Factors Affecting the Industrial Relations Climate in Australian Enterprises*

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Abstract

This paper uses new Australian enterprise level data to investigate factors that are associated with cooperative industrial relations climates within major Australian enterprises. Climate is commonly measured along a uni-dimensional scale ranging from adversarial to cooperative and there is a view in the literature —albeit not a consensus— that more cooperative climates are more productive. Our results find that organisations which have well-developed and bilateral channels of communication between managers and employees and those companies that use systematic and analytical methods for making major decisions tend to have the most cooperative climate of relations between management, employees and unions.

1.   Introduction

This paper uses new Australian enterprise level data to investigate factors that are associated with cooperative industrial relations climates within major Australian enterprises. Poor industrial relations outcomes can be disconcerting for potential investors, and may adversely affect other performance outcomes such as productivity, through, for example, interrupting the production process or increasing non-wage labour costs. Conversely, cooperative climates may realistically be expected to increased work effort (or intensity), the acceptance of more efficient work practices and process innovations, and greater investment in human capital, which can in turn lead to better productivity outcomes (Wooden *et al.,* 2002). The empirical evidence suggests that more cooperative climates are more productive (Cooke, 1990; Deery *et al*, 1999; Ichniowski, 1986; Juravich *et al,* 1993; Voos, 1987), although there is not a consensus on this issue (Goddard, 1994; McLeod, 1990). How these measures relate to subsequent measures of firm performance is not addressed but a matter for a further study.

This paper examines factors that are associated with management-union and management-employee climate using data from a survey that was undertaken between October 2001 and February 2002. The next section of this paper considers the theory and evidence from the literature of the determinants of the industrial relations climate. This section also discusses the main variables that will be tested in the empirical work. Section 3 describes the survey, and Section 4 derives factors from the survey data to be used in the estimation procedure. Section 5 presents the estimates of the determinants of the two climate variables. Section 6 then divides organisations into eight major types according to the key variable that the preceding section has identified as the defining characteristics of organisations. Each type of organisation is then considered according to their attitudes towards the industrial relations reform which has been unfolding in Australia since the late 1980s. A short conclusion is provided in Section 7.

2.   Structural factors affecting climate

The climate and culture of a workplace are atmospheric attributes that can be said to apply across the whole enterprise. As such, climate represents the established and customary patterns of behaviour, ways of doing things, expectations and *modus operandi.* Many versions of climate have been defined in the literature (Cooke, 1990; Katz, 1983 1985; Dastmalchian *et al*, 1991; Deery *et al*, 1999; Fernie and Metcalf, 1995; Loundes, 2001; Wagar, 1997), but two measures of climate which are used in this study include first, how

well managers relate and cooperate with unions and second, how well managers relate and cooperate with employees more broadly. Key facets of these climates include the sharing of common goals, reciprocity of respect, degree of consultation and the existence of trust. Climates tend to be stable and slowly evolving in general, but they can also suddenly change as a result of large and significant changes to, for example, senior staff and company organisation.

Aside from the overarching presumption of a connection between climate and enterprise productivity, there does not appear to be a tightly defined or accepted micro level theoretical framework in the literature explaining intra-organisational climates. Few variables are truly exogenous and most identifiable factors can be argued to depend on many and various variables under the broad assortment of potential hypotheses. Attitudes, for example, which are affected by past outcomes, influence subsequent processes and outcomes. Longitudinal data modelling can permit more explicit lines of causation to be defined when unambiguous *a priori* reasoning is absent. However, these databases are scarce in the industrial relations field and they are not an option for this study.

There are several ways to measure relationships between management and workers and considerable debate over what proportions of cooperation versus adversarial conflict are optimal for both company performance and worker outcomes (Wagar, 1997). Too much cooperation may mean domination by one party and a suboptimal outcome for the enterprise, however too much conflict can result in pyrrhic victories. It is not the intention of this study to assess the optimal combinations of conflict and cooperation for either party. Instead a linear measure of climate is taken and the analysis seeks to establish the structural factors which determine how far along the scale from conflict to cooperation particular enterprises lie.

How one should model the determinants of climate is not straightforward. In the absence of decided deductive propositions, the literature commonly derives its hypothesis inductively from past empirical studies. Using this principle, Dastmalchian *et al*, (1991) have argued that the industrial relations climate is affected by four structural factors relating to the organisation: the organisational context and environment, the organizational structure, human resources policies and the industrial relations context. The organisational context and environment include attributes such as the size of the organisation and thus the complexity and access to financial resources, the age and maturity of the organisation, the types of technology used, ownership, dependence on parent company, dependence on the external

labour market and recent history of organisational change. The justification for most of these variables is derived from significant relationships found in other studies.

