprise bargaining is unlikely.

What is suggested by these results is that a comprehensive overview of how employment relations are regulated in information industry firms is needed. In particular, to overcome the problems of fuzziness this focus needs to be restricted to one component of the industry if an understanding is to be gained about the management of small firm employment relations.

**Conclusion**

In Australia the information industry consists of a range of firms engaged in diverse activities, the core of which is microelectronics. Firms that make up the industry are mainly small in terms of turnover and numbers of people they employ. Despite this the information industry is one which governments are seeking to promote as its development has implications for other sectors of the economy. Further, the industry's attractiveness is enhanced by entrepreneurial success stories from Silicon Valley. The information industry is an ideal site for governments to encourage the development of an enterprise culture, which underpins many of the policies to assist employment growth in new 'high technology' ventures. The uncertainty of all this is just what sort of work is to be created and how is it to be managed? This is further complicated by the issue of how size affects the nature of employment relations in these firms.

Only limited information is available about a number of structures within which small firm employment relations are managed. As a result, the more general structures of employment relations in this industry are addressed through a survey (in Chapter 6 this survey is described, while the results are reported in Chapter 7). As the information industry is both a 'fuzzy' (Markusen, 1999) and 'chaotic' (Sayer, 1992) concept there are repercussions for trying to say anything meaningful about employment relations at the level of occupation. It was noted in Chapter 1 that the work of software developers was critical to this industry and as a result the general information gained from this survey is used to draw out the context in which the management of employment relations for software developers (more specifically) occurs. To this end, in the next chapter literature dealing with the work of software development, its organisation and management is reviewed.
CHAPTER 5: SOFTWARE DEVELOPMENT WORK IN THE INFORMATION INDUSTRY

Objective of Chapter 5

The objective of this chapter is to more specifically focus on the nature of software development work and workers in the information industry. This is necessary in order to understand how work is organised and workers managed in this sector where the integrated approach to small firm employment relations is to be applied. This chapter begins with a brief history of software development in order to provide a basis for addressing issues of how knowledge work, knowledge workers and professionals are managed. The idea that management control strategies operate at different levels is used in conjunction with the distinction between primary and secondary software products to elaborate the contradictory trends in strategies to control the labour process of software development. In doing so the dualism between structural forces and human agency is incorporated into explaining the variety of small firm employment relations and the conditions under which they are produced in the information industry generally and software development firms specifically.

Software Development and Developers

In Chapter 4 it was shown that a diverse range of firms make up the information industry in Australia. These firms are engaged in both manufacturing and service activities ranging from the manufacture of hardware sub-components, assembly of imported components, writing or modification of software, delivery of telecommunication services to hardware and software sales and customer support (Charles et al., 1997). The ‘newness’ of the information industry and the lack of clear and well-defined boundaries between it and others has meant that there is an incomplete understanding of the nature of work in this industry.

To overcome the problem of the information industry being a fuzzy concept (Markusen, 1999), as was shown in Chapter 4, the focus is narrowed to concentrate upon one particular segment of this industry. To this end the focus in this chapter (and the subsequent case studies in Chapters 8 and 9) is on the work of software developers in firms in the information industry. This focus reflects the fact that although the information industry centres on computers or microelectronics it is software developers (or computer programmers) who are “in the belly of the beast” (Kraft, 1979: 2). This is illustrated in the following quote:
Computers can do nothing – and this must be stressed because of the science-fiction aura surrounding them – unless they are told what to do and how to do it by human beings. Some of the most important of these people are computer programmers....programmers are responsible for a computer’s day to day operation....they provide the computer with a detailed sequence of operating instructions....without these human-entered instructions – the ‘program’ – the most advanced computers would sit dumb and idle and useless (Kraft, 1979: 1).

Software developers are central to the ‘information age’ and therefore as Beirne, Ramsay and Panteli (1998) note, “the nature of the work performed in producing and operating software should be a matter of great curiosity to labour process analysis” (p. 142).

**Knowledge Work and Workers?**

Software developers are often seen as typical of ‘knowledge workers’ (Reich, 1991; Scarbrough, 1999). Knowledge work is said to be essentially concerned with the strategic brokering between the two processes of identifying and solving problems. Knowledge workers are said to be a small elite of entrepreneurs, scientists, technicians, information technologists, professionals, educators and consultants (Rifkin, 1995) or ‘symbolic analysts’, who are employees that trade globally in the manipulation of symbols and who are likely to become the future aristocrats of the labour market (Reich, 1991; Castells, 1996). It is argued that in the ‘information age’ (Castells, 1996) knowledge is the key commodity and characteristic of the contemporary economy. As Carnoy (1998) writes: “the distinguishing feature of work in the information age is the centrality of knowledge, especially ‘transportable’ general knowledge that is not specific to a single job or firm” (p. 125). This highlights the challenge for management, which is how to organise and manage knowledge work and workers in an era when a premium is placed on mobility (Carnoy, 1998). It would appear that to effectively manage knowledge work and workers then workplace changes, which facilitate learning and communication, are required. It is suggested that informational work processes call for “co-operation, team-work, worker autonomy and responsibility, without which new technologies cannot be used to their full potential” (Castells, 1996: 246).

Despite its appeal, the concept of knowledge work is problematic, as is much of the literature dealing with its management. According to Scarbrough (1999) “the term ‘knowledge workers’ can easily be criticised for lack of methodological and theoretical rigor” (p. 6). This is particularly the case when it comes to understanding software development and the management strategies used to control the work of software developers. In part, the issue resides in the general lack of understanding about IT and the software development process: only some of the work involved fits within the ‘knowledge work/workers' paradigm as the following brief history reveals.
A Brief History of Software Development Work

As a product, software is "a uniquely designed, highly structured set of assertions, instructions and decisions all of which must be negotiated, codified, analysed for consistency and validated for effectiveness in a constantly changing environment" (Weber, 1997: 37). Software development is a process of applying conceptual knowledge and ability to analyse and solve a variety of technical, business and social problems through the manipulation of symbols, concepts and meanings. Software development is generally seen as a new occupation, a job fulfilled by "modern day wizards who have materialised out of the future, charting unknown paths rather than following old ones" (Kraft, 1979: 3). Like much about this type of work within the information industry, this image is not necessarily representative of reality. Kraft (1979) and Kraft and Duboff (1986) show that there is a substantial history to this occupation and in fact the origins of software development can be pinned to the making of the Electronic Numerical Integrator and Calculator (ENIAC) during World War 2, even though this was largely an electrical engineering task focussed on hardware.

Early software development was a fairly imprecise science with an outcome orientation. Developers (or programmers) undertook the whole task of program design, instruction sequencing and entry, debugging and maintenance. As such, the work was highly skilled but prone to human error and inefficiency (Kraft, 1979). The discipline of electrical engineering was drawn upon in an effort to decrease these problems. It has been argued that the concern of this branch of engineering is the standardisation and routinisation of production processes and work (Noble, 1977) and therefore attempts were made to transform the work of software developers into that representing an electrical engineering 'shop'. The division of labour during the 1950s and 1960s saw the separation of the intellectual task of designing the system from the more mechanical task of converting the design into lines of code. These distinctions between programming/coding and systems analysis were fairly crude and depended in part on the nature of the software being developed, but were the beginnings of a routinisation of software development.

In addition to the application of an engineering discipline, a range of other social and technical developments has also facilitated the routinisation of software development (see for example Beirne et al., 1998; Kraft, 1979; Quintas, 1994; Sharpe, 1998). Two pertinent developments are language evolution and structured programming. Language evolution removed the need for programmers to have mathematical knowledge or even knowledge of computers. Although the third generation languages (3GLs) of the late 1950s, such as FORTRAN (Formula Translator) or COBOL (Common Business Oriented Language) were

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43 Morgan and Sayer (1988) note that: "wonderment at the technology seems to have the effect of suspending people's critical faculties" (p. 37)
44 The ENIAC, which was a collection of electronic switches, needed to be programmed before it could calculate atom bomb trajectories. As this task was primarily seen as clerical, young women were recruited to write programs (Beirne et al., 1998; Kraft, 1979). A gender division of labour occurred when it was realised that programming needed a familiarity with abstract logic, mathematics, electrical circuits, machines and some substantive field such as aerodynamics. Men moved into programming and this gender division persists to this day.
fairly esoteric with precise vocabularies, commands and syntax, and therefore still prone to human error, the fourth generation languages (4GLs) of the 1980s, had a vocabulary and syntax more akin to natural language. The evolution of these high level languages made programming more accessible to a wide spectrum of people. This also overcame the problem of machine specific software (Quintas, 1994), however by evolving language away from the binary functions of the hardware, divisions between software and hardware people were introduced and reinforced.

The recent development of object-oriented (OO) design and programming can be seen as an extension of language evolution. Object-oriented design focuses on the identification of discrete objects within the system being designed and can be achieved using any programming language (Quintas, 1994). Objects, once designed can be reused and therefore OO, like the earlier high-level languages, has potential to impact on productivity by changing software development patterns (Beirne et al., 1998).

The second development of structured programming moved software development away from being a craft activity to a more conventional industrial production process. As such, it reduced the originality involved in software programming (Friedman, 1990). It did this by stressing orderliness, simplicity and economical use of standard languages and code. The development of CASE (Computer Aided Software Engineering) tools assisted this process by automating a range of tasks such as testing and debugging (Quintas, 1994; Beirne et al., 1998). In addition, the ability to fragment the larger system into discrete components meant that it was not necessary for individuals/teams to know how their component fitted into the system. As Kraft (1979) pointed out, this saw the birth of the assembly line for software development, without the conveyor belt, but with the attendant divisions of labour and hierarchies of authority.

The aim of structured programming was (and still is) to improve 'correctness' (Dijkstra, 1969) and increase the quality of software programs. For Yourdon (1979) structured programming was taken to mean "a coding discipline, plus a design discipline (top down design), plus a discipline for reviewing programs for correctness (walkthroughs), plus a method for organising members of a software project" (p. 35) (emphasis in the original). Once again this development had the potential to impact significantly on productivity and software quality.

Weber (1997) argues that despite language evolution and other changes such as the introduction of CASE tools, essentially the processes and methods by which software is developed have not been transformed over the last two decades. The 'software crisis' is such that productivity improvements (lately sought through the application of OO) have been marginal while the overall quality of software has not been

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45 The first and second generation (low level) languages relied on code consisting of sequences of binary numbers, while the programs developed were specific to the hardware being used. (See Baron (1988) for an account of the five generations of software language.)
improved (Weber, 1997). Further, the issue of software quality remains important – 'good enough' software (Yourdon, 1996), rather than the ideal of zero-defect software, is largely considered acceptable.\footnote{To illustrate the concept of 'good enough' software Yourdon (1996) uses the example of Microsoft selling millions of copies of their Windows 3.1 although it was released in 1992 with some 5,000 known bugs.}
Essentially, the software crisis describes the widening gap between the promise of increased hardware performance and the reality of what the software allows. Implications flow from this for the ability of individuals and/or organisations to fully exploit IT to gain competitive advantage (Brady, 1992).

There are many IT commentators (see for example Boehm, 1981; DeMarco & Lister, 1987; Humphrey, 1995; 1997; Weber, 1997; Yourdon, 1996) who argue that the 'software crisis' is not a technical issue but a management one and the focus should be upon the 'peopleware' (Neuman, 1976). This is consistent with Deming's (1986) argument that quality is about people not products and that management practices must be transformed as part of the overall quality effort in organisations. However, many of these IT commentators offer anecdote as solution to this crisis rather than informed analysis.\footnote{Only one study could be found of HRM practices in software firms, and even then the authors (Finnegan & Murray, 1999) conclude that in the 52 large Irish software development firms that responded to their survey HRM matters "take a back seat to more technical ones" (p. 11).}

Essentially, both the push of new technological developments and the pull of the perceived benefits of computerisation (Friedman & Cornford, 1989) have lead to a diffusion of production processes and organisational relationships in software development. For example, the continued use of 3GLs and 4GLs for the development of different sorts of software applications is evidence of the "fragmentation and stratification of activities and responsibilities in software development" (Beirne et al., 1998: 144). Furthermore, Morgan and Sayer (1988) argue that particular forms of organisation are conditioned by the situation (time and place) in which they occur. In addition, the speed by which innovation occurs and technology changes, combined with the success stories from Silicon Valley, obscures how software developers are managed as change becomes more important than continuity. This can be seen in the popular image of software workers.

The 'Gold-Collar' Professionals?
The image of software developers created and popularised by the media is of a highly mobile group of 'gold-collar professionals' who earn extremely large salaries in addition to being given generous stock options, while they enjoy flexible hours and collegiate work environments. (For recent examples see Connors, 1998; Hornery, 1998 and Way, 1999.) This mythologising of work is further fuelled by success stories from Silicon Valley.
However, much of this news media reporting on conditions in the industry is deceptive. The talk of large salaries, for example, is misleading for a number of reasons. First, it may actually be the remuneration package that is misinterpreted as a large salary. Evidence given to the House of Representatives inquiry on Employee Share Ownership Plans (ESOPs) suggests that stock options are becoming increasingly popular items in remuneration packages in this industry (Hayes, 1999). 48 However, in Australia options can be problematic as employees are taxed (at their personal tax rate not the capital gains tax rate) on the value of their options when they are granted not when they are realised (Adams, 1999; Hayes, 1999). 49 The example of the U.S. IT and biotechnology stocks listed since 1993 can be used where over a third of them trade below their initial public offering price (IPO) (Pitta, 1999). Even in the case of the ‘booming’ U.S. Internet stocks such as Amazon.com and Yahoo! which have had impressive stockmarket valuations, the companies themselves do not actually have earnings of any significance (James, 1999). In addition, options are usually vested for a period of time (up to five years), while 74% of small firms fail within five years (Williams, 1987). Moreover, if the firm does not fail then the employees may have left before they realise the value of their options as industry sources suggest that there is an estimated 25% turnover rate in this industry (Way, 1999). Options therefore represent a high-risk component of remuneration. 50

Skill shortages can also be another reason for the reports of large salaries. In the U.S. there are some estimates that there is a current shortfall of 400,000 skilled IT personnel (Reich, 1999). However, although skill shortages are regularly reported in the Australian media, the required skills mix changes quickly in this competitive and dynamic environment. As the National Office for the Information Economy (NOIE) (1998) points out, the IT&T industry is unique in respect to the rapidly evolving skill demands, but complex employment arrangements make it difficult to assess where shortages exist, as well as the extent and cause of these shortages. Indicators used to determine whether skill shortages exist include: strong employment growth, low unemployment, large number of vacancies, upward pressure on earnings, difficulties in finding suitably qualified workers, strong demand for new graduates and resort to migration to meet skill needs. The analysis by NOIE (1998) concludes that each of these criteria are met in the IT&T industry. However, in recent times Year 2000 (Y2K) and systems development work revolving around the Goods and Services Tax (GST) dominated recruitment while e-commerce and internet skills continue to be required for the short to medium term (Australian Computer Society [ACS], 2000).

48 This is a House of Representatives Standing Committee on Employment, Education and Workplace Relations, chaired by Dr. Brendan Nelson (MP). The report, handed down in September 2000 is entitled: Shared Endeavours: An Inquiry into Share Ownership in Australia.
49 This is the case for ‘non-qualifying’ employee share ownership plans under Division 13A of the Income Assessment Tax Act. Changes to the capital gains taxation regime in December 1999 have no effect on this situation.
50 A survey by Clegg and Hepworth (2000) found that in the year from 1 April 1999 to 31 March 2000, executive share plans increased in value by around 124% while non-executive employees only experienced gains of 29%.
In terms of large salaries, what the media often ignores is that experience is highly regarded and rewarded. This is borne out in the ACS remuneration surveys where it is shown that on average, those starting out in the industry in 2000 can expect to be earning a base salary of around A$40,000 in 18 months and reach A$50,000 within 5 years in today's dollars (ACS, 2000: 3).\textsuperscript{51} The AIIA (1999) points out that although more than 30,000 IT jobs need filling in Australia in the 1999–2000 financial year, most of these positions require 1–3 years experience in the industry. This is consistent with the DEWRSB (1999c) analysis of skill shortages in Australia: that many skill shortages actually relate to the experience requirements of employers. Further, those skill shortages may also be specific to a region rather than exist nationally. In Table 5.1 the skill shortages in the IT&T industry by specialisation and region are outlined.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|c|c|c|c|}
\hline
Specialisation & NSW & VIC & QLD & SA & WA & TAS & NT & AUST \\
\hline
General Application Development: Java & S & S & S & S & S & S & S & YES \\
General Application Development: Visual Basic & D & D & D & D & S & S & S & YES \\
Communications: CISCO Certified Professionals & D & S & D & D & S & S & S & YES \\
E-Commerce & S & S & S & S & S & S & S & YES \\
\hline
\end{tabular}
\caption{Selected Skill Shortages in IT&T Specialisations}
\end{table}

Note: S = Shortage, D = Recruitment Difficulty, Yes = National Shortage

\textsuperscript{51} The ACS remuneration survey is an annual survey, conducted by the Association of Professional Scientists and Engineers of Australia (APESMA) of 2,000 IT professionals working in all sectors, industries and job functions.
Another reason why the media may report large salaries is that ‘employees’ could actually be independent contractors who are paid for all the hours they work. Flexible (and often long) hours are legendary in this industry. The ACS (2000) remuneration survey reports that about 20% of respondents earn their principal income as independent contractors. Rates charged by contractors vary with the type of work performed although the ACS survey suggests that the standard rate is between A$60–90 per hour.

In addition, the ACS (2000) remuneration survey found that increases in remuneration to IT professionals differed based upon the sector in which they worked. For example, private sector IT professionals earned an increase of 6% compared to the 3.6% increase to those in the public sector, while in education there was only an increase of 2.4%. Furthermore, it is only IT professionals in certain job functions who are more likely to earn high wages. For example, people working as Systems Managers (A$84,559) or Data Administrators (A$84,558) earn more those engaged as Programmers/Analysts (A$65,436). Not surprisingly IT professionals in job functions, which require leadership or management skills (i.e. IT Management, General Management and Project Management), earn high average salary packages, although IT professionals in Sales and Marketing earn the highest (A$164,263) (ACS, 2000). As is to be expected salaries increase with experience and responsibility: this can be seen when an entry level IT professional earns an average base salary of A$42,315 compared with the A$79,362 of a Level 4 IT professional (ACS, 2000). NOIE (1998) uses ABS earnings data to argue that the anecdotal evidence of upward pressure on wages does not accord with trend figures for IT professionals.

In effect, there appears to be conflicting evidence on this issue of high wages in the industry: complex earning structures, job function, experience, skill shortages and employment arrangements all complicate the issue. So when “the industry’s image is put to the test” (Findlay, 1992: 62) the reality appears somewhat different to the picture painted in the popular media.

Even the image of Silicon Valley as an industrial region based upon competition and cooperation (Saxenian, 1994) providing an endless supply of well-paid, high technology jobs is questionable. The media only focuses on the ‘glamour’ jobs and associated pay and neglects the darker side of the information industry. Although there is a large well-paid, professional workforce in Silicon Valley, there is also a larger number of poorly paid workers, either directly or indirectly employed in chip production or service work in local, national and international locations. This workforce is highly segregated by class, race and gender (Siegal, 1998). Hayes (1989), using a range of sources, reveals a fairly disturbing image of Silicon Valley. He documents a litany of problems in the Valley including: taking, buying and selling illegal drugs at work; high divorce rates; suicide; air pollution from congested traffic; water pollution from chemicals used in chip production causing miscarriage or birth defects in pregnant women who drink tap

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52 See Table 4.11 and Figure 4.2 for the differences between a Level 1 and Level 4 IT professional.
water in Silicon Valley and its environs; chip production workers becoming seriously ill from the chemicals used in the ‘clean rooms’; racial harassment of the large immigrant and refugee populations; and dislocated working and family lives, amongst others. Some of these side effects of the Valley’s success, particularly traffic congestion and the lack of available housing, are beginning to make Silicon Valley an unattractive location for companies and skilled employees (McKinsey & Co, 1999, in Crowe, 2000).

It appears that Saxenian’s (1994) influential view of Silicon Valley as “a decentralised industrial system that blurred the boundaries between social life and work, between firms, between firms and local institutions, and between managers and workers” (p. 56) is flawed. Markusen’s (1999) idea of ‘fuzzy concepts’ is used to point out many of the problems with Saxenian’s view. For example, Saxenian’s methodology is not clearly specified and it appears that her work is only based upon interviews with management in successful electronics and computing firms rather than the diversity of firms in the Valley. In particular, she neglects those defence-based firms around which much of the activity in Silicon Valley revolves. Military spending is said to support at least 50% of livelihoods in Silicon Valley, as the largest employers are not electronics or computing firms but military contractors. To a large extent an understanding of the ‘success’ of Silicon Valley must take into account the effect of military spending in the region (Markusen, 1999), which has implications for governments that wish to develop their own Silicon Valleys. As Hayes (1989) writes:

[Silicon Valley] is the hub for the US$80 billion per year military electronics industry, a development site for most missiles, a funnel for military artificial intelligence R&D, and a design centre for Star Wars programs and for the avionics aboard most combat aircrafts and bombs (p. 101).

It is only when the features of Silicon Valley are brought to light that the Australian government’s public policy goal of developing a local version (as elaborated in Chapter 4) can be seen as seriously flawed or “deeply misconceived” (Morgan & Sayer, 1988: 39).

It would appear that the high drama surrounding work in this industry serves to obscure much of the reality of what actually goes on in terms of work and its management in software development firms. In addition, as Hayes (1989) and Shadur (1997) point out, many studies of IT firms are often little more than a celebration of the company rather than a critical examination of its management practices. Furthermore, the problematic question of whether software developers are professionals and the attendant issue of managing professionals serves to confound an understanding of software development work and its management.
Managing Professionals

The issue of whether software developers have achieved the status of 'professionals' is yet to be resolved. The debate largely centres on whether a body of specialised knowledge exists for software development (for examples of the debates see the edited collection by Myers, Hall & Pitt, 1997 and Shaw, 1990). As Forsyth and Danisiewicz (1985) point out, the formation of a profession is the creation of an occupational group, which provides an exclusive and essential client service involving the discretionary application of specialised knowledge. The existence of qualifications suggests that such a 'body of specialised knowledge' does exist, however the question is which qualification given that Australian universities (for example) offer a range of qualifications in computer science and software engineering?

Information from NOIE (1998) points out that qualifications vary considerably across IT&T occupations. Census data from 1996 are used to show that 47% of Australian computing professionals had a bachelor degree or higher qualification, while 16% had a diploma qualification. Another 25% of the computing professionals had not completed any post secondary qualification. Nine per cent of electronic engineers and 49% of computer support technicians were amongst those without post secondary qualifications (NOIE, 1998). Such a finding is consistent with the discussion in Chapter 4, which showed that there are many small software development firms in Australia who may employ self-taught experts with little or no formally recognised skills to adapt imported software. Further, many Australian computer manufacturers are simply assemblers of imported components (MacMahon, 1997), a task which may not require employees with qualifications.

Qualifications are therefore a necessary part of the process of professionalisation (Abbott, 1991), but they are not a sufficient condition: the development of rules and a code of ethics are seen as the hallmarks of achieving professional status (Trice & Beyer, 1993). This, combined with the above findings, supports Reich's (1991) argument that not all symbolic analysts are professionals and not all professionals are symbolic analysts. He makes this argument using the example of work undertaken by computer programmers who "might be doing routine coding, in-person troubleshooting for particular clients, or translating complex functional specifications into software" (Reich, 1991: 181).

It is not the intention of this thesis to engage in an attributional debate about professionalism. The view is taken here that the listing of attributes or the rating of occupations on a professionalism scale represents "a theoretical dead end...and...a futile game which has mercifully been abandoned" (Roth, 1974: 18, 14). As Scarbrough (1999) argues: "Although professional groups themselves continue to wield a significant degree of power, there is little doubt about the decline of professionalism as a paradigmatic model for organizing knowledge" (p. 8). The importance of the ascription of professional status to an occupational group is that it implies a sense of entitlement to special privilege and respect, and legitimates the 'right' to autonomy and high social reward (Meeksins, 1985). However, equally importantly, the prospect of de-professionalisation is ever present. While there are clear advantages to membership of a professional...
group the privileges involved have to be constantly defended against those who would take them away (Meiksins, 1985).

**Autonomy and Commitment**

To a large extent, the challenges to management presented by 'professionals' centre on the dual issues of autonomy and commitment.53 This is the case as, in addition to utilising a body of specialist expertise, the work of professionals is often characterised by the indeterminate nature of its outcome (Causer & Jones, 1996). Littler (1990) has argued that the less direct and immediate the relation between activity and outcome, the more difficult it becomes to specify with precision the work tasks which the specialist or expert should undertake.

Randle (1999) argues that professionals require autonomy: the freedom to make their own decisions without pressure from outside of the profession, including from their own managers (Raelin, 1991). However, Randle (1999) goes on to suggest that the word 'require' can be interpreted in two ways with different sets of implications. The first interpretation is that professionals 'require' autonomy, perhaps as a result of their training. The implications are that management must accommodate this requirement, or alternatively change the requirements of their employees. The second interpretation is that professionals 'require' autonomy in order to perform professional tasks effectively.

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53 Insights into different aspects of managing the 'professional' employment relationship can be drawn from a range of studies including those of high-tech firms and electronic and/or hardware manufacturing firms in addition to studies of 'professionals', which are usually of professional scientists and engineers. For example, in one group of studies industrial relations issues in 'high tech' firms have been considered. The research by Beaumont (1986), Lowe and Oliver (1991), and McLoughlin and Gourlay (1994) has focused on issues such as the management style in non-union firms. In another group of studies a range of HRM practices in high-tech firms have been considered (see for example Causer & Jones, 1993; 1996; Schellenberg, 1996; and edited collections by Gomez-Mejia & Lawless, 1990; 1992; Kleingartner & Anderson, 1987). In the studies of electronics and/or hardware manufacturers it is usually the management of professional scientists and engineers, which is where the research is concentrated (see for example Dickson, MacLachlan, Prior & Swales, 1988; Findlay, 1992; 1993; Maclnes & Sproull, 1989; Sproull & Maclnes, 1987).
The implications of this are more fundamental as they suggest a permanent and structural relationship between the ‘requirement’ and the task. The tension between these two elements would become particularly apparent in circumstances where managers sought to impose control as a result of a need to focus activity more clearly, for example in a more competitive environment. By definition this course of action would be destined to fail. The only course of action with a chance of success would be one in which managers were able to persuade employees to internalise and self-impose controls. That is, professionals would have to choose to use their autonomy to achieve the goals of the organisation rather than some esoteric or personal goals, and managers would therefore need to elicit attitudinal (Porter, Steers, Mowday & Boulian, 1974) or affective commitment (Allen & Meyer, 1990).54

Commitment is, however, an important issue when dealing with highly mobile software developers. This is made clear in the following quote from Von Glinow (1988) when she openly questions the organisational allegiance of the ‘new professionals’ who:

[E]ngage in knowledge exchange as the currency of trade and pursue intellectual and technical challenges. Typically, they strive for technical breakthrough to improve the quality of work life (QWL). Their organisational allegiances are suspect, but generally they join a firm because of the challenge of the work and the management practices. They expect to be rewarded accordingly. They also demand autonomy, abide by a set of ethics, expect to live up to professional standards set by collegial or occupational groups, and tend to have more invested in their skills, abilities and education that they do in the employment contract with their organisation. They prefer to identify with other high-tech professional workers who are engaged in similarly important, challenging tasks (p. 15).

This quote highlights the issue with individuals such as software developers who identify more closely with their task and the technology than the organisation itself.

Clearly the issue of whether software developers are ‘professionals’ is debatable and the resolution of that and the attendant issue of their management may lie in whether outsiders perceive them as such. This draws upon Hybels and Barley’s (1990) argument55 that innovative HRM practices may exist, not because

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54 It is widely agreed that organisational commitment is a multi-dimensional construct (see for example Angle & Perry, 1981; Dunham, Grube & Castaneda, 1994). Attitudinal or affective commitment represents the degree of loyalty an individual has to the organisation and is defined by Allen and Meyer (1990) as “an employee’s emotional attachment to, identification with and involvement in the organisation” (p. 1). This form of commitment can be contrasted with behavioural commitment where the focus is on the actions of individuals in linking themselves to the organisation (Iverson & Buttigieg, 1999; Porter et al., 1974).

55 It must be noted that this argument is made in the context of managing professionals in ‘high technology’ organisations while ‘high technology’ is another of Markuszyn’s (1999) ‘fuzzy concepts’ as there is little consensus about its definition (see Baruch, 1997 for a review of this problem). A common element in definitions is that these firms have a high R&D intensity in relation to turnover and a high proportion of scientists, engineers and technicians in the workforce (for example, Buschart, 1987; Markuszyn, Hall & Glassmeier, 1986; Oakley, 1995). As a result, studies of ‘high tech’ cover a range of different types of work, but usually that of production rather than service (see for example Kleingartner & Anderson, 1987; Gomez-Mejia & Lawless, 1990; Von Glinow & Mohrrman, 1990). Morgan and Sayer (1988) note that the term ‘high tech’ as “the embodiment of modernity, high science and technological wizardry” (p. 37) has far greater ideological than analytical significance. Further, it must be noted that studies of professional scientists and engineers in ‘high tech’ firms are those, which largely inform the view of IT firms as “leading the way in innovative HRM practices” (Shadur, 1997: 131).
employees are professionals (i.e. the occupation has gone through the process of professionalisation), but because employers perceive them as such. These practices are said to include “flex-time, open door policies, stock ownership, profit sharing, committees for worker participation, educational benefits, job security and an array of firm sponsored recreational activities” (Hybels & Barley, 1990: 200). Anderson and Kleingartner (1987) suggest that such ‘innovative’ HRM practices are needed in order to recruit these employees who are seen to be highly educated and skilled professionals engaged in creative, intellectual and knowledge-based work in tight labour markets. These HRM practices are designed, therefore, to develop and maintain their commitment to the firm, provide incentives and job security and encourage productivity in innovation and the development of new products.

The argument is essentially that the rationale for these HRM practices is not due to the professional status of the occupation but instead reflective of labour scarcity and interfirm mobility induced by geographic/regional clustering of high-tech firms in places like Silicon Valley. The underlying purpose is that “by treating employees as professionals, [managements] hope to foster the type of loyalty and moral commitment that will bind employees to the firm even when the market offers easy opportunities elsewhere” (Hybels & Barley, 1990: 210).

Displays of a lack of organisational commitment are made possible by the inter-relationship between conditions in the product and labour markets. Resistance to managerial control can be individualised and turnover is common amongst software developers and professional employees (see for example Anderson & Kleingartner, 1987; Finnegan & Murray, 1999; Turbin & Rosse, 1990; Von Glinow, 1988). In Australia, industry sources estimate that turnover rates between 15–25% are not uncommon in the IT industry (NOIE, 1998). As a result, the employing organisation attempts to engineer, and then leverage off, an individual’s identity or sense of self (Kunda, 1992), which is a function of many features external to the workplace.

**Professionals and Unionisation**

As professionalisation can be seen as a strategy for gaining (collective) occupational control (Van Maanen & Barley, 1984) then other forms of collective resistance, such as unionisation in particular, are often irrelevant (Von Glinow, 1988). The converse, extending Hybels and Barley’s (1990) argument may be that management, fearing unionisation, offer their ‘professional’ employees attractive terms and conditions of employment. Both views were evident in the case (reported in Chapter 4) run by the Australian Industry Group (AIG) on behalf of the AIIA in the federal industrial relations commission opposing award coverage for IT workers (Case Numbers 32158/96 and 36688/96). Interestingly it was the employers who were arguing that their IT workers were not professionals whereas the union (APESMA) presented a range of arguments in an attempt to (successfully) prove that software engineers were professionals! However, in studies of employment relations (and particularly unionisation) in electronics
(see for example, Dickson, MacLachlan, Prior & Swales, 1988; Findlay, 1992; 1993; MacInnes & Sproull, 1989; Sproull & MacInnes, 1987) and high-tech firms (Beaumont, 1986; Beaumont & Harris, 1988; McLoughlin & Gourlay, 1994) the view that professional status precludes unionisation has not been confirmed. Findings from these studies need to be treated with caution as the firms tend to be large manufacturing organisations rather than small ones. This is problematic as the survey of the industry in Chapter 4 showed that small firms make up the bulk of the Australian information industry population.

For example, Sproull and MacInnes (1987) found in a survey of Scottish electronics firms that 70% of the 83 respondents recognised trade unions. The factors associated with union recognition were size (positive) and the proportion of part-time staff (negative). To compensate for the underrepresentation of foreign owned firms in that survey, they conducted a second survey (MacInnes & Sproull, 1989) drawing a response from 144 plants in the Scottish electronics industry. Although they found that just under two thirds of the plants did not recognise trade unions, because these firms were small they estimated that 62.4% of employment in this industry was in plants where trade unions were recognised (MacInnes & Sproull, 1989). Further, they found that country of origin had no impact on union recognition. In this second survey the factors positively associated with union recognition were size and single status staffing arrangements, while age had a negative relationship. Their conclusion was that contrary to popular opinion, union recognition in the industry was robust and showed little sign of falling off.

Findlay (1992; 1993) also studied the prospects for unionisation in the Scottish electronics industry. She suggested that union recognition was more likely where there was no strong ideological opposition amongst senior management to trade unionism and collectivism (Findlay, 1993). In the 1990 survey of 31 Scottish electronics companies, Findlay (1992) found that two thirds of companies recognised trade unions for bargaining purposes, while union density in those companies was strong. Contrary to the earlier surveys of Scottish electronics, union recognition was found to be related to country of origin as well as product sector: essentially those companies that did not recognise trade unions were more likely to be American owned and involved in the manufacture of semi-conductors or information systems.

The study by Dickson et al. (1988) was concerned with the industrial relations system at IBM (U.K.) and its implications for trade unions. They argued that the most significant aspect of IBM's system was its careful structuring to emphasise individual relationships between employees and the company. The effect was that employees, although not necessarily opposed to trade union membership, could see no purpose being served by having union recognition at the plant.

Basically these studies show that unionisation is present amongst professionals in large electronics manufacturing organisations. The key to unionisation would therefore appear to reside in the type of organisation rather than the type of employee (professional). As a result, the study by Dickson et al. (1988) may be seen to confirm the earlier point that individualised forms of resistance are the response to
individualised forms of control and therefore the absence of unionisation found in this study does not necessarily suggest that employees accept the exercise of managerial control.

**Strategies to Control Professional Work**

In discussions of managerial control, the distinctive problems involved in the management of professionals have formed a recurrent theme (Causer & Jones, 1996). These difficulties mean that professional employees will typically be managed through ‘high trust’ (Fox, 1974), ‘responsible autonomy’ (Friedman, 1977; 1984), ‘fraternal’ (Goss, 1991a), ‘high commitment’ (Walton, 1985) or ‘innovative’ HRM (Anderson & Kleingartner, 1987) strategies designed to elicit commitment through provision of high levels of job security and prospects of career advancement, rather than through reliance on short-term sanctions and rewards. However, this does not obviate the need for control, instead, as the foregoing implies, it simply changes the form it takes: for example, through the use of performance appraisal and pay as the quote from Causer and Jones (1996) indicates.

Even managers who ‘trust’ their employees are unlikely to forgo the objective of ‘monitoring and maintaining’ (Goldthorpe, 1982: 168) the quality of service given by the employee. The rapid growth of systems of performance appraisal and performance-related pay for managerial and professional staff has been seen as a mechanism through which this process of ‘monitoring and maintaining’ may be carried out (p. 106).

The presence of a high level of professional autonomy (whether ‘required’ by employees or given by employers), combined with specialised expertise and the indeterminate nature of some professional work, may result in contradictory outcomes, which can prove, in turn, both advantageous and problematic for the manager. Morgan and Sayer (1988), for example, in their study of the electronics industry, found that:

In some of the more research-oriented plants, researchers were not bound by a fixed working day but would still work ‘ridiculous hours’, and in a couple of cases offices were kept open round the clock. While such workers might seem to require less motivation, their autonomy and the nature of the work also gives them more scope to ‘coast’ without this being detected by their superiors (pp. 223–24).

While expert workers may be trusted, managers will, as a result of their own interests, seek to find ways to monitor their work. The dilemma is not qualitatively different from that of the manager of ‘traditional’ employees; they rely on the cooperation and initiative or creativity of these employees, while they search for methods of exerting control. These are not necessarily mutually supportive goals. The problem, as Causer and Jones (1996) indicate, is twofold. First, how can the twin aims above be achieved where the ability of management to evaluate the work of subordinates is potentially restricted? Second, if encouraging initiative and gaining the cooperation of employees is important how can the demotivating effects of monitoring and control be avoided? Basically, managers are faced with a dilemma where they will seek to control the work of professional workers while simultaneously attempting to elicit high
commitment. However, the indeterminate nature of the outcome of professional work – being based on intellectual skills – and the relationship of activity to outcome makes management and control over work problematic.

Further, managerial control can be discerned at three levels: the corporate, the organisational and the workplace level (Reed, 1989). While all of these levels of control are interrelated it is the latter level which forms the particular focus of interest of this thesis and which will be examined empirically in Chapters 8 and 9. At the workplace level, control is related to a network of operational mechanisms aimed at securing continuity in the production of surplus value and the realisation of long-term profit.

Control, Labour Process Theory and Software Workers

In Chapter 3 the typologies of control strategies used by management, which were developed by successive labour process theorists, were discussed. Within labour process theory, a rift has been identified, reflecting a wider tension in the social sciences, between structure or agency in the achievement of control (Storey, 1985). The former emphasis (for example in Braverman’s (1974) work) stresses the structurally necessary extraction of surplus value, and has been deemed ‘overly-deterministic’ in its bid to identify “the form of strategic control which will ensure continued accumulation under given conditions” (Storey, 1985: 194). The alternative to this has taken the form of the collective results of a number of empirical studies (for example see the edited collection by Zimbalist, 1979), which counter this position by stressing the indeterminacy of control systems, but then do not allow the construction of generalisations. It is evident from the debate that this has constrained the development of a universally accepted and coherent theory, which can account for the introduction and operation of the three levels of control listed above.

Storey (1985) refers to both levels and circuits of control rather than a “single track search for definitive and comprehensive modes of work control” (p. 194). In other words, he suggests that there may be a collection of devices, structures and practices forming control configurations that may be understood as the temporary outcomes of dialectical processes of attempting to, or actually achieving control. Levels refer to points in the organisational hierarchy at which control might be exercised, so there are, “interpenetrating ‘layers’ of control which reinforce and substitute for each other as one or more becomes weak, decayed or fully untenable” (Storey, 1985: 198).

Rather than being able to determine that, for example, simple or technological control of the type proposed by Edwards (1979) prevailed in a given organisation, Storey (1985) finds instead clusters of
‘devices, structures and practices’. Fluidity exists between these controls while, at the same time they are shaped by:

[The interplay between managerial action at more than one level and worker action. Hence managers are not faced with a strategic choice between types of control – partly because the choice is not entirely in their hands and partly because rarely is it a question of using only the rules or targets, socialisation or technology, participation or hierarchy, selection screening or communication, individual or collective labour control (Storey, 1985: 199).

Storey therefore emphasises that a variety of means of control could be used simultaneously and that a dialectical framework is needed to understand the dynamics of control. Control structures and strategies will contain their own contradictions. Managers will respond to a number of forces in formulating controls including the workforce, colleagues, competitors and their operating environments. Control becomes a continuously changing, complex process, the outcome of which is uncertain:

The emphasis here therefore is upon managers, with varying degrees of irrationality, oscillating between the dilemmas of centralisation and decentralisation, specialisation and generalisation, standardisation and variability. Similarly circuits are joined and disconnected; labour is homogenised and segmented; and male and female labour are subjected to diverse labour markets.

To achieve and sustain managerial control, then, the levels and circuits of control are subject to continual experimentation (Storey, 1985: 199).

As a result less deterministic and restrictive approaches can be developed.

Nevertheless, Storey still refers to the manager’s ability to ‘achieve and sustain’ control, albeit within a process of continual experimentation. Hyman (1987), on the other hand, emphasises the inevitable failure of management strategy rather than the terms upon which control can be sustained. The key to Hyman’s (1987) approach is an emphasis on contradiction:

Strategic choice exists, not because of the absence or weakness of structural determinations, but because these determinations are themselves contradictory... it is necessary to stress the impossibility of ‘harmonising’ the different functions of capital (p. 30).

Consequently for Hyman (1987) there is “no ‘one best way’ of managing these contradictions, only different routes to partial failure. It is on that basis that managerial strategy can best be conceptualised as the programmatic choice among alternatives none of which can prove satisfactory” (p. 30).

Together the approaches taken by Storey (1985) and Hyman (1987) emphasise the importance of contradiction and dialectics in understanding the complexity of the relationship between structure and agency. This is essential if there is to be an understanding of the diversity of actually existing practice in the operation of management control systems. In order to analyse the strategies used to control the work of software developers, it is necessary to further explore trends in the labour process of software development.
Primary and Secondary Software Products

One way of seeing the contradictory trends in this labour process is by drawing upon the distinction between primary and secondary software products. Primary software products are those made in centralised locations and sold as software commodities for further development (Sharpe, 1998). These products are referred to as 'packaged software', which is developed by a software firm for sale to market (Brady, 1992; Carmel & Sawyer, 1998). Products include operating systems, word-processing packages, development tools, and accounting suites. These products are then used as the basis for secondary products, which are either bespoke applications or modified standardised packages (Sharpe, 1998). Secondary software products are those used by organisations for their information systems applications and are referred to as IS. Utility billing systems, HRM applications, airline reservation systems are all types of IS typically developed either by the organisation's own IT department or by a consulting/service firm who build custom software on a contract basis for specific clients (Brady, 1992; Carmel & Sawyer, 1998).

That there is a hierarchy of software products implies a difference (although not necessarily clear-cut) in production processes and strategies to control the labour process. Such differences can be linked to the two software development paradigms that Quintas (1994: 35) labels “formalist” and “pragmatist”. The formalists see software development in terms of it being an engineering discipline along the lines of structured programming (as outlined above), and the ‘waterfall’ model is the most commonly accepted representation of this software development life cycle (Brady, 1992). The waterfall model describes different stages in the software development process, which follow the fixed process of requirements analysis, systems specifications, design of the system architecture, implementation (programming), testing (or ‘debugging’), and maintenance to correct and improve the systems functionality (Brady, 1992). Carmel and Sawyer (1998) argue that such a view is consistent with IS development where there is a greater concern for process and the roles of developers in implementing appropriate methods and techniques.

On the other hand, pragmatists see software development as an ad hoc process of ‘hacking’ (i.e.: writing code without rigorous planning and then hacking at it to remove bugs and achieve results). This view is consistent with the development of packaged software, which is more likely to be motivated by the technology push and therefore puts firms under pressure to innovate and beat competitors in delivering products to market (Carmel & Sawyer, 1998; Dubé, 1998).

Microsoft’s creation of DOS, a primary software product epitomises the pragmatist’s view of software development. IBM’s technology demanded DOS, a packaged software innovation whose creation required the assembly of a workforce with expertise to develop the software product. These ‘Microkids’ were youthful ‘nerdy’ boys out of a handful of elite American academic institutions. Their work was focused on the action of developing software in a team with a degree of self-direction. They were empowered through
their choice of production tools and internal organisation while senior managers acted as mentors, coaches who "inspired rather than flogged" (Sharpe, 1998: 367).

Scarborough (1999) argues that the work ethic came from Microsoft's replication of selected features of the classical university model into the physical and cultural architecture of the Seattle headquarters. In addition Microsoft allowed for the transfer of employees' lifestyle (for example, casual dress, late nights, the '2.30am pizza run', skateboards, Coke) into the workplace, which provided employees' with challenge through the technical aspects of the work, and the excitement generated through the personal opportunities of their work. Microsoft institutionalised this 'hacker' culture in 'tiger teams' where "individual expertise is incorporated within a collective framework" (Scarborough, 1999: 14). Despite their freewheeling appearance, these tiger teams had a discipline imposed upon them by the 'daily build'. 56 The daily build is a daily assembly and test run of all the software produced in the project and is an iterative process of building more functions into a growing base of software (Sharpe, 1998). The daily build works as both a production target and focus for commercial development and can be likened to a total quality approach where the aim is to discover defects along the way rather than at the end: testing is incorporated into development. Essentially Microsoft's development process has a number of elements to it: selection of employees who fit; use of small teams which can exercise autonomy though the sharing of individual expertise; and direct control through the application of the daily build. These elements are important when both creativity and control are required from employees, and variants of these practices can be seen in the case studies reported in Chapters 8 and 9.

**Controlling the Labour Process of Software Development**

This review shows that software development is not a uniform activity, the task can be organised in many different ways (Friedman, 1990). Developments such as language evolution and structured programming could be seen as being consistent with the linear trend of deskillling proposed by labour process theorists such as Braverman (1974), Edwards (1979) and Burawoy (1979; 1985). For example, Braverman (1974) argued that the logic of capitalist production was to de-skill the labour process. The tendency for employers under capitalism was to subdivide tasks and separate conception and execution through the application of new technology. Deskillling provided for increased capitalist control over production because opposed centres of knowledge were destroyed and the labour process fragmented.

However, in software development, linearity cannot be taken as an absolute because of the interactions between the dynamics of technological innovation and changing patterns of use (Morgan & Sayer, 1988;

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56 This managerial approach is termed "synch and stabilize" by Cusumano and Selby (1996). They describe the essence of the strategy as being simple: "continually synchronise what people are doing as individuals and as members of different teams, and periodically stabilize the product in increments" (Cusumano & Selby, 1996: 49).
Quintas, 1994). Beirne et al. (1998) note, "the nature of the work performed in producing and operating software should be a matter of great curiosity to labour process analysis" (p. 142) because different strategies of control may depend on the type of software being developed.

For example, Friedman's (1977; 1984) two broad strategies of control, which exist on a continuum, may be used to show how control can be exercised in different ways depending upon whether the more traditional 'waterfall' and the iterative 'tiger team' production processes are used to created IS and packaged software respectively. The first strategy, direct control, is similar to that expounded by Braverman (1974) and can be used to describe control over the development of secondary IS software products. Friedman's (1977) strategy of responsible autonomy, "attempts to harness the adaptability of labour power by giving workers leeway and encouraging them to adapt to changing situations in a manner beneficial to the firm. To do this top managers give workers status, authority and responsibility" (p. 78). This strategy is more applicable to the development of primary, packaged software products where the relationship between activity and outcome is not always obvious (Littler, 1990).

However Friedman's (1977) conceptualisation of autonomy is very broad as the 'status, authority and responsibility' could apply to a number of levels: autonomy, where individuals have the freedom to set goals and the means to pursue them, could be exercised at the level of the organisation (strategic) or the task (technical). Such an argument utilises the study of industrial R&D labs by Bailyn (1985) where she draws a distinction between 'strategic autonomy' (the freedom to set one's own research agenda) and 'operational autonomy' (the freedom, once a problem has been set, to attack it by means determined by oneself, within given resource constraints). Consistent with Scarbrough's (1999) view that "knowledge workers derive their power and values from occupationally-based knowledge communities" (p. 11), the above review would suggest that technical autonomy is a more apt description than responsible autonomy, where employees with high levels of skill or technical knowledge possess some degree of control and discretion over the software development process. Rather than lying at some point on the continuum between Friedman's responsible autonomy and direct control, technical autonomy can instead be seen as a subset of the responsible autonomy type strategy, reflecting Storey's (1985) idea of levels of control.

A number of implications for strategies used to control the labour process of software development arise from Friedman's (1984) contention that a firm's position on the continuum will change as "competitive conditions in product and labour markets and worker reactions" (p. 181) force managers to change their strategy. First, as can be seen from the discussion above, different types of control strategies can be used for the development of different types of software products as well as at different stages of development of primary and secondary software products. This can be linked to Braverman's (1974) and Scarbrough's (1999) argument that management can afford to use particular strategies of control that give autonomy to those employees who occupy a privileged position in the product lifecycle. For example, Braverman (1974) argues that the employment conditions of the 'middle layer' – the engineering, scientific and
technical cadre – are affected by “the privileged market position which specialised and technically trained labour possesses in the earlier phase of its development, at a time when the supply of such labour is catching up with the needs of capital accumulation” (p. 407). This privileged position is, however, only temporary as the different types of strategies, which can be applied to those developing primary and secondary software products, shows.

The second implication is that different strategies of control can be used at different stages of development of both primary and secondary software products. This can be seen, for example, through the application of the ‘daily build’ as a form of direct control over the development of primary software products. Similarly, management, in the early stages of developing secondary software products when the project specifications are being drawn up, can use a strategy based on technical autonomy. However, once these specifications are finalised they act as parameters within which the software product is developed: basically acting as a form of direct control over the development of the secondary software product. Furthermore, the use of structured programming techniques, CASE tools and higher-level languages are means by which direct control can be exercised over the development of both primary and secondary software products.

The third implication is that different managerial strategies of control can be used for different types of workers engaged in the software development process. For example, the issue of whether software developers are professionals, in the traditional sense, or not has importance only for the way in which management treats these workers. The mobility of software workers and their lack of organisational commitment, means that management strategies of direct control would be counterproductive in situations where the stability of creative and expert labour is required. However, maintaining divisions between software development and software testing processes (as is possible in the waterfall model, which is usually used for developing secondary software products) enables management to use a strategy of technical autonomy with the former group of workers and a direct control strategy with the latter.

The point is that rather than suggesting that there is a straightforward progression of deskillling the labour process of software development, the focus needs to be on the choice of strategy employed. Within the control of the labour process there are a variety of management techniques and organisational structures available and it may be unnecessary to counterpose one specific form of control against another. The key is to explore, analyse and describe combinations of control strategies. These are likely to be adopted within the specific and historically located circumstances of given groups of employees and managers, within particular firms and sectors. In terms of software development, the choice of strategy is influenced by the type of product being developed, the timing in the product’s development lifecycle as well as the type of workers employed to develop the product. Storey’s (1985) idea of levels and circuits of control highlights that management can use either a strategy of direct control or technical autonomy to control the labour process of software development or they could use both strategies simultaneously. Therefore, an
understanding of the nature of control over the labour process of software development requires a consideration of the dialectical dynamics of both environmental structure and human agency. In other words, a consideration is required of the structural forces that lay down broad parameters within which action takes place, as well as how, in confronting structural forces, actors change both the nature of those forces and indeed themselves.

The means by which both structure and agency can be taken into account in the study of strategies of control over software development was outlined near the end of in Chapter 2 when Rainnie's (1989; 1991a) heuristic device was discussed. The device allows for the firm to be located and analysed within its economic totality and its contradictory constituents. This is necessary as attention must be paid to labour and product market conditions, as managerial strategy in particular and labour process characteristics in general are not driven solely by managerial attempts to control the indeterminacy of labour, important though these may be (Morgan & Sayer, 1988). Agency, and in particular the response of workers, must also be incorporated as “the structures and means of control are socially produced and their continued existence are therefore conditional upon managers and workers continuing to reproduce them” (Storey, 1985: 197).

Conclusion

In this chapter the nature of work is outlined in the particular sector where the integrated approach to analysing small firm employment relations (developed in Chapters 2 and 3) is to be applied. To overcome the fuzziness of the information industry concept, as identified in Chapter 4, in this chapter the focus is on software development, as it is software not hardware, which is central to the development of the information industry. In particular, how software development work is organised and managed is considered in this chapter. The tendency for the media to glamorise this type of work and the concern in relevant academic studies on professional scientists and engineers makes this a difficult task. The focus on technology and innovation causes attention to be drawn to change while continuity is neglected. In addition, the debates about whether software developers are knowledge workers and/or professionals exacerbate the problem. The illusion of a ‘special breed’ (Von Glinow, 1988) of workers engaged in autonomous, creative, knowledge work is an image that does not represent the reality of what occurs in the software development process.

The brief overview of the history of software development, and the discussion about primary and secondary software products, serves to highlight the different management strategies that can be used to control the software development labour process. Although software development may be considered ‘knowledge work’ a range of strategies can still be used to control the labour process and this is no
different to that which occurs in other parts of industry. The difference is, however, that in software development virtually none of the conventional (collectivised) forms of struggle for control between labour and capital (such as unionisation) seem to be employed (Sharpe, 1998) and instead more individualised forms of control and resistance take place.

An analysis of employment relations in small firms engaged in software development within the information industry needs to take into account what happens in terms of management in the firm as well as why it happens and how employees respond. In other words, the types of ‘institutional’ arrangements and firm level policies and practices for managing employment relations in this industry generally need to be considered, and the survey in Chapter 7 is an attempt to provide an understanding of the structures within which software development occurs. This is followed by more detailed analysis of the dialectical interaction between structure and agency in two cases. Chapters 8 and 9 contain case studies of two firms engaged in the production of IS and packaged software respectively. The purpose of the case studies is to consider what strategies are used to control the labour process and why they emerge. This follows from Hyman’s (1987) argument that the contradictions inherent in any capitalist structure mean “there is no ‘one best way’ of managing these contradictions, only different routes to partial failure” (p. 30).

The analysis in Chapters 8 and 9 is conducted in terms of the dialectical interaction of structure and agency: the actions of agents (management and employees) are assessed within the constraints placed upon them by the structure within which each firm operates. Prior to this, in the following chapter the research design and methodology are explained and justified.
CHAPTER 6: RESEARCH DESIGN AND METHODOLOGY

Objective of Chapter 6

The objective of this chapter is to discuss the methods used to pursue the integrated approach to studying small firm employment relations developed in the previous chapters. In addition, how this integrated approach fits within a critical social science approach will be shown. To this end, the research methods used to explore the research questions will be discussed and how these methods are to be applied in this particular study will be outlined. The process by which the research, reported in the following chapters of this thesis, is developed and conducted is documented and detailed.

An Alternative Approach

Kuhn's (1962) idea of paradigm suggests a basic orientation to theory and research. The importance of a paradigm (conceptual/theoretical framework/approach) is that it includes basic assumptions, the important questions to be answered and research methods to be used.\(^{57}\) In the social sciences there is a wide and ongoing debate about paradigms but it is generally accepted that no single paradigm is dominant (see for example Burrell, 1996; Guba & Lincoln, 1994; Lincoln & Denzin, 2000; Lincoln & Guba, 2000; Neuman, 2000). Between the dominant social science paradigms of positivism and interpretivism (also known as relativism or constructivism), which lie at the ends of a continuum, is 'critical theory'.\(^{58}\)

In this thesis a critical approach, which draws upon a Marxist analysis, fits with the nature of the approach to analysing small firm employment relations outlined in earlier chapters. Jermier (1998) argues that a critical approach is an explicit political orientation to theory and research. In other words, the critical

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\(^{57}\) Masterman (1970) points out that Kuhn used the term 'paradigm' in 20 different ways in the first edition of *The Structure of Scientific Revolutions*, while Sztopka (1979) offers 30 different terms for 'paradigm' used in sociological literature.

\(^{58}\) Kincheloe and McLaren (2000) argue that there is no 'one critical theory', instead they contend that:

A criticalist 'uses their work as a form of social or cultural criticism and...accepts certain basic assumptions: that all thought is fundamentally mediated by power relations that are social and historically constituted; that facts can never be isolated from the domain of values or removed from some form of ideological inscription; that the relationship between the concept and object and between signifier and signified is never stable or fixed and is often mediated by the social relations of capitalist production and consumption; that language is central to the formation of subjectivity (conscious and unconscious awareness); that certain groups in any society are privileged over others, and although the reasons for this privileging may vary widely, the oppression that characterises contemporary societies is most forcefully reproduced when subordinates accept their social status as natural, necessary or inevitable; that oppression has many faces and that focussing on only one at the expense of others often elides the interconnections among them; and finally that mainstream research practices are generally, although most often unwittingly, implicated in the reproduction of systems of class, race and gender oppression (p. 290–1).
social science approach (Fay, 1987; Kincheloe & McLaren, 1994; 2000; Neuman, 2000) taken in this thesis is a summary of the following matters of ontology, epistemology and methodology.

Ontology is about the form and nature of reality and therefore what can be known about reality. From a critical social science approach social reality is seen as constantly evolving over time, misleading on the surface and generated by observable and enduring structures (Neuman, 2000). Such a view sits between the ontological position of positivism in which social reality is seen as independent of human consciousness (i.e.: ‘something out there’) and relativism where reality is subjective, created by social interaction and socially constructed meaning systems.

Epistemology is constrained by ontology and deals with the nature of the relationship between the researcher and the researched (Guba & Lincoln, 1994; Morgan & Smircich, 1980). From a critical social science approach, the role of the researcher is to find the objective structures that lie behind the (observable) surface reality created by individuals. This is necessary as reality is hidden beneath the structures that are constantly fusing, dividing and recombining to constitute social formations. Structures include the set of formal and informal rules that actors draw upon to generate common expectations and sanctions for modes of conduct in the processes of interaction (Giddens, 1982; 1984). In other words, rather than simply describing or interpreting reality, from this perspective the researcher must "uncover or expose" (Neuman, 2000: 77) the deep structures that lie beneath the surface reality.

In terms of methodology, which refers to how the researcher goes about finding what they believe can be known (Guba & Lincoln, 1994; Morgan & Smircich, 1980), a dialectical approach is appropriate where theory informs what to look for but interpretation of the ‘facts’ will modify theory. The theory in use as "a map telling where to look for facts" (Neuman, 2000: 80) is based on a view of the world, which is, in turn, based on the researcher’s values. Therefore, the critical social science researcher’s values inform and influence the questioning of the social situation and how that is placed within the larger historical context (Neuman, 2000; Sayer, 1992). Kincheloe and McLaren’s (1994) reminder that “what we see is not what we see but what we perceive” (p. 144) can be used to underline this idea that research is not value free.

The implication of a critical social science approach for this thesis is that the ‘illusions’ veiling the underlying structures must be pulled away to understand how they shape and constrain the management of employment relations in small firms. Structures enable and constrain agency, being both the medium and outcome of interaction. Agency is the more precise conception of action (Thompson & McHugh, 1995), and agents deploy and reconstitute resources in the process of interaction (Giddens, 1984). The reciprocal interaction of structure and agency produces patterns located in the historical and comparative contexts of the employment relationship.
Research Methods

In this thesis the broad research question is:

Q1 How does firm size affect the management of employment relations in small firms?

This question can be explored via research methods addressing the three subsequent research questions. A multi-method research design utilising quantitative and qualitative research methods is used to ‘answer’ the research questions. The value of utilising multiple, complementary research methods is the minimisation of the weaknesses of each type alone (Lee, 1999) as well as enabling a consideration of both structure and agency.

Quantitative research methods (i.e. questionnaire) can be used to investigate the relationships proposed in the following questions:

Q2 What types of employment relations operate in the information industry?

Q3 What are the influences on these employment relations?

   3a) How are employment relations different in small and large firms?

   3b) Can employment relations in small firms be described as harmonious (e.g. no union presence, no industrial action)?

   3c) How are employment relations different in firms where the principal owner is present compared with those where the owner is absent?

   3d) How are employment relations different in firms with competitive market conditions compared with those whose market conditions are not competitive?

   3e) How are employment relations different in firms with different management styles?

These methods can be used as the questions above are largely concerned with the structures within which employment relations take place. The quantitative element of the research design consists of a survey of firms operating in the information industry (N = 206). The primary purpose of the quantitative data is to provide information about how employment relations are managed in Australian firms in the information industry. (What this means in terms of actual questions is addressed in a later section of this chapter.) The data are primarily descriptive of how employment relations are regulated in firms in the information industry. However, the data are also exploratory as it can be used for preliminary investigations as to why particular practices occur. For example the impact of firm size, age, ownership, and level of competition on the pattern of employment relations can be investigated. In other words, some of the structures within which actors make their choices are described and explored with these data. Prediction is not possible as structures are constantly in a process of flux.

59 The University of Melbourne, Arts and Education Human Ethics Sub-committee, granted approval for this study, then entitled 'Industrial relations and management style in small firms' (Reference no. HREC 990462).
A qualitative research method (i.e. a case study) can be used to investigate the following question:

Q4 How do managers and employees experience work in the software development sector of this industry in general and small firms in particular?

This is the case as a structural (deterministic) analysis tells only what structures exist (i.e.: the parameters), while the purpose of a critical social science approach is to expose how human agency may change the parameters within which choices are made. The qualitative aspect consists of two case studies of firms in the industry. As these firms were respondents to the survey, their activities can be placed within a broader context while interviews with management and employees can provide meaning to processes within that context. The purpose of the case studies is to both describe what happens in terms of managing employment relations within the case study firms as well as to develop explanations for why this occurs. In other words, the dialectical interaction between agency and structure, the tensions that emerge for management, and the ways in which they attempt to resolve them provide a better understanding of small firm employment relations. Such an analysis can also be used to explain why there is an appearance of industrial harmony in these small firms. This explanation can then be related back to earlier views of harmony in small firms, which were outlined in Chapter 2 of this thesis.

The case studies are constructed from semi-structured interviews and analysis of documents provided by the firms and others available in the public domain. The use of a case study meets the characteristics of qualitative research listed by Lee, Mitchell and Sablynskii (1999) which include: the research occurs in a natural setting; the data derive from the participants' perspective; and the research design is flexible to accommodate the dynamic demands of the research situation.

**Developing an Understanding of the Chosen Sector**

In this thesis, the focus is on firms as they manifest themselves in the information industry in Australia. The rationale for focussing in this manner is that small firm employment relations in this industry will be quite different to that found in small firms in more traditional sectors of the economy. This is the case as intellectual, creative, professional and expert skills of employees form the basis upon which these small firms trade (Scase, 1995). However, in Chapter 4, a number of problems with trying to research this 'industry', which stem from it being a fuzzy concept (Markusen, 1999), are documented. Additionally, in Chapter 5, issues of managing 'knowledge work and workers' and professionals were reviewed in order to expose some of the problems of understanding the management of software development work and workers.

The immediate implication was for the development of a representative sample of firms for the survey. The problem rested with clearly defining the population of firms operating in the information industry (see
discussion in Chapter 4), which remained difficult given the broad nature of the operations of the firms within the industry. Following a pilot surveying process \(N = 51\) the survey sample was limited to include only those firms that were engaged in the production of software to ensure a more appropriate representation of those firms exclusively engaged in the information industry.\(^{60}\) Non-random, purposive sampling (Babbie, 1998; Neuman, 2000) was therefore used to develop both the pilot and main survey samples.\(^{61}\) Neuman (2000) argues that purposive sampling can be used for exploratory research but the shortcoming is that the cases selected may or may not be known to represent the 'population'.

A number of organisations were contacted for assistance in the form of a list of firms in Victoria which could be used to develop a survey sample, as well as names of ‘experts’ associated with the industry who could be contacted for a (telephone) interview if needed.\(^{62}\) Those contacted included:

- Assistant Secretary, Office of Small Business, Department of Industry Science and Technology (DIST), Canberra.
- Assistant Secretary, Information Industries Branch, Industry Division A, Department of Industry Science and Technology (DIST), Canberra.
- Director, Information and Communications Industry, Department of Business and Employment, Melbourne.
- Deputy Executive Director, Australian Information Industry Association (AIIA), Canberra.
- Executive Director, Australian Electrical and Electronic Manufacturers Association Ltd (AEEMA), Canberra.
- Manager, Eastnet Association Inc, Bayswater.

All except the Manager of Eastnet responded in some form. Both contacts at DIST sent a copy of the Department’s IT&T Capability Directory (CD-Rom). The response from the Department of Business and Employment in Melbourne was that no such list existed (and when one was constructed could it be sent to them). However, they did suggest that the Kompass Database of Australian businesses could be useful. The AEEMA sent a copy of their Annual Report, Membership Directory and list of members in Victoria they classified as being small. The AEEMA Executive Director also made himself available for a telephone interview.

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\(^{60}\) The samples for the pilot and main surveys were not necessarily drawn from the same population.

\(^{61}\) Neuman (2000: 198) argues that there are three situations where purposive sampling is appropriate. These situations are when the researchers wishes to 1) select cases that are especially informative; 2) select members of a difficult to reach, specialised population, and 3) identify particular types of cases for in-depth investigation.

\(^{62}\) Although Chen, Farh and MacMillan (1993) evaluated the reliability and accuracy of outside informants in relation to those of insiders to provide measures for strategy variables, their results suggest that informants should be used, however “researchers should also fully think through what type of knowledge the outsiders should have and select those whose training and experience are the most suitable” (p. 1628).
The AIIA sent back information about their website (http://www.aiia.com.au) and pointed out that their membership list could be accessed from there. The Deputy Executive Director also said he would be in Melbourne on February 20, 1997 and a meeting was arranged with him. In that meeting, the objectives of the research were discussed as well as potential assistance from the AIIA. On his return to Canberra, he faxed a list of members that the AIIA considered to be SMEs in Victoria as well as the members of their Education Committee (these people were later contacted for ‘market testing’ the pilot survey).

The AIIA Executive Director was first met at a seminar run by MacQuarie University’s Graduate School of Management in Sydney on June 2, 1997. The project and progress with drafting the questionnaire was discussed during the meeting. Two weeks later at a meeting in Melbourne, the Executive Director indicated support for the survey and this support was mentioned in the questionnaire’s covering letter. In addition, contact names and numbers of those people who were running the AIIA’s appeal in the Australian Industrial Relations Commission (see Chapter 4) against the dispute finding for a federal award were provided. Although no formal endorsement came from the AIIA for the project, they provided support and assistance with introductions to people and information relevant to the study.

The Research Process: Surveying

The questions being addressed through the survey process were:

Q2  What types of employment relations operate in the information industry?
Q3  What are the influences on these employment relations?

To investigate these questions the information shown in Table 6.1 was gathered through the surveying process. This information was sought as the literature review had suggested that a range of influences could act on employment relations in small firms, namely: size, ownership and management characteristics (e.g. style), relationships with other firms, and market conditions. As such, the following outline the key research questions being investigated with this information:

3a) How are employment relations different in small and large firms?
3b) Can employment relations in small firms be described as harmonious (e.g. no union presence, no industrial action)?
3c) How are employment relations different in firms where the principal owner is present compared with those where the owner is absent?
3d) How are employment relations different in firms with competitive market conditions compared with those whose market conditions are not competitive?
3e) How are employment relations different in firms with different management styles?
Table 6.1: Information Sought Through the Surveying Process*

<table>
<thead>
<tr>
<th>Category</th>
<th>Information sought</th>
</tr>
</thead>
<tbody>
<tr>
<td>General information about the workforce</td>
<td>Skill level. Main occupational group. Main activity engaged in. Form of employment. Gender breakdown.</td>
</tr>
<tr>
<td>Characteristics of employment relations including formal institutional arrangements and workplace policies (especially their level of formalisation)</td>
<td>Form of regulation (award, agreement or individual contracts). Satisfaction with form of regulation. Third party involvement at the workplace. Attitude to unionisation. Existence of policies for dealing with overtime, grievances, discipline, occupational health and safety. Policies for appraisal, promotion, recruitment and selection, training. Use of performance pay. Existence of an overall business plan. Methods of communication and employee involvement. Management style and reason for. Management attitudes to employees on an individual and collective basis.</td>
</tr>
<tr>
<td>Market conditions</td>
<td>Level of competition. Type of competition. Level of demand.</td>
</tr>
</tbody>
</table>

*The exact wording of the questions can be seen in the questionnaires in Appendix A.

Types of Questions

The questions used in the survey could be considered as one of the following four types (Dillman, 1978). The first type of questions dealt with attributes and these asked about the demographic characteristics of
the workplace and workforce. The purpose of collecting this information was to explore how other variables differ for workplaces with different characteristics. The second type were behaviour questions, which asked the respondent to describe what happened in the workplace. Attitude questions were the third type and these questions evaluated how management felt about some aspect at the workplace. The final type of questions was about beliefs and assessed what the respondent thought was true or false. (Very few attitude and belief questions were used as only one person's attitude or belief was being gathered that may or may not have been representative of the attitude or belief at the workplace.)

The majority of questions in the surveys dealt with attributes or behaviour because the primary purpose of the survey was to collect information about WHAT was happening. In a number of cases the questions began as attribute questions (i.e.: Does something exist?) then were filtered to behaviour questions (i.e.: How is that thing used?). The use of filters and skip instructions ensured that respondents moved quickly through all relevant questions.

A number of pre-existing employment relations and/or small firm questionnaires were drawn upon in the development of the questionnaire in order to get the 'right' wording as well as enable comparison of the findings. These questionnaires included:

- The 1995 Australian Workplace Industrial Relations Survey (Morehead et al., 1997) and in particular the Small Workplace Survey (SWS), the General Management Questionnaire (GMQ), the Employee Relations Management Questionnaire (ERMQ) and the Workplace Characteristics Questionnaire (WCQ).
- The Australian Chamber of Commerce and Industry Survey (Isaac et al., 1993)
- The United Kingdom Small Business survey (Scott et al., 1990).

By drawing upon questions used in other questionnaires the problems of bias and vagueness were reduced. However, modifications were made following the 'market testing' and pilot surveying phases to increase the clarity of some questions. In addition, other questions were also replicated in total or part or created from definitions and/or questions used in a range of other sources, e.g. Charles et al. (1997), Dastmalchian, Blyton, and Adamson (1991), DIST/IC (1997), Goss (1991a), and Rainnie (1989; 1991a). A table indicating the source of the main survey questions is included in Appendix B.

There were two critical issues in wording the questions. The first was that the respondent understood that the questions were about the workplace (the identifiable and distinct unit located at the address to which the questionnaire was sent) rather than the organisation or firm or business, as some workplaces were part of a larger organisation. Second, it needed to be clear that the respondent knew when questions referred to 'all people at the workplace' or simply 'employees'. The main problem was how independent contractors were seen: in some workplaces they were considered part of 'all people at the workplace', in other
workplaces they were considered to be the same as employees and in other workplaces they were left out. Where necessary, definitions were provided to ensure that the respondents knew what it was that the researcher was trying to gather data about.

Dillman (1978; 1983; 1991) argues that an important consideration when conducting a mail survey is the overall presentation of the questionnaire. Issues of question ordering, formatting and use of front and back covers were all addressed. In terms of question ordering it was important that ‘easy’ questions came first in order to develop the respondent’s confidence to continue. To this end, the first set of questions asked about attributes of the workplace and workforce. Harder questions dealing with the existence of various policies and attitudes to employees followed and the hardest questions dealing with market conditions were left to the end. To minimise the respondent’s mental effort of switching between different content areas, questions were grouped together by content and also ordered in a way that showed progression between questions. In total it took ten iterations of the survey to polish the wording of the questions, the question ordering and the formatting of the survey before it was ready for ‘market testing’.

**Testing the Questionnaire**

Once the questionnaire was finalised a process of ‘market testing’ took place in order to determine three things. First, the testing was to ensure that the questions were worded in such a way to elicit meaningful responses. Second, the process was to see whether there were any questions that were deemed to be unacceptable and third, it was an attempt to ascertain how long it would take for the questionnaire to be completed.

The firms chosen to participate in this market testing process were drawn from the AIIA’s list of Education Committee members employed as managers in firms based in Victoria. Managers at six firms were targeted and letters were sent to them outlining the aims of the study and this process and requesting a meeting to discuss the questionnaire. Three managers responded and meetings were arranged. A meeting was held with the Finance Manager (who was also responsible for personnel) at XSD on May 26, 1997 the HR director of HC on May 29, 1997, while a discussion on the telephone was held with the HR manager of TC on June 18, 1997.

The market testing process identified the following problems with the questionnaire:

- Questions about financial performance would not be answered.
- Respondents preferred forced choice, rather than open-ended questions.
- Questions needed to be clear as to whether they were asking about employees generally or non-management employees.
- Respondents preferred to fill in boxes for their answers rather than write across a dotted line.
A number of these problems were rectified in the eleventh iteration of the questionnaire. For example by replacing dotted lines with boxes more ‘white space’ was opened up and each page looked less cluttered and more aesthetically pleasing.

An issue which was more difficult to resolve was how to structure an appropriate question about the workplace’s main activity given the diversity of activities engaged in by the firms making up the ‘information industry’ (as discussed in Chapter 4). In the market testing phase, the question was simply: “What is the main activity of this workplace, in other words, what does it make or do?” This question replicated the one used in the AWIRS – SWS (Q2). The problem with this question is that it can be answered on a number of levels and led to responses like “well we do this but our profit comes from….”. For the pilot survey, the question was replaced with the visual representation of the industry value chain (Charles et al., 1997) and respondents were asked to indicate where their workplace was located. However this also proved inadequate and in the final questionnaire two separate questions were used – A1 and D2.

The Pilot Survey

The purpose of the pilot survey was to ‘test’ the questions and see whether the questionnaire elicited meaningful responses to questions. The Victorian members of the Australian Information Industry Association were used as the sample for the pilot survey. To obtain this sample the AIIA’s membership list was printed from their website (http://www.aiia.com.au) and the address for each of the 300 firms was checked to see whether the firm was located in Melbourne, Victoria. This process entailed checking the firm’s website if it was hot-linked from the AIIA website, searching the DIST IT&T Capability Directory (http://itit.dcia.gov.au/) or Australian Securities and Investment Commission’s website (http://www.asic.gov.au). As a result 51 firms were identified as being located (having their primary business activity located) in Victoria.

The questionnaire was addressed to the most senior manager responsible for employment relations (or Human Resources or Industrial Relations or Employee Relations or Personnel) and to ensure a higher response rate the name of that person was found for each firm. This process again entailed checking the firm’s website (if they had one) or searching the DIST IT&T Capability Directory. Where no name was found a research assistant telephoned the firm concerned and asked for a name.

Following Dillman’s (1978; 1983; 1991) ‘total questionnaire design’ three rounds of surveys were sent out. In each round, there was a covering letter, a copy of the survey with return date and a self-addressed, postage paid envelope in which to return the questionnaire. Each questionnaire was numbered and when it was returned it was checked off against the master list.
In the first round, 51 surveys were sent out on Monday January 23, 1998 to be returned by Friday February 6, 1998. In that round, 13 completed questionnaires were returned. In the second round, 38 questionnaires were sent out on Monday February 9, 1998 to be returned by Friday February 20, 1998. In this round, six completed questionnaires were returned. In the third round of questionnaires, 32 were sent out on Monday February 23, 1998 with a return date of Friday March 6, 1998. In this round, a total of nine questionnaires were returned but one was incomplete. In total, 27 completed questionnaires were returned representing a response rate of 53%.

Twelve of the respondents expressed interest in being involved in the second stage of the research, which was said (at question F1) to involve more detailed discussions with management and employees. On June 1, 1998 the manager to whom the questionnaire had been sent at seven of the firms was contacted to discuss this potential involvement. As a result, meetings for further discussions about the aims and objectives of this study were arranged with the CEO of one firm on Friday June 5, 1998 and with the CEO of one and HR Director of another firm on Tuesday June 9, 1998. The result was that one firm agreed to be involved in the study and provided access for a pilot case study. This case is not reported in the thesis, largely because access was only provided to four administrative staff rather than the 'key' employees (consultants). The process was, however, useful to trial and further develop an appropriate interview schedule for use in the later case studies.

A number of changes were made to the questionnaire following the pilot. For example, in the pilot survey the information industry value chain (Charles et al., 1997: 8) (see Figure 4.1) was used. This was a mistake as respondents either ignored the question – perhaps they thought it was part of the opening statement – or found the visual representation of the industry confusing. In the main survey, the visual representation was translated into words and all respondents answered this question, which was closed-ended with an unordered response choice (Dillman, 1978).

The main changes made to the pilot questionnaire ready for the main surveying process were the addition, modification or removal of questions, and formatting changes. In terms of the addition of questions in section A, for example, a question was included about whether the firm could be considered a family firm (A6). A question at the beginning of section B was asked about the total number of people at the workplace and a check instruction (in bold) was included at the end of the four questions dealing with the size of the workplace that said ‘The totals for questions B1 – B4 should be the same’. The purpose was to indicate to the respondent that all people at the workplace (employees, management and independent contractors) be included in the count of workplace size. In section C, definitions of ‘award’, ‘collective agreement’ and ‘individual contract’ were expanded and placed above the relevant questions in the questionnaire. In addition, collective agreements were defined as verbal or written and the questions about
verbal collective agreements were removed. The reason for this was that the pilot survey revealed very little evidence of the use of collective agreements.

There were slight changes to question wording: for example ‘employee’ replaced ‘non-managerial employee’. Some questions were removed as the pilot survey suggested they were redundant or did not collect the information required. For example, the question about what changes the respondent would like to make to terms and conditions of employment was removed because the pilot survey showed that respondents were overwhelmingly satisfied. Questions asking for the proportion of payroll spent on training and the proportion of sales spent on Research and Development activity were also removed because the pilot survey showed that these questions were either ignored or the response was meaningless without a range of other financial data. Questions about other formal meetings were also removed because the answers were meaningless without follow up questions about the type of formal meeting (e.g. joint consultative committees or total quality management practices) furthermore, this information was not really critical to the study. As the pilot survey revealed little industrial action of any type in the workplaces surveyed, the question about the ‘issue over which industrial action took place’ was also removed. A number of changes were made to section D both in terms of the ordering of questions and their wording. The rationale for these changes was to gather more adequate information about how workplaces fitted into supply chains and the dependency relationships between firms.

Other formatting changes were also made. For example, the statement about the purpose of the questions at the section headings was removed and there was a greater use of bold for key words in questions and statements. Ease of reading was the rationale for these changes.

*The Main Survey*

The final survey came to fourteen pages in length once all the changes discussed above were made to the questionnaire. See Appendix A for a copy of the questionnaire.

*Survey Sample*

The Kompass Australia 1998 database of businesses was used to construct a sample of firms for the main survey.63 The Kompass database was used as it contained a range of information about 32,000 individual firms including:

63 The Kompass Australia database of business is published by APN Business Publishing Pty Ltd Group of Companies in Melbourne, who purchased the Australian franchise from the Kompass Group (http://www.Kompass.com).
- Company name.
- Australian Company Number (ACN).
- Contact details: Address (street and postal), Phone, Fax, Email and URL numbers.
- Key personnel names.
- Year established.
- Number of employees.
- Activity and activity group.
- Products and services and brand names.

The database was searched using the search categories of state = Victoria, and product/service = software or computer or computer and software or mainframe or server or database or Internet or intranet. This search found a total of 421 firms that fitted the search categories.

The information held on the database about each of these 421 firms was printed and a manual sorting process based upon that information took place. The basis upon which this information was sorted included: whether the firm’s main business activity took place within the ‘information industry’ (in that their main activity could be considered part of the industry’s business structure or architecture, contributing to technology building blocks as suggested by Charles et al. (1997); that a minimum of five people were employed, and that the firm had not been included in the sample for the pilot survey.

This sort process eliminated 171 firms: 50 did not conduct their main business activities within the information industry (they were largely computer retailers); 31 did not include their employment size; 81 employed less than five people and nine had been part of the pilot sample. A total of 250 firms were left in the sample.

A mail merge file was created containing the following information:
- Company Name.
- Contact details: address, phone and fax numbers.
- Contact name and title.

As the questionnaire was to go to ‘the most senior manager responsible for employment relations’ then the contact name was for the HR Manager (or equivalent). In the firms where no such person existed (usually the very small firms), the questionnaire was addressed to the General Manager (GM), Managing Director (MD) or CEO. In the situations where the names of these people were not contained in the Kompass database, the firm was contacted by phone and the question was asked as to whom would be the most appropriate person to send such a questionnaire.

Clearly, the above process does not conform to rigorous survey sampling techniques nor does the sample end up as representative of firms in the information industry. The main difficulty, however, with
constructing a representative sample draws from the lack of clarity as to what constitutes ‘information industry’, as was clearly elaborated in Chapter 4. Despite these difficulties the sample did contain a range of firms in terms of their main business activity and size (see Chapter 7 for characteristics of the sample).

Main Survey Process

Again, following Dillman’s (1978; 1983; 1991) ‘total questionnaire design’, three rounds of surveys were sent out. In each round there was a covering letter, a copy of the survey with return date and a self-addressed, postage paid envelope in which to return the questionnaire. Each questionnaire was numbered and when it was returned it was checked off against the master list.

In the first round, 250 surveys were sent out on Monday August 24, 1998 to be returned by Friday September 4, 1998. In that round, 40 completed questionnaires were returned, while 16 were returned as ‘address unknown’. The address of those firms whose questionnaire was returned ‘address unknown’ was searched for on the White Pages website (http://www.whitepages.com.au). Where a new address was found (10 cases), the survey was relabelled and sent out with the same return date. New addresses could not be found for six firms. In addition, managers from another six firms made contact by fax, telephone or email to say they did not want to, or could not, participate in the survey, and therefore no more letters were sent to them.

In the second round, 199 questionnaires were sent out on Monday September 7, 1998 to be returned by Friday September 18, 1998. In this round, 28 completed questionnaires were returned. In addition, managers from another five firms made contact to say they did not want to, or could not, participate in the survey, and therefore no more letters were sent to them. In this round, 15 surveys were returned address unknown but, given the stage of the research, the surveys were not resent even if a new address could be found on the White Pages website (which was the case for five firms).

In the third round, 151 questionnaires were sent out on Monday September 21, 1998 with a return date of Friday October 2, 1998. In this round, 29 completed questionnaires were returned and five were returned ‘address unknown’. During this round (September 28, 1998), a search of the firms who had not yet responded was conducted on the White Pages website to check to see whether the low returns were a result of more firms having an incorrect or old address. From this search it was found that 13 firms who had not yet responded had a significantly different address and another 10 were not listed (i.e. had ceased to exist).

The search process and the ‘address unknown’ returns meant that in total 46 firms were deleted from the original sample. As a result, the effective sample size dropped from 250 at the start of the first round to 206 (244 at the end of first round, 234 at the end of the second round and 206 by the end of the survey).
Another 11 firms made contact to say they did not want to, or could not, be involved in the research (they remained within the sample). In total, 97 completed questionnaires were returned representing a response rate of 47%.

**Analysing Data**

The questionnaire included both open and closed (forced choice) format questions. Responses to closed questions were coded and analysed using SPSS (Statistical Package for Social Sciences) Version 9.0. Open question responses were entered into Excel spreadsheets for content analysis. Frequencies were calculated for each item (see Appendix C). These frequencies were used to map the nature of employment relations in the information industry generally and in small and large firms in the industry in particular. Uni-variate analysis of the data was also undertaken. T-tests were conducted to see whether the means between two samples (for example grouped by employment size, ownership characteristics, management style) were significantly different at a 95% (p<0.05) confidence level or higher. In addition, ANOVA tests were conducted on the main survey data and reported where relevant. These tests were to look at the effects of levels of independent variables (such as firm size and principal owner presence) on dependent variables (such as attitudes and influence of the largest occupational group on a range of matters). The results are reported in Chapter 7.

In January 1999, a report was sent to the 70 respondents who had indicated that they would like to receive a copy of the results of the survey (see Appendix D).

**Survey Limitations**

In terms of collecting data about workplace attributes, there were advantages of using a survey: administrative ease, access to a larger sample, and ease of answering for the respondents (Neuman, 2000). The limitations of using a survey derive mainly from the inability to collect contextual information, which was important to developing an understanding of employment relations in this industry. In addition, there was a risk of overlooking subtleties in the data when a survey is the only instrument used (Creswell, 1994; Neuman, 2000). The survey data are therefore complemented by in-depth case studies.

The key limitation of the survey data was that the small number of cases (97) meant it was not possible to undertake any multi-variate analysis where factors such as size, principal owner presence, competitive market conditions and management style were controlled. Such an analysis would have been useful in more conclusively answering research questions 3a) to 3e).
The Research Process: Case Studies

Yin's (1994) premise that a case study is a research strategy is made clear in the following quote from Kitay and Callus (1998) who say: "A case study is a research strategy or design that is used to study one or more selected social phenomena and to understand or explain the phenomena by placing them in their wider context" (p. 103). This definition of a case study suggests that a range of quantitative and qualitative research methods or techniques can be used to conduct a case study. As Stake (2000) points out, a case study need not be qualitative, however it usually is.

Multiple techniques can be employed to construct case studies, while in this thesis these techniques include interviews with management and employees as well as document analysis (such as public relations material, company documents, Internet web sites, and media reports). Further, case studies can incorporate multiple levels of analysis (Yin, 1994). For example, the level of analysis may be the individual within the firm or the firm itself, leading to within or between case analysis respectively (Huberman & Miles, 1994; Lee et al., 1999).

In this thesis, the "collective case study" (Stake, 2000: 437) describes the research strategy used to investigate the following question:

Q4  How do managers and employees experience work in the software development sector of this industry in general and small firms in particular?

The 'collective case study' is an "instrumental study extended to several cases" (Stake, 2000: 437). The collective case study is a collection of cases that are "chosen because it is believed that understanding them will lead to better understanding, perhaps better theorizing, about a still larger collection of cases" (Stake, 2000: 437). In this thesis, the objective is therefore to develop a better understanding about small firm employment relations in the information industry. This can be achieved through first describing the historical background of the firm, identifying contextual factors that have shaped the way employment relations are managed, and, second by exploring how managers and employees experience and respond to the way they are managed.

Getting Access

Case studies of two firms: Vanguard and Webboyz, are reported in this thesis (Chapters 8 and 9). Although opportunism came into play in terms of gaining access to these firms, there were also theoretical reasons for their selection: that is the main business activity of both firms is software development, and they differed in terms of the type of software developed.\(^4\) The main type of software development that

\(^4\) Stake (2000) argues: "Even for collective case studies, selection by sampling attributes should not be the highest priority. Balance and variety are important; opportunity to learn is of primary importance" (p. 447).
occurred at Vanguard was secondary information systems software, whereas at Webboyz it was primary packaged software (see distinctions drawn between the two types in Chapter 5). In addition, as Table 6.2 below indicates, the two case studies can be compared on a range of other criteria.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Vanguard</th>
<th>Webboyz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software type</td>
<td>Secondary, IS</td>
<td>Primary, packaged</td>
</tr>
<tr>
<td>Size</td>
<td>14 people (13 full-time equivalent)</td>
<td>23 people (19.5 full-time equivalent)</td>
</tr>
<tr>
<td>Legal ownership</td>
<td>Private, unlisted</td>
<td>Private, listed</td>
</tr>
<tr>
<td>Ownership structure (Goffee &amp; Scase, 1982; Scase &amp; Goffee, 1980; 1982; 1987)</td>
<td>Owner-director</td>
<td>Owner-manager</td>
</tr>
<tr>
<td>Location</td>
<td>Outer suburban Melbourne</td>
<td>Inner city Melbourne</td>
</tr>
<tr>
<td>Year established</td>
<td>1993</td>
<td>1995</td>
</tr>
<tr>
<td>Customers</td>
<td>2 (corporate) customers</td>
<td>600,000 registered (individual) webmasters</td>
</tr>
</tbody>
</table>

Both case study firms had participated in the main survey and were contacted as they had indicated on the completed survey that they would be interested in the 'second stage of this study'. In the case of Vanguard, the GM attached his card to the completed questionnaire with the message that "if there was anything I can do to help please don't hesitate to contact me". That message was interpreted as an open invitation and he was emailed a week later asking him whether he was still interested and if so could whether a meeting could be arranged – to which he agreed.

On the completed questionnaire, Webboyz had indicated that they would be interested in the second stage of the research. An email was sent to the CEO (October 19, 1998) asking whether he would be interested in a meeting. He sent an email in response saying 'yes' and suggested that a meeting could be arranged after their Annual General Meeting (November 10, 1998). A meeting was arranged for Tuesday November 17, 1998.

**Data Collection: Interviews**

Data collection in these case studies could be best described in terms of Yin's (1994) "one-time data collection effort" (p. 35). This type of data collection means that data are collected over a small number of days rather than through a more extended, lengthy time period. This type of data collection does not lend itself to the use of observational techniques and therefore interviews were the predominant data collection technique used in the case studies.
One of the characteristics of qualitative research is that the data derive from the participants' perspective (Lee et al., 1999). The purpose of the interviews was therefore "to see the research topic from the perspective of the interviewee, and to understand how and why he or she comes to have this particular perspective" (King, 1994: 14). Questions asked during the interviews were derived from the literature and the results of questionnaire data, including the firm's individual responses (see Appendix E for the list of questions used). The interviews were 'semi-structured' (Fontana & Frey, 2000; Lee, 1999) meaning that although a list of questions was used to guide the researcher as to themes and/or issues to be addressed, the conversation was allowed to unfold as ideas were explored where necessary.

The aim of the interview was therefore to explore the interviewee's knowledge about, meaning and experience of, working in the firm. In addition, the purpose of the interview was also to investigate whether and how interviewee's experiences of working in that particular firm concurred with the findings from the survey. In addition to the semi-structured interviews, information was also collected from company documents and other public sources (largely company websites and media reports) in an effort to triangulate data and to improve 'measurement' through the use of diverse indicators (Neuman, 2000).

Interviews began with the purpose of the study being outlined followed by general questions about the individual's duties, tenure, and experience to introduce various topics of interest before becoming more specific focussed questions with open ended responses. At the beginning of the interview, subjects were assured of confidentiality and anonymity in any written reports. Interviewees were made to feel comfortable about asking any questions during the interview and in essence, many of the interviews felt more like a 'focussed chat' (being somewhat more informal than Neuman's (2000) 'structured conversations'). Consistent with the characteristics of qualitative research outlined by Lee et al. (1999), the interviews were flexible in their format: a core set of questions were asked to all interviewees, however their order varied as the conversation unfolded. Where interviewees held specific knowledge and/or duties, (i.e. Finance Manager, GM, or Project Manager) then more specific, in-depth questions were asked in regard to those areas.

All interviews were audiotaped with the permission of interviewees. Notes were also taken during the interviews where critical issues were raised that needed following up. All tapes were transcribed. Follow-up interviews were only conducted with senior management to clarify issues, dates and events raised by other interviewees. As suggested by Eisenhardt (1989), Lee et al. (1999) and Yin (1994) the data gathered through these semi-structured interviews could be compared on a range of matters to provide insight into the phenomena being investigated.

When negotiating access to the firms, it was requested that a sample of management and employees including MD or CEO, Finance Manager, HR Manager, at least two Project Managers and up to five
employees engaged in software development with differing lengths of tenure, be interviewed. In both firms, the requests were met with a response along the lines of ‘feel free to interview anyone and everyone here’. This, therefore, meant that the choice of who to interview could be made by the criteria of access, hospitality and learning. This is consistent with Stake’s (2000) argument that it is “not necessarily representativeness…[but]…the opportunity to learn” (p. 447), which is often the primary criterion of who to interview in the collective case study.

Everyone at Vanguard, except one employee who was on site with an overseas client, was interviewed. The overseas employee was emailed (October 13, 1998) a series of questions (as was the Project Manager and employee who were on site with clients interstate and overseas) although he did not respond. Table 6.3 lists the interviews conducted at Vanguard.