The organisational structure includes items such as the level of centralisation and formalisation of decision-making and the formality of relations between managers and workers. Dastmalchian *et al*, (1991) claim that more formalised, centralised and bureaucratic organisations are more frustrating for both parties and this adversely affects the climate of relations. Human resources policies include the extent of internal labour market machinery, such as training, but also practices to promote flexibility in the workplace. More supportive internal labour market features and greater workplace flexibility are thought to be more conducive towards better industrial relations climates. Finally, the industrial relations context includes union density, recent bargaining history, the bargaining structure and the level of union involvement. Dastmalchian *et al*, (1991) note that these items are not expected to be completely unaffected by past levels of industrial relations climate within the organisations and possible endogeneity must be considered. This study attempts to replicate the basic method of Dastmalchian *et al*, (1991) but has used five types of determining structural factors.

2.1. Organisational environment

The first group of variables incorporates the organizational environment. This includes employee size to reflect the sophistication and scope of managerial and personnel resources; whether foreign owned and the proportion of the enterprise workforce based in Australia (and thus focus given by top management to their Australian operations); the degree of dynamic competition in the product market arising from unpredictable consumers and fast changing market needs; the degree of difficulty managers have finding suitable skilled staff; the level of turnover among skilled staff and; the use of contractors and casual staff. Sheppeck and Militello (2000) point out that higher volatility leads to higher transaction costs for the firm in the marketplace. In order to limit the impact of these transaction costs, it is expected that a higher level of competition in the product and labour markets will put pressure on companies to put more resources into improving the industrial climate at the workplace (Blandy and Baker, 1987; Wooden *et al.,* 2002). Low turnover of skilled staff may indicate a tight labour market but may also be a result of a contented workforce. Extensive use of non-permanent labour could lower the cohesion felt among the permanent staff and thus reduce morale and the climate of relations. Alternatively, use of non-permanent labour could increase job

security for the 'core' workers and thereby improve cooperation and climate. Which of these holds in practice is a matter for the data to decide.

2.2. Intra-organisational processes

Secondly, intra-organisational processes, especially those that affect the interaction between managers and workers, should also affect the climate measure used in this study. This includes the use and existence of communication and grievance procedures, the extent of recent organisational change, level of organisational and personnel flexibility and degree of organisational integration. The active involvement of employees in determining how production at the workplace is undertaken (that is, employee involvement) has also been advanced as a method of influencing workplace performance (Cooke, 1990; Fernie and Metcalf, 1995). *A priori,* it is uncertain how such involvement affects industrial relations outcomes. If greater employee involvement leads to shirking, or if employees are unwilling to participate, the impact is likely to be negative. On the other hand, if employees know best how to undertake certain tasks, or if they get greater job satisfaction from being involved, there could be a positive association. Previous analysis indicates support for the notion that employee involvement will improve relations between management and employees (Cooke, 1990; Juravich *et al.*, 1993). It is expected that organisations that put more resources into better methods of bilateral communication between managers and workers will have better industrial relations climates. Similarly, recent injections of resources into organisational and/or managerial change could have a beneficial impact on climate if indeed they were successful. Flexibility in the organisation's strategic plans and degree of integration within the firm could potentially improve the climate to the extent it reduces frustrating red tape and unwieldy procedures. Carried to an extreme however, they could undermine the sense of stability and comfort employees feel within their work environment.

2.3. Management style

Thirdly, management style is hypothesised to be a dominant influence on the climate of relations among workers and managers in the organisation. In this study, the group of factors includes senior managers' preference for cost cutting, their competitive stance toward rivals and their decision making style within the organisation. More aggressive managers in the product market arena may be equally aggressive in their negotiation with their employees or unions. Managers' decision-making styles with respect to the internal operation of the

organisation may also reflect how they deal with employees and unions (Sheppeck and Militello, 2000).

2.4. Human resource management

Fourthly, the human resources approach includes measures that reflect the importance of HRM (Human Resource Management) to senior managers in the organisation, the extent of training and multi-skilling, the sophistication of selection and promotion procedures and the use of pecuniary rewards and incentives for employees. Generally, it is expected that extensive and well-developed HRM practices are conducive toward a more harmonious climate as workers get more personalised service and respect (Cooke, 1990, 1992; Fernie *et al.*, 1994; Kruse, 1992; Milgrom and Roberts, 1992). However, the use of individual based rewards could have a detrimental effect on relations if it breeds resentment among workers by promoting competitive—rather than cooperative—behaviour.