Table 6.3: Interviews at Vanguard

<table>
<thead>
<tr>
<th>Person</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner/MD</td>
<td>Wednesday November 25, 1998</td>
</tr>
<tr>
<td>GM</td>
<td>Tuesday September 25, 1998</td>
</tr>
<tr>
<td></td>
<td>Tuesday November 17, 1998</td>
</tr>
<tr>
<td>Project Manager 1</td>
<td>Tuesday October 6, 1998</td>
</tr>
<tr>
<td>Project Manager 2</td>
<td>Thursday October 22, 1998 (via email)</td>
</tr>
<tr>
<td>Employee 1</td>
<td>Friday October 2, 1998</td>
</tr>
<tr>
<td>Employee 2</td>
<td>Friday October 2, 1998</td>
</tr>
<tr>
<td>Employee 3</td>
<td>Friday October 2, 1998</td>
</tr>
<tr>
<td>Employee 4</td>
<td>Friday October 2, 1998</td>
</tr>
<tr>
<td>Employee 5</td>
<td>Friday October 2, 1998</td>
</tr>
<tr>
<td>Employee 6</td>
<td>Tuesday October 6, 1998</td>
</tr>
<tr>
<td>Employee 7</td>
<td>Tuesday October 6, 1998</td>
</tr>
<tr>
<td>Employee 8</td>
<td>Tuesday October 6, 1998</td>
</tr>
<tr>
<td>Employee 9</td>
<td>Friday October 23, 1998</td>
</tr>
<tr>
<td>Employee 10</td>
<td>Tuesday October 13, 1998 (via email)</td>
</tr>
</tbody>
</table>

Access was given by the CEO to any of the 23 people employed at the company and provided access to all employees. Table 6.4 lists the interviews were conducted at Webboyz.
Table 6.4: Interviews at Webboyz

<table>
<thead>
<tr>
<th>Person</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO</td>
<td>Tuesday November 17, 1998</td>
</tr>
<tr>
<td></td>
<td>Thursday December 17, 1998 (via email)</td>
</tr>
<tr>
<td>GM</td>
<td>Thursday November 26, 1998</td>
</tr>
<tr>
<td>MD</td>
<td>Thursday November 26, 1998</td>
</tr>
<tr>
<td>Finance Manager</td>
<td>Wednesday December 2, 1998</td>
</tr>
<tr>
<td>Project Manager</td>
<td>Thursday November 26, 1998</td>
</tr>
<tr>
<td>Employee 1</td>
<td>Monday November 30, 1998</td>
</tr>
<tr>
<td>Employee 2</td>
<td>Monday November 30, 1998</td>
</tr>
<tr>
<td>Employee 3</td>
<td>Monday November 30, 1998</td>
</tr>
<tr>
<td>Employee 4</td>
<td>Wednesday December 2, 1998</td>
</tr>
<tr>
<td>Employee 5</td>
<td>Monday November 30, 1998</td>
</tr>
<tr>
<td>Employee 6</td>
<td>Wednesday December 2, 1998</td>
</tr>
</tbody>
</table>

Reducing Interview Response Bias

A critical social science approach has an activist orientation and is not value free (Jermier, 1998; Neuman, 2000), however a number of strategies were used to ensure response bias was minimised in the interviews. First, the interviewees were all assured at the beginning of each interview that all information would remain confidential and they would be anonymous in any publications that arose from the research. In addition, the interviews were conducted in a place chosen by the participant (their office, a meeting room or a quiet space away from others).

Second, an interview schedule was used that included open-ended questions and probes that could be used where necessary. This was to ensure that there was a degree of consistency between the interviews in terms of the material covered. All the interviews were taped and transcribed. The transcriptions were also checked for transcription errors and paralinguistic information, such as, nuances of speech, tone of voice and pauses in speech (King, 1994) by listening to all interviews again with the transcription in front of the researcher.

Finally, the interviewer remained neutral but sensitive to the subjective aspects of the relationship between herself and the interviewee (Fontana & Frey, 2000; Hartley, 1994; King, 1994; Neuman, 2000). For example, casual clothing was worn rather than a suit when interviewing employees as it was consistent with how they dressed, while questions were phrased in a manner that was inclusive of the language (particularly the technical software programming terminology) used by participants. Denzin (1989 in Fontana & Frey, 2000: 658) makes the point that the gender of the interviewer and respondent ‘makes a difference’, acting as a filter to knowledge. In this situation it can be argued that the interviewer’s use of
(albeit limited) technical computer language with the all male software developers surprised them and served to make them reassess the amount and type of information they were prepared to share. The interviewer was able to create this “sharedness of meanings” (Fontana & Frey, 2000: 660) by drawing on her previous degree studies of mathematics and COBOL computer programming.

Fontana and Frey (2000) argue that such aspects (like dress and language), are important as “once the interviewer’s presentational self is ‘cast’, it leaves a profound impression on the respondents and has a great influence over the success (or lack of it) of the study” (p. 655). Attention to these details therefore ensured that interviewees were made as comfortable as possible with the situation and therefore felt able to converse naturally. This is how the interviews could be described above as ‘focussed chats’.

Analysing Data

A template approach best describes the approach used for analysing the data collected through the interviews for this research. According to Miles and Huberman (1984; 1994), a template approach largely entails analysing the text through the use of a ‘guide’ consisting of a number of themes relevant to the literature review, research questions as well as those raised by the survey data. In addition, lists were created and interpreted by analysing the data for key words in their context (Ryan & Bernard, 2000), which usually meant the surrounding sentence or paragraph. Analysis of the themes identified can then occur within cases as well as across cases (Huberman & Miles, 1994; Lee et al., 1999). In this thesis, both forms of analysis are conducted. Individual case reports were constructed around these themes (see Chapters 8 and 9), in addition to a chronological ordering of events in the firm’s history where relevant. The discussion in Chapter 10 includes a comparison of the case studies to pursue and verify emergent patterns before integrating and interpreting findings from each case study.

Case Study Limitations

Case study research is said to have a range of limitations including inability to replicate, lack of vigour and inability to generalise (see for example Hartley, 1994; Miles & Huberman, 1994; Neuman, 2000; and Yin, 1994). However, there are a range of strategies that can be used to address the first two issues and these have been discussed above in the context of reducing response bias in interviews and analysing data.

The ability to generalise from the case studies is no less problematic than attempting to generalise from the quantitative data gathered for this study, which stems from the information industry being a chaotic

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65 A qualitative data analysis software package such as NUD*IST was not employed as a tool to assist with the data analysis process. This choice was made because using the software does not act as a “substitute for learning data analysis methods” (Weitzman, 2000: 805) and as a result the researcher persisted with manual content analysis, facilitated by search functions embedded in the Microsoft Word program.
concept. The ability to generalise rests in part on views of causality. At its strongest, a causal explanation allows the researcher to say that under certain conditions A always produces or determines B (Neuman, 2000). A critical approach, based on Marxism, and utilising structure and agency to analyse small firm employment relations, does not reject causality but implies an emphasis on the interaction between the totality and the parts. This reflects what Lincoln and Denzin (2000) suggest is the “commitment of the qualitative researcher to study the world always from the perspective of the gendered, historically situated, interacting individual” (p. 1047).

In this thesis, cases were not chosen as typical of a particular population but instead as “the intrinsic study of a valued particular” (Stake, 2000: 439). The issue of generalisability can therefore be addressed by clearly noting that any generalisation from the case studies is about theoretical propositions, rather than populations (Hartley, 1994).

Conclusion

The purpose of this chapter was to outline and discuss the research design and methodology used to pursue the alternative approach to studying small firm employment relations as discussed in the previous chapters. The critical social science approach taken to understanding how the interaction between structure and agency produces patterns of employment relations in small firms suggested a multi-method research strategy. Quantitative and qualitative research methods can be employed in order to address the research questions.

The quantitative element of the research design consists of a survey of a sample of firms operating in the information industry. The primary purpose of the quantitative data is to provide information about how employment relations are managed in firms in the information industry. In other words, the survey enabled data to be gathered about some of the structures within which employment relations are managed. The process of defining the sample, constructing and testing the questionnaire, then the surveying itself were discussed along with the problems encountered and limitations. The data analysis methods were also discussed, while the results of this analysis are reported in Chapter 7.

The qualitative aspect of the thesis consists of two case studies of firms in the information industry. As these firms were respondents to the survey their activities can be placed within a broader context while interviews with management and employees can provide meaning to processes within that context. The purpose of the case studies is to both describe what happens in terms of managing employment relations within the case study firms as well as to develop explanations for why this occurs. The selection of firms for the two case studies and the means by which data were gathered: primarily semi-structured interviews,
was outlined, while limitations and the means of overcoming some of the problems with this method were discussed. Methods of data analysis were discussed and the results of this analysis are presented in Chapters 8 and 9 of this thesis.
CHAPTER 7: INFORMATION INDUSTRY EMPLOYMENT RELATIONS STRUCTURES

Objective of Chapter 7

The objective of this chapter is to report the results of the quantitative aspect of this research (as described in Chapter 6). The purpose of this research is to gather data in order to address the second and third research questions for this thesis, which seek, in general, to explore the type of employment relations operating in the information industry, and in doing so, to outline some of the structures within which employment relations are managed. Data are gathered about a range of issues including: workplace and workforce characteristics; management policies and practices; employment relations outcomes; labour and product market conditions; ownership characteristics; and other contextual issues. Further, the data are analysed to draw out the effect of size, presence of the principal owner, type of competition and management style on employment relations in firms in the information industry.

Research Questions

Quantitative research methods were used to gather data to examine the following two questions:

Q2 What types of employment relations operate in the information industry?
Q3 What are the influences on these employment relations?

A survey of 206 firms operating in the information industry was conducted to describe how employment relations are managed in firms in the information industry.

In addition, the literature review in Chapters 2 and 3 suggested that a range of influences could act on small firm employment relations. The data were also used to investigate the following subsidiary questions:

3a) How are employment relations different in small and large firms?
3b) Can employment relations in small firms be described as harmonious (e.g. no union presence, no industrial action)?

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66 Some of the material used to develop this chapter has been published as: Barrett, R. (1999). 'Industrial relations in small firms: The case of the Australian information industry'. Employee Relations. 22(3), 311–24.
3c) How are employment relations different in firms where the principal owner is present compared with those where the owner is absent?

3d) How are employment relations different in firms with competitive market conditions compared with those whose market conditions are not competitive?

3e) How are employment relations different in firms with different management styles?

Survey Sample

Although the details of the surveying process were reported in Chapter 6, the survey sample size and response rate must be noted. The target sample for the survey consisted of 206 firms who were engaged in some software or hardware manufacturing activity, with a total employment of five or more people, which had a location in Victoria listed on the Kompass database as their principal address. Surveys were sent to ‘the most senior manager responsible for employment relations’ during September – October 1998. From this sample a total of 97 completed questionnaires were returned, representing a response rate of 47%.

Analysis of Data

The questionnaire included both open and closed (forced choice) format questions. Responses to closed questions were coded and analysed using SPSS (Statistical Package for Social Sciences) Version 9.0. Open question responses were entered into Excel spreadsheets for content analysis. Frequencies were calculated for each item (see Appendix C). These frequencies were used to map the nature of employment relations in the information industry generally and in small and large firms in the industry in particular. Chi-square tests were conducted to assess whether there were differences between groups (Burns, 1997; Neuman, 2000; Rowntree, 1981) due to firm size, owner presence and management style. In addition, ANOVA tests were conducted on the data in order to look at the effects of levels of one independent variable on a dependant variable (Burns, 1997; Neuman, 2000; Rowntree, 1981). Where the results of the chi-square and ANOVA tests were significant (at a 95% (p < 0.05) confidence level or higher) they are reported in this chapter.

Results

The primary purpose of the quantitative research was to gather data to primarily describe how employment relations were managed in firms in the information industry, and as such the focus was on structures: parties, processes and employment relations practices. As outlined in Chapter 3, this was consistent with the focus of much Australian employment relations research, which (underpinned by a pluralist perspective) considered trade unions, legislation, outcomes of bargaining and industrial action rather than causes of conflict either at the workplace or more broadly in society. Where those aspects of traditional industrial relations were absent the focus often turns to whether HRM (underpinned by a
unitary perspective) practices were being adopted. Regardless of the perspective, the focus of the research was on some of the structures within which workplace actors made choices. As structures were constantly in a process of flux, the data from the survey reported in this chapter only explored why some differences occurred in structures of employment relations in small and large firms, or where the principal owner was present or absent, rather than predicted the types of differences that may occur.

While the data were drawn from individual workplaces, the term 'firm' has been used in the discussions below to indicate that although data were collected from multi-workplace firms, no two workplaces were part of the same firm.67

**Key Characteristics of Respondents**

The value chain of the information industry (see Figure 4.1) identified by Charles et al. (1997) was used to identify where firms were located. The types of main product/service produced showed the diversity of firms in this industry. Table 7.1 shows that software development was the main area of activity identified, followed by the provision of support services.

*Table 7.1: Location in the Information Industry*

<table>
<thead>
<tr>
<th>Activity</th>
<th>% Firms*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture semiconductors and/or components</td>
<td>0</td>
</tr>
<tr>
<td>Manufacture/assemble subsystems</td>
<td>5</td>
</tr>
<tr>
<td>Manufacture/assemble systems</td>
<td>10</td>
</tr>
<tr>
<td>Provide network platforms</td>
<td>10</td>
</tr>
<tr>
<td>Develop software</td>
<td>58</td>
</tr>
<tr>
<td>Create content</td>
<td>5</td>
</tr>
<tr>
<td>Publish, package or program soft/hardware</td>
<td>18</td>
</tr>
<tr>
<td>Network provider</td>
<td>8</td>
</tr>
<tr>
<td>Service provider</td>
<td>29</td>
</tr>
<tr>
<td>Provide support services</td>
<td>47</td>
</tr>
<tr>
<td>Other</td>
<td>31</td>
</tr>
</tbody>
</table>

N = 97; *Percentages do not add to 100 as firms may be engaged in a number of activities.

67 Thirty-three per cent of respondents to the survey were part of a multi-plant firm.
The problem identified in Chapter 4 of the information industry being ‘fuzzy’ (Markusen, 1999) and ‘chaotic’ (Sayer, 1992) was made clear from the information in Table 7.1: firms within this ‘industry’ did not, for example, share a common production process and therefore as a concept, the information industry could only be used for descriptive, rather than analytical purposes (Sayer, 1992).

The type of activity determines the type of employees and employees were more likely to be described as ‘skilled’, while ‘software engineer’, ‘software analyst’, ‘software programmer’ or ‘software developer’ was most frequently given as the description of the occupation of most employees. In addition, these employees were mostly male and employed on a full-time basis: results that are consistent with those from the ABS (1997b) presented in Chapter 4.

Table 7.2 contains a number of key characteristics of the survey respondents. The information showed that firms were more likely to be small, young and have a principal owner present who worked alongside his/her employees. The high proportion of principal owners present was consistent with the firm’s type of legal form: 82.5% were private companies while only 6.2% were public companies. A question was asked about whether there were any of the principal owner’s family members present and it was found that family members were present at 56% of firms (ranging from 1–5 family members). However, when respondents were asked whether the firms could then be considered as a ‘family firm’, only 21% agreed, which highlights the difference between the ‘family firm’ and the ‘family form’. This is interesting given the emphasis in much of the literature (reviewed in Chapter 3) on issues of paternalism that stem from the family firm.
Table 7.2: Key Characteristics

<table>
<thead>
<tr>
<th>Firm size</th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 9</td>
<td>34</td>
</tr>
<tr>
<td>10 – 19</td>
<td>33</td>
</tr>
<tr>
<td>20 – 49</td>
<td>26</td>
</tr>
<tr>
<td>50 – 99</td>
<td>4</td>
</tr>
<tr>
<td>100+</td>
<td>3</td>
</tr>
<tr>
<td>Mean (M); Standard deviation (SD)</td>
<td>21; 26</td>
</tr>
</tbody>
</table>

Decade Began Operations

<table>
<thead>
<tr>
<th>Decade</th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960s</td>
<td>2</td>
</tr>
<tr>
<td>1970s</td>
<td>20</td>
</tr>
<tr>
<td>1980s</td>
<td>50</td>
</tr>
<tr>
<td>1990s</td>
<td>28</td>
</tr>
</tbody>
</table>

Principal Owner

<table>
<thead>
<tr>
<th>Presence &amp; working alongside employees</th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>79 (99)</td>
</tr>
<tr>
<td>Absent</td>
<td>21</td>
</tr>
</tbody>
</table>

Competition

<table>
<thead>
<tr>
<th>Competition</th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>62</td>
</tr>
<tr>
<td>Increasing</td>
<td>60</td>
</tr>
</tbody>
</table>

N = 97

In Chapter 4 it was reported that the ABS (1997a; 1997b) and DIST/IC (1997) showed a majority of information industry businesses were small, as was the case here. In addition, like the DIST/IC (1997) data in Chapter 4, these data showed that the majority of firms in this industry were young. Further, these data here indicated that employment within firms in this industry was largely of skilled males. In addition, competition was increasing and strong across the industry, all of which was consistent with the view of the industry presented in Chapters 4 and 5.

Structures of Employment Relations

As a ‘fuzzy’ (Markusen, 1999) and ‘chaotic’ (Sayer, 1992) concept there were repercussions for understanding the nature and management of employment relations in the information industry. In Chapter 4 it was argued that data from the BLS illustrated a number of employment relations aspects in IT firms generally (in particular unionisation and individualised employment arrangements) but they did not
provide a comprehensive overview of how employment relations were managed in information industry firms. The results presented below address the second research question:

Q2 What types of employment relations operate in the information industry?

Regulating Employment Relations

In Australia the majority of employees have wages and working conditions determined by state or federal industrial awards. Awards are legal documents setting out the minimum wages and conditions and form the basis for collective (or enterprise) bargaining. Since the introduction of the Employee Relations Act 1992 (Victoria) and the Workplace Relations Act 1996 (Commonwealth), terms and conditions of employment can also be regulated by an individual agreement. This essentially means that employee’s terms and conditions of employment can be regulated by a combination of awards and collective agreements or awards and individual agreements. The Business Equipment Industry (Technical Services) Award 1978 (a federal award) can cover a range of technical employees in the industry (mainly those engaged in installation and maintenance of hardware), however, the diversity of firms and work performed in this industry means that a range of other awards could be used to regulate terms and conditions of employment in this industry.68

At this point it must be noted that the level of knowledge about the regulation of employment conditions varied quite significantly across firms surveyed. In a few cases respondents named the award that covered employees (not that they were required to do so), while in other cases respondents said that neither awards, collective agreements nor individual contracts regulated employees’ terms and conditions of employment at their workplace. Each of these terms was defined in the questionnaire (see Appendix A).

Table 7.3 sets out the types of employment regulation found in this survey. Award coverage was low in comparison to other survey results such as AWIRS (Morehead et al., 1997) or ACCIS (Isaac, 1993; Isaac et al., 1993). However, despite this, the majority of those firms paid over-award pay, which was consistent with findings in surveys such as AWIRS (Morehead et al., 1997) or ACCIS (Isaac, 1993; Isaac et al., 1993). Furthermore, the reasons for over-award pay were consistent with other results and in this case were more likely to have been unilaterally determined by management or negotiated by the individual concerned. The reasons for over-award pay were given by respondents as being ‘merit/reward for service/skills’ or ‘to attract and/or keep employees’ and therefore it appears that the award was only used as a base from which to increase employees’ remuneration in order to attract and/or retain skilled employees (see Wright, 1995 for discussion of over-award use by Australian employers).

68 The Information Technology Industry (Professional Engineers) Award 1999 (discussed in Chapter 4) was not in place at the time of the survey.
Table 7.3: Employment Regulation

<table>
<thead>
<tr>
<th></th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awards (Over-award pay)</td>
<td>18 (82)</td>
</tr>
<tr>
<td>Collective Agreements</td>
<td>4</td>
</tr>
<tr>
<td>Individual Contracts</td>
<td>81</td>
</tr>
</tbody>
</table>

N = 97

Only four firms had engaged in any collective bargaining activity (as defined in the questionnaire in Appendix A), while none of these had had the collective bargaining agreement formalised through ratification by an industrial tribunal.

As Table 7.3 shows, in over 80% of firms individual contracts (as defined in the questionnaire at Appendix A) were used to regulate terms and conditions of employment for non-managerial employees. This figure is quite high when compared with that from AWIRS, where only 30% private sector workplaces used individual contracts (Morehead et al., 1997: 206). When employees were first employed, ‘the going rate’ was the criterion for determining pay levels. When pay and conditions in individual contracts were to be reviewed, the criterion applied was ‘merit or reward for individual performance’. In addition, some form of employee appraisal was used at over 70% of firms across both surveys, however they were used for different purposes across organisations (Cleveland, Murphy & Williams, 1989; Ostroff, 1993). Employee appraisals were more likely to be conducted on a regular, than irregular basis. The information from performance appraisals was most likely to be used to review salary, conditions and other rewards. How the information was used may simply reflect the level of procedural formality in large and small firms: for example, the mainly small firms meant that feedback may occur on an informal basis and management may not feel the need to formalise this process (Scott et al., 1990).

In terms of employment arrangements, it was reported in Chapter 4 that the BLS (DIST/IC, 1997) showed that the majority of IT businesses used individual contracts or agreements of employment (between the employer and individual employee) to regulate employment relations. Further, it was suggested by the BLS (DIST/IC, 1997) that the high proportion of individual contracts might be related to the level of unionisation in this industry. The results from the survey data here were very similar: the majority of firms used individual contracts to regulate employment, while any form of collective bargaining was almost non-existent. Where awards were used to regulate employment, over-awards, which were more likely to be unilaterally set by management than negotiated by groups of employees or their trade union representative, were also used. This was consistent with the AWIRS (Morehead et al., 1997) and ACCIS (Isaac, 1993; Isaac et al., 1993) findings that small firms used over-awards, they were negotiated between the individual and management and individual negotiation was more likely to take place in those small firms where the owner was present. The results here suggested that the performance management systems were used to support the individualisation of employment relations.

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This individualisation of the employment relationship can be further seen in terms of third party involvement at the workplace. Twenty-one per cent of firms were members of an employer association and this level of membership reflected referral to an employer association for advice on various matters. Trade unions had minimal involvement: only 5% of firms had trade union members amongst their employees. The low level of union membership may explain why only one firm had ever experienced industrial action. The type of industrial action consisted of a ‘go-slow’. Such low levels of unionisation and industrial action were consistent with the ABS and AWIRS results on these matters presented in Chapter 3.

In a series of questions, respondents were asked about their attitudes to trade unions. These attitudes were measured on a 5-point Likert type scale of 1 (strongly disagree) to 5 (strongly agree). Responses in Table 7.4 show quite clearly that management expressed fairly negative attitudes towards trade unions. In terms of the responses to the first and second question in Table 7.4 the overwhelmingly positive and negative results respectively are consistent with those gathered by the AWIRS (Morehead et al., 1997: 133) where 88% agreed with the first statement and only 36% agreed with the second.

**Table 7.4: Attitudes to Trade Unions**

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management here prefer to deal with employees directly, not through unions.</td>
<td>4.81</td>
<td>0.65</td>
</tr>
<tr>
<td>Management here would not mind dealing with unions should any employee join one.</td>
<td>2.34</td>
<td>1.31</td>
</tr>
<tr>
<td>Unions have nothing to offer workers or management at this workplace.</td>
<td>4.29</td>
<td>1.05</td>
</tr>
<tr>
<td>There is no reason for employees at this workplace to join a union as management treat employees well.</td>
<td>4.45</td>
<td>0.85</td>
</tr>
</tbody>
</table>

N = 97

Despite these attitudes, the response to whether management encouraged or discouraged employees from joining trade unions was overwhelmingly neutral: at 91% of firms management neither encouraged nor discouraged employees from joining a trade union.

---

69 This firm was large (i.e.: greater than 20 FTE people).
Employment Relations Policies

More than 70% of firms had a plan in which the corporate goals, and the ways of achieving them, were outlined. At the majority of firms these plans had been written and communicated to employees. These documents were also more likely to contain references to ‘finance’, ‘marketing’, and ‘operations’ than they were to ‘employment relations’. These documents were more likely to be referred to ‘some of the time’.

Specific policies on Occupational Health and Safety and Sexual/Racial Discrimination existed in less than a third of firms. Equal Employment Opportunity and Affirmative Action policies existed at 25% and 20% of firms. There were procedures for dealing with discipline in slightly more than 50% of firms. Specific procedures were in place for dealing with employee grievances in 53% of firms. These results did not compare favourably with those from AWIRS where 71% of all workplaces had grievance procedures and 92% had procedures for dealing with discipline (Morehead et al., 1997: 129–30). However, AWIRS did show that the existence of such procedures would increase with workplace size, while an award requirement was frequently given as the reason for having a grievance procedure.

At 53% of firms it was an expectation of the job that employees worked overtime, while at another 44% employees were either remunerated for overtime or given time off in lieu. The amount to which overtime was an expectation of the job may have been indicative of the industry and the type of employees working in these software firms (see Chapter 5), rather than a result of working in a small firm: AWIRS found only 13% of small businesses expected employees to work unrewarded overtime (Morehead et al., 1997: 315).

The existence of policies for recruitment and selection, promotion and training would be indicative of an attempt to match people to jobs (see for example Legge, 1995; Storey, 1992; 1995). However, formal recruitment and selection policies existed at 35% of firms. In the majority of firms there was a hierarchy of promotions for ‘few’ positions. Training was supported (but not necessarily paid for) at the majority of firms (89%), while the types of training sponsored included a range of internal and external programs that focussed on the product or on gaining technical skills, or professional or academic qualifications.

As Table 7.5 shows, firms with a corporate plan in place were more likely to have a range of employment relations policies, and such a result may be indicative of a more strategic approach to employment relations.
Table 7.5: Employment Relations Policies in Firms with a Corporate Plan

<table>
<thead>
<tr>
<th>Policy</th>
<th>Plan</th>
<th>No plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discipline*</td>
<td>64</td>
<td>35</td>
</tr>
<tr>
<td>Grievance*</td>
<td>63</td>
<td>23</td>
</tr>
<tr>
<td>Performance-related Pay</td>
<td>79</td>
<td>69</td>
</tr>
<tr>
<td>Performance Appraisal*</td>
<td>79</td>
<td>58</td>
</tr>
<tr>
<td>Occupational Health and Safety</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>Equal Employment Opportunity*</td>
<td>31</td>
<td>8</td>
</tr>
<tr>
<td>Affirmative Action</td>
<td>25</td>
<td>4</td>
</tr>
<tr>
<td>Sex/Race Harassment*</td>
<td>34</td>
<td>12</td>
</tr>
<tr>
<td>Overtime</td>
<td>55</td>
<td>50</td>
</tr>
<tr>
<td>Selection procedure*</td>
<td>44</td>
<td>12</td>
</tr>
<tr>
<td>Education and Training*</td>
<td>96</td>
<td>69</td>
</tr>
</tbody>
</table>

N = 97; *p < 0.05

A range of different communication methods was used, however, like both AWIRS results (Callus et al., 1992; Morehead et al., 1997), the most common method of communication was the ‘daily walk around by senior management’ (78% of firms). Email was used in over 60% of firms: not an unusual result given the work in these firms centred on computers. Regular formal meetings between managers and employees occurred in 63% of firms.

The amount of influence that management perceived the largest group of employees at the workplace had over a range of matters was assessed on a scale from 1 (Very Little) to 5 (Very Much). In Table 7.6 the mean and standard deviation are reported for the amount of influence that it was thought employees had over each of the issues. Management perceived that employees had the greatest amount of influence over how they did their job and the pace at which they worked, while they had the least amount of influence over the way the workplace was managed or organised.

Table 7.6: Amount of Employee Influence

<table>
<thead>
<tr>
<th>Issue</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>How work is allocated to them</td>
<td>3.22</td>
<td>1.04</td>
</tr>
<tr>
<td>How they do their jobs</td>
<td>3.72</td>
<td>1.03</td>
</tr>
<tr>
<td>The pace at which their work is done</td>
<td>3.64</td>
<td>1.02</td>
</tr>
<tr>
<td>The way the workplace is managed or organised</td>
<td>3.16</td>
<td>1.07</td>
</tr>
<tr>
<td>The time they can start and stop work each day</td>
<td>3.36</td>
<td>1.22</td>
</tr>
</tbody>
</table>

N = 94
These results may support the argument in Chapter 5 that because of the type of work employees were doing (software development) and their skill level, then management afford them the status of professionals and treat them as such (Hybels & Barley, 1990).

Management Style

In the survey respondents were asked to indicate which of Goss' (1991a) management styles (see Chapter 3) best described the situation at their workplace. Table 7.7 shows that a ‘fraternal’ management style best described the management style at the majority of firms.

Table 7.7: Management Style

<table>
<thead>
<tr>
<th>Management Style</th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior-subordinate (Sweating)</td>
<td>7</td>
</tr>
<tr>
<td>Superior-subordinate tempered by relationships that do not extend outside the workplace (Benevolent Autocracy)</td>
<td>14</td>
</tr>
<tr>
<td>Superior-subordinate tempered by relationships that extend outside the workplace (Paternalism)</td>
<td>12</td>
</tr>
<tr>
<td>Management-employee relationship of colleague (Fraternalism)</td>
<td>64</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>

N = 97

In Chapter 3 a fraternal management style was said to emphasise the importance of identification while differences between the employer and employees were a secondary element in the employment relationship (Goss, 1991a; Scase, 1995). The employer working alongside employees fostered identification and therefore fraternalism was likely to occur in Goffee and Scase’s small employer category (Goffee & Scase, 1982; Scase & Goffee, 1980; 1982; 1987). A strong egalitarian ethos pervaded the relationship between employer and employee, which arose from the employer’s dependence on the employee’s provision of critical skills to the firm. To a large degree fraternalism was said to depend on the prevailing economic conditions (a tight labour market) and Goss (1991a) has argued that under any other conditions employees would view such a management style with suspicion. A similarity exists between fraternalism and Friedman’s (1977; 1984) management strategy of responsible autonomy.

A number of the underpinning elements of a fraternal style were evident in the reasons given by the respondents for the development of a fraternal management style in their firm. These reasons included:

70 The definition for each management style (as used in the questionnaire) was drawn from Goss (1991a). Although the question appeared to represent a forced choice for respondents (for example fraternalism sounded better than sweating), there were no problems raised about this during both the ‘market testing’ and pilot surveying processes.
firm size; type of employees, industry and/or workplace culture; and attitude of the principals. For example:

- **Firm size**
  
  "We are a small, informal organisation where management gets its hands 'dirty'."
  
  "Work side by side with common goals and objectives."

- **Type of employees**
  
  "Belief and trust in employees because our firm is small and employees are professional."
  
  "Organisation is made up of highly skilled, very experienced people."

- **Requirements of the industry/workplace**
  
  "Professional necessity! No time for subordination."
  
  "By working together we can best service our customers."
  
  "Youthful, vibrant workplace with mutual respect between management and employees."
  
  "Family values plus clearly defined values and working relationship rules for the organisation. Also a clearly defined recruitment process in which only people in line with our values are recruited."

- **Personality/attitude of the principals**
  
  "Owner/operator who is always open to suggestions and ideas who realises how valuable are his [sic] staff."
  
  "We are a small company and the Directors believe that communication is the most effective way of avoiding hassles in the workplace."

It can be argued that a particular management style had implications for management attitudes to employees. (Table 7.8 shows the mean and standard deviation for such attitudes.) For example, a fraternal style might imply there existed strong personal relationships between management and employees, and that management valued employees, seeking to retain them within the firm. However, the results suggested that management was strong on the rhetoric of valuing employees but were not keen to invest resources into the development of their workforce.
Table 7.8: Management Attitudes

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>At this workplace strong personal relationships exist between management and employees.</td>
<td>4.07</td>
<td>0.9</td>
</tr>
<tr>
<td>Management here feel a responsibility to look after the general well-being of employees.</td>
<td>4.35</td>
<td>0.78</td>
</tr>
<tr>
<td>If they had to make a choice, management here would choose quality improvements over labour cost reductions.</td>
<td>4.19</td>
<td>0.9</td>
</tr>
<tr>
<td>Considerable resources are devoted to the management of this workplace’s human resources.</td>
<td>3.61</td>
<td>1.06</td>
</tr>
<tr>
<td>The knowledge and skills of our employees are critical to the economic success of this workplace.</td>
<td>4.83</td>
<td>0.38</td>
</tr>
</tbody>
</table>

N = 95

In addition, the level of management’s concern over six different issues was assessed on a scale from 1 (Not Concerned) to 3 (Very Concerned). The mean and standard deviation for each of the issues is reported in Table 7.9.

Table 7.9: Issues of Concern

<table>
<thead>
<tr>
<th>Issue</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade unions infringing on management’s authority</td>
<td>1.27</td>
<td>0.66</td>
</tr>
<tr>
<td>Increasing labour costs</td>
<td>1.84</td>
<td>0.64</td>
</tr>
<tr>
<td>Ability to find the ‘right’ employees</td>
<td>2.64</td>
<td>0.56</td>
</tr>
<tr>
<td>Ability to retain good employees</td>
<td>2.40</td>
<td>0.75</td>
</tr>
<tr>
<td>Ability to dismiss employees</td>
<td>1.92</td>
<td>0.84</td>
</tr>
</tbody>
</table>

N = 95

Interestingly the issues of least concern to the survey respondents were those that the federal government gave as reasons for reforming industrial relations policy to assist small firms (see Chapter 2). For example, the federal government has argued that employers found it difficult to dismiss ‘bad’ employees and therefore amendments were need to exempt small business from unfair dismissal legislation. For the respondents, the ability to find the ‘right’ employees was the issue of greatest concern, followed by the ability to retain good employees. These results were consistent with those in Table 7.10 showing that there was a great deal of movement between firms in this industry (see Chapter 5).
Table 7.10: Employment Change

<table>
<thead>
<tr>
<th></th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruited employees</td>
<td>86</td>
</tr>
<tr>
<td>Employees voluntarily resigned</td>
<td>79</td>
</tr>
<tr>
<td>Made employees redundant</td>
<td>19</td>
</tr>
<tr>
<td>Terminated employment</td>
<td>28</td>
</tr>
</tbody>
</table>

N = 97

Together these results about management concerns and employment change suggest that employees were able to resist management despite the use of a fraternal management style and the rhetoric of valuing the workforce. However, the case studies are the vehicle for exploring such a result, and potential reasons for it.

Summary

The primary purpose of this exercise was to 'map' the nature of employment relations in the information industry in order to address the research question:

Q2 What types of employment relations operate in the information industry?

What can be drawn from the data is that employment relations in these firms within this industry could be described as 'individualised' in terms of formalised institutional arrangements. Individual contracts were the predominant means of setting employees' terms and conditions of employment in this industry, while contracts were supported by the use of performance appraisal systems. Trade union involvement at the workplace was negligible, while management expressed negative attitudes to trade unions. As the firms surveyed were largely service-based firms, rather than manufacturing, they therefore showed similar patterns in this aspect of employment relations that, say, AWIRS (Morehead et al., 1997) did for service type firms. (For example, AWIRS (Morehead et al., 1997: 469) found that only 27% manufacturing workplaces had no union members compared with 63% of property and business services workplaces.)

These survey results showed there were a range of HRM policies (summarised in Table 7.11) operating in firms in this industry but they were not incorporated into the corporate plan (where one existed). Where there was a written corporate plan, 59% (N = 26) of firms made reference to 'employee relations'. Further, although management agreed with the rhetoric of HRM (for example as espoused by Guest, 1987; 1997; Schuler & Jackson, 1987), they were less likely to invest resources in developing their workforces. (This was despite the fact that a number of firms sponsored education and/or training, which may be at the employees' initiative because the industry's technological dynamism required them to continually upgrade their skills.)
Table 7.11: Existence of Employment Relations Policies

<table>
<thead>
<tr>
<th></th>
<th>% Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate plan (written)</td>
<td>73 (62)</td>
</tr>
<tr>
<td>Performance-related pay</td>
<td>76</td>
</tr>
<tr>
<td>Performance Appraisal (regular)</td>
<td>73 (71)</td>
</tr>
<tr>
<td>Written procedure for recruitment and promotion</td>
<td>35</td>
</tr>
<tr>
<td>Hierarchy of promotions</td>
<td>60</td>
</tr>
<tr>
<td>Sponsor education/training</td>
<td>89</td>
</tr>
</tbody>
</table>

N = 97

The types of HRM practices in place (as shown in Table 7.11) could be indicative of the type of employees within these firms, largely described as 'skilled'. In addition, they may reflect the degree of mobility evident in the software sector of this industry (as indicated in Chapter 5). This may have a number of implications. First, that there was less emphasis needed on formal recruitment procedures when skill shortages needed to be filled quickly (Storey, 1995) and second, that there was more emphasis on performance (or even over-award) pay to attract and retain 'good' employees (Kessler & Purcell, 1992; Wright, 1995).

It therefore becomes apparent that although the answer to the second research question is that employment relations can generally be described as individualized, it is necessary to go further. In particular, this analysis needs to be narrowed to overcome the problems of dealing with a 'fuzzy' and 'chaotic' concept such as the information industry. As such, the analysis of software development in firms within the information industry requires not only an understanding of what happens in terms of management in the firm but also an understanding of why it happens and the response from employees. This dialectical interaction between structure and agency is the subject of the case studies in Chapters 8 and 9, where the purpose is to consider what strategies are used to control the labour process of software development and why they emerge. However, prior to this occurring the third research question, investigating the influences on these employment relations must be addressed.

Influences on Employment Relations

At the conclusion of Chapter 3 it was argued that small firm employment relations research needed to go beyond simply categorising the ways in which employment relations were managed in small firms (although this was a necessary first step). As the type of employment relations in the information industry has broadly been established, the key question to be considered is:

Q3 What are the influences on employment relations?
The literature review in Chapters 2 and 3 suggested that although differences in employment relations did emerge between small and large firms, the issue was whether it was sufficient to say that these differences were the result of the firm being small. The literature review in Chapter 3 suggested a number of other influences on employment relations in small firms. These avenues could be explored in the survey data through the following additional questions:

3a) How are employment relations different in small and large firms?
3b) Can employment relations in small firms be described as harmonious (e.g. no union presence, no industrial action)?
3c) How are employment relations different in firms where the principal owner is present compared with those where the owner is absent?
3d) How are employment relations different in firms with competitive market conditions compared with those whose market conditions are not competitive?
3e) How are employment relations different in firms with different management styles?

Answering these questions is necessary as a first step to considering why is there an appearance of industrial harmony in small firms.

In order to complete this task, responses from small and large firms were identified. Small firms were defined as being those workplaces that were the only workplace in the organisation with less than 20 FTE people. Such an approach was taken to reflect the approach used in this thesis as well as the ‘official’ Australian definition of small firms (ABS, 2000a; Beddall, 1990). In addition, the definition reflects the DIST/IC (1997) and ABS (1995b; 1997a) view that a small firm in the information industry has an employment of less than 20 persons, as well as the qualitative aspects of the Beddall Report’s definition of a small firm – namely that small firms are independently owned and operated; closely controlled by owner and/or managers who also contributed most, if not all of the operating capital; and the principal decision-making functions rest with the owner and/or managers (Beddall, 1990: xiii). Results from the small firms are only contrasted with those from large firms as there were too few responses to create a separate ‘medium’ category.

Results from AWIRS 95 can be compared with this survey data when the same definition of small firms is used. Such a comparison is useful to see how this sample of firms in the information industry differs from a national representative sample of small firms. However it must be noted that this comparison must be treated with caution as the problematic definition of the information industry, as discussed in Chapter 4, means the sample for this survey is not necessarily representative of all firms within that industry. The results are therefore only indicative of employment relations trends in the information industry.
Problems Calculating Firm Size

In the survey firm size was calculated as being the total number of people working at the address to which the questionnaire was sent. It was envisaged that it would not be a difficult task for respondents to identify the number of people present. In the pilot questionnaire, the three questions addressed this issue. Essentially, the respondent had to calculate firm size by adding up the number of a) working proprietors, managers and employees, b) full-time, part-time, casual employees and contractors present at the workplace; and c) males and females. It was intended that the totals for each question would be the same, however when the data were entered for the pilot questionnaire it became clear that this was not the case as 51.8% of respondents came up with different totals on the questions. (Even allowing that respondents may not have considered contractors as employees in B1, or only counted male and female employees, rather than managers or contractors for B3 did not account for all discrepancies.)

As a result in the main survey a few measures were undertaken in an attempt to overcome this problem (see questions B1 – B4, Appendix A). In particular, a question was added that asked how many people worked at this workplace, while a note explaining that the totals for the four firm size questions should be the same was also added. However, discrepancies between totals for the four questions still occurred on 26.8% of surveys (however the majority were from respondents who did not include contractors into the their calculations for B1 and B4). Such a problem highlights the difficulty with research (or policy) that relies on firm size.

Employment Relations in Small and Large Firms

In this section the differences in employment relations between small and large firms are outlined and, where possible, compared with results from the AWIRS sample of 569 small firms. In order to establish whether there were any differences in employment relations based upon firm size, chi-square ($\chi^2$) and ANOVA tests are conducted on the data and reported where significant. When small firms were defined as being single workplace organisations with less than 20 FTE employees it was found that small firms made up 49% ($M = 10.1, SD = 4.9$) of the sample with the remaining 51% large firms ($M = 30.8, SD = 37.3$).

There were no significant differences, as a result of firm size, in terms of membership of an employer association, union membership and industrial action (see Appendix F, Table F.1). Such a result was a function of the low level of employer association membership, union membership and industrial action amongst all firms in this sample but contrary to the AWIRS results. For example, AWIRS found that amongst small firms 17% had union members, 1% of small firms had experienced industrial action in the previous 12 months and 60% were members of an employer association compared with large firms where 64% had union members, 13% had industrial action and 74% were members of an employer association (Morehead et al., 1997: 594–5).
The survey results showed that there were no significant differences between the types of formal, institutional employment relations arrangements operating in small and large firms (see Appendix F, Table F.1). For example, 80% of all firms had no award coverage, which was quite different to the AWIRS results where 90% of small firms and 96% of large firms had at least one employee covered by an award (Morehead et al., 1997: 314). The finding that information industry firms were less likely to be covered by an award may be a result of a number of factors including the fact that these firms operate in Victoria where awards were abolished by the Employee Relations Act 1993; or the employer’s ignorance of the laws regarding employment.71 Further, the absence of unions may have meant that employers felt less pressure to formalise employment arrangements, which may help explain the low incidence (7%) of collective agreements (collective agreements existed in three large and one small firm), and high (79%) utilisation of individual contracts.

Essentially, the differences between employment relations in small and large firms emerged in terms of the degree to which the workplace practices were formalised. For example, large firms were more likely than small firms to have a plan outlining the firm’s corporate goals and ways of achieving them (78.1% of large firms compared to 48.1% of small firms). However, where that plan was written employment relations were not a critical focus (Table 7.12) in any sized firm. Such a finding was consistent with that of J. Ritchie (1993) where he suggested that small firms hardly contemplate formalising their working strategies let alone integrating their HRM plans into them.

<table>
<thead>
<tr>
<th></th>
<th>% Small Firms</th>
<th>% Large Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment Relations</td>
<td>21</td>
<td>39</td>
</tr>
<tr>
<td>Finance</td>
<td>23</td>
<td>43</td>
</tr>
<tr>
<td>Marketing</td>
<td>30</td>
<td>57</td>
</tr>
<tr>
<td>Operations/Manufacturing</td>
<td>30</td>
<td>59</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>11</td>
</tr>
</tbody>
</table>

N = 44, Multiples accepted therefore % sum to more than 100

71 In addition, Kitay and Sutcliffe (1989) report that anecdotal evidence that small firms are likely to breach employment arrangements.
Statistically significant differences emerged as to whether small or large firms had certain policies, namely that large firms had an EEO policy $\chi^2 (1, N = 96) = 4.508, p < 0.05$ and a Sexual/Racial Harassment policy $\chi^2 (1, N = 96) = 5.034, p < 0.05$. Such a finding was consistent with the federal government’s exemption of firms with less than 100 employees from compliance with the requirements of the EEO legislation. In addition, a significant difference emerged as to whether rules for discipline were in place, namely large firms were more likely to have rules for discipline $\chi^2 (1, N = 96) = 4.031, p < 0.05$. However, there were no significant differences in whether small or large firms had a grievance procedure, used performance related pay and appraisal, had some remuneration (pay or time-off-in-lieu) for overtime worked or used a formal, written selection procedure for recruitment or promotions, or sponsored education and training for employees. (Appendix F, Table F.2 contains proportions of small and large firms with various policies in place.) When the following group of employment relations policies were considered: discipline, grievance, performance-related pay, performance appraisal, selection procedure, and education and training, then significant results were found in the crosstabulation of these with the size of the firm. Namely, of the 45% of all firms, which implemented at least five of the six policies, the majority of these were large.  

Table 7.13 shows communication practices used in small and large firms. Significant differences emerged in the type of communication practices employed in small and large firms. The need to ensure that the same message was received by as many people as possible was evident in large firms where they used: regular newsletters/bulletins $\chi^2 (1, N = 96) = 9.748, p < 0.01$; email $\chi^2 (1, N = 96) = 6.887, p < 0.01$; regular formal meetings between management and employees $\chi^2 (1, N = 96) = 4.018, p < 0.05$; and regular social functions $\chi^2 (1, N = 96) = 15.569, p < 0.001$. However, the most common form of communication, regardless of firm size, was the ‘daily walk-around by senior management’ (78% of large firms and 78.3% of small firms).  

\[\text{Conversely, owner presence did not seem to make a statistical difference to the number of policies implemented.}\]
Table 7.13: Communication Practices in Small and Large Firms

<table>
<thead>
<tr>
<th></th>
<th>% Small Firms</th>
<th>% Large Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily walk-around by senior management</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td>Suggestion scheme</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>Newsletter*</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Survey/ballot of employees</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Email*</td>
<td>43</td>
<td>70</td>
</tr>
<tr>
<td>Regular formal meetings*</td>
<td>52</td>
<td>72</td>
</tr>
<tr>
<td>Regular social functions*</td>
<td>24</td>
<td>64</td>
</tr>
</tbody>
</table>

Small firms N = 46, Large firms N = 50; *p < 0.05

In 62% of small firms and 66% of large firms a ‘fraternal’ management style existed and therefore no significance difference emerged. Amongst the reasons given for that management style size was mentioned, as some of the comments from the questionnaires show.

"As we are a small team and all have worked together for many years, we all rely on each other."

"Most efficient for a small company. Discuss any situation at any time. Resolve problems quickly. Make faster decisions."

"We are a team. If we work as a team we function better. We help each other and work together. In a small firm, relationships are important. My staff are my most valuable assets."

"Work side by side and with common goals and objectives."

"We are a small, informal organisation where management gets its 'hands dirty'."

ANOVA tests conducted on whether there was a significant difference between attitudes in small and large firms were inconclusive due to the skewed distributions of responses on attitude questions. However, these tests did point to a significant relationship between firm size (small) and the influence of the largest occupational group on: the pace that work is done $F(1, 93) = 4.630, p < 0.05$; and the way the workplace is managed or organised $F(1, 93) = 4.210, p < 0.05$.

The analysis of results from this survey would suggest that, in answer to research question 3a), the level of formalisation in employment relations differs between small and large firms. This is consistent with the conclusion from the 1990 AWIRS data was:

The presence of formal industrial relations structures and procedures is far less common amongst small workplaces....These differences are an indication of the existence of more informal and unstructured industrial relations environments in smaller workplaces (Callus et al., 1992: 120).

A similar conclusion was drawn from the analysis of the 1995 AWIRS, where it was found that more direct relationships between management and employees were facilitated in small workplaces (Morehead et al., 1997). Those 'more direct' relationships were between the management and individual employees such as in terms of dealing with grievances, discipline or communication. More recently in the U.K. the
initial results from the Workplace Employee Relations Survey (WERS) were that “there are some distinct features of small business employment relations” (Cully, O’Rielly, Millward, Forth, Woodland, Dix and Bryson, 1998: 27). These features found to be typical of the WERS small firm included that firms had few of the ‘new’ management practices and employee involvement schemes in place. These ‘new’ management practices included: teamwork; appraisal; quality circles; formal meetings between management and employees; profit sharing; share ownership schemes; performance related pay; and training (Cully et al., 1998: 10).

The findings above were consistent with the findings of a range of studies (such as Ritchie, J. 1993; Roberts, Sawbridge & Bamber, 1992; Scott et al., 1990) and other survey type research in the area (for example, AWIRS, ACCIS, BLS). For example when chi-square tests were conducted on the variables listed below from the AWIRS Small Workplace Survey (and the same definition of small firms used in the survey was applied to the AWIRS SWS i.e. when T14 = 1 & Td17 = 2 or small firms = private sector, single organisations, unweighted N = 569) and those in this survey to compare a number of features, the results suggested that on the whole they were similar (i.e. no statistical difference emerged on items of degree of competition, employer association membership, encourage/discourage union membership, industrial action in previous 12 month, and recruitment in previous 12 month). The only significant differences (p < 0.001 level) occurred on the items: size, award coverage and attitudes. Essentially this shows that the structures of employment relations in small firms in the information industry are similar to a more representative sample of small firms, and therefore agency is needed to overcome the view of small firm homogeneity.

73 In this analysis of the WERS small firms are defined as being stand-alone private sector workplaces with between 25–100 employees (Cully et al., 1998: 26).

74 The variables compared were: Size (AWIRS SWS T4 c/w B1); Principal owner presence (AWIRS SWS T16 c/w A5a); Degree of competition (AWIRS SWS T21 c/wD12); Union membership (AWIRS SWS T27 c/w C9a); Employer association membership (AWIRS SWS T25 c/w C7); Encourage/Disourage union membership (AWIRS SWS T31 c/w C10); Award coverage (AWIRS SWS T37 c/w C1a); Industrial action in previous 12 months (AWIRS SWS T84 c/w C24a); Recruitment in previous 12 months (AWIRS SWS T88 c/w B7 – recorded as a dichotomous variable); Voluntary resignation in previous 12 months (AWIRS SWS T98 c/w B8a – recorded as a dichotomous variable); Attitudes (AWIRS SWS T107A c/w C26a, AWIRS SWS T109 c/w C26b). These were the only variables compared, as the wording was exactly the same on both surveys.
Industrial Harmony in Small Firms

Data, such as the lack of trade union membership and industrial action, can be used to argue that there is an appearance of harmony in small firms where union presence and industrial action are associated with employee dissatisfaction (Callus et al., 1992). However, the problem with using such proxies for harmony meant that in the case of WERS, for example, where the contraction of collective employment relations was evident along with a low level of overt industrial conflict, then the conclusion of industrial harmony had to be extended to all firms irrespective of size: “Overall, harmonious employment relations are very much the norm” (Cully et al., 1998: 27).

The results from this survey data, showing a lack of unionisation and industrial action, meant that the conclusion of industrial harmony also had to be extended to all firms in the information industry. Whether this was indicative of employee satisfaction (as the WERS data indicated) cannot be ascertained with these data. A better definition of industrial harmony could utilise data on employee turnover and absenteeism in addition to evidence of other forms of covert conflict. The survey data showed that there were significant differences in terms of whether employees were absent from work $\chi^2 (1, N = 97) = 6.039$, $p < 0.05$, in that large firms were more likely to have absent employees (34% compared with 13%); and in terms of voluntary turnover $\chi^2 (1, N = 97) = 10.039$, $p < 0.05$, in that employees were more likely to resign from large firms (92%) than they were from small (66%) (see Appendix F, Table F.1). Although the data on absenteeism and turnover show that small firms appear to be harmonious, this result may be a function of employer and employee proximity. Further, the multiple causes of employee turnover (particularly in the information industry) mean it could be problematic to attribute employee turnover in the large firm solely to dissatisfaction.

The answer to research question 3b) is that employment relations in small firms can be described as harmonious as there are no union members or industrial action. However, based on the same reasoning, it must be made clear that employment relations in large firms can also be described as harmonious.

Presence of Principal Owners

The literature review in Chapter 3 pointed to the importance of the presence of the principal owner on the nature of employment relations in small firms. In particular, the presence of the principal owner was important for the “network of interconnected interpersonal relationships at an individual, person-to-person level between employer and employed” (Scott et al., 1990: 91).

A significant relationship emerged between the presence of the principal owner and firm size, in that their presence was in small firms $\chi^2 (1, N = 97) = 5.549$, $p < 0.05$, although Table 7.14 shows that a large
proportion of large firms in this sample also had the principal owner present. In all but one of all (small and large) firms where the principal owner was present, the owner worked alongside their employees.

Table 7.14: Owner and Family Member Presence

<table>
<thead>
<tr>
<th></th>
<th>% Small Firms</th>
<th>% Large Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner Present*</td>
<td>89</td>
<td>70</td>
</tr>
<tr>
<td>Owner Absent</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>No family members</td>
<td>28</td>
<td>60</td>
</tr>
<tr>
<td>1 – 5 family members</td>
<td>72</td>
<td>40</td>
</tr>
</tbody>
</table>

Small firms N = 47; Large firms N = 50; *p < 0.05

In addition, small firms were more likely than large firms to employ members of the principal owner’s family (Table 7.14). However, the point was made earlier that the presence of family did not necessarily translate into whether the firm was considered to be a ‘family firm’. In 63.6% of firms where the owner was present, the firm’s main activity was software development χ² (1, N = 97) = 5.335, p < 0.05. Of those software developers, 62.5% were small firms compared with 37.5% being large. The main type of software developed was that for the finance and business services industries, reflecting the growth area in software (ACS, 2000; AIIA, 1999).

Chi-square tests showed there were no significant differences between the types of formal, institutional employment relations arrangements operating in firms whether the principal owner was present or not (see Appendix F, Table F.1). Furthermore, there were no significant differences as to whether employees were recruited, absent from work or resigned (see Appendix F, Table F.1). In fact the data show that employees were more likely to absent when the owner was present (in 25% of firms compared to 20% of firms) and resign when the owner was absent (in 85% of firms compared with 79% of firms). These results may more be indicative of the type of firm (software) as the following chapters suggest.

The principal owners’ presence had no significant relationship with the existence of a plan or any formal workplace policies, with the exception of EEO and AA policies: χ² (1, N = 96) = 5.389, p < 0.05 and (1, N = 96) = 6.499, p < 0.05 respectively (see Appendix F, Table F.2). Those policies were not likely to be found in firms where the owner was present (80% of firms with owner present did not have an EEO policy and 85.5% did not have an AA policy) and such a result points to the interaction between small firms and principal owner presence.

ANOVA tests pointed to a significant relationship between the presence of the principal owner and the influence of the largest occupational group on: how work is allocated F(1, 93) = 6.795, p < 0.05; how jobs are done F(1, 93) = 5.487, p < 0.05; the pace that work is done F(1, 93) = 11.397, p < 0.01; and the way the workplace is managed or organised F(1, 93) = 4.483, p < 0.05. In addition, that interaction between
small firms and the principal owner's presence was evident in the significant relationship between those variables and the influence of the largest occupational group on: how jobs are done $F(1, 93) = 4.538, p < 0.05$; and the pace that work is done $F(1, 93) = 5.918, p < 0.05$.

These results were consistent with earlier studies such as those by Scott et al. (1990), Goss (1991a), Ram (1994), and Holliday (1995). For example, Scott et al. (1990) concluded that "procedural informality" (p. 91), meaning a lack of formal procedures, was a key characteristic in firms where principal owners were present. They argued that this procedural informality came through not only in the absence of polices but also in the ineffectiveness of such policies when they were used. The survey data are unable to shed light on this issue but the case studies provide an opportunity to investigate it further. However, these results suggest that the answer to research question 3c) is that informal employment relations exist in firms where the principal owner is present.

**Effect of Competition**

Effective data on workplace performance and competitiveness were difficult to gather and it was problematic to make any meaningful comments about the effect of competition on employment relations from these data. For example, when two respondents indicated that their firm faced "strong" competition one may have meant this in terms of competition from replacement products while the other may have meant this in terms of competition for the consumer's dollar in general.

Despite that there was confirmation that in this industry competitive pressures were high: competition was said to be strong at 62% of the firms, while around 60% also reported that competition had been increasing in the previous 12 months. When questioned about the most likely response to a change in demand, respondents said they would be more likely to change the numbers of full-time staff rather than increase or decrease the number of contractors.

Responses to questions about competitors showed that only 12% of firms had no competitors, 33% had 'many' and 56% had 'some'. Forty percent of firms reported that their competition came from large multinational companies, while another 35% said it came from large local companies. The majority of firms 65% were engaged in export activity. A variable derived from these questions was used to assess competition in terms of the type of companies (large or small) with which firms competed.

The chi-square tests show that there were no significant differences between the types of formal, institutional employment relations arrangements operating in firms that compete with small or large firms (see Appendix F, Table F.1). However in terms of employment relations policies the findings were that firms that competed with large companies were significantly likely to have a corporate plan (79%
compared to 58%: $\chi^2(1, N = 96) = 4.056, p < 0.05$; and a discipline policy $\chi^2(1, N = 96) = 4.897, p < 0.05$ (see Appendix F, Table F.2).

The answer to research question 3d) that can be drawn from this data is that firms that compete with large companies have a plan in place. In these circumstances there may be a need for formal business arrangements when dealing with large firms, however those plans were not likely to address employment relations issues, instead focusing on marketing aspects.

**Management Style**

It is difficult to provide an answer to research question 3e) due to the lack of variation in the responses to the questions about management style. Cluster analysis, as a data reduction technique, was used to give a descriptive and broad-brush feel to the data. The respondents were segmented into three groups (clusters) based upon their management style and then investigated as to whether they differed significantly in terms of size and owner presence. The Clusters could be interpreted as follows:

Cluster One (Management – employee relationship of superior/subordinate tempered by personal relationships that do not extend outside work environment): These respondents saw their employees as only having a moderate amount of influence over the work they performed, yet agreed to strongly agreed that not only was there a strong a relationship between management and employees, but that unions were neither required nor welcome at their workplaces. On the whole the principal owner was present in these workplaces.

Cluster Two (Management – employee relationship of superior/subordinate): The members of this Cluster did not believe that their employees had much influence over the work they performed; furthermore, whilst they were unsure whether unions would have anything to offer, they did not think that a strong relationship existed between management and employees in their workplace. Of significant difference to the other Clusters was that, on the whole, the principal owners were not present at this Cluster of firms.

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75 The answers to all the ordinal type questions – 5-point Likert scales – from Section C of the survey formed the core input data of the Cluster analysis; indeed, the clustering variables used were the latent and unobservable constructs, which summarised the issues of collectivism, individualism and the influence that the largest occupational group had over their work. The selection of the three clustering variables was justified on the basis of the adequacy of their reliability. Indeed, the ‘influence construct’, which included all of the aspects that influenced the work of the largest occupational group – C23a, C23b, C23c, C23d, and C23e – exhibited an alpha value of 0.84, whilst the ‘collectivism construct’ represented by C26c and C26d and the individualism construct – C26e, C26f, C26g and C26h – exhibited alpha values of 0.69 and 0.84 respectively.
Cluster Three (Management – employee relationship of colleagues): These respondents saw their employees as having a high amount of influence over the work they performed, and like Cluster 1, agreed to strongly agreed that not only was there a strong a relationship between management and employees, but that unions were neither required nor welcome within their workplaces. On the whole the principal owner was present in these workplaces. Essentially these results showed that only the presence of owner showed any measure of association with cluster membership. Moreover, these results showed that the definition of each management style correlated with the amount of influence employees were thought to have at the firm.

When the differences in employment relations were considered based upon a fraternal management style or not, chi-square tests showed there were no significant differences between the types of formal, institutional employment relations arrangements which operated in firms (see Appendix F, Table F.1). Furthermore, there were no significant differences as to whether employees were recruited, absent from work or resigned (see Appendix F, Table F.1). In terms of employment relations policies the only statistically significant differences that emerged for the firms with a fraternal management style were the existence of rules for discipline $\chi^2 (1, N = 96) = 4.398, p < 0.05$ and grievances $\chi^2 (1, N = 96) = 5.618, p < 0.05$ (see Appendix F, Table F.2), and use of email as their method of communicating with employees $\chi^2 (1, N = 96) = 5.588, p < 0.05$. These results appeared consistent given that a fraternal management style was said to emphasise the importance of identification between employer and employee while differences between them were a secondary element in the employment relationship (Scase, 1995). Identification was likely to be fostered when the employer worked alongside employees and therefore discipline and grievance issues could be resolved informally.

76 As Table 7.7 showed, the majority of all respondents indicated that their management style could be described as ‘fraternal’.
Conclusion

The primary purpose of this exercise was to outline the types of employment relations that existed in firms operating in the information industry. In other words, the survey enabled data to be gathered about some of the structures within which employment relations were managed. However, there were limitations with this data that largely arose from clearly defining the population of firms operating in the information industry (see discussion in Chapter 4), which remained difficult given the broad nature of the operations of the firms within the industry. As a result, the sample was limited to those firms engaged in the production of software, ensured a more appropriate representation of those firms that exclusively engaged in the information industry.

The data showed that employment relations in this industry could be described as 'individualised'. There was a lack of formalised institutional features of employment relations in this industry. Individual contracts were the predominant means of setting employees' terms and conditions of employment in this industry, while contracts were supported by the use of performance appraisal systems. Such a finding was consistent with the literature reviewed in Chapter 5. In addition, a range of HR policies existed at the workplace level to manage employment relations, although they were not necessarily part of a strategic approach as corporate plans, where they exist, were least likely to mention employee relations.

When differences between employment relations in small and large firms were examined it was the degree of formalisation of these workplace HR policies that emerged (see Appendix F, Tables F.1 and F.2). Essentially, large firms were more likely to have formal policies in a range of areas than small ones. Such a finding was, however, consistent with other research in the area. This lack of formalisation could perhaps be attributed to the presence of the principal owner in small firms or alternatively formalisation may have been the result of the nature of the competition faced by these firms, namely large companies rather than small. The results suggested an interaction effect between firm size and the presence of the principal owner, however the survey data had insufficient power to fully investigate this issue using multivariate analysis.

The approach outlined in this thesis suggests that the firm needs to be studied within the totality of its economic relations – relationships with other firms; place of the firm within its industry and the role of the industry within the economy – as these represent one set of structures impacting on employment relations. In this chapter the broad structures of employment regulation and their influence on employment relations within the firm have been investigated. It is, however, necessary to incorporate an analysis of how people interact or make choices within these structures to create meaning. It requires an examination of how people within these firms individually and collectively construct notions of self. The case studies in the subsequent chapters therefore go beyond describing the structures of employment relations and consider
how those structures interact with action to produce employment relations within two small firms in the information industry.
CHAPTER 8: VANGUARD SOFTWARE PTY LTD

Objective of Chapter 8

The objective of this chapter is to illustrate how both structure and agency can be used to provide a better understanding of small firm employment relations. In this case study the fourth research question is being addressed, namely, 'how do managers and employees experience work in the software development sector of this industry in general and small firms in particular'? To this end the firm's historical development, location within the sector, and product market conditions are discussed before a consideration of how these impact upon management strategy and change. Agency is addressed by considering who works at Vanguard, why they work there, what they expect from working there as well as how management structures employment relations and the response of employees. By exploring the dialectical interaction between agency and structure, the tensions that emerge for management, and the ways in which they attempt to resolve them provide a better understanding of how small firm employment relations are managed. Such an analysis can also be used to explain why there is an appearance of industrial harmony in this small firm.

Vanguard Software

Vanguard Software was a small Victorian based, Australian owned (private) company established in early 1993 to exploit a niche opportunity in the retail banking industry. In total there were 14 people working at Vanguard: the GM, two Project Managers, seven software programmers, two software testers (the 'debugger boys') and two administrative staff. Three staff members were on temporary assignment with clients: two of the software programmers were overseas, while one of the Project Managers was working interstate. Vanguard's owner no longer worked there although he retained a presence as MD. Three members of the MD's immediate family worked at Vanguard, although there was a shared understanding within the firm that it was not a 'family firm'. (This was consistent with the result in

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77 Some of the material used to develop this chapter has been published as: Barrett, R. (1999). 'Industrial relations in small firms: The case of the Australian information industry', Employee Relations, 22(2), 311-24.
78 The firm's name has been changed to meet requirements of anonymity.
79 The case study of Vanguard Software is constructed from interviews with employees and management as well as data gathered through the survey. How the data are derived is discussed in Chapter 6, although it is important to note that the interviews with employees explored the individual's background, their work, expectations of work, involvement in decision-making, job satisfaction, conflict and its resolution, views about the firm's management, and views about working in a small firm. Interviews with management explored issues of management strategy and style, as well as other operational aspects of the firm. The GM also completed the questionnaire described in Chapter 6, and analysed in Chapter 7, of this thesis.
Chapter 7, where it was found that the presence of family members did not necessarily mean that the firm was considered a ‘family firm’.

Vanguard emerged out of the collapse of the owner’s previous IT systems consulting business. Only the owner, the GM and one of the Project Managers survived that collapse. Even so, that Project Manager spent a few months collecting unemployment benefits after the ‘new’ Vanguard could not afford to pay his wages. Vanguard was established in 1993 after they won the contract for migrating their current international bank client’s retail banking system. The current GM had been a contractor with the previous firm and only re-joined Vanguard after a period of absence when he was offered the role of GM. His experience, foreign language skills and technical knowledge were acknowledged by the owner as being critical to the growth and development of the business.

In late 1997, the owner decided that his role as MD could be scaled back to reflect the role of the GM: “as I’ve stepped back bit by bit he [GM] has picked it up” (MD/Owner). Amongst employees (even the owner’s three sons) there was a consensus that the GM was in charge. The way the GM described it was:

He [MD/Owner] always has final say because it is his business… but to date there hasn’t been an occasion when something hasn’t been approved in our meetings… but then nothing goes up unless I’ve prepared the case and the arguments and the budget.

The salutary lesson from the previous business going broke could be seen in the current level of spending on resources such as equipment, office and furnishings. For example, the office took up the 1st floor of a two storey building on the main street of the outer Melbourne suburb where the firm was located. A small glass door beside the entrance to an electrical retailer at street level opened onto the stairs leading up to Vanguard’s reception area. The stairwell smelt of stale urine, the entrance having been used as a sheltered spot on the street two doors down from a popular entertainment arcade. Vanguard’s logo on the glass door was the only identifying feature at street level. The main part of the office was open plan with chest height wall sections used to create spaces for everyone except the two testers. The GM and MD had desks at the front of the office space under the only windows, which faced out across the street and overlooked Port Philip Bay. The GM’s position afforded him a view of the whole office and movement of all employees around the office. Glass walls sectioned off about one third of the total floor space where four rooms were located: one room was used for meetings with a large table and a number of mismatched chairs; one room contained a desk and phone and could be used when anyone required some privacy; another room was where the testers were located with all the equipment they required; and the fourth room was full of what the GM described as ‘junk’. A small galley kitchen and toilets behind the reception area

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80 The owner had been working with the local council on strategies to improve the streetscape.
81 The MD only used his desk when he visited the office, which was sometimes less than once a week.
completed the layout. As no clients needed to visit the office there had been no efforts made to 'decorate', while 'unkempt' would be an apt description of the office.82

Vanguard's history and management structure formed part of the environmental structure within which action took place and in terms of understanding small firm employment relations these structures, their impact on, and the effect of, managerial choice (Hyman, 1987; Whittington, 1988) need to be understood.

**Vanguard's Products**

In terms of Rainnie's (1989; 1991a) heuristic device, Vanguard could be categorised as an innovative firm as it operated in a developing market creating specialised and/or new products or markets. Vanguard specialised in addressing technology-related problems with business-based software and hardware for the retail banking sector. Vanguard’s Retail Banking System was made specifically for institutions faced with the need to modernise their systems by either the replacement of obsolete banking system hardware or the development of new transactions and applications. The retail banking system was a complete software and hardware solution providing teller application migration, teller application development and branch runtime services. This solution was developed for financial institutions that wished to upgrade their existing 4700 based teller applications to C and C++.85 Such a solution enabled financial institutions to run these applications in a personal computer (PC) environment rather than rely on obsolete hardware. In effect, Vanguard’s solution migrated 4700 based applications with their native FCL (Filter Converter Language) source code to PC based applications running in ANSI (American National Standards Institute) standard C code. The similarity between the two codes meant that this process occurred with minimal disruption to the financial institution during roll-out where two environments were being supported. The benefit of such a solution was the financial institution could retain their investment in legacy systems rather than direct resources to a complete redevelopment of their existing functions. The advantage of migration to a PC

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82 In one interview, after commenting on the amount of noise in the office from the wind lifting and banging iron sheets on the roof, the leaks in the ceiling were pointed out, as was a sheet of wood covering a corner of the front windows (which overlooked the beach). Their purpose was to block the sunlight on the GM's computer screen, however this did not stop the glare on some employees' screens. As one said, "at about four in the afternoon or so I've got to crouch down by the desk and that's been going on for months. If it was something that directly affected one of the bosses it probably would have been fixed a lot sooner. I'm going to get crucified if anyone hears this" (Employee 8).

85 The C programming language was originally developed in the early 1970s. One of the best features of C is that it is not tied to any particular hardware or system, which makes it easy for a user to write programs that will run without any changes on practically all machines. In addition, C is portable, which makes it possible to adapt software written for one type of computer to another. C is often called a middle-level computer language as it combines the elements of high-level languages with the functionality of 1st generation assembly language (Ritchie, D. 1993). C++ is an enhanced version of the C language and was developed in the early 1990s. C++ includes everything that is part of C and adds support for object-oriented (OO) programming. In addition, C++ also contains many improvements and features that make it a 'better C', independent of OO programming. C++ is a superset of C, which means that C++ offers all the possibilities of the C programming language and more and this makes the transition from C to C++ quite easy. Programmers who are familiar with C may start programming in C++ by using source files with an extension .cc or .cpp instead of .c, and can then comfortably slide into all the possibilities that C++ offers. No abrupt change of programming habits is required to use C++ (Brokken, 2000).
environment (with the retention of legacy systems) meant banking staff did not need to be retrained, while existing stationery, manuals and procedures for the system did not need to be replaced. The new system's functionality was identical to the old one, it simply occurred within a modern, low cost, PC environment. Vanguard had no direct competitors who offered the same retail banking solution, although there were large multi-national software companies who offered alternative solutions.

The location of Vanguard within its economic totality draws attention to the degree of choice available to managers when structuring the employment relationship. This relational approach sees size as of lesser importance to the small firm's relationship with the wider economy (Curran, 1990) and it is, as Rainnie (1989, 1991a) argues, this relationship that determines the organisational and social framework of the firm.

Vanguard had two contracts to deliver its retail banking solution. The largest customer was an overseas bank that had just under 1,000 branches running the system, while the other was a smaller Australian bank. Having such a small customer base was not a seen as a problem at Vanguard because they not only received the sale of the product (with ongoing license fees) and the maintenance contracts but they also secured the outsourcing contracts and other support contracts. These contracts were extremely lucrative as the time taken to develop, deliver and then roll-out the solution could extend for a number of years while maintenance was on-going.

Product Development Process: The Retail Banking System

At Vanguard, the most difficult task involved with the project of migrating a system was ascertaining how the client's current system worked. This required analysing the documentation of the current system and if no such documentation existed, then it had to be reconstructed. Even where documentation did exist, the system could have been frequently patched so that the original documentation would not be adequate. Software developers were notorious for their dislike of documentation and the process of documenting the Australian client's 12-year old system was described as "a very, very boring job indeed" (Employee 2). Once that process had been completed, specifications for the project had to be drawn up.

It could take up to 12 months to develop an appropriate solution, taking into account the client's current system, preferences for host software and hardware and requirements for functionality. As a result, one Vanguard employee had been on-site with their overseas customer for four years." Another employee was also overseas to outsource the maintenance of the bank's teller applications. The GM thought that it would be necessary for one of these employees to be overseas for at least another two years, while the other

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84 For this employee's services they charged the client in excess of US$1,000 per day.
would be there for at least one more year. A similar situation operated with the Australian customer where one of the Project Managers was on-site to manage the implementation of the system.85

Yourdon (1996) has argued that systems programming projects, of the type at Vanguard, which involved compilers, operating systems and the conversion of an application from one hardware/software environment to another, could be developed through the use of a structured process. This was the situation with Vanguard's retail banking system as: a) the user requirements were clearly specified and were relatively stable; b) the software process was defined and clearly understood; and c) testing could be carried out in a quantifiable manner based on the defined user requirements. The 'formalist' (Quintas, 1994) or 'waterfall' model (Brady, 1992) described the approach to software development process used for this project at Vanguard. In essence this meant that a fixed process from specification through design, programming and then to testing was followed. The application of this model meant the role of developers was to implement appropriate methods and techniques (Carmel & Sawyer, 1998), while the creativity involved in this type of secondary software development process occurred when solutions were being proposed in the process of designing the project's specifications. However, once the specifications were determined they drove the project and set very clear parameters within which all coding and testing took place.

All the code work for the banking system was conducted at Vanguard’s outer suburban Melbourne office. The coding work presented programmers with an intellectual challenge but it took place within a fixed set of parameters. It was explained by one of the employees in the following way:

When you’ve got very tight specifications you know what you have to do. That’s when it gets down to the boring side of the job I suppose, when it gets a bit routine. And documenting of course is totally boring! (Employee 2).

Programmers individually or in pairs were given responsibility for developing the changes before passing the product along to the testers.

A number of implications for the role of testers flowed from the application of the waterfall process. The importance of testing (or 'de-bugging'), a critical component of the waterfall model of software development, was made clear by the owner in terms of its impact on quality and the firm's competitive success.

Our policy is that we'll never ship a piece of software if we know there’s a problem. Even if it has an error we will not ship it until we find that error. Every time a modification is done on the software it's treated like a new piece of software so all the tests that have been performed previously will be performed again. If the test results don't match then someone has to explain why

85 The GM had initially given one of the programmers the opportunity to manage the interstate project, however he had to be replaced mid-stream by the Project Manager, as "he went across there and well basically on that task, fell in a heap" (GM).
and the software is not shipped until it is explained. And apart from a couple of hiccups with installation programs from IBM or Microsoft ... we have had the lowest incident rate of anyone with software this year. It’s no use them [the testers] saying ‘that will never happen in a million years’ as my answer to them is ‘test for it because it may happen and therefore it needs to be fixed’.

That’s been there from day one and that’s helped us an awful lot. And as I keep telling the people [employees] ‘it costs $1 to fix it here, it costs $1,000 to fix when we ship it’.

Testing was important, as there were attendant implications for the role of the testers (or ‘de-bugger boys’ as they are colloquially known). The attitude at Vanguard was consistent with the ‘good enough’ approach to software quality (Yourdon, 1996), which could be seen in the owner’s ‘if we know there is a problem’ statement. As a result, testing was not part of a process of attempting to create zero defect software but instead an iterative process of finding known bugs in a program. The problem with this approach was that even if a bug was known to exist within a program it may not manifest itself every time the program runs. The testers therefore had to run the program continuously until the bug occurred before a fix could be developed. Even then, once the fix was developed (usually by a programmer) the debugger boys had to test the program again to ensure the fix worked.

The client’s requirements for delivery and roll-out set the time frame for testing. At Vanguard, a full-scale test of the whole program occurred every six months:

Every six months we have to knuckle down and do a massive full-scale regression test on the program before it goes out. And we just sort of lead up to that and then we do it and then we lead up to it again (Employee 3).

Those test periods set milestones for the whole project but in doing so placed a great deal of pressure and responsibility for quality and reliability on the testers. As one of the testers said:

I’m the last person in the line; if I miss it I’m the one that bears it. The programmers make it, they do what they think is right. Some people believe that it’s the tester’s responsibility to test it and make sure it is right, which is my job. But when they [the programmers] fix it, they might think, ‘well it might not work, let’s see if [employee’s name] finds it’. If I don’t find it I get in trouble and I don’t agree with that totally (Employee 5).

This acceptance of ‘good enough’ software could also be seen in Vanguard’s hold on the maintenance contract for their retail banking software: they did not accept that the program would be zero defect. In fact the maturity of Vanguard’s retail banking product meant that much of the coding work actually revolved around maintenance – “responding to finding problems when something does not work, analysing and designing and programming changes requested by others” (Employee 10). As maintenance required a good understanding of the software (Boehm, 1976), Vanguard’s hold on this contract had

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86 MacKenzie’s (1996) note that 10–20 lines of software code yield a possible $10^{14}$ (or 100,000,000,000,000) execution paths with a concomitant number of bugs, shows just how important is the process of de-bugging.
implications for employees and their employment security – essentially an employee’s value to the firm increased with their familiarity with the software.

New Products and their Development Process

In addition to the retail banking system, Vanguard was also in the process of developing a suite of new (and complementary) products. Described by the GM as "the gateway to our future opportunities", these new projects represented a recent shift in strategy for Vanguard. In part, this change reflected the evolution of Vanguard as well as the increasing influence of the GM, who was seen as a ‘gadget man'.

The new products included: an ATM upgrade kit and smart card applications as well as converting a couple of products used internally into shrink-wrapped versions for general business use. Strictly speaking these were secondary software products, however, they contained components of primary software development as completely new components were being added to the existing system. This work was usually performed in small project teams of two or three programmers, which were overseen by one of the Project Managers. One employee described the process as:

I work with one other programmer here, he does most of the programming work and I’m looking more at the high level specification...for all intents and purposes I’m running the project and decide what needs to be done as far as the development goes...there is a Project Manager overseeing it who helps me set out the goals and who checks that we’re making the milestones we set together for the project (Employee 2).

The programming involved in developing the new projects was viewed as more creative work, however there was still a structured overlay to this software development process.

The inspiration for these new projects arose out of a brainstorming session when all employees were asked to contribute their ideas. “We actually had a meeting where everyone was split up into groups and we had to give an idea of something we could do...” (Employee 7). In general, this process ensured that employees felt an ownership of these products as well as pride in their creation, while they could be contrasted with the routine of developing and maintaining the retail banking system. For example, one of the shrink-wrapped applications was a modified version of a popular business application designed to assist organisations needing to track internal or external customer requests and responses. The chief programmer on this project initially described his role as: “I program in Lotus Notes which is a database language....I come in, sit in front of the computer and go home” (Employee 7). Later, when he became more comfortable with the interview process, he elaborated on his project to say:

Well the thing is, I’m the only one here who knows anything about what I’m doing....I mean people say what they’d like to see, like when they use it, but it really all comes from me and I have to make all the decisions (Employee 7).
The development of these products also gave employees an opportunity to extend their skills and gain experience outside the programming and testing required for the retail banking system. For example, one of the testers was working on a project to develop an automated testing strip for a new product to be released later in the year. He was pleased to work on this project saying, "they've been moving me into programming as well [as testing], so they're giving me a bit of extra work in that area which is good, very good" (Employee 3). For him the opportunity to develop his programming skills outweighed the fact that doing so meant he took on extra work. In addition, this tester did not see the irony of the type of programming in which he was engaged — automating his own job — only the promise of moving from testing to the more 'glamorous' job of programming!

In essence, the development of these new products reaped two benefits for management. The first was that they opened up new commercial opportunities in Vanguard's market niche, while they also motivated employees. The motivational effect was recognised by the GM when he commented that the reason for their brainstorming session (mentioned earlier) was that, "our performance had dropped a bit and it was time for everyone to pull their socks up a bit and look at ourselves".

However, there were limits to the extent that the new product development acted as a motivational strategy. Some employees saw these projects as a 'cover' for creating extra work, and in particular extra work they did not necessarily have the skill, experience, education or training to complete. For example, as one employee explained:

I have a problem with the whole concept of the project I'm working on. I've just, it just feels to be something that is too... We seem to be doing it because management doesn't have a better idea of what they want to do with the smart cards and I don't think the job I've been given is particularly suitable. Like the tools and the job don't seem to go too well together and basically we're dumped in the lab to try and figure out a way around it (Employee 8).

Management were also reticent to spend money on resources such as manuals. One employee explained that, in relation to the smart card project he was working on,

I don't have any reference books so I did ask for them and somehow we, initially we were doing the front end of it using Visual Basic and then somehow they say change it to use Visual C++ parts.

I did ask for the books but somehow we didn't get them (Employee 1).

By working on both the retail banking system and the new products employees were engaged in a variety of tasks. Moreover, the variety of tasks performed by individuals was also affected by the firm's size. As the GM said:

People become a bit of a jack-of-all-trades because in a small organisation we tend to have to manage and maintain all our own systems and develop a broad range of knowledge on how it all hangs together.
An employee pointed out that “in a small firm your roles vary greatly. One minute I’ll be doing one thing, next I’ll be fixing something else. You don’t have a lot of resources so you have to double up, somebody has to either learn something or branch out somewhere” (Employee 5).

Variety in tasks flowed into how individuals perceived their role in the software development process. As one employee said, the advantages of working in a small firm were:

You get a feeling that what you’re doing contributes, being aware of the entire process that goes on, not being pigeon holed...just the breadth of work that you’re given to do, and not just that, but just being aware of what everyone else is doing as well. Getting the big picture, not just the small picture (Employee 2).

This contributed to how employees felt about their work itself.

I guess in terms of being a small company the best thing, from a programmer’s point of view is to an extent you’re it...it’s good working in teams...occasionally you’ll say ‘yeah hey I made this work, this is my product’ (Employee 1).

Another pointed out that the best thing about working in a small firm was “freedom (once competence is established) to develop the product...which gives great personal satisfaction” (Employee 10).

Controlling the Labour Process at Vanguard

The above overview of Vanguard’s products and their development processes has shown that software development was not a uniform activity, the task could be organised in different ways (Friedman, 1990) depending, in part, on the type of software being developed (Beirne et al., 1998). Vanguard’s retail banking system was a secondary software product and a waterfall model described its development, while the new products were a combination of primary and secondary software products and therefore their development was seen as a more creative process.

At Vanguard there was evidence to support the argument, which was presented in Chapter 5, that in terms of software development, the choice of strategy was influenced by the type of product being developed, the timing in the product’s development lifecycle, as well as the type of workers employed to develop the product. In terms of control over the process of software development, employees’ control over the process of developing the retail banking system existed at the specification development stage. Employees could exercise technical autonomy at the stage when specifications were being drawn up, however those specifications then acted as a form of direct control over the product development process. However Storey’s (1985) idea of levels of control becomes apparent technical autonomy in determining the code to write v

Furthermore, the above discussion revealed that control groups of workers, as deadlines acted as forms of direct extent than over the work of developers.
A different pattern emerged with the development of the new products. The products themselves arose out of employees’ ideas and in a sense employees could be seen to be exercising a degree of ‘strategic autonomy’ (Bailyn, 1985) as the firm’s strategy had been modified to include them as a result. Again different levels of control (Storey, 1985) could be seen in this situation as it was management’s initiative to have the brainstorming session and then provide employees with the opportunity to pursue product ideas that arose from that session. This opportunity was, however, only provided once the products were assessed as having a commercial application. Individually or in teams employees exercised technical autonomy over the product development, however the need to commercialise the products acted as a form of direct control by limiting the amount of resources available to employees in the development process.

Like the Microsoft example in Chapter 5, there were a number of elements to the strategy used at Vanguard to control the labour process. These elements related to actual management practices as well as the nature of the people employed to develop the products. This was evident in the GM’s description of his own management style:

I have a firm view that, probably based upon how I like to be treated, I’ll give someone a job and I’ll leave them to do it. I have an expectation that if they have a problem they’ll come and talk about it. If they need advice or discussion opportunities or something then they’ll speak about it or talk to me about it, and I’ll have an expectation that they’ll then get on and just do the damn job without having to hold a whip over them. But if I’ve got staff who can’t respond to that I’m really not very happy, I’d much rather they eventually went somewhere else…I tend to let people go and do their own thing, but if they haven’t I’ll know about it.

There were a number of strategies the GM used to ‘know about it’. For example, everyone attended a meeting on Thursday morning, which provided an opportunity for everyone to update each other on where they were at with their projects as well as discuss issues about the firm’s performance or their project. In addition, the GM used performance appraisals, which were conducted on a 6–12 monthly basis with the individual’s direct manager to track (and directly control) employee performance (see Appendix G for form used).37

Management’s choice of strategy was also influenced by the firm’s size. For example, the firm’s size had an effect on the relationship between management and employees. “In my experience it is accessibility to management. If you have a problem you’ve just got to walk down the other end of the office and have a chat about something…” (Employee 4). As one employee pointed out:

In a smaller company, where you’ve got a lot more personal contact with management, everyone can be treated as an individual and everyone can have a separate case. Like we’ve got procedures

37 The Project Managers assessed the performance of the testers and programmers, while the GM assessed the performance of the Project Managers and administrative staff.
and rules and everything and it's basically my job to makes sure all those procedures, rules and
tasks are done, but quite often there could be some mitigating circumstances and stuff so you can
work your way around them (Employee 11).
However, this closeness also had its drawbacks in terms of control. As one employee said: "you can't sort
of hide in anonymity" (Employee 3). Another pointed out that:
If you're comfortable with people it makes it that much easier to talk to them about work, but I
think it works a bit negatively if something is going wrong. Like it is harder to get someone to go
and do something a different way or properly communicate 'hey you stuffed up, what are you
going to do about it' (Employee 1).
In other words, close relationships could be an issue when problems arose and needed to be resolved. In
addition, management's close proximity to employees and the visibility facilitated by the design of the
office layout (as described earlier), could be a form of direct control. In addition, employees knew that
management could see anything they were doing and therefore they modified their behaviour as a result.
As one employee explained:
I must admit what I found very hard when I first started working for a small company was the fact
that you've got eyes on you every five seconds and you actually started work at 8:30 in the
morning and you actually worked until 5. You don't sort of sit around and spend three quarters of
an hour in the coffee lounge in the morning and then your so-called 40-minute lunch break gets
extended to an hour and a half every day and all that sort of stuff (Employee 11).

In Chapter 5 it was argued that the effectiveness of any managerial strategy depended on how appropriate
it was for the type of employees. Such an argument drew on the idea that an individual's identity (Kunda,
1992) was a function of many features external to the workplace, while the employing organization
attempted to capture and then leverage off this identity. In addition, this could be linked to the argument
put by Braverman (1974) and Scarbrough (1999) that management used particular strategies of control,
which gave autonomy to employees who occupied a privileged position in the product lifecycle. As
Braverman (1974) pointed out this privileged position was only temporary. This was evidenced at
Vanguard by the different types of strategies applied to those developing primary and secondary software
products. The next section of the case study therefore focuses on the employees at Vanguard and their
experience of work and working.

Vanguard's People

There were a number of similarities and differences between Vanguard and the rest of the firms surveyed,
(as reported in Chapter 7). For example, like the majority of other firms, Vanguard was a small, single
site, private company with no foreign ownership engaged in software development, and in particular
software for the finance industry. In terms of size and breakdown of staff, Vanguard could be seen as a 'typical small firm' (Table 8.1).

<table>
<thead>
<tr>
<th></th>
<th>Vanguard</th>
<th>Sample Median*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace size (Total no. employed)</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Working proprietors, partners, directors</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Other managers</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Employees</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>No. Independent contractors</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No. Full-time employees</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>No. Part-time employees</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No. Casual employees</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No. Male employees</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>No. Female employees</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

*N = 97

Vanguard was a predominantly male workplace (consistent with the industry statistics presented in Chapter 4 and the survey results in Chapter 7) with the only females being the two administrative staff: one responsible for reception, accounting, and payroll while the other, the GM's personal assistant, had responsibility for marketing. In the previous 12 months, the only changes in staffing were the employment of two programmers and one administrative staff. The GM expressed a preference for all core employees to be permanent and independent contractors were only used when specialist jobs were required.

On a range of other workforce characteristics, Vanguard was very similar to the rest of the firms who responded to the survey reported in Chapter 7. For example, like the overwhelming majority of firms surveyed the majority of Vanguard's employees were described as 'skilled' and 'software developers'. This was the situation at Vanguard as all programmers had some form of post-secondary qualification in computing or technology. Labour costs, as a proportion of total costs, were quite high at Vanguard (70%) in comparison to the average across all firms (57%). This probably reflected the nature of Vanguard's product: that a great degree of human capital was needed for its creation.

**Qualifications vs. Experience**

For five programmers and the two 'debugger boys' this was their first 'real' job, having either come to Vanguard straight from education or from a period of unemployment – an experience common to many in the outer suburban area of Melbourne where Vanguard was located. All Vanguard's programmers had some form of post-secondary computing or technology qualification. However qualifications were not
sufficient for employment in this industry generally (as pointed out by the NOJE (1998) data reported in Chapter 5), as for practical reasons the rate of change in this industry has meant that formal qualifications might not prepare individuals for the work they ended up doing.

At Vanguard there were also other reasons why qualifications were not necessarily sufficient: other employee characteristics were also looked upon favourably in addition to qualifications. These characteristics included: family membership, a lack of work experience, and an ability to ‘fit in’. Explored below are these characteristics and their implications for management.

**Family Membership**

Three of the owner’s sons worked at Vanguard as programmers while the eldest was on-site with the overseas client. There was widespread agreement at Vanguard that the firm was not considered a ‘family firm’. Not even the sons considered that their employment in their father’s firm made Vanguard a family firm. For example, one of the sons explained how he came to work at Vanguard in the following way:

> I would say that Dad, my father, has given each of us the opportunity to work here. [Brother’s name] at first didn’t want to work here. He wanted to make a name for himself by himself whereas me I jumped at the opportunity. I had to get into the action as soon as possible and I just figure I’m just lucky to have this and grabbed it. But I wouldn’t consider this a family firm.

The owner argued that the only advantage to his sons was “they’ve got the opportunity to get the job without being one of 200 applicants”. He went on to say, “I have made sure from day one that their appraisal is done by somebody else and I have got no say in their salary, no say in their conditions, no say in their work, and that’s done deliberately”.

The GM was also quite clear that there were no benefits extended to family members: “their [the family members] involvement and influence in the operation of the company is no different to any other person doing that job”. Family membership was not a privileged position, as one of the family members said: “even though it’s my family’s company I don’t know if I can ask for a raise or if I’m getting paid what I’m worth” (Employee 2). Another employee (not a family member) reinforced this when he commented, “family members aren’t excluded from getting screwed over” (Employee 8).

In Chapter 3 it was pointed out that the way in which family structures and paternalistic control structures were utilised to create the labour quiescence had been a recurring and powerful theme in the more critical literature. Despite a consensus at Vanguard that it was not a ‘family firm’, the issue was actually how the employment relationship was obscured by the employment of direct family members. As Scott *et al.* (1990) have argued:

> This ‘system’ of management serves to minimise the potential for a collective stance on behalf of the workers... The internal heterogeneity of particularistic relationships established a form of
'organic solidarity' within the firm.... this should not be mistaken for harmony, as the obedience of individual workers may be the product of 'submission agreement' (p. 52).

This was evident at Vanguard where there was no response from family members when they were 'screwed over'.

A Lack of Work Experience

Although all employees had some form of qualification, many were also self-taught experts using their in-depth knowledge of programming languages and applications for which they had no formal qualification. For example, one of the programmers working on the smart card project was using Visual Basic, a language he had taught himself. As he said "I didn't study it at school, so it was just like a hobby, I was doing it at home" (Employee 1). However the lack of work experience meant that employees were less likely to see this as a problem. As the GM said:

We're bouncing them around a fair bit in terms of languages used and projects on which they work, which is good for them as well as us but a lot of more experienced programmers are top gun in their particular direction but if you pull them to the side they're very unhappy, so in that sense also it is useful for us.

The GM's explanation for why so many employees were inexperienced was that "I find that they're usually grateful to get the opportunity and we get the results back out of them". The reason for so many inexperienced employees was seen somewhat differently by one of the Project Manager who said: "we've worked on a shoe string here for years and unfortunately that's the by-product of it...it's like anything, you get what you pay for" (Project Manager 1). Lack of experience meant that Vanguard did not pay premium salaries, "it means I'm getting a benefited cost too and I might end up having one and a half guys instead of one and that compensates for the lack of experience" (GM). The programmers were earning around A$30,000, while the testers earned between A$20,000-25,000. Those working on-site with the clients earned significantly more to compensate for cost of living adjustments, in particular the two employees overseas were earning up to A$100,000.

Gaining experience was important to employees as the following comments about what they wanted to get out of working at Vanguard revealed.

I basically just want experience in the IT industry....That's pretty much all I wanted. I wasn't looking for any big money thing or anything I just wanted the experience and the knowledge of it (Employee 3).

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88 Average starting salaries for graduate programmers/analysts are around A$40,000 (ACS, 2000).
I don't expect anything from here. Well, the job description when I first applied was training programmer and since then I've done that. So all I expected to get out of here was experience, that's all I wanted, money didn't really bother me, because I was getting rejected time and time again because I had no experience, so I just wanted experience (Employee 5).