2.5. Industrial relations

Finally, a series of variables to reflect industrial relations structures have also been included. Of interest here is the extent to which industrial relations reform—including the introduction of enterprise bargaining—might influence organisational climate. Wooden *et al.,* (2002, p. 33) point out that 'the case for enterprise-based bargaining systems hinges in large part on its potential to enhance the productive capacity of business. …[However], virtually nothing is known about the mechanisms through which such effects are transmitted'. Analysis is often complicated by the observation that agreements vary between workplaces, in that some may reflect industry, rather than enterprise, bargaining, or may simply involve rolling over the standard award arrangements (Wooden *et al.,* 2002). In order to capture some of this complexity, the analysis includes the proportion of workers employed under union-negotiated collective agreements, how relevant these agreements are for the enterprise, the uniqueness of the collective agreements, the proportion of workers employed under individual contracts and the suitability of these contracts for the enterprise. Also included were variables that measured the extent to which organisations had embraced the reform agenda, and whether respondents thought it had been successful for their organisation.

It is expected that the greater the number of workers employed under union collective agreements rather than individual contracts, the more emphasis managers will place on improving their relations with unions. Finally, a more tailored collective agreement and/or

individual contract may reflect a good climate of negotiations and mutual respect but may also cause a greater feeling of cooperation and trust.

Union density and the number unions that the organisation actively negotiates with are also included. Union density may influence how much effort management places on good relations with both unions and their employees but a poor climate may also affect union membership. The exit/voice literature regarding the influence of unions on climate, pioneered by Freeman and Medoff, suggests that unions may have a positive influence on climate in their role as mediator for employee concerns (Freeman, 1980; Freeman and Medoff, 1984). Alternatively, high union density may be a barrier to good management–employee relations if unions adopt a more adversarial role in their dealings with management on their members' behalf.

While the industrial relations environment should affect the climate of relations within organisations, the industrial relations options firms and workers have chosen to take are also influenced by the climate of relations within their particular organisation, as well as the particular management style that is characteristic of the organisation. Accordingly, the direction of cause and effect for these variables is perhaps the least clear of all our variables.

3.   The Melbourne Institute Business Survey

The top 1000 enterprises (as measured by total revenue) were chosen from the IBISWorld enterprise database to participate in the study. Based on initial calls, 813 surveys were mailed out, with 281 useable surveys returned to the Melbourne Institute, representing a response rate of 28 per cent, which is consistent with surveys of this type. Descriptive statistics for the organisations are given in Table 1, which presents the major industry categories, location and employment size of the organisations in our survey. More than a quarter of organisations were located in manufacturing, with the next highest proportion represented by finance and insurance, wholesale trade, electricity, gas and water supply, and property and businesses services. Importantly however, the distribution of responses across characteristics does not differ markedly from the initial selected population, implying that the responses should not be biased towards a particular group. The main exceptions are: slight over-representation of electricity, gas and water suppliers, transport and storage and education, with a corresponding under-representation of organisations from wholesale trade and finance and insurance; an over-representation of respondents from Queensland and South Australia, with a

corresponding under-representation in NSW; and an over-representation of respondents from the larger firms, as measured by the number of employees.

Table 1: Organisation characteristics, Australia 2001

	Respondent percentage	Top 1000 percentage
Major industry group		
Agriculture, Forestry & Fishing	0.4	0.8
Mining	2.8	4.5
Manufacturing	26.2	25.2
Electricity, Gas & Water Supply	8.2	4.8
Construction	2.5	2.9
Wholesale Trade	9.2	15.6
Retail Trade	6.0	6.4
Accommodation, Cafes & Restaurants	0.7	0.2
Transport & Storage	5.3	3.8
Communication Services	0.4	1.3
Finance & Insurance	11.0	15
Property & Business Services	8.2	8.1
Government Administration & Defence	0.7	0.4
Education	5.7	2.6
Health & Community Services	3.9	4.0
Cultural & Recreational Services	2.5	3.1
Personal & Other Services	2.5	1.3
Missing	3.9	-
Total	*100.0*	*100.0*
Location		
ACT	0.7	1.2
NSW	43.6	49.9
NT	0.0	0.1
QLD	11.4	7.8
SA	7.8	5.3
TAS	0.4	0.9
VIC	27.3	28.0
WA	5.0	6.8
Missing	3.9	-
Total	*100.0*	*100.0*
Employment size		
Under 200	11.4	16.4
200 to under 500	14.9	17.6
500 to under 1000	18.1	19.6
1000 to under 5000	39.4	34.7
Over 5000	16.3	11.7
Total	*100.0*	*100.0*

Source: Melbourne Institute Business Survey 2001

The survey was aimed at senior management, and as such, it is expected that responses regarding the industrial relations climate will be biased toward the management perspective. A subsequent development of the survey will incorporate employee views. The questions covered management style, industrial relations structure, human resources, innovation, the market environment and organisational performance. To these data accounting and financial information from the IBISWorld database (www.ibisworld.com.au) has been added. Questions either called for a categorical response, usually for grouped percentages, or used a seven-point Likert scale with the anchors 1=strongly disagree and 7=strongly agree. Perceptual measures permit comparisons across very different organisations and industries and are easy to collect because they place fewer burdens on respondents than administrative or factual entries. However, they contain a subjective element and thus an undefined error and it would be unwise to over interpret the findings.