I'm not really sure I had any expectations when I came in. Basically a job was a job, it was something that was available. I'm not sure that this would have been something I would have actively gone out and hunted for, it kind of just fell in my lap so I was happy to take it (Employee 8).

Experience and just money, that's the most important. The most important thing I think is just to gain experience to prepare myself for probably, I don't know, if I was to move, with the experience you have a better opportunity (Employee 1).

Employees knew that experience was highly regarded by potential employers and also attracted more pay (as the analysis in Chapter 5 showed). In effect then the employees' commitment to Vanguard was instrumental and this was complicated by the firm's size. Working in a small firm also had an effect on an individual's development and career, as one said:

There really isn't anywhere to go, there's no management tree to climb...so basically what I've got now is probably pretty much what I'm going to get, which means sooner or later I'm probably going to have to go somewhere else (Employee 1).

Another reinforced the lack of individual development opportunities at Vanguard:

The other downside to a small company is if, say, you're very bright or ambitious and want to move on, then you don't really have anywhere to go...unless of course in a small company the business grows and if the business grows you grow with the business. So you're waiting on a more business-orientated type of growth than you are on your own development type growth (Employee 11).

The firm's size, therefore, operated in such a way to integrate personal and organisational goals, and more greatly so in the circumstance where employees were dependent upon this firm to provide them with experience. The advantage for management was:

We get a couple of years out of them and they can contribute new thinking and new approaches to our problems and at the same time they get a little bit of work experience before they go off and do something else (GM).

Employees on the other hand do not see it in quite the same terms, and it was explained by one employee as "a feeling of guilt about wanting to leave" (Employee 2).
An Ability to ‘Fit In’

The requirement that employees ‘fit in’ was not unique to Vanguard as the results in Chapter 7 dealing with issues of concern to management showed. Vanguard’s recruitment policy was one aspect of ensuring that new people would fit into the firm. The GM explained the ‘policy’ as: “We tend to get people from word of mouth. We have advertised a few positions and we’ve picked up people that way, but there’s no strict formula to it”. As one employee explained, “generally the hiring policy is to go through people, friends of friends, if you know people that are looking for work you can always put them up for work here, if there’s an appropriate position” (Employee 2). The two new programmers had been recruited in this manner: friends, who worked at Vanguard, had suggested to the GM that they were interested in a job.

Carroll, Marchington, Earnshaw and Taylor (1999) argue that the notion of ‘fitting in’ is a recurring theme in literature on recruitment in small firms (see for example Curran & Stanworth, 1979; Holliday, 1995; Kitching, 1994; Scott et al., 1990). For management this type of policy had two implications. First, they could be sure that the new recruit had some understanding of the firm, and second, the responsibility for the new recruit was shared between management and the friend who made the recommendation, while if anything went wrong then there were (potentially) negative consequences for the friend. New recruits were given a three-month probation period following which, if they and the GM agreed on their continuance, they were converted to permanent status.89 The probation period therefore acted as a means to ensure ‘fit’ was gained. The importance of fit could be seen in the comment by one of the Project Managers when he explained the staff turnover in recent years:

One left but it was pretty lucky anyway because I think the day before he came and gave me his resignation we were sitting here saying how we could get rid of him – he just didn’t suit us. So it was basically a blessing in disguise. Another guy was a contractor and he was just hopeless. He was actually a middle-aged guy and he’d only just started in computing and stuff like that, so he also came extremely cheaply. But he just didn’t fit in at all (Project Manager 1).

There were a number of ways that management could ensure employees did fit, which in part rested on exploiting the individual’s identity created outside the workplace. This meant that, for example, few ‘formal’ policies existed at the workplace. For instance, the dress code, or lack of one – “we don’t care how you turn up, dress how you like as long as you’re not offensive, as long as you’re warm and covered” (GM) – was one way of keeping employees happy. Similarly, all employees had the access code for the alarm system and a key to the building if they wanted to turn up out of hours. A few of the employees

89 The factor used by Vanguard to determine employees’ terms and conditions of employment at this point was ‘employee’s qualifications’, which was only used in 26% of the rest of the firms surveyed (as reported in Chapter 7).
'geeked out' together playing computer network games and had approval from the GM to use Vanguard’s networks to play games outside work hours.⁹⁰ As one employee eloquently summed it up:

It’s a relaxed atmosphere most of the time and you don’t have to wear suits and shit, it’s like 10 minutes away from my house. There’s so many bonuses to it that it’s not funny. Oh it’s pretty much perfect at the moment (Employee 3).

At Vanguard, the focus on the technical aspects and personal opportunities provided by the job (experience, freedom of dress codes, flexibility of hours, access to technology etc) meant that employees were unaware of any idea of exploitation and actively engaged in the legitimisation of the labour process. The point was made clearly that management were satisfied ‘as long as the tasks were done’ and more so if people were happy doing them. This attitude may explain the type of employment relations policies that existed at Vanguard.

**Employment Relations Policies**

At Vanguard a plan in which the organisation’s goals and ways of achieving them existed in the heads of the senior management, rather than being written down. However, the regular Thursday morning meeting provided a forum for the GM to update everyone on marketing developments, opportunities and strategies as well as enabled employees to report back on, or raise, specific issues. The following quotes illustrate different perceptions employees had of their level of involvement at the meetings.

> Well management’s pretty open. They always want our input, like this year especially they’ve been asking us ideas for the company and they’ve really wanted us all to get involved in expanding the company, making it something important, not a small organisation any more. So yeah I feel like I could say anything at our meetings and they’d actually take it and think about it. In fact what I’m creating now was actually an idea of mine so obviously they’ve taken it and said ‘yep it’s a good idea we’ll do that, go ahead with it’. So yeah, it makes you feel good that you can say something and it’s not just swept under the rug (Employee 7).

We’re involved but we’re not involved if you know what I mean. We’re asked our opinion and all that sort of stuff but nine times out of ten you couldn’t sway the decision, the decision has already been made before you come to the table. I tend to get the feeling that you’re just being given lip

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⁹⁰ A ‘geek’ is someone who spends time being social on a computer, which may involve chatting on-line, playing multi-user games or writing software. To ‘geek out’ is to sit at a computer screen and play on-line (‘Geek: A definition’ from [http://www.tirrus.com/~enori/geek.html](http://www.tirrus.com/~enori/geek.html)).
service and that’s it. You’re being made to feel that you’re included but you’re not really because they’ll sit there and agree with what you say but nothing happens (Employee 11).

Despite the diverse attitudes to involvement, there was a consensus that should an employee want, then they had a chance to have a say in the direction of the products/company, they were kept informed of where the company was heading, what opportunities were approaching, and how the company was performing. As a result, it was possible for employees to see the effect of their efforts on the firm.

Vanguard was amongst a large proportion of workplaces in the sample where specific policies were not in place for Occupational Health and Safety, Racial/Sexual Harassment, Affirmative Action and Equal Employment Opportunity. Vanguard also did not have a formal selection procedure in place to be used for recruitment and selection, and there was no hierarchy of promotions in place for any positions in the organisation. Such a lack of policies was indicative of a low degree of procedural formality.

‘Formal’ Policies

Policies for discipline, working time and overtime, education and training and performance appraisals, were the only ones in existence (that were asked about in the questionnaire). For example, the working time policy meant that employees had flexible start and finish times, but they were expected to work an eight-hour day and be at work between the core hours of 11am to 3pm. “It appeals to me: very, very flexible hours. Some mornings I’ll get here at seven when I’m feeling energetic, other mornings I get in at ten. As long as do your eight hours everyone’s fairly happy” (Employee 5).

The existence of an overtime policy differed from the situation in many other workplaces surveyed where it was usually an expectation of the job that employees would occasionally work longer than their normal hours. When Vanguard employees worked overtime approved by management then they got time-off-in-lieu to be used in the following week. However, time-off-in-lieu no longer accrued from week to week after some employees tried to ‘scam’ the system.91 When project deadlines drew near management expected employees to work overtime rather than bank their hours.

You’ll find that at certain periods, like when we’ve got a release of our software that people in the testing department … end up doing fifty, sixty hour weeks during those times. Basically a deadline comes along and you’ll find yourself working quite long hours. We don’t get paid for that (Employee 4).

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91 Very simply, the ‘hours scam’ worked in the following way: employees worked an 80-hour week one week and then did not come to work the next. Alternatively, as one employee explained, “we also found out that you could, we get four weeks off a year and you could turn that into eight weeks doing the same thing. You get allocated four weeks off and o.k. I’m only going to use half a day then use some of my flexi time as the other four hours, so you stretch that one to two days” (Employee 5).
In addition, as project deadlines drew closer the reviewing of 'milestones' changed from a weekly 'Are you getting the job done?' 'Yeah.' 'Fine.' approach to daily goal setting. This approach imposed a discipline on the project similar to that of the 'daily build' (as explained in Chapter 5).

Flexible hours made assessing the level of absenteeism difficult and Vanguard's GM reported (in the questionnaire) that on an average workday no employee would be absent without prior approval of leave. Such a result may be a function of the policy or it may be a function of Vanguard's size, in that it was hard for an employee of such a small workplace to be absent, particularly where their absence would be immediately noted.

Education and training was offered and sponsored at Vanguard but only where it related to the work itself or management development. For instance, if any employees wished to pursue computer or programming studies outside work hours, then management was prepared to assist with paying for books and time off for study when needed. As one employee said: "there is an encouragement of people pursuing qualifications, particularly if that's advantageous to the company obviously" (Employee 2).

However there was an unwillingness to invest resources in people. This could be seen in the response from one of the Project Managers to a question about employees' access to resources particularly in the area of education and training.

They can ask. They can ask as much as they like, whether they get it or not...That's all budgetary of course, depending on what we've got and different things like that. And then we've got to sit back and see what sort of feedback we get from it and what the company will get out of it. If we don't see any benefit from it, it's more a case of one of the guys wanting to do something, basically just for himself and we're not going to get any benefit out of it, well that would be pretty rare to get passed (Employee 11).

The responses of the employee and Project Manager were consistent with work of Hendry, Arthur and Jones (1995) where it was argued that in the small firm training beyond the level needed to perform the job was a luxury to be provided only when the firm was making money.

Such an unwillingness to invest in people at Vanguard was consistent with the response of other firms surveyed (as reported in Chapter 7). Vanguard gave a neutral (value of 3) response to the statement 'considerable resources are devoted to the management of this workplace's human resources' (all workplaces $M = 3.61$, $SD = 1.06$). This attitude was also reflected in the recruitment policy (explained above) where inexperienced people who 'fit' were recruited (Carroll et al., 1999). Despite this inability to invest in human resources at Vanguard, strong positive management attitudes were expressed towards employees and the value of employees to the workplace.

According to management, the purpose of the 6–12 monthly performance appraisal was for each individual to set and review individual and project goals with their direct supervisor (see Appendix G for
the form used at Vanguard). This form of evaluative performance appraisal (Ostroff, 1993) can affect employee's attitudes, particularly in terms of their perceived value to and future with the organization (Boswell & Boudreau, 2000). As one employee said: "I try to keep in mind everyday I come into work that I'm going to have a performance appraisal and if I do well at work and I show results, my performance appraisal will be good" (Employee 7). However, employees saw the main purpose of the performance appraisal as being a chance to review their pay. This was the situation here as all employees' terms and conditions of employment were regulated by individual contracts. Although the factor used to review employees' terms and conditions of employment was 'reward for merit' (the same as the majority of other workplaces surveyed) it was through the performance appraisal system that merit was ascertained. In effect, then any 'bargaining' for pay occurred on an individual basis during the performance appraisal process. As a result, employees were only aware of what each other was being paid if they asked each other. One employee explained the process as:

Well, [colleague's name] and I, because we've known each other for ages, we say what did you get when we're bargaining for contracts. I'll say 'well I got this' and then he says 'I got this. Ohh jeez!' But as for everybody else I know what a few of the programmers get because we obviously talk. I don’t know what any of the managers get or anything like that. It doesn’t really bother me (Employee 5).

A number of employees felt that they had the ability to talk about wages with the GM and his decision was final. As one explained:

I hadn't had a pay rise since I'd been here and it was 3 years. I went to the GM and basically I got the CPI increase. I would have liked more but I guess it's performance based...I think it’s a case of if you ask they’ll see what they can do (Employee 4).

The problem with the performance appraisal system was that few employees knew when their next appraisal was scheduled, while one employee, who had been interstate missed his last appraisal. Despite this there was a widespread perception that the process of performance appraisal (although haphazard) was fair, as was the resulting pay. This perception prevailed despite a number of employees who noted that similar jobs to theirs were being advertised in metropolitan newspapers with a higher rate of pay.

The finding of procedurally informal nature in small firms in this industry was consistent with other studies that have found that an interpenetration of personal and industrial relations describes employment relations in small firms (Scott et al., 1990). However, this finding has often been taken further to conclude that better quality relationships exist between employers and employees in small firms. Indeed a lack of union membership has also been taken to support this contention.

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92 Research by Blau (1999) and Boswell and Boudreau (2000) suggests that if a pay rise had not been forthcoming, then employees' would not have held such positive perceptions of the fairness of this process.
Union Membership

At Vanguard were there were no union members. However, the lack of union membership could not be attributed to ‘quality’ relationships as this would neglect the issue of union availability. As one employee said:

I guess if something did come up I would go to the computer industry professional body, the Australian Computer Society, or something first before I went to a union, probably because I wouldn’t even know which union would represent me (Employee 4).

The Association of Professional Scientists and Engineers of Australia (APESMA) had been attempting to recruit employees in the industry, however their membership was limited to professional scientists or engineers (i.e.: employees with recognised tertiary science or engineering qualifications). No employees at Vanguard were aware of who APESMA was, despite some having the qualifications to join.

Furthermore, at Vanguard the lack of union membership could not be attributed to management opposition: management neither encouraged nor discouraged membership, and indeed the GM agreed with the statement that he ‘would not mind dealing with unions should any employees join’. It appeared that joining a union was not an issue that employees at Vanguard had considered as the following quotes show.

I don’t think there’d be anything a trade union could offer me that I don’t already have. I’m quite happy here, everything’s so relaxed and laid back, if I asked for anything more I’d probably be greedy. So I’m not too stressed about that, I probably wouldn’t join a trade union (Employee 7).

If I were trying to work out how much I should be getting paid I’d probably talk around other people that I know are doing it. But given the industry, rather than getting into a huge drawn out fight about my pay, which I’d have a good chance of losing, I’d probably say ‘oh stuff this’ and go and find another job. That’s just the way things seem to work, whether it is a good view to have or not I don’t know, it’s just how I see it (Employee 8).

It [union membership] is something of no interest to me....I guess it’s just if you’re not happy with something you just say it and I think it’s easier in a smaller organisation. You’ve basically got two choices, you put up with it or you just move out. Whereas in a bigger organisation I guess it’s like with the union they help you out to fight your case and things like that, and obviously you’ve gotta have pretty good grounds for someone to fight for you. I guess it has some advantages but I personally wouldn’t enrol myself to be a union member (Employee 9).

Clearly quality relationships between management and employees facilitated by the firm’s size would only provide a partial explanation for the lack of trade union membership at Vanguard. Supply of union services was also an issue (Barrett & Buttigieg, 1999) as were the employees’ expectations of working at Vanguard (as the earlier quotes revealed). The absence of unionisation found in this study does not
necessarily suggest that all was harmonious and employees accepted the exercise of managerial control. Rather, the inter-relationship between conditions in the product and labour markets meant that the most likely response from employees to managerial control would be individualised, because of the perception of their mobility (whether correct or not). In this firm employees were committed to the type of work they did but they were likely to exercise their mobility if they had low task originality (Friedman, 1990), if problems arose or if they wished to develop their career.

Conclusion

The purpose of this case study was to illustrate how both structure and agency could be used to provide a better understanding of the nature of small firm employment relations. In part, the research question being addressed here was: How do managers and employees experience work in the software development sector of this industry in general and small firms in particular? By exploring the dialectical interaction between agency and structure, the tensions that emerged for management, and the ways in which they attempted to resolve them, provided a better understanding of how employment relations were managed in this small firm. Such an analysis could also be used to explain why there was an appearance of industrial harmony in this small firm.

The case study of Vanguard revealed that management used different control strategies. At Vanguard there is evidence to support the argument, which was presented in Chapter 5, that management’s choice of strategy was influenced by the type of product being developed, the timing in the product’s development lifecycle as well as the type of workers employed to develop the product. A paternal (Goss, 1991a) or responsible autonomy (Friedman, 1977; 1984) type of strategy could be effective for encouraging employee contributions, recognising their skills, fostering responsibility, and encouraging open communication (these were all reasons given by the GM on the questionnaire to explain why he thought a ‘management – employee relationship of colleague’ best described the management style at Vanguard). Such a strategy could be used in situations where the firm enjoyed a high degree of product market power, as was evident at Vanguard. In addition, where skill, experience and/or qualifications were critical to the product then such a paternal style, or responsible autonomy type strategy, could also be used to elicit commitment from employees. This could be seen to be acting at Vanguard, where although employees were not highly qualified they held the view that mobility would come with experience.

However, the case study has suggested that what occurred at Vanguard could better be described as technical autonomy. In addition, Storey’s (1985) levels of control became apparent as technical autonomy and direct control strategies were used simultaneously. There were a number of elements to the strategy, which related to actual management practices as well as the nature of the people employed to develop the
products. Management were able to subordinate labour by leveraging off the employees' inexperience, excitement about using the technology and their gratitude for the lack of 'corporate pretensions'. Specifications were set and enforced with new project development and maintenance of the retail banking system through weekly meetings and more frequent goal setting meetings as project deadlines drew close. Employees' performance was appraised on a 6–12 monthly basis and, as all were on individual contracts, these appraisals were used as an opportunity for management to review pay as well as terms and conditions in contracts.

Management's choice of strategy was also influenced by the firm's size. In a small firm, such as Vanguard, where there was an interpenetration of the personal and industrial (Scott et al., 1990) relationships, the exercise of control was further masked. Harmony could not simply be attributed to the size of employment. The nature of the work in this industry, and at Vanguard in particular, had an important effect on management practices and how employees responded to these practices. At Vanguard, employees were 'committed' to their job and to the type of work they did, although their commitment was primarily to the creative aspects of their job: the 'hours scam' pointed to the fact that employees were not necessarily committed to the routine elements of the work and that management needed to exercise control to ensure the tasks were completed. Employees had positive views about their mobility and ability to exercise it, which was consistent with Friedman's (1990) comment that “computer programmers, who do not have much trouble getting jobs once they have acquired a few years' experience, often leave employment because of low task originality” (p. 204). Such a situation suggested that these employees were unaware that they were engaged in a struggle for control, as it was “simply masked by a technical ideology and vocabulary…which in turn is overlaid by strategies of 'control and inspire'” (Sharpe, 1998: 364).

Although analysis of the interviews has shown that size does affect the formality of workplace procedures and how 'comfortable' employees felt when at work, it does not alter the basic fact that “the small firm, like the large firm, is based on the cash-nexus relationship” (Curran & Stanworth, 1978: 629). Working in a small firm did not alter the fact that employees were engaged to perform a job and management used a range of strategies to convert potential into actual productive labour. At Vanguard, the firm's size instead had an effect on how secure people felt in their jobs because of the market's perception of the firm and its product. One employee made this point when he talked about the fact that there were no viable alternatives to Vanguard's retail banking solution. He said, "It sort of makes you think, 'well, why isn't anyone picking up our product?' And it's because we're a small company" (Employee 2). As another employee suggested "size often makes it difficult to compete with large companies – generally for no other reason than reputation" (Employee 12).

The findings from this case study cannot be generalised to all small firms, however they do reinforce the findings of other researchers who have tried to discount the industrial harmony thesis. In other words,
employment relations in small firms were not determined by size alone: size plays a part, but in the context of the interaction between structural forces and human agency. This argument is reinforced in the following chapter where another small firm is examined to show that many similar issues and questions arise, although not in the same form or with the same outcome.
CHAPTER 9: WEBBOYZ PTY LTD

Objective of Chapter 9

The objective of this chapter, like the previous one, is to illustrate how both structure and agency can be used to provide a better understanding of the nature of small firm employment relations. The research question being addressed is also, ‘How do managers and employees experience work in the software development sector of this industry in general and small firms in particular?’ To this end, Webboyz’ historical development, location within the sector, and product market conditions are discussed before how these impact upon management strategy is considered. As in the previous chapter, agency is addressed by considering who works at Webboyz, why they work there, what they expect from working there as well as how management structures employment relations and the response of employees. The appearance of industrial harmony is examined by exploring the dialectical interaction between agency and structure, the tensions that emerge for management, and the ways in which their resolution is attempted. In addition, similarities and differences between Vanguard (Chapter 8) and Webboyz are explored in this chapter.

Webboyz Pty Ltd

Webboyz Pty Ltd was a publicly listed Australian company developing Internet tools and e-commerce software and solutions. In December 1998 when the research was conducted, a total of 23 people were employed on a full-time and part-time basis at Webboyz: the CEO, MD, GM, Finance Manager, two Project Managers, four part-time administrative staff, two full-time and three part-time Customer Support staff and eight Software Developers. The majority of Webboyz employees were young – average age about 25–6 years old, while the CEO himself was only 25 years old. Only three women worked at Webboyz: two were part-time administrative staff and one worked part-time in Customer Support. The software developers were spread across two teams: two developers were in the Special Projects team,

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93 The name of the firm and its products has been changed to meet requirements of anonymity.
94 The case study is constructed from 11 semi-structured interviews (plus two e-mail conversations with the CEO) with employees and management in November and December 1998. How the data is derived is discussed in Chapter 6, although it is important to note that the interviews with employees explored the individual’s background, their work, expectations of work, involvement in decision-making, job satisfaction, conflict and its resolution, views about the firm’s management, and views about working in a small firm. Interviews with management explored issues of management strategy and style, as well as other operational aspects of the firm. Management also completed the questionnaire described in Chapter 6, and analysed in Chapter 7, of this thesis.
95 Although 23 people worked at Webboyz, the full-time equivalent employment was 19.5 people. As a result Webboyz ‘fits’ the official definition of a small firm in Australia.
which was headed up by the CEO, and the other six developers worked with the two Project Managers in the CoolCat Development team (CoolCat being Webboyz’ flagship web-authoring tool).

Goffee and Scase’s typology (Goffee & Scase, 1982; Scase & Goffee, 1980; 1982; 1987) (as discussed in Chapter 3) was inadequate to categorise Webboyz. A formal management structure and Board of Directors existed which located the firm in the owner-director category, however the CEO worked also alongside his employees as in the small employer category.

Some of the differences between Webboyz and Vanguard were summarised in Table 6.3. However, the main similarity between the firms was that they could both be categorised as innovative (Rainnie, 1989; 1991a). Vanguard was innovative as it operated in a developing market creating specialised products, while Webboyz was founding a new market with new products, which made it vulnerable to take-over or acquisition by large capital. These similarities and differences help explain how employment relations were managed, the response of employees and why there was an appearance of harmony in these firms.

**In the Beginning**

Webboyz was created at the CEO’s kitchen table in June 1995. The product that launched Webboyz was a web-authoring tool marketed under the brand name ‘CoolCat’. Introduced at a time when there were only about 10,000 web pages in existence on the Internet, the product, which assisted novices to easily design their own web page, became a much sought after commodity. CoolCat was described as “very innovative, very cutting-edge” (MD). Part of the product’s success was attributed to the newness of the web itself, the lack of alternative products geared for both entry level and professional web page designers, and the online selling of the product.

Within three months three other people joined the CEO and sales grew to A$150,000 a month: “it was crazy and just out of control and there was no end in sight because we knew the Internet was growing even faster than this” (CEO). In the first year of operation revenue grew by around 30% a month. In July 1995, the business was incorporated and in September 1995, Webboyz moved out of the CEO’s house and into an office, which barely accommodated the 25 people who worked there by December 1995. In January 1996, Webboyz moved to a much larger office in the Eastern suburbs of Melbourne. In February 1996, when the company delivered the world’s first JAVA applet (a development tool used to animate web pages), 80 people were employed.68 This was the first release of a range of plug-in tools called ‘WebWidgets’ that could be used in conjunction with the CoolCat program.

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68 JAVA is a software programming language developed at Sun Microsystems in 1995. The open, platform-independent, OO nature of JAVA technology means developers can easily integrate software with that running on a range of computers and in other devices. As a programming language JAVA is easier to create and maintain than C or C++, the current mainstay languages for PCs (English, 1998; Maney & Schmit, 1997).
In October 1996, amidst much publicity, Webboyz listed on the ASX becoming the first Australian public Internet software company. Shares opened at 75 cents and rose to A$1.50 before dropping back to trade around 20 cents. Around A$4 million was raised by the listing. The CEO became the majority shareholder with 50 million (68.5%) shares. The CEO described the listing as a “dog” which left the company “in a lot of strife”. The problem stemmed from a lack of experience, knowledge and understanding about what listing implied and would mean for the company. In effect, the public scrutiny and necessity for doing “things more conservatively and conventionally” (CEO) conflicted with the CEO’s view of how he thought he could do business. As he explained:

I went into this thinking that businesses in the 21st century are going to have to do different things and run different ways and I'm not convinced that Rupert Murdoch's way is the only way to successfully run a business.

The result was that “the casual environment disappeared, it became serious and it became quite hard work, which is good for the company in some ways but some of the enthusiasm and the passion died, and it's not the same place it used to be” (CEO). One of the Project Managers expressed a similar sentiment when he explained what happened: “when we listed we had to put in all that crap that you wrap around a public company” (Project Manager 1).

Webboyz creation, rapid growth and public listing with its attendant problems, acted as a unifying feature for those in the firm as well as an inspiration for employees. The Webboyz ‘story’ was important for its effect on how employees saw: a) themselves – they too could be like their CEO who was a normal bloke with an innovative idea, who became a millionaire; and b) their work – at the cutting edge of computing making the Internet accessible to ordinary people. At Webboyz, identity was important to an analysis of agency in the dynamics of the labour process.

‘Black Thursday’ and the Onset of the ‘Months of Darkness’

One hundred and thirty people worked at Webboyz by December 1996, and of those 50 were casual employees. Much of the increase in staff numbers was a result of the WebWidgets development strategy (see later in this chapter). The chaos created at the workplace by this strategy was part of the reason the CEO gave for the need to downsize and retake control of the company. This occurred because the WebWidget strategy led to continuous hiring of new staff to develop new programs and the financial modelling was based upon hiring more programmers to create more products, which would bring in the revenue. As the CEO described:

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97 This listing on the ASX occurred via a ‘backdoor’ listing through a reverse takeover of an existing listed (non-IT related) business.
98 The CEO became eligible to sell his shares 2 years after the ASX listing.
I had days when 12 new people would show up for work and I didn’t know who they were. I hadn’t interviewed them, I hadn’t met them and I didn’t even know their names. And because everyone was so busy these people were left floundering. In the past that had been O.K. The people who were floundering, eventually someone would go up to them and say ‘hey sit down why don’t you do this for a while’ and they’d get into the swing of things, but there were simply too many people and too many new hires for that to work. I had a development team that shot from 10 to 50 people, but the productivity actually slipped. So we were producing less than when I had 10.

The combination of rapid growth and public listing saw the recognition that “the management style we’d used successfully to date just didn’t scale. It would work for 30 and it was quite O.K. for 40 or 50 but as soon as you got to 80 that was it, everything fell apart” (CEO). The ‘months of darkness’ followed the downsizing exercise that occurred on “Black Thursday” (GM), a day in February 1997. On that day all 50 casuals, plus another 30 full-time employees, were ‘let go’. Of the 30 full-timers, 26 had been with the company for less than six weeks.  

Staff did not know that the company was going to downsize and the event itself was quite traumatic. The process on the day was explained by one employee: “…there was an upstairs and a downstairs in this hotel and you walked in the front door and they said ‘you go downstairs and you go upstairs’. So all the people upstairs were in and the others were out” (Employee 2). Only one manager was told about his impending retrenchment and he notified the media. Employees were met with TV cameras and journalists outside the hotel asking ‘how does it feel to lose your job?’ Webboyz media profile meant that the event was widely reported, and the only benefit was that a number of other software companies rang the CEO to say that they would like to employ the retrenched staff. Within the month, 24 of the 30 had “better and higher paying jobs” (CEO). Such a result was indicative of not only the nature of the labour market at this time in this sector, but also the relatively privileged position of Webboyz employees within it. As an innovative firm, others in the industry saw Webboyz as having employed ‘talent’, particularly JAVA programmers, worthy of employing themselves. Such a result was also indicative of the skill shortages in this industry (as discussed in Chapter 5).

After the downsizing exercise, the remaining 50 staff were organised into teams: development, customer service, special projects and management. In terms of software development, the Web-Widgets strategy was discontinued and two teams of programmers were created: one to concentrate on the CoolCat product and the other to focus on e-commerce. In the ‘months of darkness’ that followed, “there was no fun and

99 All employees start out with a three-month probation period with no guarantee of employment at the conclusion of their probation.
100 At no time during interviews was there any mention of what happened to the 50 casual employees who also lost their jobs.
we just worked our arse off for six months, eight months, it turned into nine months before money eventually came in" (Employee 1).

This situation highlighted the relatively precarious position of the firm within the industry, and employees within the firm. At the same time, the fact that many of the current employees had been through tough times together with management made a difference to how they felt about working at Webboyz. The CEO acknowledged this when he argued:

What would I do differently? I don’t know. We’re a great company today because of the mistakes we’ve made and the pain we’ve suffered – this has made us smarter and tougher, and it’s earned us respect and credibility. It’s also pulled us together as a team. If we hadn’t done things the way we did, we wouldn’t be who we are today.

This was echoed by one of the Project Managers who said:

There’s too much pain that has gone into it [building the CoolCat team] to walk away from it and we are just starting to see now that all that effort that we’re putting in is really starting to bloom in different areas.

**Strategic Change**

A turn in the firm’s fortunes grew out of Project Black Crow, which was an internal feasibility study initiated by the CEO late in 1996 aimed at leveraging Webboyz on-line sales, distribution and software locking technology.\(^{101}\) In all A$900,000 was spent on this project, which led to the development of the E-Sell product and a change in Webboyz strategy.

The development of E-Sell was critical to changing Webboyz strategy from focusing solely on software products for individuals to companies.\(^{102}\) When E-Sell was released in May 1997, Webboyz announced, as part of their core function, e-commerce software and solutions for business. This strategic shift acknowledged the speed of change and dynamism of the Internet as well as the opportunities offered by its growth. In addition, this change capitalised on the in-house expertise in Internet e-commerce, gained through a process of trial and error of marketing and distributing their own software products on-line.

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\(^{101}\) Software locking technology is a time-out feature in software that forces customers to pay for downloaded software if they try to continue using it after their free trial period has expired. This technology also enables the detection of users who try to download another free version of the software or who alter their computers' system clock to increase their free trial period.

\(^{102}\) E-Sell is a JAVA based web commerce system that provides for the protection of content and sale of intellectual property over the Internet on a pay-per-view basis. Potential customers range from students, interest groups, small business people to large corporates who are trying to sell information be it investment information, pictures, videos, songs, books, reports, reviews, games etc over the Internet (CEO). E-Sell is sold on a sliding scale: smaller developers can purchase the software for US$200 and then pay Webboyz a 30% commission on all their sales, while large companies can pay a single digit commission on processed sales after paying more for the software. As a JAVA based software system, E-Sell works with a range of computers connected to the Internet therefore allowing web surfers to buy content without needing to download any special software. In addition E-Sell can cope with transactions as small as 1 cent.

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The two core components of the Webboyz strategy now included: developing web-authoring tool software and developing and delivering e-commerce software and solutions. These components were aimed at different market segments, as the MD explained: “we sell our products at the moment to individuals for a couple of hundred bucks. We need to move into corporate sales and sell products and services for millions of dollars”. Further, their shift to e-commerce also took advantage of the firm having 600,000 registered users – webmasters using Webboyz authoring tool to make their own web pages – many with web pages that had the potential to make money and who would, hopefully, stay loyal to the brand by purchasing E-Sell.

However, it took until April 1999 to sign the first contract to develop and deliver an e-commerce solution for a large Australian company. Pursuing this line of business (selling e-commerce solutions to large corporations) meant that Webboyz recruited some new senior management personnel (‘suits’ as they were colloquially known), who brought a modicum of professionalism to the firm. The MD explained his recent appointment in the following terms:

The reason I’m here has to do with the perception of the company from outside because this is a company, as you know, that has had a roller coaster ride, a chequered history and is a bunch of – or seen from outside – as a bunch of kids running around [playing grown ups? – RB] That’s right and that doesn’t help you make sales to large corporates.

**Financial Performance**

Despite accolades from the on-line community for CoolCat and a number of world firsts in terms of JAVA software development, the financial performance of the company has been patchy. The CEO’s explanation for such a poor financial performance was “we’re in a market that’s emerging where no one’s making a profit”. Webboyz’ first operating profit after tax since the listing was only announced for 1998–9 financial year. Table 9.1 shows the financial performance for Webboyz to 30 June 2000.

<table>
<thead>
<tr>
<th>Year to 30 June</th>
<th>Total Revenue (A$ million)</th>
<th>Net Profit [Loss] After Tax (A$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>3.6</td>
<td>[4.5]</td>
</tr>
<tr>
<td>1998</td>
<td>5.1</td>
<td>[2.9]</td>
</tr>
<tr>
<td>1999</td>
<td>9.6</td>
<td>1.5</td>
</tr>
<tr>
<td>2000</td>
<td>57.7</td>
<td>[2.99]</td>
</tr>
</tbody>
</table>


The change that resulted at Webboyz had implications for location, layout and ‘vibe’ of the workplace. All staff members were located on the 25th floor of a central Melbourne office block. The office was organised so that management (the ‘suits’) and administration occupied one side of the floor space while
the development and customer support teams were on the other side. The floor was divided by the building’s lift shafts and a large open area where the pool table, pinball machine, couches, magazines and snack dispensers were located. The differences between the two sides were quite stark. The side with the ‘suits’ was Webboyz’ public face and from where the strategy of e-commerce services to big business was delivered; it therefore had a ‘corporate’ look and feel (glass walled offices, flowers in reception, tidy desks and a quiet work environment). However, on the other side, where the software products were developed, there were hastily thrown up partitions, piles of junk in corners, posters and pages from magazines stuck to walls, messy desks, loud music etc. As the GM said of that side of the building, “it looks like we moved in last week when we’ve been here for a year and a half you know!” The difference between the two sides was acknowledged and accepted. As the MD colloquially put it: “I don’t have to drink the same brand of beer – I do – but, you know, all these sorts of things are important”.

Keeping the ‘Old’ Webboyz Culture

The CEO explained that a deliberate attempt had been made to retain the culture of the ‘old’ Webboyz by emphasising the differences between the two sides of the building:

I think we’ve got a structure now where the culture of the old Webboyz, if you like, will be preserved, but it will be put in a box and the gaps now between senior management and what those people [developers] do, they’ll be filled in, but they’ll be filled in, in a way that basically frees those people up to do the things that they really like to do.

The ‘old’ Webboyz culture (of ‘playing grown-ups’) was a target for much adverse mainstream print media attention over the years. Up until early 1999, when the company’s share price started to rise, reports often focussed on the CEO’s age, his lack of corporate pretensions (i.e.: that he never wore a suit) and Porsche ownership, as well as the ‘slacker’ image portrayed by the (fluctuating number of) staff. The CEO commented bitterly, “it’s very easy for the media to link the people on roller blades skating through reception with poor performance of the stock”.

However, while these reports played on the conservative habits of Australian share investors they did little to dampen the enthusiasm of potential employees. For example, when explaining why he worked at Webboyz, one of the Customer Support team said:

I found out about Webboyz because I read a lot of computer magazines, news groups and so on. In the papers I read about how quickly they made money and all that kind of stuff and how they were going downhill and pretty much bankrupt and out of here. That type of thing. But I knew about the environment – that it was so relaxed that it was so flexible and the people were here to have fun as well as get work done instead of ‘let’s just make money to have fun outside somewhere else’. So I was really enthusiastic when I heard that the job I got was here. I thought ‘Wow!’ I really didn’t know that I was coming here to the very last minute, so it was really great (Employee 4).

Another employee told the following story about when he started with Webboyz:
When I came for my job interview they had to kick everyone out of the room because they were playing computer games and eating pizza. When the personnel lady rang through to say that I got the job she started screaming into the phone because a wall collapsed on her because people were playing next door. It was just bedlam when I started working here. There were always objects flying through the air, you had to cover your eyes! (Employee 6).

However he went on to say that things had changed and that “the company has got a lot more sort of professional” (Employee 6). By that he meant differences between management and non-management were obvious, there was a greater emphasis on company performance and “now there’s hundreds of forms to fill out” when requests were made! Another employee agreed that it had become more formal or “suity”, which he argued, “can undermine a lot of the creativity and stuff that goes on” (Employee 2).

As was argued in Chapter 5, and then reiterated in the case study of Vanguard, in terms of understanding small firm employment relations the structures within which the small firm operates, as well as the impact of this on, and the effect of, managerial choice (Hyman, 1987; Whittington, 1988) must be considered. In a similar fashion to that which has occurred at Vanguard, at Webboyz the firm’s history or trajectory of development, and the structure that has resulted, form part of the structure within which managerial and employee action takes place.

Products and their Markets

The type of products developed at Webboyz, the impetus for the product and the size of the customer base were all quite different to the situation at Vanguard. At Webboyz, the Internet inspired the creation, continual development and subsequent sales and distribution of the majority of their products. A number of distribution, co-marketing and partnership deals with a range of overseas companies (including Netscape, Intel, MindSpring and Hewlett Packard) were signed and 97% of all Webboyz web-authoring products were exported to over 120 countries. This ‘exporting’ occurred by customers downloading the software product, rather than through the more traditional process of physically transporting boxes from Australia. In fact, only since October 1999 had any shrink-wrapped version of Webboyz software (in this instance ‘Trade in a Trice’) been available for purchase through Australian retail outlets.103

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103 ‘Trade in a Trice’ is a complete software package that allows firms to build a website in less than 50 minutes to sell products securely over the Internet. The program incorporates a range of e-commerce features that allows firms to take orders and credit card details over the Internet, authorise and process credit card details automatically and generate email sales receipts and shipping notices.
CoolCat

Although Webboyz had two components to their strategy, CoolCat was the main focus of the developers’ attention when the research was conducted. As Table 9.2 shows, a range of products existed in the CoolCat family, including six versions of CoolCat Expert plus CoolCat Wiz and CoolCat Kid. Each version of the CoolCat Expert product built upon the previous by incorporating new features suggested by users and developed by the CoolCat team.

Table 9.2: Versions of CoolCat

<table>
<thead>
<tr>
<th>Version</th>
<th>Release Date</th>
<th>Cost*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoolCat</td>
<td>June 1995</td>
<td></td>
</tr>
<tr>
<td>CoolCat for Windows 95</td>
<td>May 1996</td>
<td></td>
</tr>
<tr>
<td>CoolCat Expert Ver. 3.0 for Windows 95</td>
<td>October 1996</td>
<td>US$99</td>
</tr>
<tr>
<td>CoolCat Quick</td>
<td>February 1997</td>
<td></td>
</tr>
<tr>
<td>CoolCat Quick (Japanese Version)</td>
<td>May 1997</td>
<td></td>
</tr>
<tr>
<td>CoolCat Expert Ver. 4.0</td>
<td>August 1997</td>
<td>US$129.95 (Upgrades from Ver. 1-3 US$50)</td>
</tr>
<tr>
<td>CoolCat Expert Ver. 4.5</td>
<td>November 1997</td>
<td></td>
</tr>
<tr>
<td>CoolCat Expert Ver. 5.0</td>
<td>June 1998</td>
<td>US$199.95</td>
</tr>
<tr>
<td>CoolCat Expert Ver. 5.0 (Japanese Version)</td>
<td>February 1999</td>
<td></td>
</tr>
<tr>
<td>CoolCat Expert Ver. 5.5</td>
<td>February 1999</td>
<td></td>
</tr>
<tr>
<td>CoolCat Kid</td>
<td>March 1999</td>
<td>US$39.95</td>
</tr>
<tr>
<td>CoolCat Wiz</td>
<td>September 1999</td>
<td>US$69.95</td>
</tr>
</tbody>
</table>
| CoolCat Expert Ver. 6.0                      | May 2000     | US$129.95 (release special US$99.95 (Upgrades from Ver. 1-4 US$49.95 or from Ver. 5.5 US$29.95)

*Cost of products not always available, Prices in US$ as they were not sold in A$  

Since 1996, CoolCat Expert had consistently been the most popularly downloaded web-authoring tool in the world. However, following the release of CoolCat Expert Ver. 5.0 feedback from traditional users (those web designers and webmasters who had ‘grown-up’ with CoolCat Expert) suggested that the program had become unwieldy due to the addition of extra dialogs and functions to assist newcomers to the program. As a result, a re-tooling exercise was undertaken and the old entry level product, CoolCat Quick, was adapted into two products: CoolCat Kid, an entry level educational product for children and CoolCat Wiz, a more sophisticated entry level educational product for the adult CoolCat Quick users.

There were two main advantages of CoolCat Expert over its rivals (see Table 9.3). The first was it required no knowledge of HTML (Hyper Text Mark-up Language) or JAVA code and was simple to use.
The second advantage was it could be loaded onto computers running a range of different programs as it was not tied to any particular company's products. In addition, Webboyz offered the following to all registered users: free and unlimited 24-hour customer support (email queries are responded to within 24 hours of receipt); chat rooms to discuss the product and share tips, advice etc with each other and the CoolCat developers and support staff; an on-line newsletter; and free upgrades of various product features. Furthermore, user's questions informed the FAQ (frequently asked questions) section on Webboyz' home page, which automatically offered solutions to common problems faced by users. The effect of this was to integrate the user community into the continuing development of the product, which ensured that there was no discrepancy between the product and user needs. Further, this type of development meant that very little needed spending on marketing, as direct marketing via the email addresses of the 600,000 registered CoolCat users was considered effective.

<table>
<thead>
<tr>
<th>Company</th>
<th>Product Name</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft</td>
<td>Frontpage</td>
<td>A$169</td>
</tr>
<tr>
<td>Symantec</td>
<td>Café</td>
<td>A$199</td>
</tr>
<tr>
<td>Adobe</td>
<td>PageMill</td>
<td>A$199</td>
</tr>
<tr>
<td>Micrografx</td>
<td>QuickSilver</td>
<td>Used in conjunction with ABC Graphic's suite (A$595)</td>
</tr>
<tr>
<td>Macromedia</td>
<td>Backstage Design Plus</td>
<td>A$189</td>
</tr>
<tr>
<td>East Coast Software</td>
<td>HitMeLive</td>
<td>A$69.95</td>
</tr>
</tbody>
</table>


The Development Process

As CoolCat represented a primary software product (packaged software created by a software firm for sale to the market) then at the workplace the software development process resembled the ad hoc process of 'hacking'. What this meant was that software products were developed through a creative process, rather than rigorous pre-defined 'waterfall' process, of the type that could be used for developing a secondary software product such as Vanguard's Retail Banking system. The process of creating this type of software product consisted of writing code then 'hacking' at it to remove bugs (see discussion in Chapter 5). At Webboyz the product development occurred through an iterative process of testing on the Internet where a core group of users were sent beta versions of the software to test and feedback suggestions to the developers for improvements and modifications to increase functionality. This product development process differed from that employed at Vanguard, as there were no pre-defined specifications which drove, and then acted as a form of direct control, over the process. However, although employees (in a team) had technical autonomy to create the product they thought would work, the firm's commitment to incorporating user's suggestions was the point at which direct control over the software development process occurred.
This ‘hacking’ software development process could be seen most clearly with the creation of the WebWidgets, which were small, individual programs that plugged into the core CoolCat program (Table 9.4 outlines some of the WebWidgets that have been marketed). The CEO’s initial strategy for the WebWidgets was ‘to create teams of about 10 people – enough to maintain the creativity necessary to churn out around 500–1,000 small programs a year’. In his words: “the idea was to take a programmer, sit them down in front of a computer and say ‘come up with a product and then we’ll sell it throughout our Internet distribution channel’”. It was envisaged that each small program would consist of around 5,000–10,000 lines of JAVA code and take 1–2 weeks to write. The CEO hoped to release a minimum of 20 new WebWidgets a month and that each would achieve US$50,000 in sales.

Table 9.4: Some of the WebWidgets

<table>
<thead>
<tr>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animator</td>
<td>Animation and sound for still pictures incorporated into web pages</td>
</tr>
<tr>
<td>BorderRaider</td>
<td>Creation of multiple resizeable display areas for use in web page design</td>
</tr>
<tr>
<td>EyeBall</td>
<td>Editing utility to create hot linked ‘hot spots’ on graphic images in web pages</td>
</tr>
<tr>
<td>Blink</td>
<td>Allows text to be displayed like a ticker tape on the web browser’s status line</td>
</tr>
<tr>
<td>ButtonDown</td>
<td>Allows users to incorporate 3D buttons into web pages</td>
</tr>
<tr>
<td>ListKeeper</td>
<td>Allows an unlimited number of hyperlinks to be stored in drop-down or scrollable menus</td>
</tr>
<tr>
<td>Guru</td>
<td>Animates text strings</td>
</tr>
<tr>
<td>Dummy</td>
<td>A version of CoolCat for dummies. Later became ‘CoolCat Quick’</td>
</tr>
<tr>
<td>Broadway</td>
<td>Allows users to control how text scrolls on web pages</td>
</tr>
<tr>
<td>PicWiz</td>
<td>Enhances still graphics without needing to animate a series of frames</td>
</tr>
<tr>
<td>RatTrap</td>
<td>Adds interactivity to web pages by playing sound and changing pictures or text</td>
</tr>
<tr>
<td>RapidFire</td>
<td>Allows rapid transmission of a file by FTP protocol</td>
</tr>
<tr>
<td>RamRaider</td>
<td>Continual radial facilities to make or maintain connections with www or FTP sites</td>
</tr>
<tr>
<td>Buster</td>
<td>Minimises the size of the web site files</td>
</tr>
</tbody>
</table>

The first WebWidget was released in February 1996 costing A$2,000 to create and 3–4 weeks to write in JAVA code. This WebWidget animated still pictures that were incorporated into web pages and sold for US$50 (later versions sold for US$99.95 or upgrades cost users US$29.95). The programmer who initially had the idea for this WebWidget was told, “go for it and see what happens” after he floated the idea with the CEO. In other words, he was not given any guidance as to the requirements for the program or even the content of the program. In addition, the programmer had to learn JAVA to develop the program, which was why it took 3–4 weeks to write, rather than 1–2 as initially envisaged. Staff suggestions for WebWidgets were rewarded with an age related electronic ‘toy’ (such as a Playstation or
Gameboy). Users who made suggestions via the Internet were rewarded with a t-shirt, acknowledgement on the final product and a free copy of the program.

The WebWidget strategy was discontinued when Webboyz downsized, however users and staff still made suggestions for new WebWidgets. Any new WebWidgets were now incorporated into the CoolCat product or distributed free to registered users, rather than sold as individual programs. As one of the Project Managers explained:

If any of the guys has a good idea basically we let them do it if they haven’t got anything else to do. A good example is one of the guys wanted to do some sort of graphics orientated program and he’s got these mathematical algorithms that generate random organic tileable backgrounds. That has been turned into a product that we’ve said we’ll run with and we’ve wrapped another product around it.

It must be noted that developers were only allowed free rein to pursue ideas when management could see some commercial opportunity from allowing them to do so. This became clear as the Project Manager went on to describe:

All the email addresses we collect from the distribution of this product we use for direct marketing to sell our other products. So it helps us in the end because we can commercialise those ideas that come out of our development team...all with no money spent at all, apart from the developer’s time.

WebWidgets were used by Webboyz management as a low cost means of forging relationships with commercial partners, users and employees. Like that which occurred at Vanguard, the development of these new products reaped two benefits for management. The first was that they opened up new commercial opportunities for the firm, whilst they also motivated employees. In addition, the rewards given to employees by management for the suggestions served to reinforce their identity: kids playing with electronic toys, as well as the Webboyz culture: kids playing.

At Webboyz, as at Vanguard, the choice of strategy was influenced by the type of product being developed, the timing in the product’s development lifecycle as well as the type of workers employed to develop the product. The above discussion of the strategy used to control the development of WebWidgets highlighted Storey’s (1985) levels of control. Employees had autonomy to come up with ideas for new products, however control was exerted by the need for the product to be commercially viable. Rather than Friedman’s (1977; 1984) ‘responsible autonomy’ Webboyz employees had technical autonomy, as their skills dictated whether they could develop a product or not. At the same time, however, the development of these products also gave employees an opportunity to extend their skills: a benefit for themselves as well as the organisation.

Management’s choice of strategy was also influenced by the firm’s size. This could be seen, for example, in the employees’ confidence that problems could be sorted out if and when they arose without recourse to
any outside intervention. Many of the employees thought that working in a big firm would not be the same; in particular they would not enjoy the same level of autonomy they were given at Webboyz. As one suggested, "If there are 1,000 employees doing a job, I don’t think you’d get the same sort of satisfaction. In a small company what you do has a direct impact" (Employee 3). This employee went on to comment that in relation to his work on the CoolCat team:

It is almost like I know what I’m supposed to do and I know what he wants me to do and usually it is only when something comes up that we get to formally discuss it. It is such a small working team, that we just discuss it from day to day what’s going on and we are all aware of it, so we just sort of do it (Employee 3).

As has been argued earlier, the effectiveness of any managerial strategy depended on how appropriate it was for the type of employees within the firm. Like the Microsoft example in Chapter 5, and the Vanguard case study, there were a number of elements to the strategy, which related to actual management practices as well as the nature of the people employed to develop the products. The next section of the case study, therefore, focuses in more detail on the employees at Webboyz and the employment relations policies at the workplace.

Webboyz People

In terms of size and on a breakdown of staff, as Table 9.5 shows, Webboyz differed on a range of characteristics to the other firms surveyed (as reported in Chapter 7).

Table 9.5: Workforce Characteristics Compared

<table>
<thead>
<tr>
<th></th>
<th>Webboyz</th>
<th>Sample Median*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workplace size (Total no. employed)</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Working proprietors, partners, directors</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Other managers</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Employees</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td>No. Independent contractors</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No. Full-time employees</td>
<td>22</td>
<td>12</td>
</tr>
<tr>
<td>No. Part-time employees</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>No. Casual employees</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No. Male employees</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>No. Female employees</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

*N = 97
The key difference between Webboyz and the rest of the firms surveyed was that unlike the majority of other firms, Webboyz was a publicly listed company. The largest shareholder of the company was the CEO (and founder) with 68.5% of shares, while members of management and Directors made up the five next largest owners holding between 0.5% and 1.4% of shares (Annual Report 1998). However, like the majority of workplaces surveyed, Webboyz operated from a single site and was engaged in software development for Internet applications.

In the previous 18 months, a large number of staff had resigned (in excess of 20 people) while 8 new staff had been recruited (a mix of customer support, management and software developers). This turnover was quite high (compared to the industry average of around 25% reported in Chapter 5) although some of it was said to be a continuing ‘fall-out’ of the downsizing and change of strategy at Webboyz. Like Vanguard and the majority of firms respondent to the surveys (as reported in Chapter 7), independent contractors were only used for specialist jobs, such as mounting a marketing campaign; they were not used for software development. All new (software development and customer support) appointments began with a three month probation period following which, if they and the CEO agree on their continuance, they were converted to permanent status.

Labour costs, as a proportion of total costs, were low at Webboyz (45%) in comparison to the average across all firms (57%). Despite the fact that human capital was needed to create the Webboyz products, expensive equipment also needed to be maintained. In addition, the public ownership of the firm also implied expensive corporate activities, such as spending on ‘suits’, offices, brochures, and ASX compliance, for example.

On a range of other workforce characteristics, Webboyz was very similar to the rest of firms who responded to the surveys. For example, like the overwhelming majority of firms (as reported in Chapter 7) the majority of their employees at Webboyz were described as ‘skilled’ and ‘software developers’. At Webboyz all programmers had some form of post-secondary qualification in computing or technology, although, crucially, for many of them this was their first job as they were hired out of university. As the CEO explained about recruiting developers:

We hire people fresh out of Uni so they’ve just graduated, looking for a job and it’s quite easy to get good talent because we’ll pick the people with the pierced eyebrows and the crazy hair who really don’t want to wear a suit and don’t want to work for Telstra no matter what.

This comment makes clear that the issue of hiring from university was not so much an issue about qualifications but instead about how ‘hungry’ potential employees were for a ‘good job’. This was elaborated when the CEO said:

When we recruit people what we look for is not so much what brains they’ve got or how smart they are or anything like that, it’s how passionate are they about this area. Is this something that means more to them than just a job? Is this really where they want their life to be and are they smart
enough to cope if we step back and say 'here's a broad picture of what we want you to do go away and fill in the details yourself'? The lack of importance ascribed to qualifications may have reflected the fact that neither the CEO nor the Project Manager of the development team had any formal software programming qualifications.\textsuperscript{104} Despite this, employees held their programming skills in high regard.

In a similar fashion to Vanguard, for practical reasons the rate of change in this industry meant that formal qualifications did not necessarily prepare individuals for the work they ended up doing. This was particularly the situation with programming for the Internet. When one developer was asked whether what he had learned at University was useful he replied:

Day-to-day you learn so much in the job and that is what you come to depend upon. Whereas at Uni, you have to cover so many different fields even though it's computing: like databases, programming and information systems. Here we need only one of those fields (Employee 3).

At the same time he also admitted that he only applied to work at Webboyz because of the computer language he had specifically studied in his university degree. Another developer put it more bluntly:

In fact for the knowledge we want to have for the job, you can't easily get that from university. You need to read things everyday - and we enjoy it....We read those things anyway so we train ourselves but we don't really go to get a Masters or something like that because I can't find any reason to do it (Employee 5).

Managing the Webboyz People

As was argued in Chapter 5, qualifications were necessary but not sufficient for working in this industry or in this particular firm. The comments from the CEO revealed that 'passion' was an important employee characteristic as was the ability to 'fit in' (like the Vanguard employees and the results, reported in Chapter 7, dealing with issues of concern to management). Therefore, in terms of the nature of employees, the difference between Vanguard and Webboyz employees was that the former sought experience, while the latter sought excitement and this had an impact upon employees' perceptions of their mobility. For example, when asked about their intention to stay, employees' answers indicated that although they enjoyed working at Webboyz, this was contingent upon the type of work they were currently doing. As one employee commented, "If I feel that I've gotten to a point where it becomes monotonous, where it's becoming like I'm not doing anything and it doesn't seem worthwhile for me to be here, then perhaps it's time to move on" (Employee 4). One of the Project Managers made a similar comment about staying but in the context of the environment:

\textsuperscript{104} The CEO held a Bachelor of Commerce degree and had previously worked in an accounting role in a Melbourne restaurant, while the Project Manager of the development team had trained as a graphic designer and architect.
I would want to stay here as long as it remained a similar style of environment even if the business changed around us but we were still able to operate in a similar way, or in a way that I thought was still beneficial and not constrained and all those sort of things.

Such an attitude was behind the reasons why a number of people had left the firm in recent times. From the exit interviews conducted by the Finance Manager (whose role also included payroll and other HR duties) he reported:

They seemed to think that their role just wasn’t heading anywhere, they weren’t being challenged and the offers that they got had chances that they would improve in their skills and that sort of thing….It was more that issue than the salary issue (Finance Manager).

The high labour turnover at Webboyz supported the argument that commitment was to intrinsically interesting and challenging work rather than the organisation.

There was a strong feeling that the nature of the software developers and the work they were doing meant a formal management strategy was unnecessary.

...when it comes down to it, the guys own their job. They are accountable for what they do, and they can directly see a correlation between what they are actually creating – things that people are using all around the world….That’s why you rock up to work in shorts and you start work when you want to, within reason. The guys just work until they get their stuff done. If they’re stuffing around I might say ‘hey listen you’ve been stuffing around’ or I won’t even say that, I’ll just say ‘get this thing done’. So they just lift it up a few notches or whatever (Project Manager 1).

The response of one of the employees to this manager’s style was interesting and perhaps indicative of the lack of experience amongst many of these software developers. As the employee said:

This is really my first job and I’ve never really had a manager….He certainly provides direction and in that sense he’s got to be a good manager. He’s completely approachable and I’m not sure that all managers would be. I’d guess a lot of them are like teachers or principals from school (Employee 6).

Management acknowledged that structure could be an anathema to developing software (in particular to getting the long hours that went in when deadlines loomed) after the situation where attempts were made (in the CEO’s absence by two new managers) to ‘corporatise’ the whole floor and make cost savings. As the CEO described the situation:

[they] looked at things like, ‘well we’ve got 4 water coolers in the office, we probably only need 2 so let’s just get rid of them, because we’ll probably save 20 bucks a month’. So they saved 20 bucks a month but the programmers went, ‘fine I’ll just do a 40 hour week then you don’t get me for 80 hours’ for something that simple.
At Webboyz, the effect of the history, culture, type of products and their impact on the development and accessibility of the Internet were of particular importance to how employees felt about their jobs. Webboyz employees were involved with their jobs. As one employee put it:

Dealing with computers, you get absorbed and obsessed so you have problems to deal with and things to make and if you’re on a roll you just keep going and then you forget you’ve got an appointment to do something else and you’ve got to arrange your postal redirection because you’ve just moved or you’ve got to you know, just things in your life that go by the way-side (Employee 2).

This sentiment was echoed by one of the Project Managers who said:

This job is our life, you know. It’s a very personal commitment to what we do. Especially from a developer’s point of view, the product’s success is directly attributable to what you put into it and it’s like a baby, you know. It’s like ‘this is our baby and we’ve been working for three years and we’d kill ourselves to get it done’. And all of our girlfriends or ex-girlfriends or ex-communicated girlfriends are all in chorus saying ‘Webboyz just screws these guys lives because they live it’, and it is, that is the style.

In terms of management practices, the excitement generated by the technology and task the employee was occupied with, meant that management could give employees autonomy, as they knew they would also be self-directing. This was clear when the manager of the development team described his role as ‘herding cats’, while the management strategy was “a very chaotic, amorphous sort of development strategy I suppose. You pretty much just got to say ‘yeah whatever’ and try and just keep a lid on everything” (Project Manager 1).

**Employment Relations Policies**

As Webboyz was a public company, a corporate plan existed in a written form. However this plan only served a public function rather than a guide to decision-making and action within the firm. The CEO’s justification for this was that “it’s very difficult to do the strategic things and have mission statements and clearly communicate vision to your employees when you don’t know what it is because you don’t know what business you’ll be in, in six months time.” This justification was echoed by one of the Project Managers when he was discussing planning in the development area.

You only write them when someone requires one and it’s always different to the last one because we just have to change all the time because we are a small company and the market fluctuates and the technology fluctuates so quickly that as soon as you put something in stone it’s obsolete.
In terms of employment relations policies, the Finance Manager explained that those for performance, classification and promotion used to exist. As he said: "We had the documentation here but I don’t think it was really followed all that much because things changed and we'd just had a change of emphasis." Therefore no formal procedure was in place for recruitment and selection, and there was no hierarchy of promotions for positions in the organisation. Training was only offered if it related to the work itself or management development (Hendry et al., 1995). Unlike many workplaces, however, specific policies for Occupational Health and Safety, Racial/Sexual Harassment, Affirmative Action and Equal Employment Opportunity were said to exist at Webboyz, but as the Finance Manager explained, "we have all that sort of documentation here but I don’t think a lot are aware of it".

In terms of other policies, all employees were on individual contracts with the standard redundancy (four weeks in lieu of notice), sick leave (five days every 12 months), long service leave (six months after 10 years service) and annual leave (four weeks every 12 months) arrangements. Employees were able to vary their annual leave entitlement: they could either take four weeks per year plus all public holidays or five weeks and work through public holidays. Despite flexible hours worked by employees there was an expectation that sick leave had to be used. Although the Finance Manager did comment, "they do take sick leave, but not often. These guys are usually here everyday. They're part of the furniture."

Flexible hours, in addition to allowing those on the other side of the floor to wear what ever they liked, was a critical element in the attempt to retain the 'old' culture of risk taking and innovation in software development. It was put in the following way by one of the software developers:

We don't have to dress up. Maybe it is a part of Webboyz culture that we don't have to dress up and, I get here something like 3 o'clock because I sleep in. I don't feel ashamed about that, I tell everyone because last Friday I worked until 12. Let's say last week, in fact, I stayed here until 2 o'clock in the morning working, seriously, working, because I enjoy it. I can't go back home and sleep. There is nothing on TV so I might as well work. Flexible hours are really important (Employee 5).

Another developer thought out loud "if you clocked in and clocked out – the end result probably wouldn't be as good and you'd probably develop a lot slower. I'm not sure how happy I'd be in that sort of situation" (Employee 2). At the same time, however, some employees also saw the flexibility as a requirement of the job. As one employee said when asked about the extra hours he often worked:

Basically there is not much else we can do. Like when we released CoolCat 4.0 it was easily 80 hours for a couple of weeks and that was because we had to release the product. So what else can you do? Give up or write a product I suppose (Employee 3).

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105 The Finance Manager's definition of public holidays excluded the days at Christmas, New Year and Easter.
Consistent with many workplaces in this industry, there was no policy covering working overtime, in fact management expected that employees would ‘work back occasionally’. The CEO made this clear when he explained, “staff are left to do their own thing and gently steered from time to time. Around deadline time, this changes – we get the whip out and start cracking it, and the company becomes a different place”. Storey’s (1985) levels of control were apparent in this statement as employees were given technical autonomy to get on with creating a product but direct control was exercised at the same time through the setting and enforcing of deadlines for product releases.

Salaries

Management and employees recognised that salaries at Webboyz were not as high as could be expected in other software companies. On average, the salaries for developers were around A$45,000, which was higher than the salary for programmers at Vanguard. However, the youth and inexperience of many employees meant that this was not really an issue for them. As one said about his pay: “I’m not complaining because I am only 23 years old” (Employee 3).

Pay increases were linked to annual performance appraisals, although in reality the appraisals occurred infrequently and few employees could clearly recall when their last appraisal had been conducted. Even the Finance Manager, whose role also included payroll and personnel, had a hazy memory of the last appraisal musing that, “I don’t think we’ve had an appraisal for quite some time”. One of the Project Managers was more forthcoming when asked about the appraisals: 

We haven’t really followed it up too much recently because we haven’t had the money. They were due for one [performance appraisal] about four months ago and we put it off because at the time we didn’t have the ability to give a pay rise in tandem with that. They were due for a pay rise and so we just sort of deferred the whole thing so that...no one really asked up about it. I mean it was just a cash flow problem at the time.

This ‘cash flow problem’ also had implications for the staff development and training that was supposed to result from the performance appraisals. For example, an employee recalled that in one of his appraisals there had been a gap identified between what he could do and what he was meant to do in his job, however no training had been offered. In fact, he went on to say that he thought that most forms of training would be unnecessary as “I think that everyone here in development has the skills enough to be

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106 In Australia average starting salaries for graduate programmers/analysts are around A$40,000, however salaries rise rapidly for individuals with 12–18 months experience. The 2000 Australian Computer Society/APESMA remuneration survey shows that the average package for a Programmer/Analyst is A$65,436, and the average package for all IT professionals is A$90,198.
able to pick up anything new” (Employee 1). Management was clear about their response to requests from employees for assistance with gaining extra qualifications:

I don’t think at this stage we’d pay for degrees and courses that go over a number of years because they cost a substantial amount of money. They would definitely have to show a commitment to the company for one, prior to us undertaking that obligation. They’d also have to show how it relates to their role, and what we’re going to get out of it (Finance Manager).

Employees were prepared to trade pay against the type of work they did and the environment in which they worked. As one pointed out: “Obviously everyone would like to be paid a lot more, but in terms of what I get, like in terms of the balance, it’s just perfect” (Employee 4). Another employee acknowledged this when he said: “I think I could be getting paid more but there’s a lot of trade-offs as well. I feel like there’s a team and if we can work together we can do a lot of cool stuff” (Employee 2). One employee said he had turned down a number of higher paying jobs while at Webboyz due to “the level of control and input that I have into technical things here and the effect they have across the Internet” (Employee 1). These trade-offs, which employees rationalised, were recognised by the MD when he argued that “many people aren’t paid as well as they would expect to be in an open market, they trade that off against some of the advantages of living in a freewheeling, cutting-edge environment and so on”.

The focus on the technical aspects and personal opportunities provided by the job (experience, freedom from a dress code, flexible hours, access to technology) meant that employees were both unaware of any idea of exploitation, and actively engaged in the legitimisation of the labour process (Burawoy, 1979). For example, one of the Customer Support staff could not see the irony in his story of how he came in one weekend to answer customer emails as part of his team’s competition to see who could get the most done. His reward for winning was a day off work!

**Becoming Shareholders**

When Webboyz listed on the ASX, employees were invited to become shareholders with no more than 10% of shares allocated to the Employee Share Ownership Plan (ESOP). All full-time, permanent part-time employees and directors (excluding the CEO) of the company and any of its controlled entities were invited to join the ESOP. The first invitation to employees to join the ESOP was issued in May 1997.

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107 Boswell and Boudreau (2000) conclude that individual development (such as identifying training needs) in the performance appraisal process has a direct influence on employee attitudes, which in turn have implications for turnover, absenteeism and organisational performance. However in this case the quote is indicative of employees’ perceptions of their value and mobility brought on by conditions in the labour market, rather than through efforts of the firm.

108 A 1998 survey by KPMG of 750 Australian companies tendered to the House of Representatives ESOP inquiry revealed that 25% of telecommunications and/or IT companies had share plans (Nelson, 2000: 21).
and the second in February 1998. In both situations, employees had one week to respond to the invitation to subscribe for the number of shares specified by that invitation. If employees decided to take up their invitation then the company provided a loan to the employee covering the total issue price of the shares (interest and any other duty attracted by the loan were to be paid by the employee at the anniversary of the initiation invitation). Shares were issued to employees at 20 cents and the vesting period was cumulative as Table 9.6 shows.

Table 9.6: Vesting Period for the Webboyz ESOP

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<tr>
<th>Proportion of Shares Issued</th>
<th>Vesting period</th>
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<tbody>
<tr>
<td>For 10% of the shares</td>
<td>1 year</td>
</tr>
<tr>
<td>For 15% of the shares</td>
<td>2 years</td>
</tr>
<tr>
<td>For 25% of the shares</td>
<td>3 years</td>
</tr>
<tr>
<td>For 25% of the shares</td>
<td>4 years</td>
</tr>
<tr>
<td>For 25% of the shares</td>
<td>5 years</td>
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For example, if an employee was issued shares on February 25, 1998 then they were eligible to sell 10% of those shares on February 25, 1999. Alternatively, the employee could wait for four years when they would be eligible to sell 75%. Every time the employee disposed of part of their allocation they had to repay a proportionate amount of the loan. However, if the share price, at the time of disposal, was less than the 20 cent issue price then the company carried the loss. In addition, if an employee was to voluntarily leave the company at any time then they had to sell their shares and repay the loan (including interest) to the company.

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106 Every time the company issues shares to the ESOP it must lodge a new prospectus with the ASX. This process is very expensive and is one reason why the company has only twice issued shares to the plan.

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Part of the rationale for the ESOP was to improve employees’ potential remuneration without increasing their pay: “If the share price moves 20 cents north suddenly they’re all rich. The actual annual salary becomes much less of an issue” (CEO). The amount of shares allocated to employees “reflects their contribution to the company” (Finance Manager) and therefore two employees doing the same job and being paid the same salaries could have different share allocations. However, shares had not been allocated to the plan since February 1998 and therefore employees who had joined since then have never been invited to join the ESOP.

The ability to retain key employees was also an issue of concern for management. The ESOP was a way of attempting to tie some key employees to the company for a period of time. The GM explained the purpose of the ESOP as “to keep people within the company and give them a stake in the value of the business going forward”. Although the employees interviewed were aware of the current share price, their share ownership was simply not an issue. As one of the Project Managers suggested: “in the back of their mind they probably think ‘well yeah, if Webboyz kicks then we could all be reasonably wealthy’... But I think that really, when it comes down to it, the guys own their job”.

Using an ESOP was consistent with a management style of paternalism (Goss, 1991a), being about ownership. However, at Webboyz, share ownership was not a corporate governance issue or used as a way of involving employees in decision-making as suggested by Goss (1991a). The GM explained that involvement in decision-making would probably come from how important people were considered to be to the firm: “as a result of that [their importance] they’ll generally have a say anyway, but it won’t be based on their shareholding”.

Communication

Although the above quote indicated that employees ‘would have a say’, quite what forum this would occur within was not made clear. In the questionnaire it was stated that six meetings had occurred in the previous 12 months involving all employees and management. This did not seem to concur with what employees recalled. The story one employee told about the appointment of the new MD suggested that such formal communication was haphazard.

The new MD came in recently. That was kind of like a really big change because it’s the highest point in the management structure. None of us were really kept in the loop and for the next couple

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10 The actual wording in the Webboyz Employee Share Plan Prospectus is:

The number of shares offered to an Eligible Employee in each invitation shall be as determined by the Board in their absolute discretion and, without in any way limiting that discretion, the Board may in making such determination have regard to the Eligible Employee’s position and seniority, level of responsibility and duties, current level of remuneration, contribution to the performance of the Company or a Related Body Corporate or any other matter that the Board considers appropriate. The Board shall not be obliged to provide an Eligible Employee with reasons for their determination (February 1998: 24).
of weeks he was just walking around. So everyone was like ‘who’s that guy, who’s that guy?’ And then after a few weeks we get an email saying ‘this is [name], he’s your new manager’ (Employee 1).

One employee said: “I reckon we should [have more meetings]. It seems to give more of a direction to staff even if they don’t go for long” (Employee 3). The CEO was aware that employees were less informed about the firm’s direction than they had been in the past. Part of the problem, he said, lay with the shift in strategy and the need to retain corporate confidentiality when negotiating e-commerce deals with other large companies. Highlighted in this reasoning was the effect of the totality of the firm’s economic relations on management practices. In fact, by categorising Webboyz as innovative (Rainnie, 1989; 1991a) it has been suggested that the particular structural conditions, which allow for work patterns to emerge as they do within the firm, may not last long.

Despite the lack of formal meetings, employees were generally confident that they were able to discuss a range of issues with their manager or whoever was in charge of the particular area. As one employee said, “Perhaps you’ve already seen it here, people can move around and talk easily and do things without following a particular chain of command” (Employee 4). Similarly, management realised that, particularly with the development team, it was in their interests to either explain honestly why some demand could not be met or attempt to accommodate employees in some alternative manner. As the Project Manager of the development team explained, “If they had a problem they would leave. But they are too valuable to us to leave. So if they have a problem you fix it”.

Trade Unionism

Clearly the quote above shows part of the reason why no-one at Webboyz had considered joining a trade union, despite the ‘months of darkness’, periods of excessive overtime, and their perceived ability to earn more money elsewhere. Like the Vanguard employees, no-one had heard of APESMA, although some had the qualifications to join.111 When asked about unions and union membership responses from employees included:

IT is vague industry that covers all manufacturing and all industry, so it’s a bit hard to apply one overlay of a union to it. Especially because employees in it do want to move with it, they do take sacrifices in time and benefits to get to use the technology (Employee 1).

I think if you don’t like a place you just find somewhere else. There is plenty of opportunity in the industry. Like, in fact I never think about being unemployed. There are always places around (Employee 5).

111 APESMA’s rules restrict membership to professional scientist and engineers, which basically means that employees must have some recognised tertiary science or engineering qualifications before they are eligible to join the union.
It's a completely different mentality of why a person works at a company like this. If you're working at a company where you have a union rep then that job is your job, it's not your life. This job is our life, you know (Project Manager 1).

In a similar fashion to those at Vanguard, quality relationships between management and employees facilitated by the firm's size, only provided partial explanation for the lack of trade union membership at Webboyz. Supply of union services was also important (Barrett & Buttigieg, 1999), as was the nature of the employees working at Webboyz. The absence of unionisation found in this study did not necessarily suggest that all was harmonious and employees accepted the exercise of managerial control, rather the inter-relationship between conditions in the product and labour markets meant that the most likely response from employees to managerial control would be individualised because of the perception of their mobility (whether correct or not). Discussions with employees clearly showed that they were not necessarily committed to the organisation. This lack of commitment may have been influenced by the precarious position of the firm, which had been highlighted in the early phase of Webboyz development when rapid downsizing occurred. Employee's commitment was to the work (which they saw as 'game playing'), while this meant that when they got bored with the work they were prepared to move on. Employees were keen to get into the industry (although not necessarily Webboyz) and, once in were excited by working with the technology. A number of authors have pointed to this being a characteristic of the sector as a whole (e.g.: Beirne et al., 1998; Friedman, 1990). In these circumstances, the ESOP could be seen as a cover for low wages, rather than a means of generating organisational commitment.\footnote{This view of the Webboyz ESOP is consistent with comments in the press following the technology stock price crash in April 2000 when Bachelard and McKenzie (2000) reported that it was a 'habit' in this industry to employ staff on a lower base salary topped up with share options.} Webboyz could pay low wages because they recruited skilled, but relatively inexperienced young boys desperate to get into the industry and be given a start.

\textit{Conclusion}

The case study of Webboyz started out by emphasising the dynamics of development of the company in two ways. First, Webboyz could be categorised as an 'innovative' small firm in terms of its relationship with large firms (Rainnie, 1989; 1991a). However, the discussion of the firm’s initial over extended and subsequently aborted growth phase served as a reminder of Hyman’s (1987) contention that the search for ‘one best way’ was illusory and, furthermore, managerial strategy, such as it was, could only be short term, often contradictory and ultimately unsuccessful. As such, it is possible to argue that management
strategy in this small firm was no different from that in any other firm. Second, Webboyz’ change in strategy from a focus on individual customers to large-scale corporate clients had a range of ramifications: ‘suits’ were employed, the physical layout of the workplace changed and attempts were made to hermetically seal the ‘spirit’ of the original Webboyz.

At Vanguard and Webboyz, employees were engaged in developing quite different software products. At both firms management used strategies to convert labour potential to actual productive labour, which could be described as technical autonomy and direct control simultaneously. For example, at Webboyz it was employees’ skills that dictated whether a product could be developed or not. This autonomy to develop products was constrained by the need for the products to be commercially viable. At the same time direct control was exercised as employees were told to ‘get on with it’ when project deadlines drew near and then they were expected to work long hours (without reward).

The constant rate of change in Webboyz environment meant that employees with a range of qualifications were recruited but also meant that employees did not pursue further qualifications. However, this also highlighted the relationship between product and labour market: young, relatively inexperienced male workers, straight out of university, desperate to get into the industry, grateful to be given a chance and their head, were willing to trade low pay for entry and took little notice of the ESOP. In this industry this was not unique to Webboyz, as the case study of Vanguard showed. At both firms, employees were ‘committed’ to the type of work they did, but they were likely to exercise their mobility if they experienced low task originality (Friedman, 1990), if problems arose or if they wished to develop their career. In addition, at Webboyz the success of the CEO – a millionaire at 23 – inspired many employees while the characteristics of the firm’s market niche meant that employees could aspire to the same success if they desired. Notions of identity were therefore important to analysing elements of agency in the dynamics of the labour process.

In summary, the case study emphasised structural forces and human agency and it has shown how the relationship between product and labour markets, between capitals and between capital and labour interacted to produce employment relations in small firms.
CHAPTER 10: DISCUSSION, CONCLUSIONS AND FUTURE INQUIRY

Objective of Chapter 10

The purpose of this chapter is to discuss the results of the research conducted in pursuit of the key question under examination in this thesis, which is, ‘Does size matter?’ or, more specifically, ‘How does firm size affect the management of employment relations in small firms?’ A cross case analysis is conducted and the results are compared with conclusions from other studies. Future avenues for inquiry and brief implications for future small firm employment relations policy and research are also addressed.

Does Size Matter?

The key research question being pursued in this thesis was ‘does size matter’ or more specifically ‘how does firm size affect the management of employment relations in small firms’. To overcome the homogenisation problem inherent in many studies of employment relations in small firms, to which such a line of questioning usually leads, an integrated approach to analysing small firm employment relations was developed. This integrated approach was then used to explain the variety of small firm employment relations, and the conditions under which they are produced, in the information industry generally and firms engaged in software development specifically. The application of the approach enabled a range of factors influencing the development of small firm employment relations to be included in the explanation. The argument was that structures are vital to understand the nature of employment relations in small firms, but at the same time agency was equally important. The incorporation of both structure and agency in the analysis helped to further an understanding of why employment relations appeared to be harmonious in small firms.

Developing an Integrated Approach to Analysing Small Firm Employment Relations

The purpose of Chapters 2 and 3 was to outline the rationale for developing an integrated approach. In these chapters, the overview of the current state of small firm employment relations research and theory led to the argument that this integrated approach needed to achieve three aims. First, it must accommodate the heterogeneity of small firms. Second, it must provide an analytical framework for ordering the effect of a range of factors on small firm employment relations, thus ceasing to ascribe pre-eminence to size. Third, this approach must enable an analysis to retain the dialectical relationship between structure and agency.
In Chapter 2 the significance of small firms and small firm employment in Australia was pointed out and argued to be similar to that in many other industrialised countries. However, only recently have Australian governments become aware of the potential economic role of small firms in terms of innovation, competition, flexibility, as 'seedbeds' for the development of new industries and, of course, employment growth and job generation (BIE, 1992). As a result, the federal Coalition government has made changes to various pieces of legislation, thereby reducing the regulatory burden on small firms and making it easier for them to 'do business'. However, the many ways that a small firm could be conceptualised, meant it was possible to argue that public policy aimed at the 'small firm sector' of the economy may miss its target. Furthermore, the discourse of 'enterprise culture' has acted as a powerful justification for much of the change, particularly in the area of employment relations.

This inability to universally define small firms has served to confound research. Although employment size has generally been used in studies of employment relations in small firms, no consensus has been reached on how big is 'small', while the issue of the level of analysis on which research should be focussed has also caused problems. Despite this, firm size has been seen as a unifying property creating an homogeneous 'sector' (Scott, 1986). Furthermore, in economic theory, small firms have been given either a symbiotic and cooperative (post-Fordist, flexible specialisation) or competitive and dependent (neo-Fordist, core-peripheral relations) role in relation to large firms. These lines of thinking have reinforced stereotypical views of small firm employment relations as either 'beautiful' or 'brutal' but have done little to further an understanding of why small firms exhibit particular types of employment relations, only that they do.

At the conclusion of Chapter 2, Rainnie's (1989; 1991a) heuristic device was adopted to overcome some of these problems. This device, drawing upon Marxist theory of combined and uneven development provided a relational definition of small firms: in other words, small firm heterogeneity could be accommodated by arguing small firms needed to be considered within their economic totality rather than be labeled as 'small' because of their size of employment alone. This, therefore, required that small firms be assessed by their relationship with their competitors, customers and suppliers as these relationships, not size of employment, had greater influence over the internal operations of the firm. Furthermore the analysis of small firms must be restricted to one sector rather than take the more traditional approach to researching employment relations in small firms across diverse sectors. For this study, small firms were also defined as having a full time equivalent employment of less than 20 persons in order to enable comparison with results from other studies where possible.

In Chapter 3 it was argued that the problem with studies utilising employment size as the key independent variable was that certain characteristics were ascribed to all small firms, and findings were generalised to other sectors where a size-based definition is inappropriate (Goss, 1991a), and the conclusion that all
small firms share the same employment relations characteristics was furthered. In essence, these studies, whether of industrial relations or HRM in small firms, only identified some of the structures within which employment relations took place. When agency was neglected, the conclusion was drawn that industrial harmony prevailed in small firms. It was not argued that such a conclusion was wrong, only that it provided a partial explanation for small firm employment relations.

The foregoing led to the third requirement of the integrated approach to analysing small firm employment relations: that a dialectical relationship between structure and agency be retained. In Chapter 3 it was argued that a more complete analysis of employment relations in small firms must therefore start with the totality of economic and social relations in a particular sector and its contradictory constituents rather than the small firm *per se*. It was suggested that a Marxist analysis, which can be applied to all firms regardless of size, placed an emphasis on contradiction and change: a dialectical, rather than a deterministic, process of reciprocal interaction between structure and human agency (Thompson & McHugh, 1995). By underpinning this approach with labour process theory, the priority afforded to the control of labour could then be reconsidered.

A number of labour process theorists have taken this path (for example, Holliday, 1995; Ram, 1991; 1994; 1999), but they afforded a centrality to issues of control when analysing small firm employment relations. It was argued that this was problematic as it prioritised internal management and external labour market arrangements over the effect of the product market. The effect was therefore to prioritise problems of extraction of surplus value over realisation problems. This was problematic given Kelly's (1985) argument that "there is no sound reason for privileging any moment in the circuit [of capital]" (p. 32) and, as such, attention should also be focused on the realisation of surplus value through the sale of commodities as well as the prior purchase of labour.

At the conclusion of Chapter 3 it was argued that structure and agency could be accommodated by considering the environment in which the small firm operated, as well as the effect of this on managerial choices. Further, the nature and quality of the relations that existed between and amongst employees and employers, the style of management, the policies that were adopted and enforced at the workplace with respect to employment and work practices, and the attitudes the parties adopted towards one another in the small firm, all needed to be assessed. It was argued that by combining analysis at the level of the workplace with that at the individual level, then why industrial harmony appeared as a characteristic of small firms could be examined.

To further develop this integrated approach to studying small firms, in Chapters 4 and 5 Rainnie's (1989; 1991a) heuristic device was applied to small firms operating in the software development sector of the information industry. One reason for more specifically focussing on software development firms was that, in attempting to outline aspects of employment relations in the information industry, it was demonstrated
in Chapter 4 how little was known about work in that industry. This incomplete understanding of the types of jobs in the industry, who was employed in those jobs and just how employment was regulated, arose from the 'information industry' being a fuzzy concept (Markusen, 1999). Therefore, in Chapter 5, the nature of software development work, its organisation, and the strategies used to manage employment relations were considered. A consideration was also given to issues surrounding the management of 'knowledge work and workers' and professionals in order to expose some of the problems of the management of software development work and workers. The distinction between primary and secondary software products was drawn upon to elaborate the contradictory trends in strategies to control the labour process of software development.

In addition, Storey's (1985) idea of 'levels' or "interpenetrating 'layers' of control, which reinforce and substitute for each other as one or more becomes weak, decayed or fully untenable" (p. 198) was drawn upon to develop a less deterministic and restrictive approach to understanding management strategies to control the labour process. Taken with Hyman's (1987) 'no one best way' of control, the importance of contradiction and dialectics was emphasised in understanding the complexity of the relationship between structure and agency. It was argued in Chapter 5 that an approach incorporating this dualism between structure and agency would more adequately explain the variety of small firm employment relations and the conditions under which they were produced in a particular sector.

Researching the Integrated Approach

In Chapter 6 of this thesis it was argued that a critical social science approach, which drew upon a Marxist analysis, complemented this integrated approach to analysing small firm employment relations. The purpose of a critical social science approach was to describe the structures within which employment relations were managed as well as expose how human agency may change the parameters within which choices were made. A structural (deterministic) analysis alone only described what structures were in existence and therefore it was necessary to incorporate an analysis of how people interacted or made choices within those structures to create meaning.

As both structure and agency were considered in this thesis then a research design, which utilised multiple, complementary quantitative and qualitative research methods, was outlined in Chapter 6. The quantitative element of the research design consisted of a survey of 206 firms operating in the information industry. The primary purpose of the quantitative data was to provide information about how employment relations were managed in firms in the information industry. In particular, the questions addressed by this element of the research design were:

Q2 What types of employment relations operate in the information industry?
Q3 What are the influences on these employment relations?
   3a) How are employment relations different in small and large firms?
3b) Can employment relations in small firms be described as harmonious (e.g. no union presence, no industrial action)?

3c) How are employment relations different in firms where the principal owner is present compared with those where the owner is absent?

3d) How are employment relations different in firms with competitive market conditions compared with those whose market conditions are not competitive?

3e) How are employment relations different in firms with different management styles?

Structures of Employment Relations

In Chapter 7 of the thesis, the data collected through the process outlined in Chapter 6 was used to primarily describe how employment relations were regulated in firms in the information industry. Additionally, the data were used to explore why particular practices occurred. For example, how the firm’s size, ownership, level of competition and management style impacted on the pattern of employment relations was explored. However, the understanding that structures were constantly in a process of flux meant that prediction was not possible. In other words, in Chapter 7 some of the structures within which actors made their choices at the workplace were described and explored with these data.

From the data reported in Chapter 7, the type of employment relations in this industry (research question 2) could be described as ‘individualised’. There was a lack of formalised institutional features of employment relations in this industry: for example, awards and bargaining were not used to regulate the employment relationship, while trade union membership was virtually non-existent. Individual contracts were the predominant means of setting employees’ terms and conditions of employment, while contracts were supported by the use of performance appraisal systems. Such a finding was consistent with the literature reviewed in Chapters 4 and 5. In addition, a range of HRM policies existed at the workplace, although they were not necessarily part of a strategic approach as corporate plans, where they existed, were least likely to mention employee relations.

The third research question, ‘what are the influences on these employment relations’, required a consideration of the effect of size, principal owner presence, competitive market conditions and management style. A difference in the degree of formalisation of employment relations policies was the key finding. In particular, the finding that there was a difference between formalisation in small and large firms was consistent with other research in the area, as was suggested by the literature reviewed in Chapter 2 and 3. This lack of formalisation could perhaps be attributed to the presence of the principal owner in small firms or alternatively, formalisation could have been a result of the nature of the competition faced by these firms, namely large companies rather than small. The results suggested an interaction effect between firm size and the presence of the principal owner, however the main survey data had insufficient power to fully investigate this issue. The results were such that employment relations in small firms could
be described as harmonious, however, if harmony was to be equated with no union members or industrial action, then the results also showed that employment relations in large firms must also be described as harmonious.

Through the survey, the broad structures of employment regulation and their influence on employment relations within the firm were investigated. However, in order to incorporate an analysis of how people interact or made choices within these structures to create meaning, then the case studies considered how those structures interacted with action to produce employment relations within two small firms in the information industry.

**Exploring Structure and Agency in the Case Studies**

The qualitative element of the research for this thesis addressed the question:

Q4 How do managers and employees experience work in the software development sector of this industry in general and small firms in particular?

Two case studies of software development firms (Vanguard and Webboyz) operating in the information industry were conducted. In Chapter 6 the case study research design was outlined and the results were reported in Chapter 8 and 9 of the thesis.

The purpose of the case studies in Chapters 8 and 9 was to go beyond describing the structures of employment relations and to consider how structure and action produced employment relations within two innovative small firms in the information industry. As these firms were respondents to the survey their activities could be placed within a broader context while interviews with management and employees provided meaning to processes within that context. Each firm’s trajectory of development was described as were the implications of that for managing employment relations, as this was seen to be vital for understanding the structural constraints and contradictions that beset managerial action and worker response within the small firm. In other words, the dialectical interaction between agency and structure, the tensions that emerged for management and the ways in which they attempted to resolve them were argued to provide a better understanding of how small firm employment relations were managed. Such an analysis was also used to explain the fact that why, when there were no obvious signs of conflict (such as joining a trade union or taking industrial action), the conclusion of industrial harmony drew on only a partial and structuralist analysis of small firm employment relations.

**Cross Case Analysis**

The case studies of Vanguard and Webboyz provided support for the argument, which was presented in Chapter 5, that in terms of software development the choice of strategy was influenced by the type of
product being developed, the timing in the product's development lifecycle as well as the type of workers employed to develop the product.

In terms of Rainnie's (1989; 1991a) heuristic device, both firms were categorised as innovative. This was the case as Vanguard operated in a developing market creating specialised and/or new products or markets, while Webboyz was founding a new market with new products making it vulnerable to take-over or acquisition by large capital. Categorising the firms as such did not allow for the reading off of a particular type of employment relations, instead it simply took into account the full circuit of capital and thus drew attention outside the walls of the small firm and away from control per se. Essentially categorising these firms as innovative only served to highlight the degree of choice available to managers when structuring employment relations.

Products and Strategies to Control their Development

Vanguard's main product, the retail banking system, was a type of secondary software product and therefore the 'waterfall' model (see Chapter 5) described the approach to the software development process. The creativity involved in this type of development occurred when solutions were being proposed in the process of designing the project's specifications. However, once the specifications were determined they drove the project and set very clear parameters within which all coding and testing took place. Testing (or 'de-bugging' as it was also known) was a critical component of the waterfall model of software development as it had implications for quality, the ability to deliver on time as well as the role of the testers (or 'de-bugger boys').

In addition to the retail banking system, Vanguard was also in the process of developing a suite of new (and complementary) products. Although these were a type of secondary software products they also contained elements of primary software development, as completely new components were added to existing programs. The type of work involved with these products was more creative and usually performed in small project teams of two or three programmers, overseen by one of the Project Managers. The development of these products provided a number of opportunities for management and employees. For management, there was a motivational and commercial aspect to the development of these products, while for employees there was an opportunity to extend their skills and gain experience outside the programming required for the retail banking system.

The type of products developed at Webboyz differed to Vanguard. The two core components of the Webboyz strategy included developing a web authoring tool software for individuals and developing and delivering e-commerce software and solutions for companies. These components of the strategy grew out of the original product upon which Webboyz success was gained and the lessons learned through on-line selling of that product. At Webboyz, the Internet inspired the creation, continual development and
subsequent sales and distribution of the majority of their products. All products, but particularly CoolCat, the web-authoring tool, represented a primary software product. This meant that at the workplace the software development process resembled the ad hoc process of 'hacking' (described in Chapter 5). This meant that in teams employees wrote code and then they 'hacked' at it to remove bugs and get results. The 'results' were defined by the employees' ability and skill at writing creative code, the firm's commitment to incorporate suggestions made by users into the product, as well as the management's requirement for a commercially viable product and financial return.

Despite the differences between the types of software products developed at Vanguard and Webboyz, the strategy to control the software development processes incorporated both direct control and 'technical autonomy' (where technical autonomy was described in Chapter 5 as a subset of Friedman's (1977; 1984) 'responsible autonomy' strategy). These control strategies operated simultaneously, reflecting Storey's (1985) idea of levels of control. For example, at Vanguard, technical autonomy was exercised by employees at the stage when specifications were being drawn up, but those specifications then acted as a means of direct control. The situation differed slightly at Webboyz where employees had technical autonomy, as their skills dictated what type of product could be created, however the need for a commercially viable product acted as a form of direct control.

In addition, the case studies showed that different types of strategies could be applied to the development of primary and secondary software products. The 'hacking' process of creating a primary software product such as was evident at Webboyz, was more reliant on the exercise of technical autonomy, although direct control was also used over the ultimate product that was developed. However, at Vanguard the 'waterfall' model that was used to create secondary software products acted as a form of direct control, even though it incorporated aspects of technical autonomy. It could be argued that the privileged position of primary software product developers, such as the boys in Webboyz' CoolCat team, was only temporary and afforded by the firm's position within the product market. In other words, it was only given "at a time when the supply of such labour is catching up with the needs of capital accumulation" (Braverman, 1974: 407).