4.   The factors and variables

Factor analysis is used to construct both the dependent and explanatory variables, wherever the factored variables are measuring an underlying latent construct, such as an aggressive approach to marketing, or the ability to communicate well throughout the organisation.[1] Factor scores are used to construct the variables, although an alternative would be to construct an additive scale. The use of an additive scale was investigated, and made little quantitative difference to the results. It was therefore decided to continue using factor scores. It is important to keep in mind that although it is possible to make inferences on the sign and significance of the reported coefficients in the regression analysis of Section 5, it is not possible to talk about the size of the coefficient.

The dependent variables—the management-union and management-employee climate—were constructed using factor analysis from a series of perceptual responses from the senior manager about how well management and unions on the one hand and, management and employees more generally on the other, cooperated. These questions were derived from Dastmalchian *et al* (1991), and are a subset of their longer scale. These results and the associated factor loadings are presented in Table 2 and Table 3. Senior managers that argued that unions and management had good relations, had respect for one another's goals,

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[1] A promax rotated estimation was used, as it was more flexible and did not force the factors to be orthogonal to each other, as compared to varimax rotation.

cooperated and consulted, scored highly on the management-unions climates measure. Senior managers that agreed that employees and management negotiate in good faith, settle grievances promptly, and view their conditions as fair, score most highly on the management-employees climate measure.

Table 2: Rotated factor loadings of management / union climate[a]

Factor items	Management-union climate
Unions and management work together to make this organisation a better place	0.84
Unions and management have respect for each other's goals	0.81
Management and unions cooperate to settle disputes in this organisation	0.89
Management often seeks input from unions before initiating changes	0.56
Unions and management in this organisation make sincere efforts to solve common problems	0.90

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented.
Source: Melbourne Institute Business Survey 2001

Table 3: Rotated factor loadings of management / employee climate[a]

Factor items	Management-employee climate
In this organisation, negotiations take place in an atmosphere of good faith	0.60
Worker grievances are normally settled promptly in this organisation	0.66
Employees in this organisation generally view their conditions of employment as fair	0.68
The relationship between employees and management in this organisation is very good	0.75

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented.
Source: Melbourne Institute Business Survey 2001

The following discussion now turns to the independent variables, which come under the broad headings of organisational environment (such as the number of employees and the number of workplaces), industrial relations context (such as union density and the percentage of employees on collective agreements), the external product market, organisational processes, management style and human resource processes.

Common factors were not found for questions on the organisational environment, and accordingly, organisational environment features were represented as eight separate items. These included single variables to represent organisation size, foreign versus local ownership, the percentage of employees working in Australia, use of casual and contract labour and

Likert scale responses to questions about the organisation's difficulties finding suitable labour and turnover of skilled staff.

Common factors were not found for the industrial relations context as a whole, and as such, fourteen separate variables were derived to represent the industrial relations context. The first two were union density (which was grouped into seven bands), and the number of separate unions management commonly negotiate with. Both could indicate the frequency and importance of unions for the organisation. The next three were whether there existed any collective agreements and/or individual contracts at the organisation, and whether the collective agreement was unique to the organisation. The percentage of employees on collective agreements, non-union agreements, and individual contracts (either Australian Workplace Agreements—AWAs—or individual common law contracts) were defined as three separate variables. Two variables were included that measured the respondent's view on whether their organisation had embraced the reform agenda, and whether they thought the reform agenda had been successful for their organisation. Two factors were derived from how well managers believed their collective agreements or individual contracts fitted their specific company and these are presented in Table 4 and Table 5. Finally, two variables were included that measured whether the collective agreement and/or individual contract covered most employees, were unique, important and suited the needs of the organisation perfectly.

A single factor was derived on the external product market, and the rotated factor loadings are presented in Table 6. The questions are based on the uncertainty scales of Miller and Droge (1986), and are designed to measure the extent of external market volatility.

Table 4: Rotated factor loadings of relevance of collective agreements[a]

Factor items	Collective agreement fits well
Collective agreements are very important in shaping the employment and working conditions…	0.84
Collective agreements suit the needs of the organisation perfectly	0.84

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented.
Source: Melbourne Institute Business Survey 2001

Table 5: Rotated factor loadings of relevance of individual contracts[a]

Factor items	Individual contracts fit well
Individual agreements are very important in shaping the employment conditions	0.92
Individual agreements suit this organisation perfectly	0.92

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented.
Source: Melbourne Institute Business Survey 2001

Table 6: Rotated factor loadings of external market volatility[a]

Factor items	External market volatile
The organisation changes its marketing practices extremely frequently	-
The rate of obsolescence is very high	0.65
Actions of competitors are unpredictable	0.28
Consumer demand is unpredictable	0.47
The production/service technology often changes in a major way	0.68

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented
Source: Melbourne Institute Business Survey 2001

Table 7 presents the results of the rotated factor loadings for intra-organisational processes. Three factors were found. The first factor, 'flexible', reflects how flexible, integrated and responsive the organisations functional areas are. The second factor, 'adjust plan' reflects how quickly organisations can adjust their strategic plan to market contingencies. The third factor, 'communicate', captures organisations that have clear strategic missions that are understood throughout the enterprise, uses several procedures to communicate with staff, involve employees directly in decisions and act on suggestions of employees.

Table 8 presents the results of the rotated factor loadings for management-style, which yielded three factors. The first factor, 'bold', reflected managers' attitudes towards initiating change through new products, R&D, and favour high-risk projects. The second, 'intuitive', indicates managerial reliance upon intuitive information rather than formal and extensive quantitative analysis for making decisions. The third factor, 'cheap', reflects how much emphasis managers place on improving efficiency, and reducing prices and costs compared to the production of state-of-the-art products.

Three factors were found for the human resource process followed by the company, as shown in Table 9. The first factor, 'HRM status', indicates the status of human resources management within the company. The second factor, 'rewards' indicates the use of extensive pecuniary rewards based on individual or group performance. The third factor, 'ILM'

indicates how well the organisations HR systems comply with normal internal labour market systems. These systems assume a long-term relationship between the employee and company and include the use of sophisticated selection procedures, extensive training, staff appraisal processes, promotion on merit and encouragement given to multi-skilling.

Table 7: Rotated factor loadings of organisational processes[a]

Factor items	Flexible	Adjust plan	Communi cate
This organisation has a clear strategic mission that is well communicated and understood throughout the organisation			-0.60
This organisation uses a number of procedures to communicate important information to employees			-0.59
This organisation utilises teams which have responsibility for decisions, assigning work and determining work methods			-0.25
This organisation involves employees in decisions that directly affect their work processes			-0.68
This organisation acts on suggestions and feedback provided by employees			-0.65
This organisation has a formal grievance procedure or formal complaint resolution system for employees			-0.42
Resources devoted to organisational change (e.g. restructuring, changes in work practices)			-0.55
Resources devoted to managerial change (e.g. new management techniques, enterprise bargaining			-0.66
Difficult to adjust the strategic plan to:			
The emergence of a new technology		0.51	
Shifts in economic conditions		0.63	
The market entry of new competition		0.61	
Changes in government regulations		0.54	
Shifts in customer needs and preferences		0.66	
Modifications in supplier strategies		0.62	
The emergence of an unexpected opportunity		0.68	
The emergence of an unexpected threat		0.72	
Our functional areas:			
Are excellent at integrating and coordinating cross-functional activities	0.79		
Enable us to be flexible and responsive to changes in our industry	0.79		
Enable us to develop initiatives that are difficult for our competitors to quickly imitate	0.62		
Enable us to selectively adopt and customise best practice	0.69		
Are actively involved in our strategic planning process	0.43		-0.27

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented.
Source: Melbourne Institute Business Survey 2001

Table 8: Rotated factor loadings of management style[a]

Factor items	Bold	Intuitive	Cheap
Top managers favour a strong emphasis on R&D, technological leadership and innovation	0.58		
Top managers favour high-risk projects with the chances of very high rates of return	0.66		
Top managers favour a bold, aggressive posture...	0.79		
My organisation typically initiates actions to which other competitors then respond.	0.67		
My organisation is very often the first organisation to introduce new products/services, operating technologies	0.72		
My organisation typically adopts a very competitive, 'undo-the competitor' posture	0.58		
Increases operating efficiencies			0.53
Develops new process innovations that reduce costs			0.40
Focuses on increasing productivity			0.51
Tailors and shapes products/services to fit customers' needs	0.27		0.28
Develops customer loyalty			0.31
Has the flexibility to quickly respond to customer needs	0.35		0.35
Produces a continuous stream of state of the art products/services	0.66		
Is first to market with new products/services	0.79		
Responds to early market signals concerning areas of opportunity	0.62		
Develops products/services which are considered the best in the industry	0.54		
Produces products/service sat a cost level lower than that of our competitors			0.68
Prices below competitors		0.25	0.53
Produces products/services for lower priced market segments			0.50
Our major operating and strategic decisions nearly always result from extensive quantitative analysis of data		-0.65	
Our major operating and strategic decisions are nearly always detailed in formal written reports		-0.59	
We rely principally on experienced-based intuition rather than quantitative analysis		0.76	
Our major operating and strategic decisions are much more affected by experience…than systematic evaluation…		0.68	
Our major operating and strategic decisions rely on 'rules of thumb'…		0.59	