**People and Management Practices**

The foregoing led to the result that different managerial strategies of control could be used for different types of workers engaged in the software development process. At both Vanguard and Webboyz the programmers were (overwhelmingly) young men with some form of relevant post-secondary qualification, but largely inexperienced and new to the workforce. Qualifications were necessary for them to get started in software development, although, in both firms, they were not sufficient. Their ability to 'fit in' and willingness to 'get on' was important, while at Vanguard family membership also helped as the owner's three sons were all employed as programmers.
In Chapter 5 the argument was put that professional status might have more to do with labour market shortages than the formal process of gaining qualifications. In the case studies, the issue of professionalism was important for the way in which employees saw themselves and how management treated them. The dialectical relationship between the (limited) idea of autonomy and the necessity of control was emphasised. This can be explained in light of studies by Beirne et al. (1998) and Friedman (1990) who have pointed to the fact that software developers seek and value intrinsically interesting and challenging work, while the current state of skill shortages in this segment of the labour market (as reported in Chapter 5) means that employees would consider leaving the firm if those aspects were not delivered. The (real or perceived) mobility of software workers and their commitment to the task and technology, rather than the firm, meant that management strategies of direct control would be counterproductive in situations where the stability of creative and expert labour was required. Managers, faced with the heightened indeterminacy of the labour of creative staff, had to walk the tightrope between autonomy and getting profitable work carried out within deadlines. For employees, autonomy was constrained by the necessity of profitability. For management, profitability could have come from routinising the work and maintaining the divisions between software development and software testing processes. It was clear, however, that if work became too routinised employees would consider their options, and the relatively privileged position of these employees in the labour market meant that their first option was to move on. But, as was pointed out earlier, this relatively privileged position within the labour market was precisely that — relative — as capitalism, and its process of uneven development, constantly create and undermine such positions within the labour market.

The effectiveness of any managerial strategy depends to a large extent on how appropriate it was for the type of employees within the firm. Management’s strategy of employing skilled but relatively cheap individuals, who were excited by the technology and keen to get a foothold in the industry, meant that this impacted on the type of employment relations practices at the firm. Consistent with the survey findings in Chapter 7, all employees at both Vanguard and Webboyz were employed on individual contracts. This was probably a result of the privileged but precarious position they occupied in the labour market. At Vanguard and Webboyz, contracts were only offered after a three-month probation period, while on-going employment was the form preferred by management. Contracts were supported by performance management systems: appraisals (haphazardly conducted at both firms) and forms of performance pay. Performance pay at Vanguard consisted of a Christmas bonus, while at Webboyz valued staff members were rewarded with an invitation to take up shares through the firm’s ESOP. The use of individualised contracts, supported by performance management systems, enabled management to attract and retain ‘good’ employees, which was found to be the main issue of concern amongst survey respondents in Chapter 7.
Employees at Vanguard and Webboyz were not found to fit the picture painted by the popular media of being highly paid ‘gold-collar’ professionals (as outlined in Chapter 5). At Webboyz, the average salary for a developer was around A$45,000, which was higher than at Vanguard where the programmers were earning around A$30,000, while the testers earned between A$20,000–25,000. Nevertheless, the youth and inexperience of many employees meant that this was not an issue, as they valued experience more highly than their pay at this stage of their career. As indicated in Chapter 5, the industry favours experience so at this stage ‘getting in’ and gaining experience were vital to these young men. Management were aware that once employees gained some experience, and while skill shortages remained, then employees were likely to move on, possibly to firms that paid more, if they no longer felt challenged or excited by the work.

Very few formal management practices were used at either firm, this was despite their existence at Webboyz. This informality could be attributed to the nature of employees as well as the size of both firms. For example, at Vanguard, the physical size and layout of the firm meant all employees were visible to management, while at Webboyz, the CEO worked alongside the developers: figuratively through his initial creation of the firm’s flagship CoolCat product and physically in terms of developing the E-Sell product. At both firms, the focus on the technical aspects and personal opportunities provided by the job (experience, freedom for employees to dress as they liked as well as work flexible hours, use of new technologies), rather than the formalities of employment, meant that there was, in the words of Scott et al., (1990), an interpenetration of personal and industrial relations within these two small firms, which like family membership, served to obscure the exploitation inherent in the employment relationship.

Unlike many other studies of small firm employment relations, the conclusion could not be drawn that there were better quality relationships between employers and employees in these two firms. For example, the proximity of employer and employees meant that any overt forms of conflict were suppressed. Furthermore the lack of union membership at Vanguard and Webboyz, which could be taken to support a finding of industrial harmony, did not necessarily mean there were better quality relationships in these firms. Rather, employees were excited by, and committed to, their work and therefore the inter-relationship between conditions in the product and labour markets meant that the most likely form of employee resistance (or expression of dissatisfaction) would be individualised: employees conducted a continual search for other positions which they believed they could easily move to should their current work become ‘boring’.

In Summary

A number of features could therefore be drawn from the case studies of Vanguard and Webboyz, and in particular differences between the image and reality of software work and workers was exposed. Although software developers were argued to be central to the ‘information age’, as they were typical ‘knowledge
workers' (Reich, 1991; Scarbrough, 1999) or 'symbolic analysts' (Reich, 1991; Castells, 1996) engaging in autonomous, responsible work that was generously rewarded, what was revealed in the case studies was somewhat different. The application of different production modes meant that aspects of the software development work called for employees to exercise creativity, for example in terms of developing new primary software products or specifications for secondary software products, but, by and large, the work was routine, occurring within the parameters set by the project's specifications, user requirements, or the firm's needs for commercial success. Autonomy was therefore constrained and could not be described as Friedman's (1977; 1984) responsible autonomy, but rather as a subset, which was termed technical autonomy. At the same time, however, direct control was also exercised through, for example, the proximity of employer and employees, enforcement of deadlines, and the use of performance appraisals. All of this reinforced Storey's (1990) argument about levels or layers of control operating simultaneously. The case studies also showed that the relative importance of different strategies of control varied over time and depended on a range of factors, including: types of employees, the firm's overall strategy and product market pressures. In particular, the nature of workers was shown in these firms to be inconsistent with the media image as they were relatively low paid and, in a formal sense, relatively unskilled, despite holding some form of post-secondary computing or software qualification. Clearly, not all software workers could be described in this manner; what was highlighted in these case studies was that these particular employees operated within a certain sector of a larger labour market, and this had implications for what they expected from their employment at these particular firms.

Such an outcome could be partially explained by the interaction between the product and labour markets, the nature of small, innovative firms (Rainnie, 1989; 1991a), and the trajectory of development of these two firms. However, what was also needed in this explanation was subjectivity, which entailed a consideration of where and how employees saw themselves in the labour market, in addition to how management saw them and, as a result, managed the employment relationship. What was shown in these case studies was that most employees were keen to get into the industry, and in one or two instances the particular firm, but largely their interest was in gaining experience so that they might move upwards. Their entry was conditional upon minimum technical qualifications and ability (often self-taught) and management's perception that they would 'fit in'. For management 'fitting in' basically meant that employees needed to be prepared to trade-off pay against access to technology, interesting work and a working environment that matched employees' images of themselves, and a career path in the industry, rather than necessarily within the particular firm. Management at both firms knew they could not compete for more formally qualified or technically competent staff as they were too expensive, and a cost that could not be borne at the present stage of either firm's development: the nature of the product market niche occupied by Vanguard and Webboyz, although very different, allowed for relatively unskilled employees to be employed at relatively low wages. The challenge for management was to find the balance needed to turn employees' perceptions of their freedom to develop into actual profitable software
products. As the case studies showed management did not have a simple solution for this, nor was there ‘one best way’ to achieve this outcome.

This provides a response to the fourth research question, which was ‘How do managers and employees experience work in the software development sector of this industry in general and small firms in particular?’ The conclusion was that in these innovative small software development firms in the information industry, when they were examined in their economic totality, these relationships, rather than their size of employment per se, had a greater influence over the internal operations of the firm: in particular, the organisation of work and the structuring of employment relations. The nature of employees engaged to undertake this software development work was also important as the discussion above showed. These young, male employees, who were largely inexperienced, were excited by the technology and the personal opportunities afforded them by the work they were doing. Their commitment was to the task, while their perception of mobility, facilitated by conditions in the product and labour markets, meant that a range of largely informal practices were used to manage employment relations.

The influence of the firm’s size on these practices could be seen in terms of the ‘interpenetration of the personal and industrial relations’ (Scott et al., 1990). This conclusion was consistent with studies of small firms by Newby (1977), Curran and Stanworth (1979a; 1979b; 1981a; 1981b), Rainnie (1984; 1989), Scott et al. (1990), Ram (1991; 1994; 1999), Holliday (1995) and Wilkinson (1999), who have all pointed to the proximity of the owner/manager and the physical environment of the small firm affecting the management of employment relations.

A critical difference between this study and others has been that no attempt was made to generalise this conclusion to all small firms. The industrial harmony evident in these small innovative firms was a function of the economic and social relations more so than the firm’s size. Vanguard and Webboyz, as innovative small firms (Rainnie, 1989; 1991a), existed as marginal players in a dynamic and rapidly evolving industry, which meant that management were constantly aware of the potential for sudden death or takeover. The employees’ status was equally as temporary and their privileged position in the labour market was relative: in fact some employees, such as the testers at Vanguard, were actually engaged in developing processes to eliminate their own position, while others were working within very set and fixed parameters specified by the needs and requirements of the project, end-user and/or firm. In effect the case studies showed that the absence of industrial conflict was a function of the dialectical interaction between structure and agency: the differences between large and small firms were less important than the similarities brought on by the nature of the work in this industry, which explains more about why there was an appearance of harmony. As a result, harmony cannot simply be attributed to the size of employment.
Limitations and Future Research

A number of limitations of this study can be identified. The first conceptual limitation was outlined in Chapters 2 and 3 and related to how small firms were defined. Through the development of the integrated approach and then confining its application to the information industry, this conceptual limitation was addressed, although it led to the second conceptual limitation, namely what constituted the information industry. This issue was discussed in Chapter 4 and as a result multiple, complementary research methods were used to investigate the research questions as they applied to the information industry generally and the software development sector specifically.

These conceptual limitations meant that the ability to generalise was the greatest limitation that arose from the research methods employed. In this thesis, the information industry as the site for study and Vanguard and Webboyz as the specific cases within it, were not chosen as typical of a particular population, either the Australian economy or information industry respectively, but instead as "the intrinsic study of a valued particular" (Stake, 2000: 439). As a result, the only generalisations from this study were about theoretical propositions.

The above limitations point to the greatest contribution of this research, which has been the identification of an integrated approach to analysing small firm employment relations. As such, this approach overcame some of the theoretical and methodological problems inherent in many other studies of small firms. In outlining this approach and then applying it to two innovative small firms engaged in software development in the information industry, this thesis has shown how industrial harmony in small firms can be explained without resorting to size determinism. In this thesis it has been argued that a labour process analysis was appropriate, particularly when it was incorporated into a broader, more encompassing and dialectical approach. This was the reason why this approach emphasised both structural forces and human agency and the case studies showed how the relationship between product and labour markets, between capitals and between capital and labour interacted to produce employment relations in small firms.

In terms of future research, a method of analysing employment relations in other types of small firms has been provided. In addition, given the predominance of small firms in industrialised economies and the policy emphasis on small firm employment, then an extension of the contribution of this thesis could be in terms of the provision of means of analysing the quality of employment in small firms. As such, a guide for future policy on small firm employment and employment relations has been provided by this thesis.

By applying the approach to analysing employment relations in small firms in the software sector of the information industry an important advance has been made by providing a detailed study of the reality of software development work and workers. The research for this thesis has suggested that a more extensive and inclusive approach be taken to analysing the work of those within this sector. A much larger study that
focuses on the development of the sector and seeks to further demystify software development work and its management could make an effective contribution to debates about the management of professionals, knowledge work and workers, and more broadly work in the 'information age'. This fuller investigation must take into account the role of subjectivity, by which is meant issues such as the position and movement of employees within the software labour market and their quest for identity and control. The role of programmers in different product market sectors, firm sizes and locations also needs to be taken into account.

Finally, the contribution of this study has been to show that size does matter but only as one aspect of the dialectical interaction of structure and agency. Employment relations in small firms are not homogeneous, fixed or unchanging and they are more complex than that contained within the 'small is beautiful' stereotype. It will only be through more detailed research of the type developed and applied by this thesis that this stereotype can finally be laid to rest and reasons for industrial harmony evident in small firms understood.
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Appendix A: Main Questionnaire

Information Industry
Employment Relations Survey
1998

This survey is being carried out by Rowena Barrett as part of the research for her PhD in the Department of Management at the University of Melbourne. This survey is a major part of a large-scale research project, which is concerned with the nature of, and influences on, employment relations in Victorian firms operating in the 'information industry'.

CONTENTS
Section A: General Information
Section B: Workforce Characteristics
Section C: Employment Relations
Section D: Trading Position
Section E: Open Comment
Section F: Future Involvement

This survey should take approximately 20 to 30 minutes to complete. Please answer all questions, except those which you are instructed to skip. Feel free to write comments in the margins of the questionnaire if the need arises. The information you provide in this survey will not be identified as coming from any particular workplace or individual.

If you have any questions about this survey please contact:

Ms. Rowena Barrett
Department of Management Ph: (03) 9905 5111
Monash University Fax: (03) 9905 5412
Clayton, VICTORIA, 3168 Email: Rowena.Barrett@BusEco.monash.edu.au

Please use the enclosed, reply paid envelope to return this survey by
Friday DATE MONTH YEAR
SECTION A - GENERAL INFORMATION

In this section general questions are asked about attributes of this workplace.

In this survey, the term 'workplace' will be used. This refers to the identifiable and distinct unit located at this address.

A1. Please circle on the figure below, where this workplace is located of the value chain of the information industry.

A2. In what year did this workplace start operating? 19

A3. Which best describes this workplace?
☐ SOLE PROPRIETORSHIP
☐ PARTNERSHIP
☐ PRIVATE COMPANY
☐ PUBLIC COMPANY
☐ TRUST
☐ FRANCHISE
☐ OTHER (specify) 

A4. What percentage of this workplace is foreign owned? ☐%

A5. a) Do the principal owners of this workplace work here?
☐ YES
☐ NO (GO TO A6)

b) Do the principal owners work alongside employees at this workplace?
☐ YES
☐ NO

A6. a) Is your workplace:
☐ THE ONLY ONE IN THE ORGANISATION? (GO TO B1)
☐ ONE OF A NUMBER OF WORKPLACES IN A LARGER ORGANISATION?
b) Including the employees at this workplace, approximately how many employees work for the whole organisation throughout Australia?

☐ YES
☐ NO
☐ DON'T KNOW

d) In which country is the ultimate head office of this organisation located?

SECTION B: WORKFORCE CHARACTERISTICS

In this section questions are asked about some general characteristics of the workforce.

B1. At this workplace, how many of the people are:

a) WORKING PROPRIETORS, WORKING PARTNERS OR WORKING DIRECTORS (Operate their own business and may receive a salary or draw from profits)

b) OTHER MANAGERS (Have significant responsibilities in the conduct and operations of the workplace)

c) EMPLOYEES

B2. How many of the people employed at this workplace are:

a) FULL-TIME (Paid holiday leave/sick pay & work 35+ hrs/week)

b) PART-TIME (Paid holiday leave/sick pay & work less than 35 hrs/week)

c) CASUAL (Not paid holiday leave/sick pay & work irregular hours)

d) CONTRACTORS (Work on a contract for service at the workplace)

B3. How many of the people employed at this workplace are:

a) MALE

b) FEMALE

B4. a) How would you describe the skill level of the majority of employees at this workplace?

☐ SKILLED
☐ SEMI-SKILLED
☐ UNSKILLED

b) What is the occupation of most employees at this workplace?
B5. On an average working day, how many employees are typically away from work or on sick leave without leave being approved in advance?

B6. In the last 12 months, approximately how many employees were recruited? (Note: If this workplace is part of a larger organisation then include staff recruited to this workplace from other parts of the organisation.)

B7. In the last 12 months, approximately how many employees at this workplace:
   a) VOLUNTARILY RESIGNED?
   b) were made REDUNDANT because of insufficient work?
   c) had their EMPLOYMENT TERMINATED by management for reasons other than redundancy?

B8. In the last 12 months at this workplace, approximately how many working days were lost due to workplace accidents?

B9. At this workplace, approximately what percentage of total costs are labour costs?

SECTION C: EMPLOYMENT RELATIONS
This section covers a range of matters related to the employment relationship at this workplace.

EMPLOYMENT ARRANGEMENTS AND PAY

There are several ways that pay and conditions can be set for employees.

- **AWARDS**: these are the more traditional way of setting pay and conditions. They are legally enforceable documents that relate to terms and conditions of work and are determined by the state or federal industrial relations commission.

- **COLLECTIVE AGREEMENTS**: these are specially negotiated for the workplace or organisation and can operate in conjunction with awards. They are the result of workplace or enterprise bargaining. Agreements can be verbal or written. They can be made between management and trade unions, or between management and employees. Agreements can be unregistered or registered with the state or federal industrial relations commission.

- **INDIVIDUAL CONTRACTS**: these cover pay and conditions for an individual only. They are negotiated between an employer (or their representative) and an individual employee (or their representative).

C1. a) Are any employees at this workplace covered by an award?
   □ YES
   □ NO (GO TO C2)
   □ DON'T KNOW (GO TO C2)
b) How many awards operate at this workplace? (Please include those awards that operate on their own or in conjunction with an agreement)

c) How many non-managerial employees at this workplace are covered by awards?

d) How many non-managerial employees, whose pay is based on the award, received over-award payments (payments in excess of the rate in the award) in the pay period ended on or before DATE/MONTH/YEAR?

e) Which of the following statements best describes the way in which over-award payments are determined for non-managerial employees at this workplace? (Tick one only)
  □ EMPLOYEES NEGOTIATE INDIVIDUALLY WITH MANAGEMENT
  □ GROUPS OF EMPLOYEES NEGOTIATE WITH MANAGEMENT
  □ THE UNION NEGOTIATES WITH MANAGEMENT
  □ OVER-AWARDS NOT NEGOTIATED - SET BY MANAGEMENT
  □ OTHER (specify) .................................................................

f) What are the main reasons why non-managerial employees are paid over the award? (Multiples accepted)
  □ AWARD RATE TOO LOW
  □ ATTRACT AND/OR KEEP EMPLOYEES
  □ AGREEMENT WITH THE UNION
  □ MERIT AND/OR REWARD FOR SERVICE/SKILLS
  □ REWARD FOR LENGTH OF SERVICE/SENIORITY
  □ OTHER (specify) .................................................................

C2. a) Are there any written collective agreements operating at this workplace which are the result of enterprise bargaining?
  □ YES
  □ NO (GO TO C3)
  □ DON'T KNOW (GO TO C3)

b) How many written collective agreements operate at this workplace?

c) How many of these written collective agreements are registered with an industrial tribunal?

d) How many non-managerial employees at this workplace are covered by the written collective agreement/s?
C3. a) Are there any **verbal collective agreements** operating at this workplace which are the result of enterprise bargaining?

☐ YES
☐ NO (GO TO C5)
☐ DON'T KNOW (GO TO C5)

b) How many verbal collective agreements operate at this workplace? □

c) How many non-managerial employees at this workplace are covered by verbal collective agreement/s? □

C4. a) What is the **main reason** for negotiating the collective agreement/s? (Tick one only)

☐ TO INCREASE PRODUCTIVITY/EFFICIENCY
☐ TO IMPROVE QUALITY OF PRODUCT OR SERVICE
☐ TO REDUCE COSTS
☐ TO IMPROVE RELIABILITY, WASTAGE OR DOWNTIME
☐ TO IMPROVE MANAGEMENT - EMPLOYEE RELATIONS
☐ IT IS PART OF OUR CORPORATE PLAN/PHILOSOPHY/MISSION
☐ OTHER (specify) ...........................................................................

b) What are the main issues covered by the collective agreement/s?
...........................................................................................................

c) Who was involved in negotiations for the collective agreement/s?
...........................................................................................................

C5. a) Do any **individual contracts** operate at this workplace?

☐ YES
☐ NO (GO TO C6)
☐ DON'T KNOW (GO TO C6)

b) How many non-managerial employees are covered by these individual contracts? □

c) What is the **most important factor** determining the pay and conditions for those non-managerial employees on individual contracts when they are **first employed**? (Tick one only)

☐ WHAT OTHER EMPLOYERS ARE PAYING - THE MARKET RATE
☐ REWARD FOR MERIT OR INDIVIDUAL PERFORMANCE
☐ EMPLOYEE'S QUALIFICATIONS
☐ THE AVAILABILITY OF LABOUR
☐ EXISTING RATES AND CONDITIONS FOR AWARD EMPLOYEES
☐ OTHER (specify) .............................................................................
d) What is the most important factor used when reviewing the pay and conditions for those non-managerial employees on individual contracts? (Tick one only)

- WHAT OTHER EMPLOYERS ARE PAYING - THE MARKET RATE
- REWARD FOR MERIT OR INDIVIDUAL PERFORMANCE
- EMPLOYEE'S QUALIFICATIONS
- THE AVAILABILITY OF LABOUR
- EXISTING RATES AND CONDITIONS FOR AWARD EMPLOYEES
- OTHER (specify) .................................................................

e) Over the last 12 months has the number of non-managerial employees on individual contracts at this workplace:

- INCREASED
- REMAINED STABLE
- DECREASED

C6. a) In the last 12 months has there been any pressure to increase wages at this workplace?

- YES
- NO (GO TO C7)

b) Where did the pressure to increase wages come from? (Tick one only)

- A LOG OF CLAIMS MADE BY ONE OR MORE UNION
- AN APPLICATION MADE BY YOUR EMPLOYEES
- INDUSTRIAL TRIBUNAL OR AWARD DECISION
- INCREASE IN MARKET RATES OF PAY
- OTHER (specify) ...........................................................................

c) How did management at this workplace respond to that pressure? (Tick one only)

- NEGOTIATED DIRECTLY WITH EMPLOYEES CONCERNED
- NEGOTIATED WITH UNION REPRESENTATIVES CONCERNED
- REFERRED ISSUE TO EMPLOYER ASSOCIATION
- SOUGHT ADVICE FROM CONSULTANT/ACCOUNTANT/LAWYER
- REFERRED ISSUE TO AN INDUSTRIAL TRIBUNAL
- IGNORED PRESSURE
- INCREASED PAY
- OTHER (specify) ...........................................................................

C7. a) Thinking about the present arrangements for determining pay and conditions for employees at this workplace, overall would you say that management is:

- DISSATISFIED
- NEITHER SATISFIED NOR DISSATISFIED
- SATISFIED (GO TO C8)
b) If there was the opportunity to change the way pay and conditions are determined at this workplace, what changes, if any would be made?

c) If you would like to make changes what things are stopping you from making these changes?

THIRD PARTIES: UNIONS AND EMPLOYER ASSOCIATIONS

C8. Is this workplace a member of an employer association (other than the AIIA), which provides a range of services and advice on employee relations matters?

☐ YES
☐ NO
☐ DON'T KNOW

C9. Using the letter code below, indicate which one source you would usually use if you needed to find out information about the following issues?

Letter Code
A. Government agencies
B. Trade union
C. Employer association
D. Award
E. Accountant/Lawyer
F. Other managers at the workplace
G. Other employers in the area
H. Would not seek advice
I. Don't know
J. Other (specify)

a) What the appropriate RATE OF PAY was for an employee?

b) What the correct SICK LEAVE ENTITLEMENT was for an employee?

c) What procedure should be adopted when DISMISSING an employee?

d) Information on OCCUPATIONAL HEALTH AND SAFETY matters associated with this workplace?

C10. a) Are any employees of this workplace a member of a trade union?

☐ YES
☐ NO (GO TO C11)

b) Roughly how many employees at this workplace are members of a union? (NOTE: exclude contractors)

c) How many different unions have members at this workplace?
d) Please indicate the extent to which you agree or disagree with the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Unions representing employees here keep</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>their word.</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>ii) Management sees unions here as effectively</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>representing their member's views.</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

e) In the last 12 months the number of employees at this workplace who are union members has:
- INCREASED
- REMAINED STABLE
- DECREASED
- DON'T KNOW

C11. Does management at this workplace encourage or discourage employees from joining a union?
- ENCOURAGE
- NEITHER ENCOURAGE NOR DISCOURAGE
- DISCOURAGE
- DON'T KNOW

WORKPLACE POLICIES

C12. a) Is there a **plan** outlining this workplace's corporate goals and ways of achieving them?
- YES
- NO (GO TO C13)

b) Has this plan been communicated to all employees at this workplace?
- YES
- NO

c) Is this plan contained within a **written document**?
- YES
- NO (GO TO C13)

d) In this **written plan** is there specific reference to any of the following functions? (Multiples accepted)
- EMPLOYEE RELATIONS
- FINANCE
- MARKETING
- OPERATIONS (OR PRODUCTION)
- OTHER AREAS (specify)
e) How often is this written plan referred to in order to track this workplace's performance?

☐ ALL THE TIME
☐ MOST OF THE TIME
☐ SOME OF THE TIME
☐ RARELY
☐ NEVER

C13. Are any specific rules or procedures followed when employees are disciplined at this workplace?

☐ YES
☐ NO

C14. a) Are any specific rules or procedures followed when handling employee grievances at this workplace?

☐ YES
☐ NO (GO TO C14c)

b) How often are these rules or procedures actually used to deal with employee grievances?

☐ ALL THE TIME
☐ MOST OF THE TIME
☐ SOME OF THE TIME
☐ RARELY
☐ NEVER

c) How does management deal with employee grievances?


C15. a) Do any non-managerial employees receive performance related pay? (Note: Performance related payments may be incentive bonuses, merit pay, piecework payments, commissions, profit sharing.)

☐ YES
☐ NO (GO TO C16)

b) What is the basis for performance payments? (Tick one only)

☐ INDIVIDUAL PERFORMANCE
☐ WORK GROUP PERFORMANCE
☐ PERFORMANCE OF THE WORKPLACE AS A WHOLE
☐ PERFORMANCE OF THE ORGANISATION AS A WHOLE
☐ PROFIT SHARING
☐ OTHER (specify)........................................................................................................

C16. a) Is there a procedure at this workplace for appraising employees' performance?

☐ YES
☐ NO (GO TO C17)

b) Is this a regular formal performance appraisal procedure?

☐ YES
☐ NO
c) How is the information gathered about an employee's performance used? (Multiples accepted)
☐ TO PROVIDE FEEDBACK ON INDIVIDUAL PERFORMANCE
☐ TO PROVIDE A BASIS FOR SELF EVALUATION
☐ TO ESTABLISH AND MONITOR OBJECTIVES AND TARGETS
☐ TO REVIEW SALARY, CONDITIONS AND OTHER REWARDS
☐ TO DIAGNOSE TRAINING AND CAREER REQUIREMENTS
☐ TO DISCOVER INDIVIDUAL POTENTIAL
☐ OTHER (specify) .................................................................

C17. Is this workplace covered by a specific **written policy** on:
   a) OCCUPATIONAL HEALTH AND SAFETY  ☐ YES  ☐ NO
   b) EQUAL EMPLOYMENT OPPORTUNITY  ☐ YES  ☐ NO
   c) AFFIRMATIVE ACTION  ☐ YES  ☐ NO
   d) SEXUAL/RACIAL HARASSMENT  ☐ YES  ☐ NO

C18. Which of the following best describes what occurs if non-managerial employees work more than their normal hours. (Tick one only)
☐ GIVEN TIME OFF IN LIEU AT A LATER TIME OR DATE
☐ PAID EXTRA FOR WORKING LONGER/PAID OVERTIME
☐ EXPECTED TO WORK BACK OCCASIONALLY
☐ NEVER WORK MORE THAN NORMAL HOURS
☐ OTHER (specify) .................................................................

C19. For most jobs, when recruiting or promoting employees at this workplace, is a formal, written selection procedure required to be used?
☐ YES
☐ NO
☐ DON'T KNOW

C20. Is there a hierarchy of promotions in place at this workplace for:
☐ ALL POSITIONS
☐ MANY POSITIONS
☐ FEW POSITIONS
☐ NO POSITIONS

C21. a) Is education and/or training offered or sponsored for employees at this workplace?
☐ YES
☐ NO (GO TO C22)

   b) What forms of training are offered and/or sponsored?
........................................................................................................
........................................................................................................

   c) Approximately, what percentage of this workplace's total payroll was spent on training in the last financial year? ☐%
COMMUNICATION, PARTICIPATION AND DECISION MAKING

C22. Which of these methods, if any, are currently used by management here to communicate with employees at the workplace? (Multiples accepted)
☐ DAILY ‘WALK AROUND’ BY SENIOR MANAGEMENT
☐ SUGGESTION SCHEMES
☐ REGULAR NEWSLETTERS/BULLETINS TO ALL EMPLOYEES
☐ SURVEY OR BALLOTS OF EMPLOYEES VIEWS/OPINIONS
☐ ELECTRONIC MAIL
☐ REGULAR FORMAL MEETING (MANAGERS AND EMPLOYEES)
☐ REGULAR SOCIAL FUNCTIONS
☐ OTHER (specify) .................................................................

C23. In the last 12 months how often did management get together with all employees for a meeting?
........................................................................................................

C24. a) Are there any other types of formal, regular meetings involving managers and employees that occur at this workplace?
☐ YES
☐ NO (GO TO C25)

b) What are they?
........................................................................................................

C25. How much influence do employees from the largest occupational group at this workplace have over:

<table>
<thead>
<tr>
<th></th>
<th>Very Much</th>
<th>Much</th>
<th>Moderate amount</th>
<th>Little</th>
<th>Very little</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) how work is allocated to them?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>b) how they do their jobs?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>c) the pace at which their work is done?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>d) the management of the workplace?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>e) the time they can start or stop work?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

INDUSTRIAL ACTION

C26. a) Have employees at this workplace ever taken any of the following forms of industrial action?

STRIKES
☐ YES ☐ NO (GO TO C27)

STOPWORK MEETINGS
☐ YES ☐ NO (GO TO C27)

OVERTIME BANS
☐ YES ☐ NO (GO TO C27)

GO SLOW
☐ YES ☐ NO (GO TO C27)

PICKETING
☐ YES ☐ NO (GO TO C27)

OTHER (specify) .............................................................................

b) Was any of this industrial action undertaken in the last 12 months?
☐ YES
☐ NO (GO TO C27)
c) What issues were involved in the industrial action that took place in the last 12 months?

-------------------------------

**MANAGEMENT STYLE**

C27. Which of the following, if any, best describes the management style in general at this workplace? (Tick one only)

- [ ] Management - employee relationship of superior - subordinate tempered by personal relationships that do not extend outside the workplace.
- [ ] Management - employee relationship of superior - subordinate tempered by personal relationships that extend outside the workplace.
- [ ] Management - employee relationship of colleagues.
- [ ] Other (specify) ............................................

C28. What do you believe are the main reasons for the management style identified in C27?

-------------------------------

C29. Please indicate the extent to which you agree or disagree with the following.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Management here prefer to deal with employees directly, not through unions.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>b) Management here would not mind dealing with unions should any employees join one.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>c) Unions have nothing to offer workers or management at this workplace.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>d) There is no reason for employees to join a union as management treat employees well.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>e) At this workplace strong personal relationships exist between management and employees.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>f) Management here feel a responsibility to look after the general well-being of employees.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>g) If management had a choice they would choose quality improvements over labour cost reductions.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>h) Considerable resources are devoted to the management of this workplace’s human resources.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>i) The knowledge and skills of our employees are critical to the economic success of this workplace.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**CONSTRAINTS**

C30. Please indicate the degree to which you are concerned about the following labour related issues at this workplace.

<table>
<thead>
<tr>
<th></th>
<th>Very concerned</th>
<th>Concerned</th>
<th>Not concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Trade unions infringing on management’s authority?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>b) Increasing labour costs?</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Very | Not
c) Ability to find the ‘right’ employees?  3  2  1

d) Ability to retain good employees?  3  2  1

e) Compliance with occupational health and safety regulations?  3  2  1

f) Ability to dismiss employees?  3  2  1

g) Availability of relevant training for employees?  3  2  1

SECTION D: TRADING POSITION
This section deals with issues related to the general trading position of this workplace.

D1. Which of the following statements most closely describes the situation of this workplace? (Tick one only)

☐ A wide variety of products or services are offered, but none, on their own, are crucial to the success of this workplace.

☐ A wide variety of products or services are offered, one or two are quite important for the overall success of this workplace.

☐ Only a few products or services are offered, and each are crucial to the overall success of this workplace.

☐ None of the statements (Please describe) ............................................................

D2. Please rank five of the following factors in the order of their importance to the competitive success in the market for this workplace’s product/s or service/s.

☐ PRICE
☐ RESPONSIVENESS TO CUSTOMER REQUIREMENTS
☐ QUALITY OF PRODUCT/SERVICE
☐ ADVERTISING/MARKETING
☐ QUALITY OF WORKFORCE
☐ INNOVATIVE PRODUCT/SERVICE
☐ GEOGRAPHIC LOCATION
☐ REPUTATION/PAST PERFORMANCE
☐ RESEARCH AND DEVELOPMENT
☐ OTHER (specify) ........................................................................................................

D3. How would you rate the degree of competition for this workplace’s product/s or service/s?

☐ STRONG
☐ MODERATE
☐ LIMITED

D4. Over the last 12 months, the degree of competition for this workplace’s product/s or service/s has:

☐ INCREASED
☐ REMAINED STABLE
☐ DECREASED
D5. Thinking about this workplace’s competitors in general, which of the following statements is most applicable? (Tick one only)

☐ This workplace has many competitors offering the same as us, but none on their own present too much of a threat.

☐ This workplace has many competitors offering the same as us, but there are one or two large ones with whom it is difficult to compete.

☐ This workplace has no small competitors, just a few large ones with whom it is difficult to compete.

☐ None of the statements (Please describe)

D6. What distinguishes the product/s or service/s of this workplace from those of your competitors?

D7. Thinking about this workplace’s relationship with large firms, which of the following statements is most applicable? (Tick one only)

☐ This workplace complements and services the activities of large firms.

☐ This workplace is in direct competition with large firms.

☐ This workplace operates in a market niche that is unattractive to large firms.

☐ This workplace operates in a specialised market, which is watched with interest by large firms.

D8. Currently, the demand for this workplace’s product/s or service/s is:

☐ INCREASING

☐ REMAINING STABLE

☐ DECREASING

D9. Generally speaking, the demand for this workplace’s product/s or service/s is:

☐ FAIRLY PREDICTABLE

☐ LARGELY UNPREDICTABLE

D10. What would be the immediate response to:

a) A substantial increase in demand?

☐ INCREASE USE OF CONTRACTORS

☐ INCREASE AMOUNT OF OVERTIME

☐ INCREASE PRICE

☐ INCREASE EMPLOYEES PAY

☐ INCREASE WORKPLACE CAPACITY

☐ INCREASE FULL-TIME EMPLOYEES

☐ INCREASE P/T OR CASUAL STAFF

☐ MAKE NO ADJUSTMENT

☐ OTHER (specify).................................

b) A substantial decrease in demand?

☐ DECREASE USE OF CONTRACTORS

☐ DECREASE AMOUNT OF OVERTIME

☐ DECREASE PRICE

☐ DECREASE EMPLOYEES PAY

☐ DECREASE WORKPLACE CAPACITY

☐ DECREASE FULL-TIME EMPLOYEES

☐ DECREASE P/T OR CASUAL STAFF

☐ MAKE NO ADJUSTMENT

☐ OTHER (specify).................................

D11. Thinking about this workplace’s customers, which of the following statements is most applicable? (Tick one only)

☐ This workplace is reliant on two or three main customers providing more than 50% of our annual turnover.

☐ This workplace is reliant on major customers but none account for a significant part of our annual turnover.

☐ Neither statement (Please describe) ..........................
D12. The market for the product/s or service/s of this workplace is:
   ☐ DOMESTIC ONLY
   ☐ DOMESTIC WITH SOME EXPORT
   ☐ MORE THAN 50% EXPORT

D13. Thinking about this workplace’s suppliers, which of the following statements is most applicable? (Tick one only)
   ☐ This workplace has many sources of supply, none of which we are particularly reliant on.
   ☐ There is only one source of supply, on which this workplace is reliant.
   ☐ Neither statement (Please describe)

D14. Approximately, what percentage of total sales was spent on R&D at this workplace in the last financial year? ☐%

SECTION E: OPEN COMMENT

E1. Is there anything else you would like to say about this questionnaire or any of the issues raised by this questionnaire?
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................
   ........................................................................................................................................

SECTION F: FUTURE INVOLVEMENT

The second stage of this research involves more detailed discussions with management and employees in a smaller group of firms. All information provided in these discussions will be treated in the strictest confidence. Please indicate whether you would be willing to be involved in the second stage of this research by filling in the section below.

F1. I would like to be involved in the second stage of this research.
   ☐ YES
   ☐ NO

F2. I would like to receive a summary of the aggregated results of this survey.
   ☐ YES
   ☐ NO

Once you have completed the survey, please place it in the enclosed, reply paid envelope and return it to Rowena Barrett at Monash University by FRIDAY DATE MONTH YEAR.

THANK YOU FOR YOUR TIME AND COOPERATION
### Appendix B: Source of Main Survey Questions

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Question Subject</th>
<th>AWIRS ERMQ*</th>
<th>AWIRS GMQ^</th>
<th>AWIRS SWS**</th>
<th>AWIRS WCQ^^</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Charles et al. (1997)</td>
</tr>
<tr>
<td>A2</td>
<td>Age</td>
<td>B7 &amp; B8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A4</td>
<td>Ownership</td>
<td>B9</td>
<td></td>
<td></td>
<td></td>
<td>Q1</td>
</tr>
<tr>
<td>A5a</td>
<td>Principal Owner</td>
<td>A8</td>
<td>Q16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5b</td>
<td>Principal Owner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Goss (1991a)</td>
</tr>
<tr>
<td>A6b</td>
<td>Family firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rainnie (1989)</td>
</tr>
<tr>
<td>A7</td>
<td>Size</td>
<td>B11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A7b</td>
<td>Size</td>
<td>B17</td>
<td>Q20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>Size</td>
<td></td>
<td>Q4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>Size</td>
<td>Q13</td>
<td>Q3</td>
<td></td>
<td></td>
<td>Definitions from DIST/IC (1997)</td>
</tr>
<tr>
<td>B3a,b,c</td>
<td>Size</td>
<td>Q5,7,9</td>
<td>Q2</td>
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^ Morehead et al. (1997). General Management Questionnaire (GMQ)

** Morehead et al. (1997). Small Workplace Survey (SWS)

^^ Morehead et al. (1997). Workplace Characteristics Questionnaire (WCQ)
Appendix C: Frequencies for the Main Survey

SECTION A - GENERAL INFORMATION

A1. What does this workplace do in the information industry? (N = 97)
   0 MANUFACTURE SEMICONDUCTORS AND/OR COMPONENTS
   5.2 MANUFACTURE/ASSEMBLE SUBSYSTEMS
   10.3 MANUFACTURE/ASSEMBLE SYSTEMS
   10.3 PROVIDE NETWORK PLATFORMS
   57.7 DEVELOP SOFTWARE
   5.2 CREATE CONTENT
   17.5 PUBLISH, PACKAGE OR PROGRAM SOFT/HARDWARE
   8.2 NETWORK PROVIDER
   28.9 SERVICE PROVIDER
   47.4 PROVIDE SUPPORT SERVICES
   30.9 OTHER (please specify)

A2. In what year did this workplace start operating? 1960s (2.1), 1970s (19.5), 1980s (50.1), 1990s (28.3) (N = 97)

A3. Which best describes this workplace? (N = 97)
   1.0 SOLE PROPRIETORSHIP
   3.1 PARTNERSHIP
   82.5 PRIVATE COMPANY
   6.2 PUBLIC COMPANY
   6.2 TRUST
   1.0 OTHER (specify)

A4. What percentage of this workplace is foreign owned? 0 (87.6), <50 (4.1), >50 (8.2) (N = 97)

A5. a) Do the principal owners of this workplace work here? (N = 97)
   79.4 YES
   20.6 NO (GO TO A6)
   b) Do the principal owners work alongside employees at this workplace? (N = 76)
   98.7 YES
   1.3 NO

A6. a) How many of the principal owners’ family members work at this workplace? M = 1.05, SD = 1.20 (N = 97)
b) Could this workplace be described as a ‘family firm’? (N = 20)

20.8  YES

79.2  NO

A7.  a) Is this workplace: (N = 96)

66.7  THE ONLY ONE IN THE ORGANISATION? (GO TO B1)

33.3  ONE OF A NUMBER OF WORKPLACES IN A LARGER ORGANISATION?

b) Including the employees at this workplace, approximately how many people work for the whole organisation throughout Australia?  M = 92.59, SD = 129.52 (N = 32)

c) In which country is the ultimate head office of this organisation located? AUS (22.7), UK (2.1), USA (8.2) (N = 32)

SECTION B: WORKFORCE CHARACTERISTICS

B1.  In total, how many people work at this workplace?  M = 20.9, SD = 26.2 (N = 97)

B2.  At this workplace how many people are: (N = 97)

a) WORKING PROPRIETORS, WORKING PARTNERS OR WORKING DIRECTORS (Operate their own business and may receive a salary or draw from profits)  M = 1.74, SD = 1.37

b) OTHER MANAGERS (Have significant responsibilities in the conduct and operations of the workplace)  M = 2.08, SD = 2.17

c) EMPLOYEES (Other than managers/proprietors etc)  M = 15.0 SD = 22.8

d) INDEPENDENT CONTRACTORS (Work on a contract for service at the workplace)  M = 1.70, SD = 3.59

B3.  At this workplace how many people are: (N = 97)

a) FULL-TIME (Paid holiday leave/sick pay & work 35+ hrs/week)  M = 16.9, SD = 19.0

b) PART-TIME (Paid holiday leave/sick pay & work less than 35 hrs/week)  M = 1.09, SD = 2.26

c) CASUAL (Not paid holiday leave/sick pay & work irregular hours)  M = 1.87, SD = 11.42

d) CONTRACTORS/CONSULTANTS (Work on a contract for service at the workplace)  M = 1.62, SD = 3.56

B4.  At this workplace how many people are: (N = 97)

a) MALE  M = 12.9, SD = 14.0

b) FEMALE  M = 7.90, SD = 17.7

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B5. a) At this workplace how would you describe the skill level of the majority of employees? (N = 97)

93.8 SKILLED
6.2 SEMI-SKILLED
0.0 UNSKILLED

b) At this workplace, what is the occupation of the majority of employees? Software Engineers/Analysts/Programmers/Developers (43%) (N = 97)

B6. At this workplace on an average working day, how many employees are typically away from work or on sick leave without leave being approved in advance? 0 (76.3), 1 – 3 (23.7) (N = 97)

B7. In the last 12 months, approximately how many employees were recruited to this workplace? (Note: if this workplace is part of a larger organisation then include staff recruited to this workplace from other parts of the organisation.) M = 5.53, SD = 8.86 (N = 97)

B8. At this workplace in the last 12 months, approximately how many employees: (N = 97)

a) VOLUNTARILY RESIGNED? M = 3.14, SD = 5.74
b) were made REDUNDANT because of insufficient work? M = 0.47, SD = 2.09
c) had their EMPLOYMENT TERMINATED by management for reasons other than redundancy? M = 0.42, SD = 0.89

B9. At this workplace, approximately what percentage of total costs are labour costs? M = 0.57, SD = 0.22 (N = 91)

SECTION C: EMPLOYMENT RELATIONS

Employment Regulation And Pay

C1. a) At this workplace do any employees have their wages and working conditions regulated by an award? (N = 97)

17.5 YES
82.5 NO (GO TO C2)
0.0 DON'T KNOW (GO TO C2)

b) How many awards operate at this workplace? (Please include those awards that operate on their own or in conjunction with an agreement) M = 1.38, SD = 0.89 (N = 16)

c) How many employees are covered by the award(s)? M = 18.4, SD = 45.0 (N = 17)

d) How many employees, whose pay is based on the award, received over-award payments (payments in excess of the rate in the award) in the pay period ended on or before 30/6/1998? M = 12.9, SD = 29.4 (N = 17)
e) Which of the following statements best describes the way in which over-award payments are determined for employees at this workplace? (Tick one only) \( N = 15 \)

- 40.0 Employees negotiate individually with management
- 0.0 Groups of employees negotiate with management
- 0.0 The union negotiates with management
- 60.0 Over-awards not negotiated - set by management
- 0.0 Other (specify)

f) What are the main reasons for over-award payments? (Multiples accepted) \( N = 15 \)

- 13.3 Award rate too low
- 60.0 Attract and/or keep employees
- 6.7 Agreement with the union
- 80.0 Merit and/or reward for service/skills
- 13.3 Reward for length of service/seniority
- 0.0 Other (specify)

C2. a) At this workplace do any employees have their wages and working conditions regulated by a collective agreement? \( N = 97 \)

- 4.1 Yes
- 95.9 No (GO TO C3)
- 0.0 Don't know (GO TO C3)

b) How many collective agreements operate at this workplace? \( M = 1.0, \ SD = 0.0 \) \( N = 4 \)

c) How many of these collective agreements are registered with an industrial tribunal? \( M = 0.0, \ SD = 0.0 \) \( N = 4 \)

d) How many employees at this workplace are covered by the collective agreement/s? \( M = 2.0, \ SD = 1.4 \) \( N = 4 \)

C3. a) What is the main reason for negotiating the collective agreement/s? (Tick one only) \( N = 4 \)

- 25.0 To increase productivity/efficiency
- 25.0 To improve quality of product or service
- 0.0 To reduce costs
- 0.0 To improve reliability, wastage or downtime
- 25.0 To improve management - employee relations
- 25.0 It is part of our corporate plan/philosophy/mission
- 0.0 Other (specify)
C4. a) At this workplace do any employees have their wages and working conditions regulated by an individual contract? \( N = 97 \)
   81.4 YES
   18.6 NO (GO TO C5)
   0.0 DON’T KNOW (GO TO C5)

b) How many employees are on individual contracts? \( M = 17.4, \text{SD} = 17.7 \) \( N = 71 \)

c) What is the most important factor determining the pay and conditions for those employees on individual contracts when they are first employed? (Tick one only) \( N = 78 \)
   37.2 WHAT OTHER EMPLOYERS ARE PAYING - THE GOING OR MARKET RATE
   30.8 REWARD FOR MERIT OR INDIVIDUAL PERFORMANCE
   25.6 EMPLOYEE’S QUALIFICATIONS
   3.8 THE AVAILABILITY OF LABOUR
   0.0 EXISTING RATES AND CONDITIONS FOR AWARD COVERED EMPLOYEES
   2.6 OTHER (specify)

d) What is the most important factor used when reviewing the pay and conditions for those employees on individual contracts? (Tick one only) \( N = 78 \)
   9.0 WHAT OTHER EMPLOYERS ARE PAYING - THE GOING OR MARKET RATE
   84.6 REWARD FOR MERIT OR INDIVIDUAL PERFORMANCE
   2.6 EMPLOYEE’S QUALIFICATIONS
   1.3 THE AVAILABILITY OF LABOUR
   1.3 EXISTING RATES AND CONDITIONS FOR AWARD COVERED EMPLOYEES
   1.3 OTHER (specify)

e) Over the last 12 months has the number of employees on individual contracts: \( N = 78 \)
   42.3 INCREASED
   55.1 REMAINED STABLE
   2.6 DECREASED