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented.
Source: Melbourne Institute Business Survey 2001

Table 9: Rotated factor loadings of human resources processes[a]

Factor items	HRM status	Rewards	ILM
This organisation practices strategic human resource management	0.76		
Human resource managers play a key role in developing strategy	0.92		
A key task of our human resource department is forward planning and integrating management resources	0.83		
HR (i.e., management of the people side of the business) is seen by management as a source of value	0.59		
This organisation:			
Regularly conducts formal appraisals of employee performance		0.38	0.26
Has transparent systems to address poorly performing employees			0.46
Rewards employees based on how well they perform the job		0.77	
Rewards employees based on how well their work group or team performs		0.77	
Rewards employees based on how well the organisation performs		0.70	
Has a performance appraisal system that helps to ensure that our reward based pay plan is effective		0.77	
Offers employee assistance programs to help employees deal with personal and job-related issues such as stress, family problems and substance abuse			0.36
Uses alternative work schedules, such as flexible hours, job sharing, permanent part-time work etc			0.63
Has human resource practices that are mutually reinforcing and internally consistent	0.35		0.50
Uses hiring procedures or tests that focus on who will best 'fit in' with the its culture and values		0.29	0.28
Selects new hires based untested selection criteria			0.62
Usually fills non-entry level jobs from within the organisation			0.36
Provides clear career paths for individual employees			0.52
Promotes employees based primarily on merit, not seniority			0.55
Provides formal training programs to teach new employees the specific skills needed			0.72
Provides training (either inside or outside the organisation) to help keep employees' skills up to date			0.71
Has people regularly work at multiple jobs or receive cross-training to increase the number of skills they possess		0.27	0.49

Notes: (a) Only loadings with absolute values greater than 0.25 have been presented.
Source: Melbourne Institute Business Survey 2001

5.   The regression analysis

The discussion below details the regression analysis (OLS) that was undertaken to examine the determinants of both management-union and management-employee climates. A range of variables were considered, including the organisational environment (such as the number of employees and the number of workplaces), organisational processes (flexible, adjust plan and communicate), management style (bold, intuitive, cheap), human resource processes (human resource management status, rewards, well developed internal labour market structures) and the industrial relations context (such as union density and the percentage of employees on collective agreements).

5.1. Management-union climate

With respect to the management-union climate, Table 10 shows that three of the organisational environment variables were significant. Size, as measured by the number of employees, was not significantly related to the management-union climate. Foreign owned companies (about one third of the sample) had a poorer management-union climate than locally owned organisations, although organisations with a larger percentage of their workforce located in Australia also had poorer climates.

There was some indication that the reliance upon a degree of non-standard workers had some influence on the climate of relations. Senior managers from organisations that were more reliant on casuals, contractors, outworkers and agency workers tended to report better management-union relations, but the relevant coefficients had a low level of significance.

Of the three intra-organisational factors discussed above, 'communicate', 'adjust plan' and 'flexible', only communicate was shown to be related to the management–union climate. The better understood the mission of the organisation, the more communication channels, the greater is employee involvement in related decisions, the better is the management-union climate. Better integration and flexibility of functional areas and an enhanced ability to adjust the strategic plan did not appear to be related to climate.

Table 10: Regression analysis of the determinants of management / union climate

Variables	Coefficient	*t-statistic*	Coefficient	*t-statistic*
Constant	0.020	0.02	0.388	1.34
Organisational environment				
Log of employees	0.018	0.24		
Foreign owned	-0.348	-1.61	-0.437	-2.35***
Proportion of organisation's total worldwide workforce based in Australian	-0.006	-2.37***	-0.007	-2.94***
Number of separate workplaces this organisation has in Australian	0.000	0.64		
External market volatile	-0.093	-0.88		
Finding suitable people is proving very difficult	0.027	0.50		
Low skilled staff turnover compared with others in this industry	0.036	0.65		
Approximate percentage of Australian employees who are casual employees	0.150	1.29	0.146	1.51
Approximate percentage of Australian labour hour requirements filled by contractors, outworkers and agency employees	0.145	1.29	0.155	1.55
Organisational processes				
Flexible	0.003	0.03		
Adjust plan	-0.055	-0.6		
Communicate	-0.329	-2.21**	-0.351	-3.47***
Management style				
Bold	-0.243	-2.07**	-0.256	-2.81***
Intuitive	-0.250	-2.48**	-0.242	-3.08***
Cheap	-0.118	-1.10		
Human resource processes				
Human resource management status	-0.038	-0.32		
Rewards	-0.154	-1.43	-0.130	-1.48
Well developed internal labour market structures	0.159	1.22		
Industrial relations context				
Union density	0.054	0.66		
Number of unions	-0.016	-0.78		
Non-union agreements as a proportion of all collective agreements (employees)	-0.116	-1.79*	-0.115	-2.17**
Embraced the reform agenda	-0.452	-2.25**	-0.326	-2.25**
Reform agenda has been successful for organisation	0.220	1.10		
Organisation has collective agreements	0.141	0.23		
Majority of employees on collective agreements	-0.150	-0.73		
Collective agreements are unique	-0.022	-0.12		
Collective agreement fits well	0.306	1.42	0.283	2.55***
Majority on collective, are unique, important and suit the organisation perfectly	-0.123	-0.41		
Organisation has individual contracts	-0.081	-0.14		
Majority of employees on individual contracts	-0.056	-0.08		
Individual contracts fit well	0.027	0.11		
Majority on individual, are important and suit the organisation perfectly	0.047	0.07		
Adjusted R^2	0.1301		0.2105	
F-statistic	1.73***		4.80***	
Ramsey RESET test	0.30		0.22	
Cook-Weisberg test	0.10		0.88	

Notes: *, **, and *** represents significant at the 10%, 5% and 1% levels respectively in a two-tailed test.

Management style had a significant and strong relationship with climate. Organisations where the senior managers had described their style as 'bold' (favouring high risk, innovation and aggressive postures), and 'intuitive' (making decisions based on experience and hunch rather than analysis and formal evaluations) had the poorest relations with union. On the other hand management who had more cautious wait and see postures, and who put more emphasis on formal analysis and systematic evaluations, reported better relations. Managerial emphasis on cost reduction was not significant.

Of the three human resource variables, only the factor that reflected the use of incentive payments was significant at the 20 per cent level. Organisations that had more group or individual bonus payment schemes had poorer climates than those that did not. Extensive use of other human resource and internal labour market structures did not appear to have any effect on climate.

Finally, three of the industrial relations context factors were significant. Where the collective agreement suited the needs of the organisation well, management and unions appeared to get along better. It is likely that management and unions have less to argue about if the agreement appears to be working properly. In contrast, those organisations that indicated they had embraced the reform agenda had a significantly poorer management-union climate. This may in part reflect the observation that those who embraced reform are significantly more likely (at the 1 per cent level) to report that they should be able to negotiate collectively with employees *without* having to involve trade unions. In line with this result, a higher proportion of collective agreement employees working under non-union agreements are associated with a poorer management-union climate.

In sum, the organisations with the best management-union climate were Australian owned, but with considerable overseas operations, used above average levels of outsourced labour inputs, had a more cautious, systematic style of management, put greater emphasis on effective communication channels for workers, did not offer extensive pecuniary reward systems, but had union negotiated collective agreements that suited the needs of the organisation. About half of the explained variation in the management-union climate measure can be accounted for by the 'communicate', 'bold' and 'intuitive' variables.

5.2. *Management-employee climate*

Table 11 presents the results for the determination of management-employee relations. The same set of possible explanatory factors as used in the analysis of management-union

relations were considered. Unlike the management-union climate results however, there was some evidence of heteroskedasticity. Therefore, the estimates presented here use robust standard errors. These results indicate that similar to the union situation, the size of the organisation had no bearing on the climate of relations between management and employees. Unlike the management-union climate estimation, neither foreign or local ownership nor the proportion of the organisation's workforce based in Australian was significant. Several other market environment variables did appear to have a significant effect on the management-employee climate however. Organisations with lower skilled staff turnover than their intra-industry rivals had a better management-employee climate, however this factor may possibly be an outcome of the good climate rather than a determinant.

With respect to the three factors that sought to represent intra-organisational processes, it was found that—unlike the management-union climate regression—none had a significant relationship with climate. Only one management style factor was significantly related to management-employee climate. Organisations that relied most upon intuitive decision-making rules for their major decisions had worse relations between workers and management. On the other hand, 'bold' organisations, which adopted aggressive high-risk postures and the emphasis on cost cutting, were not significant.

With respect to the human resource functions, companies that had well developed internal labour market structures with respect to selection and promotion processes, the provision of training and career paths, counselling and performance appraisals, had significantly better relations between management and employees. The status given to human resource management and the use of pecuniary reward systems through the organisation had no significant effect on management-employee relations.