C5. a) At this workplace, in the last 12 months, has there been any pressure to increase wages? \( N = 95 \)
   61.1 YES
   38.9 NO (GO TO C6)

b) Where did the pressure to increase wages come from? (Tick one only) \( N = 58 \)
   1.7 A LOG OF CLAIMS MADE BY ONE OR MORE UNION
   32.8 AN APPLICATION MADE BY YOUR EMPLOYEES
   1.7 INDUSTRIAL TRIBUNAL OR AWARD DECISION
   53.4 INCREASE IN MARKET RATES OF PAY
   10.3 OTHER (specify)
c) How did management at this workplace respond to that pressure? (Tick one only) (N = 59)

89.8 NEGOTIATED DIRECTLY WITH EMPLOYEES CONCERNED
0.0 NEGOTIATED WITH UNION REPRESENTATIVES CONCERNED
0.0 REFERRED ISSUE TO EMPLOYER ASSOCIATION
0.0 SUGHT ADVICE FROM CONSULTANT/ACCOUNTANT/LAWYER
0.0 REFERRED ISSUE TO AN INDUSTRIAL TRIBUNAL
8.5 IGNORED PRESSURE
1.7 OTHER (specify)

C6. Thinking about the present arrangements for determining wages and working conditions for employees at this workplace, overall would you say that management is: (N = 94)

1.1 DISSATISFIED
21.3 NEITHER SATISFIED NOR DISSATISFIED
77.7 SATISFIED (GO TO C7)

Third Parties: Unions and Employer Associations

C7. Is this workplace a member of an employer association, which provides a range of services and advice on employee relations matters? (N = 97)

20.6 YES
76.3 NO
3.1 DON'T KNOW

C8. Using the letter code, indicate which one source you would usually use if you needed to find out information about the following issues? (N = 96)

Letter Code
A. Government agencies
B. Trade union
C. Employer association
D. Award
E. Accountant/Lawyer
F. Other managers at the workplace
G. Other employers in the area
H. Would not seek advice
I. Don't know
J. Other (specify)

a) What the appropriate RATE OF PAY was for an employee? A (26.0), B (1.0), C (17.7), D (11.5), E (3.1), F (6.3), G (9.4) H (12.5), I (0.0), J (12.5),
b) What the correct SICK LEAVE ENTITLEMENT was for an employee? A (51.0), B (1.0), C (19.8), D (11.5), E (8.3), F (2.1), G (3.1), H (3.1), I (0.0), J (0.0)
c) What procedure should be adopted when DISMISSING an employee? A (28.1), B (0.0), C (26.0), D (6.3), E (30.2), F (2.1), G (2.1), H (4.2), I (0.0), J (1.0)
d) Information on OCCUPATIONAL HEALTH AND SAFETY matters associated with this workplace? A (65.6), B (1.0), C (16.7), D (3.1), E (5.2), F (1.0), G (2.1), H (2.1), I (1.0), J (2.1)
C9.  
a) At this workplace are any employees a member of a trade union? (N = 96)

5.2  YES

94.8  NO (GO TO C10)

b) Roughly how many employees are members of a union? (NOTE exclude contractors) M = 17.2, SD = 32.4 (N = 5)

c) How many different unions have members at this workplace? M = 1.69, SD = 0.9 (N = 5)

d) Please indicate the extent to which you agree or disagree with the following statements. (N = 5)

\[ \begin{array}{cc}
\text{M} & \text{SD} \\
i) & 2.60 & 0.89 \\
ii) & 2.20 & 1.10 \\
\end{array} \]

e) In the last 12 months has the number of union members: (N = 5)

40.0  INCREASED

60.0  REMAINED STABLE

0.0  DECREASED

0.0  DON'T KNOW

C10. At this workplace does management encourage or discourage employees from joining a union? (N = 97)

1.0  ENCOURAGE

90.7  NEITHER ENCOURAGE NOR DISCOURAGE

8.2  DISCOURAGE

Workplace Policies

C11.  
a) At this workplace is there a plan which outlines corporate goals and the ways of achieving them? (N = 97)

73.2  YES

26.8  NO (GO TO C12)

b) Has this plan been communicated to all employees? (N = 69)

79.7  YES

20.3  NO

c) Is this plan contained within a written document? (N = 69)

62.3  YES

37.7  NO (GO TO C12)
d) In this **written plan** is there specific reference to any of the following functions? (Multiples accepted) (N = 44)

59.1  EMPLOYEE RELATIONS
65.9  FINANCE
86.4  MARKETING
88.6  OPERATIONS (OR PRODUCTION)
25.0  OTHER AREAS (specify)

e) How often is this written plan referred to in order to track this workplace’s performance? (N = 44)

15.9  ALL THE TIME
22.7  MOST OF THE TIME
38.6  SOME OF THE TIME
22.7  RARELY
0.0   NEVER

C12. At this workplace are there any specific rules or procedures followed when employees are disciplined? (N = 96)

56.3  YES
43.8  NO

C13. a) At this workplace, are any specific rules or procedures followed when handling employee grievances? (N = 97)

52.6  YES
47.4  NO

b) How often are these rules or procedures actually used to deal with employee grievances? (N = 97)

25.8  ALL THE TIME
14.4  MOST OF THE TIME
4.1   SOME OF THE TIME
9.3   RARELY
46.4  NEVER

C14. a) At this workplace do any **non-managerial employees** receive performance related pay? (NOTE Performance related payments may be incentive bonuses, merit pay, piecework payments, commissions, profit sharing.) (N = 97)

76.3  YES
23.7  NO (GO TO C15)
b) What is the basis for performance payments? (Tick one only) \(N = 75\)

- 62.7 INDIVIDUAL PERFORMANCE
- 9.3 WORK GROUP PERFORMANCE
- 6.7 PERFORMANCE OF THE WORKPLACE AS A WHOLE
- 5.3 PERFORMANCE OF THE ORGANISATION AS A WHOLE
- 14.7 PROFIT SHARING
- 1.3 OTHER (specify)

C15. a) At this workplace is there a procedure for appraising employees’ performance? \(N = 97\)

- 73.2 YES
- 26.8 NO \(\text{(GO TO C16)}\)

b) Is this a formal performance appraisal procedure, which is conducted on a regular basis? \(N = 72\)

- 70.8 YES
- 29.2 NO

c) How is the information gathered about an employee’s performance used? (Multiples accepted) \(N = 71\)

- 81.7 TO PROVIDE FEEDBACK ON INDIVIDUAL PERFORMANCE
- 40.8 TO PROVIDE A BASIS FOR SELF EVALUATION
- 73.2 TO ESTABLISH AND MONITOR OBJECTIVES AND TARGETS
- 84.5 TO REVIEW SALARY, CONDITIONS AND OTHER REWARDS
- 63.4 TO DIAGNOSE TRAINING AND CAREER REQUIREMENTS
- 56.3 TO DISCOVER INDIVIDUAL POTENTIAL
- 1.4 OTHER (specify)

C16. At this workplace is there a specific written policy on: \(N = 96\)

a) OCCUPATIONAL HEALTH AND SAFETY \(26.0\) YES \(74.0\) NO

b) EQUAL EMPLOYMENT OPPORTUNITY \(25.0\) YES \(75.0\) NO

c) AFFIRMATIVE ACTION \(19.8\) YES \(80.2\) NO

d) SEXUAL/RACIAL HARASSMENT \(28.1\) YES \(71.9\) NO

C17. Which of the following best describes what occurs if employees work more than their normal hours. (Tick one only) \(N = 97\)

- 39.2 GIVEN TIME OFF IN LIEU AT A LATER TIME OR DATE
- 13.4 PAID EXTRA FOR WORKING LONGER/PAID OVERTIME
- 44.3 EXPECTED TO WORK BACK OCCASIONALLY
- 2.1 NEVER WORK MORE THAN NORMAL HOURS
- 1.0 OTHER (specify)
C18. For most jobs, when recruiting or promoting employees at this workplace, is a formal, written selection procedure required to be used? (N = 97)

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>35.1</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>64.9</td>
<td>NO</td>
<td></td>
</tr>
</tbody>
</table>

C19. At this workplace is there a hierarchy of promotions in place for? (N = 97)

<table>
<thead>
<tr>
<th></th>
<th>ALL POSITIONS</th>
<th>MANY POSITIONS</th>
<th>FEW POSITIONS</th>
<th>NO POSITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.3</td>
<td>ALL POSITIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.4</td>
<td>MANY POSITIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.1</td>
<td>FEW POSITIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40.2</td>
<td>NO POSITIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C20. At this workplace is education and/or training offered or sponsored for employees? (N = 97)

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO (GO TO C21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>88.7</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>11.3</td>
<td>NO</td>
<td>(GO TO C21)</td>
</tr>
</tbody>
</table>

Communication, Participation and Decision Making

C21. At this workplace, which of these methods are currently used by management to communicate with employees? (Multiples accepted) (N = 96)

<table>
<thead>
<tr>
<th></th>
<th>DAILY 'WALK AROUND' BY SENIOR MANAGEMENT</th>
<th>SUGGESTION SCHEMES</th>
<th>REGULAR NEWSLETTERS/STAFF BULLETINS TO ALL EMPLOYEES</th>
<th>SURVEY OR BALLOTS OF EMPLOYEES VIEWS/OPINIONS</th>
<th>ELECTRONIC MAIL</th>
<th>REGULAR FORMAL MEETING BETWEEN MANAGERS AND EMPLOYEES</th>
<th>REGULAR SOCIAL FUNCTIONS</th>
<th>OTHER (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>78.1</td>
<td>DAILY 'WALK AROUND' BY SENIOR MANAGEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.6</td>
<td>SUGGESTION SCHEMES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.5</td>
<td>REGULAR NEWSLETTERS/STAFF BULLETINS TO ALL EMPLOYEES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>SURVEY OR BALLOTS OF EMPLOYEES VIEWS/OPINIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57.3</td>
<td>ELECTRONIC MAIL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>62.5</td>
<td>REGULAR FORMAL MEETING BETWEEN MANAGERS AND EMPLOYEES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44.8</td>
<td>REGULAR SOCIAL FUNCTIONS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.3</td>
<td>OTHER (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C22. At this workplace, in the last 12 months, how often did management get together with all employees for a meeting? (N = 97)

C23. At this workplace how much influence does the largest occupational group of employees have: (N = 96)

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) how work is allocated to them?</td>
<td>3.22</td>
<td>1.04</td>
</tr>
<tr>
<td>b) how they do their jobs?</td>
<td>3.72</td>
<td>1.03</td>
</tr>
<tr>
<td>c) the pace at which their work is done?</td>
<td>3.64</td>
<td>1.02</td>
</tr>
<tr>
<td>d) the way the workplace is managed or organised?</td>
<td>3.16</td>
<td>1.07</td>
</tr>
<tr>
<td>e) the time they can start and stop work each day?</td>
<td>3.36</td>
<td>1.22</td>
</tr>
</tbody>
</table>
Industrial Action

C24. a) At this workplace have employees ever taken any of the following forms of industrial action? (N = 97)

<table>
<thead>
<tr>
<th>Form</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRIKES</td>
<td>0.0</td>
<td>100.0</td>
</tr>
<tr>
<td>STOP WORK MEETINGS</td>
<td>0.0</td>
<td>100.0</td>
</tr>
<tr>
<td>OVERTIME BANS/RESTRICTIONS</td>
<td>0.0</td>
<td>100.0</td>
</tr>
<tr>
<td>OTHER BANS</td>
<td>0.0</td>
<td>100.0</td>
</tr>
<tr>
<td>GO SLOW</td>
<td>1.0</td>
<td>99.0</td>
</tr>
<tr>
<td>PICKETING</td>
<td>0.0</td>
<td>100.0</td>
</tr>
<tr>
<td>WORK TO RULE</td>
<td>0.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

OTHER (specify)

b) Was any of this industrial action undertaken in the last 12 months? (N = 97)

<table>
<thead>
<tr>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
</tr>
<tr>
<td>99.0</td>
</tr>
</tbody>
</table>

Management - Employee Relationship

C25. a) Which of the following best describes the relationship between management and employees at this workplace? (Tick one only) (N = 97)

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2</td>
<td>Management - employee relationship of superior - subordinate.</td>
</tr>
<tr>
<td>14.4</td>
<td>Management - employee relationship of superior - subordinate tempered by personal relationships that do not extend outside the workplace.</td>
</tr>
<tr>
<td>12.4</td>
<td>Management - employee relationship of superior - subordinate tempered by personal relationships that extend outside the workplace.</td>
</tr>
<tr>
<td>63.9</td>
<td>Management - employee relationship of colleagues.</td>
</tr>
<tr>
<td>2.1</td>
<td>Other (specify)</td>
</tr>
</tbody>
</table>

C26. Please indicate the extent to which you agree or disagree with the following statements. (N = 97)

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Management here prefer to deal with employees directly, not through unions.</td>
<td>4.81</td>
<td>0.65</td>
</tr>
<tr>
<td>b) Management here would not mind dealing with unions should any employees join one.</td>
<td>2.34</td>
<td>1.31</td>
</tr>
<tr>
<td>c) Unions have nothing to offer workers or management at this workplace.</td>
<td>4.29</td>
<td>1.05</td>
</tr>
<tr>
<td>d) There is no reason for employees at this workplace to join a union as management treat employees well.</td>
<td>4.45</td>
<td>0.85</td>
</tr>
<tr>
<td>e) At this workplace strong personal relationships exist between management and employees.</td>
<td>4.07</td>
<td>0.9</td>
</tr>
</tbody>
</table>
f) Management here feel a responsibility to look after the general well-being of employees.  4.35  0.78

g) If they had to make a choice, management here would choose quality improvements over labour cost reductions.  4.19  0.9

h) Considerable resources are devoted to the management of this workplace's human resources.  3.61  1.06

i) The knowledge and skills of our employees are critical to the economic success of this workplace.  4.83  0.38

Constraints

C27. Please indicate the degree to which the following labour related issues affect this workplace. (N = 97)

M    SD

a) Trade unions infringing on management's authority?  1.27  0.66
b) Increasing labour costs?  1.84  0.64
c) Ability to find the 'right' employees?  2.64  0.56
d) Ability to retain good employees?  2.40  0.75
e) Ability to dismiss employees?  1.92  0.84

SECTION D: TRADING POSITION

D1. Please indicate which best describes the situation at this workplace? (Tick one only) (N = 96)

25.0 WE HAVE A WIDE VARIETY OF PRODUCT/S OR SERVICE/S
64.6 WE HAVE A FEW PRODUCT/S OR SERVICE/S
10.4 WE ONLY HAVE ONE PRODUCT/S OR SERVICE/S
0.0 OTHER (please describe)

D2. Please describe this workplace's main product or service. Software Design/Redesign; Software/Hardware Sales/Support; Information Technology Consultancy/Training

D3. What distinguishes this workplace from its competitors? Australian Owned; Quality of Employees and their Commitment; Leading Edge Technology, Niche Marketing; Quality of Product/Service; Service; Small Company or Team Approach; Relationships with Clients/Customers

D5. Please describe what this workplace's main suppliers do. (Do not name suppliers.) Hardware And/Or Software Manufacturers or Suppliers
D6. Currently, is the demand for this workplace’s product/s or service/s: (N = 97)
   63.9 INCREASING
   29.9 REMAINING STABLE
   6.2 DECREASING

D7. Generally speaking, is the demand for this workplace’s product/s or service/s: (N = 96)
   63.5 FAIRLY PREDICTABLE
   36.5 LARGELY UNPREDICTABLE

D8. What would be the immediate response to: (N = 97)
   a) A substantial increase in demand for this workplace’s product/s or service/s?
      36.1 INCREASE USE OF CONTRACTORS
      16.5 INCREASE AMOUNT OF OVERTIME
      6.2 INCREASE PRODUCT/SERVICE PRICE
      10.3 INCREASE EMPLOYEES PAY
      27.8 INCREASE WORKPLACE CAPACITY
      76.3 INCREASE FULL-TIME EMPLOYEES
      21.6 INCREASE PART-TIME OR CASUAL EMPLOYEES
      4.1 MAKE NO ADJUSTMENT
      1.0 OTHER (specify)

   b) A substantial decrease in demand for this workplace’s product/s or service/s?
      33.0 DECREASE USE OF CONTRACTORS
      14.4 DECREASE AMOUNT OF OVERTIME
      9.3 DECREASE PRODUCT/SERVICE PRICE
      9.3 DECREASE EMPLOYEES PAY
      14.4 DECREASE WORKPLACE CAPACITY
      47.4 DECREASE FULL-TIME EMPLOYEES
      15.5 DECREASE PART-TIME OR CASUAL EMPLOYEES
      11.3 MAKE NO ADJUSTMENT
      4.1 OTHER
D9. Please rank five of the following factors in the order of their importance to the competitive success in the market for this workplace's product/s or service/s. \( N = 97 \)

1 = 16.5 PRICE
1 = 26.8 RESPONSIVENESS TO CUSTOMER REQUIREMENTS
1 = 29.9 QUALITY OF PRODUCT/SERVICE
1 = 2.1 ADVERTISING/MARKETING
1 = 15.5 QUALITY OF WORKFORCE
1 = 11.3 INNOVATIVE PRODUCT/SERVICE
1 = 19.6 REPUTATION/PAST PERFORMANCE
1 = 5.2 RESEARCH AND DEVELOPMENT

D10. How many competitors offer the same product/s or service/s as this workplace? \( N = 95 \)

32.6 MANY
55.8 SOME
11.6 NONE

D11. Are this workplace’s competitors mainly: \( N = 96 \)

39.6 LARGE MULTI-NATIONAL COMPANIES
35.4 LARGE LOCAL COMPANIES
18.8 SMALL LOCAL COMPANIES
6.3 OTHER (specify)

D12. How would you rate the degree of competition for this workplace’s product/s or service/s? \( N = 96 \)

61.5 STRONG
31.3 MODERATE
7.3 LIMITED

D13. Over the last 12 months, the degree of competition for this workplace’s product/s or service/s has:

\( N = 96 \)

60.4 INCREASED
36.5 REMAINED STABLE
3.1 DECREASED

D14. The market for the product/s or service/s of this workplace is: \( N = 97 \)

35.1 DOMESTIC ONLY
47.4 DOMESTIC WITH SOME EXPORT
17.5 MORE THAN 50% EXPORT
Appendix D: Results of Main Survey Sent to Respondents

This survey was carried out by Rowena Barrett as part of the research for her PhD in the Department of Management at the University of Melbourne. This survey forms a major part of a large-scale research project, which is concerned with the nature of, and influences on, employment relations in Victorian firms operating in the 'information industry'. In September and October 1998, 250 questionnaires were sent to firms in the information industry, which were listed on the 1998 Kompass Database. After deleting those firms that were no longer in operation and/or had changed address, the effective sample size fell to 206. From this sample a total of 97 surveys were returned, representing a response rate of 47%. This document contains the summary of results.

Part A - General Information

Location in Industry: The Australian information industry does not officially exist. Broadly, as an industry in Australia, it is a grouping that takes into account firms involved in the manufacture of hardware and software, provision of network and computer services, telecommunications, multimedia, data processing, information storage and retrieval and wholesaling of electrical and electronic equipment. Charles, Allen, and Buckridge (1997) in their report for the federal government’s Information Industries Taskforce entitled Spectator or Serious Player: Competitiveness of Australia’s Information Industries developed the industry value chain. This value chain was used in the survey as the basis upon which respondents were asked to identify where their workplace was located within the information industry.

Table 1: Location in the Information Industry

<table>
<thead>
<tr>
<th>What does this workplace do in the information industry?</th>
<th>% Workplaces*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture semiconductors and/or components</td>
<td>0</td>
</tr>
<tr>
<td>Manufacture/assemble subsystems</td>
<td>5</td>
</tr>
<tr>
<td>Manufacture/assemble systems</td>
<td>10</td>
</tr>
<tr>
<td>Provide network platforms</td>
<td>10</td>
</tr>
<tr>
<td>Develop software</td>
<td>58</td>
</tr>
<tr>
<td>Create content</td>
<td>5</td>
</tr>
<tr>
<td>Publish, package or program soft/hardware</td>
<td>18</td>
</tr>
<tr>
<td>Network provider</td>
<td>8</td>
</tr>
<tr>
<td>Service provider</td>
<td>29</td>
</tr>
<tr>
<td>Provide support services</td>
<td>47</td>
</tr>
<tr>
<td>Other</td>
<td>31</td>
</tr>
</tbody>
</table>

N = 97; *Percentages do not add to 100 as workplaces may be engaged in a number of activities.
Table 1 shows that software development was the main area identified, followed by the provision of support services. The main type of software developed by these workplaces was that for the finance and business services industries.

**Workplace Age:** The two oldest workplaces started operating in 1967, while two workplaces began operating in 1998. Table 2 shows that the majority of workplaces began operating in the 1980s.

*Table 2: Workplace Age*

<table>
<thead>
<tr>
<th>Decade Started Operating</th>
<th>% Workplaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960s</td>
<td>2</td>
</tr>
<tr>
<td>1970s</td>
<td>20</td>
</tr>
<tr>
<td>1980s</td>
<td>50</td>
</tr>
<tr>
<td>1990s</td>
<td>28</td>
</tr>
</tbody>
</table>

*N = 97*

**Ownership:** Workplaces were more likely to be operating with a company structure - private company (82.5%), public company (6.2%) - than any other structure, such as partnership (3.1%), sole proprietorship (1%), or trust (6.2%).

Of the respondent workplaces, 67% of workplaces were the only workplace in the organisation. The remaining 33% of workplaces were part of a larger organisation. The location of the ultimate head office of the workplaces that were part of a larger organisation is shown in Table 3. The majority of workplaces (88%) did not have any foreign ownership, but of those that did, the percentage of foreign ownership ranged from 20% to 100%.

*Table 3: Head Office Location for Workplaces Part of a Larger Organisation*

<table>
<thead>
<tr>
<th>Head Office Location</th>
<th>% Workplaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>23</td>
</tr>
<tr>
<td>USA</td>
<td>2</td>
</tr>
<tr>
<td>UK</td>
<td>8</td>
</tr>
</tbody>
</table>

*N = 32*

In 79% of workplaces the principal owner(s) was present at the workplace, and in 99% of these workplaces the principal owner(s) worked alongside his or her employees. In 56% of workplaces there were members of the principal owner’s family working there (ranging from 1 to 5 family members). However, only 21% of respondents agreed that their workplace could be described as a ‘family firm’.

**Part B - Workforce Characteristics**
**Workplace Size:** Table 4 shows the sizes of the workplaces surveyed in terms of the total number of people at the workplace. The mean workplace size was 21 people. For those workplaces that were the only workplace in the organisation the mean size was 16.1 persons, while the mean size of those workplaces which were part of a larger organisation was 30.5 people. The mean size of the larger organisation to which these workplaces belonged was 93 people.

**Table 4: Workplace Size**

<table>
<thead>
<tr>
<th>Number of People</th>
<th>% Workplaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 9</td>
<td>34</td>
</tr>
<tr>
<td>10 – 19</td>
<td>33</td>
</tr>
<tr>
<td>20 – 49</td>
<td>26</td>
</tr>
<tr>
<td>50 – 99</td>
<td>4</td>
</tr>
<tr>
<td>100+</td>
<td>3</td>
</tr>
</tbody>
</table>

N = 97

People employed in these workplaces were more likely to be employed on a full-time basis. Also people working in these workplaces were more likely to be male: across all the workplaces surveyed the ratio of men to women was 1:0.6.

**Skills:** Employees at a majority (94%) of workplaces were described as 'skilled'. The most likely description of the occupation of most employees at the workplace was in terms of them being 'software engineers/analysts/programmers/developers' (43%).

**Absence:** In many workplaces (76%) it was reported that there were no employees absent from work without prior approval on any average day. Where absence was reported, it ranged from 1 to 3 persons being away on an average working day without leave being approved in advance.

**Recruitment and Turnover:** Table 5 below shows the percentages of workplaces which had in the previous 12 months: recruited employees to the workplace; employees voluntarily resigned; employees made redundant because of insufficient work; and the employment of employees terminated for reasons other than redundancy.
Table 5: Recruitment and Turnover

<table>
<thead>
<tr>
<th>Reason</th>
<th>% Workplaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruited employees</td>
<td>86</td>
</tr>
<tr>
<td>Employees voluntarily resigned</td>
<td>79</td>
</tr>
<tr>
<td>Employees made redundant</td>
<td>19</td>
</tr>
<tr>
<td>Employees had their employment terminated</td>
<td>28</td>
</tr>
</tbody>
</table>

N = 97

Part C - Employment Relations

Award Coverage: Only 17.5% of workplaces indicated that any of their employees had their terms and conditions of employment regulated by an award. At those workplaces the number of awards in operation ranged from 1 to 4. However in 82% of these workplaces those employees whose terms and conditions of employment were regulated by an award were also receiving over-award pay. The level of over-award pay was more likely to have been unilaterally determined by management (60%) or negotiated by the individual concerned (40%). The reasons for over-award pay was more likely to have been for merit/reward for service/skills or to attract and/or keep employees.

Collective Bargaining: Employees' terms and conditions of employment were not likely to be regulated by a collective bargaining agreement. Only 4% of workplaces had a collective bargaining agreement in place, while none of those workplaces with a collective bargaining agreement had formalised that agreement through ratification by an industrial tribunal.

Individual Contracts: At 81% of workplaces individual contracts were used to regulate terms and conditions of employment for non-managerial employees. The mean number of employees covered by individual contracts at workplaces was 17. Table 6 shows the most important factors for determining and reviewing pay and conditions for employees on individual contracts.

Table 6: Reasons for Determining Pay and Conditions for Individual Contracts

<table>
<thead>
<tr>
<th>Reason</th>
<th>Determine Conditions (% Workplaces)</th>
<th>Review Conditions (% Workplaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Going or market rate</td>
<td>37</td>
<td>9</td>
</tr>
<tr>
<td>Reward for merit</td>
<td>31</td>
<td>85</td>
</tr>
<tr>
<td>Employee's qualifications</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>Availability of labour</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Existing rates for award covered employees</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

N = 78
Pressure to Increase Pay: Pressure to increase pay was experienced by 61% of workplaces in the previous 12 months. Where that pressure had been applied, it was more likely to have come from an increase in the 'market' rate of pay (53%). Pressure to increase pay was generally resolved by managers negotiating directly with employees.

Satisfaction with Present Arrangements: Table 7 shows that the majority of workplaces expressed satisfaction with their present arrangements for determining wages and working conditions for employees.

Table 7: Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>% Workplaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissatisfied</td>
<td>1</td>
</tr>
<tr>
<td>Neither satisfied nor dissatisfied</td>
<td>21</td>
</tr>
<tr>
<td>Satisfied</td>
<td>78</td>
</tr>
</tbody>
</table>

N = 94

Third Parties: Only 21% of workplaces were members of an employer association. If workplaces were seeking advice on the appropriate rate of pay for employees, they would use the following sources: government agencies (26%); employer associations (18%); not seek advice (13%); other ie: salary surveys or newspaper articles (13%); and awards (12%). Over half of all workplaces (51%) would use a government agency to find out the correct sick leave entitlement for employees. Workplaces would seek information about the procedure for dismissing an employee from the following sources: accountant/lawyer (30%); government agencies (28%); and employer associations (26%). Sixty-six per cent of workplaces would seek advice on Occupational Health and Safety matters from government agencies.

At only 5% of workplaces were there any employees who were members of a trade union. At these workplaces the mean number of employees who were trade union members was 17. Between 1 and 4 trade unions operated at those workplaces with trade union members. Negative attitudes towards trade unions were expressed at those workplaces where there were union members.

At the majority of all workplaces (94%) there was agreement expressed with the statement that 'there is no reason for employees to join a trade union as management treats employees well'. Fifty-six per cent of workplaces disagreed with the statement that 'management would not mind dealing with unions should any employees join one'. At 89% of workplaces there was agreement that 'managers would prefer to deal with employees directly rather than through trade unions'. At 79% of workplaces there was agreement with the statement that 'unions have nothing to offer workers or management at this workplace'. Responses indicated that at 91% of all workplaces employees were 'neither encouraged nor discouraged' from joining a trade union, although employees at 8% of workplaces were 'discouraged' from joining.
Workplace Policies: Seventy three per cent of workplaces had a plan in which the corporate goals of the workplace and the ways of achieving them were outlined. At the majority of workplaces these plans had been written and communicated to employees. These documents were also more likely to contain references to finance, marketing, and operations than they were to employee relations. These documents were more likely (39%) to be referred to ‘some of the time’, while at only 16% of workplaces were these documents referred to ‘all of the time’.

At 56% of workplaces there were procedures for dealing with discipline, while 53% of workplaces had specific procedures in place for dealing with employee grievances. At 73% of workplaces there were procedures in place for employee appraisal, which were more likely to be conducted on a regular basis. Table 8 shows how the information gained from performance appraisals was used at the workplace.

Table 8: Use of Information from Performance Appraisals

<table>
<thead>
<tr>
<th>Use of Information</th>
<th>% Workplaces&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>To review salary, conditions and other rewards</td>
<td>85</td>
</tr>
<tr>
<td>To provide feedback on individual performance</td>
<td>82</td>
</tr>
<tr>
<td>To establish and monitor objectives and targets</td>
<td>73</td>
</tr>
<tr>
<td>To diagnose training and career requirements</td>
<td>63</td>
</tr>
<tr>
<td>To discover individual potential</td>
<td>56</td>
</tr>
<tr>
<td>To provide a basis for self evaluation</td>
<td>6</td>
</tr>
</tbody>
</table>

<sup>a</sup>N = 71; *Multiples accepted, therefore percentages add to more than 100

Specific policies on Occupational Health and Safety existed at 26% of workplaces, while a policy for Sexual/Racial Discrimination existed at 28% of workplaces. Policies for Equal Employment Opportunity and Affirmative Action existed at 25% and 20% of workplaces respectively.

It was considered an expectation of the job at 44% of workplaces when employees worked more than their normal hours. However, at another 53% of workplaces employees were either given time off in lieu or remunerated when they worked longer than normal hours.

At 35% of workplaces formal selection procedures were used for recruitment or promotion. At 60% of workplaces there was a hierarchy of promotions in place for positions, although this was more likely to be the case for ‘few’ positions.

Training for employees was offered or sponsored at 89% of workplaces. The types of training included a range of internal and external programs that focussed on the product or technical, industry or tertiary skills and qualifications.
Communication: Table 9 shows the types of communication methods used at workplaces. At all workplaces management got together with all employees for formal meeting an average of 17 times in the last 12 months.

Table 9: Methods of Communicating with Employees

<table>
<thead>
<tr>
<th>Method</th>
<th>% Workplaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily 'walk around' by senior management</td>
<td>78</td>
</tr>
<tr>
<td>Regular formal meeting between managers and employees</td>
<td>63</td>
</tr>
<tr>
<td>Electronic mail</td>
<td>57</td>
</tr>
<tr>
<td>Regular social functions</td>
<td>45</td>
</tr>
<tr>
<td>Suggestion schemes</td>
<td>15</td>
</tr>
<tr>
<td>Regular newsletters/staff bulletins to all employees</td>
<td>14</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
</tr>
<tr>
<td>Survey or ballots of employees views/opinions</td>
<td>2</td>
</tr>
</tbody>
</table>

N = 96; *Multiples accepted, therefore percentages add to more than 100

Influence: The amount of influence that the largest group of employees at the workplace had over a range of workplace matters was assessed on a scale from 1 (Very Little) to 5 (Very Much). Table 10 reports the mean and standard deviation for the amount of influence employees had over each of the issues. Employees had the greatest amount of influence over how they did their job and the pace at which they worked.

Table 10: Amount of Influence

<table>
<thead>
<tr>
<th>At this workplace how much influence do employees from the largest occupational group have over:</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>How work is allocated to them</td>
<td>3.22</td>
<td>1.04</td>
</tr>
<tr>
<td>How they do their jobs</td>
<td>3.72</td>
<td>1.03</td>
</tr>
<tr>
<td>The pace at which their work is done</td>
<td>3.64</td>
<td>1.02</td>
</tr>
<tr>
<td>The way the workplace is managed or organised</td>
<td>3.16</td>
<td>1.07</td>
</tr>
<tr>
<td>The time they can start and stop work each day</td>
<td>3.36</td>
<td>1.22</td>
</tr>
</tbody>
</table>

N = 94

Industrial Action: Industrial action had only ever been taken at one workplace (1%). This action had been taken in the previous 12 months and consisted of a ‘go slow’ by employees.

Management Style: Table 11 shows that at nearly two thirds of workplaces the management style was best described in terms of a ‘management - employee relationship of colleague’.
Table 11: Management Style

<table>
<thead>
<tr>
<th>MANAGEMENT-EMPLOYEE RELATIONSHIP</th>
<th>% WORKPLACES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management-employee relationship of superior-subordinate</td>
<td>7</td>
</tr>
<tr>
<td>Management-employee relationship of superior-subordinate tempered by relationships that do not extend outside the workplace</td>
<td>14</td>
</tr>
<tr>
<td>Management-employee relationship of superior-subordinate tempered by relationships that extend outside the workplace</td>
<td>12</td>
</tr>
<tr>
<td>Management-employee relationship of colleague</td>
<td>64</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

N = 97

Some of the reasons leading to the development of this particular management style included:

Workplace size
- “We are a small, informal organisation where management gets its hands ‘dirty’”.
- “Work side by side with common goals and objective”.

Type of employees
- “Belief and trust in employees because our firm is small and employees are professional”.
- “Organisation is made up of highly skilled, very experienced people”.

Requirements of the industry/workplace
- “Professional necessity! No time for subordination”.
- “By working together we can best service our customers”.

Workplace culture
- “Youthful, vibrant workplace with mutual respect between management and employees”.
- “Family values plus clearly defined values and working relationship rules for the organisation. Also a clearly defined recruitment process in which only people in line with our values are recruited”.

Personality/attitude of the principals
- “Owner/operator who is always open to suggestions and ideas who realises how valuable are his staff”.
- “We are a small company and the Directors believe that communication is the most effective way of avoiding hassles in the workplace”.

A range of management attitudes towards employees was assessed on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). In Table 12 the mean and standard deviation for each of these attitudes are reported. Table 12 shows that although management considered employees to be a critical source of competitive advantage, they were not necessarily devoting the resources to develop employees.
Table 12: Management Attitudes towards Employees

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>At this workplace strong personal relationships exist between management and employees.</td>
<td>4.07</td>
<td>0.9</td>
</tr>
<tr>
<td>Management here feel a responsibility to look after the general well-being of employees.</td>
<td>4.35</td>
<td>0.78</td>
</tr>
<tr>
<td>If they had to make a choice, management here would choose quality improvements over labour cost reductions.</td>
<td>4.19</td>
<td>0.9</td>
</tr>
<tr>
<td>Considerable resources are devoted to the management of this workplace’s human resources.</td>
<td>3.61</td>
<td>1.06</td>
</tr>
<tr>
<td>The knowledge and skills of our employees are critical to the economic success of this workplace.</td>
<td>4.83</td>
<td>0.38</td>
</tr>
</tbody>
</table>

N = 95

Constraints: The level of concern at the workplace over six different issues was assessed on a scale from 1 (Not Concerned) to 3 (Very Concerned). The mean and standard deviation for each of the issues is reported in Table 13. The ability to find the ‘right’ employees was the issue of greatest concern, followed by the ability to retain good employees.

Table 13: Concern over Workplace Issues

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade unions infringing on management’s authority</td>
<td>1.27</td>
<td>0.66</td>
</tr>
<tr>
<td>Increasing labour costs</td>
<td>1.84</td>
<td>0.64</td>
</tr>
<tr>
<td>Ability to find the ‘right’ employees</td>
<td>2.64</td>
<td>0.56</td>
</tr>
<tr>
<td>Ability to retain good employees</td>
<td>2.40</td>
<td>0.75</td>
</tr>
<tr>
<td>Ability to dismiss employees</td>
<td>1.92</td>
<td>0.84</td>
</tr>
</tbody>
</table>

N = 95

Part D - Trading Position

Competitive Success: The types of main product/service that workplaces produced can be broadly categorised as: software design or redesign; software and/or hardware sales and/or support; and information technology consultancy and/or training.

The following are some examples of the factors which were identified as what set apart the workplace’s main product/service from those of other workplaces: Australian owned; quality of employees and their commitment; leading edge technology, niche marketing; quality of product/service; service; small company or team approach; and relationships with clients/customers.
Sixty-five per cent of workplaces said that they had a few products/services, rather than relying on either one product/service or alternatively a wide variety of products/services. The quality of the product/service was the factor most likely to be ranked as being the most important factor to the competitive success of the workplace.

Customers and Suppliers: Workplaces were asked to identify their main customers and suppliers. The finance industry; Government; different types of manufacturers; SMEs; the oil industry; and the telecommunications industry were among some of the main customers that workplaces identified. The main suppliers identified by workplaces were generally hardware and/or software manufacturers or suppliers.

Competition and Demand: At 62% of workplaces the competition was said to be ‘strong’, while 60% reported that competition had been increasing in the previous 12 months. Only 12% of workplaces had no competitors, 33% had ‘many’ and 56% had ‘some’. Forty percent of workplaces reported that their competition came from large multinational companies, while another 35% said it came from large local companies. Export activity occurred at 65% of workplaces. Table 14 shows the responses of workplaces to an increase or decrease in demand. Staffing levels were most likely to be affected by changes to demand.

Table 14: Response to Change in Level of Demand

<table>
<thead>
<tr>
<th></th>
<th>Increase (% Workplaces)</th>
<th>Decrease (% Workplaces)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of contractors</td>
<td>36</td>
<td>33</td>
</tr>
<tr>
<td>Amount of overtime</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Product/service price</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Employees pay</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Workplace capacity</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>Full-time employees</td>
<td>76</td>
<td>46</td>
</tr>
<tr>
<td>Part-time or casual employees</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>Make no adjustment</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

N = 97; *Multiples accepted, therefore percentages do not add to 100

Part E - Open Comment

In the final section respondents were given the opportunity to raise any issues or questions they felt appropriate. Sixteen per cent of respondents made some comments, which were generally concerned with the types of questions in the questionnaire. In particular, a number of respondents felt that the union questions were inappropriate to small, high tech firms staffed by professional employees. It was, however,
necessary to ask these questions as it enabled me to move beyond supposition to fact. The limited data, which does exist about employment relations in the information industry, generally pertains to large firms. Conducting this survey has enabled me to gather data, which can provide a comparison with what is known about employment relations in other firms and also with other parts of the economy.
Appendix E: Interview Schedule

Demographic information:
- What is your highest level of education?
- To which occupational group do you belong at this workplace?
- What are your work requirements and day-to-day tasks, activities and responsibilities?
- What is your gross pay level?
- Tenure at the workplace?
- Hours worked per week?
- How many hours overtime worked per week?
- How is overtime determined?
- What sort of holiday and sick leave do you have access to?
- Have you had a pay rise or promotion in the last 12 months?
- Have you received a bonus or performance pay in last 12 months?
- What sort of training and education have you had?
- Are you a union member?
- What types of problems do you experience at work?
- How are problems resolved here?

Satisfaction with work and workplace management:
- Are you happy with current hours?
- Are you satisfied with the work-family balance?
- What are your expectations of work and working in this particular firm?
- How would you describe your attitudes to the firm, management and management policies and practices?
- Do you feel committed to this firm?
- What is your attitude to your job?
- Do you find your job satisfying?
- Do you feel that you get paid fairly?
- Do you feel that you get to do lots of different tasks?
- Do you feel that you have a secure future at this workplace?
- Do you feel that this is a good place to work?
- Do you feel that this job is very stressful?
- Do you ever think about leaving?
- Do you feel that you put in a lot of effort into your job?
- Are you satisfied with job related training?
• Are you satisfied with chances for promotion?
• Are you satisfied with management treatment?
• Are you satisfied with safety/comfort of your working conditions?
• Are you satisfied with the job overall?
• How would you categorise your autonomy and capacity to make decisions at work about their work?
• What opportunities do you get to have say in decision making?
• Are there any changes in stress/effort/involvement/job satisfaction in last 12 months?
• Would you rather be in a union than not? Why?
• Do you think that it is best not to be in a union here to get on?
• Are you consulted about change? By whom (supervisors/senior managers)?
• What amount of influence do you have over the work you do?
• What amount of influence do you have over how to do work?
• What amount of influence do you have over start/finish times?
• What amount of influence do you have over pace of work?
• What amount of influence do you have over workplace management and/or organisation?
• What amount of influence do you have over decisions that affect you?

Questions about management:
• Do managers and employees at this workplace get on?
• Do you think that it is best not to be in a union here to get on?
• Do you think that workplace managers here can be trusted?
• Is there consistent management style used at this workplace?
• Can you describe this management style?
• Can you describe how do the styles of the managers differ?
• From where do you think this style emanates?
• Do you think this style has changed over time?
Appendix F: Crosstabs

Table F.1: Existence of Features of Employment Relations (% Firms)

<table>
<thead>
<tr>
<th></th>
<th>Awards</th>
<th>Individual Contracts</th>
<th>ER Assoc. membership</th>
<th>TU members</th>
<th>Industrial Action</th>
<th>Absenteeism</th>
<th>Vol. Resignation</th>
<th>Recruitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>All firms</td>
<td>18</td>
<td>81</td>
<td>21</td>
<td>5</td>
<td>1</td>
<td>24</td>
<td>79</td>
<td>86</td>
</tr>
<tr>
<td>Firm Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>13</td>
<td>79</td>
<td>20</td>
<td>9</td>
<td>2</td>
<td>13*</td>
<td>66*</td>
<td>81</td>
</tr>
<tr>
<td>Large</td>
<td>22</td>
<td>84</td>
<td>22</td>
<td>2</td>
<td>0</td>
<td>34*</td>
<td>92*</td>
<td>90</td>
</tr>
<tr>
<td>Principal Owner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>17</td>
<td>83</td>
<td>20</td>
<td>7</td>
<td>1</td>
<td>25</td>
<td>79</td>
<td>87</td>
</tr>
<tr>
<td>Absent</td>
<td>20</td>
<td>75</td>
<td>21</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td>Competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large firms</td>
<td>19</td>
<td>81</td>
<td>24</td>
<td>7</td>
<td>1</td>
<td>26</td>
<td>81</td>
<td>86</td>
</tr>
<tr>
<td>Small firms</td>
<td>13</td>
<td>83</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>79</td>
<td>83</td>
</tr>
<tr>
<td>Management Style</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fraternal</td>
<td>15</td>
<td>87</td>
<td>16</td>
<td>3</td>
<td>0</td>
<td>29</td>
<td>84</td>
<td>89</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
<td>71</td>
<td>29</td>
<td>9</td>
<td>3</td>
<td>14</td>
<td>71</td>
<td>80</td>
</tr>
<tr>
<td>N = 97; *p&lt;0.05</td>
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<tr>
<td>Plan</td>
<td>Discipline</td>
<td>PRP</td>
<td>Perf</td>
<td>OH&amp;S</td>
<td>EEO</td>
<td>AQA</td>
<td>AA</td>
<td>Sex, Race harassment</td>
</tr>
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<td>0.73</td>
<td>0.63</td>
<td>0.47</td>
<td>0.47</td>
<td>0.58</td>
<td>0.58</td>
<td>0.55</td>
<td>0.53</td>
</tr>
</tbody>
</table>

**Table F.2: Existence of Employment Relations Policies (% of Firms)**

- **All firms**: 72%
- **Small**: 62%
- **Large**: 84%
- **Principal Owner**: Present 71%
- **Absent**: 80%
- **Competition**: 79%
- **Large firms**: 38%
- **Small firms**: 58%
- **Management**: 48%
- **Firm Size**: 45%
- **Performance**: 55%
- **Safety**: 65%
- **Hiring**: 66%
- **Age**: 82%
- **Sex**: 83%
### Vanguard’s Performance Appraisal Form

**Employee Name:**

**Manager:**

**Date:**

<table>
<thead>
<tr>
<th>Job Knowledge</th>
<th>Knowledge, skills, experience, etc required to do the job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Performance</td>
<td>Accuracy and thoroughness of employee’s work.</td>
</tr>
<tr>
<td>Job Productivity</td>
<td>Volume of work accomplished; output vs standards.</td>
</tr>
<tr>
<td>Dependability</td>
<td>Attendance/lateness record.</td>
</tr>
<tr>
<td>Cooperation</td>
<td>Ability to work with associates, managers and customers.</td>
</tr>
<tr>
<td>Attitude/Enthusiasm for Job</td>
<td>Loyalty to company. Ability to accept criticism.</td>
</tr>
<tr>
<td>Managerial/Thinking Ability</td>
<td>Ability to manage self and others; capability of thinking through.</td>
</tr>
</tbody>
</table>
### Factors Affecting Performance

Health and personal life; other outside influences.

### Goal Setting

Goals for coming half-year and year.

### Goal Review

Achievement of goals agreed for current quarter and year.

### Performance Rating

A rating based upon goal review and general performance.

- Unsatisfactory
- Satisfactory
- Over Achiever
- Exemplary

### Career Goals

Employee’s desire in terms of career objectives in both short and long term.

### Manager’s Comments (to be signed by Manager)

Summary of employee’s strengths, weaknesses, potential and any action.

### Employee Comments (to be signed by Employee)

Issues employees wish to have considered that have not been recorded above.

### Comments on Matters Recorded (to be signed by Employee)

Any other matter that the employee wishes to record.