Table 11: Regression analysis of the determinants of management / employee climate

Variables	Coefficient	*t-statistic*	Coefficient	*t-statistic*
Constant	0.938	1.12	-0.434	-1.10
Organisational environment				
Log of employees	-0.042	-0.69		
Foreign owned	-0.151	-0.84		
Proportion of organisation's total worldwide workforce based in Australian	-0.004	-1.55		
Number of separate workplaces this organisation has in Australian	0.001	1.76*	0.000	1.53
External market volatile	-0.096	-1.18		
Finding suitable people is proving very difficult	0.015	0.28		
Low skilled staff turnover compared with others in this industry	0.095	1.67*	0.110	2.17**
Approximate percentage of Australian employees who are casual employees	0.099	1.08		
Approximate percentage of Australian labour hour requirements filled by contractors, outworkers and agency employees	-0.120	-1.60		
Organisational processes				
Flexible	0.007	0.08		
Adjust plan	-0.025	-0.30		
Communicate	-0.173	-1.29		
Management style				
Bold	-0.033	-0.40		
Intuitive	-0.208	-2.38***	-0.178	-2.38***
Cheap	-0.045	-0.51		
Human resource processes				
Human resource management status	0.007	0.07		
Rewards	0.053	0.62		
Well developed internal labour market structures	0.122	1.05	0.237	3.14***
Industrial relations context				
Union density	-0.212	-3.18***	-0.226	-5.40***
Number of unions	-0.004	-0.34		
Non-union agreements as a proportion of all collective agreements (employees)	-0.030	-0.66		
Embraced the reform agenda	-0.203	-1.27		
Reform agenda has been successful for organisation	0.271	1.64	0.225	1.97**
Organisation has collective agreements	-0.447	-0.94		
Majority of employees on collective agreements	-0.036	-0.21		
Collective agreements are unique	-0.022	-0.14		
Collective agreement fits well	0.186	0.87		
Majority on collective, are unique, important and suit the organisation perfectly	-0.048	-0.23		
Organisation has individual contracts	0.488	1.05	0.758	2.08**
Majority of employees on individual contracts	-1.147	-1.18		
Individual contracts fit well	-0.254	-1.38	-0.364	-2.07**
Majority on individual, are important and suit the organisation perfectly	1.191	1.24		
R^2	0.4008		0.3235	
F-Statistic	3.20***		10.52***	
Ramsey RESET test	1.74		0.20	
Cook-Weisberg test	11.61***		12.16***	

Notes: *, **, and *** represents significant at the 10%, 5% and 1% levels respectively in a two-tailed test.

Union density was significantly related to climate. The higher the union density the poorer the climate as reported by senior management, a result that is in line with that found in Loundes (2000) using the 1995 Australian Workplace and Industrial Relations Survey. Again, like staff turnover, it is not clear which direction causation runs. Having the individual contracts that suit the needs of the organisation does not promote a positive management-employee climate, possibly because of the tension that might arise from the negotiation of these contracts—that is, it might suit the needs of the organisation, but it doesn't necessarily suit the needs of employees. In contrast, simply having individual contracts at the organisation is positively related to management-employee climate. Encouragingly, those who reported that the reform agenda had been successful for their organisation (that is, the benefits to the organisation from reform had exceeded the costs) had a better management-employee climate.

In sum, organisations with the best climate of relations between management and employees had a low turnover of skilled staff, well-developed internal labour market structures, and relied more on systematic analysis for decision-making. Organisations with the lowest union density also had the best climate, although this may be an outcome of the good relations rather than a determinant.

6. Typology analysis

The preceding section showed that intra-organisational process and management styles regarding competition and their strategic decisions are the dominant independent factors explaining the climate of relations between managers and unions on the one hand and managers and employees on the other. Accordingly, these factors have been used to construct a typology based on whether the organisations are above or below the norm for our sample. In all, it was possible to classify 232 organisations according to whether they were good or poor communicators, had a bold high-risk attitude toward competitors or were more cautious and low-risk, and whether their dominant decision style was based on a systematic analysis of data or was more driven by intuition and rules of thumb.

6.1. Management-union climate

Table 12 presents the average management-union climate measure for 232 organisations categorised according to this eight-way typology. These are ranked, from lowest to highest,

according to the mean climate measures for each type. Good communicators, who have a more cautious 'wait and see' attitude towards competition and rely upon systematic quantitative analysis for their strategic decision had the best climates within our sample. On the other hand, poor communicators, who also adopted a cautious approach to competitors but relied more on intuitive rules of thumb for their decision-making had the poorest climates. An analysis of variance (ANOVA) test confirmed that these means were significantly different from each other, and further regression analysis confirmed that the ranking was correct.

Table 12: Typology of organisations according to intra-organisation processes and management style (ranked, low to high, by management-union climate)

Type of organisation	Management-union climate measure	Percentage of organisations
1. Poor communicator, Cautious, Intuitive	-0.42	17.5
2. Good communicator, Bold, Intuitive	-0.20	16.2
3. Good communicator, Cautious, Intuitive	0.03	5.3
4. Poor communicator, Bold, Intuitive	0.07	13.6
5. Poor communicator, Cautious, Systematic	0.08	10.1
6. Good communicator, Bold, Systematic	0.16	21.1
7. Poor communicator, Bold, Systematic	0.18	10.1
8. Good communicator, Cautious, Systematic	0.72	6.1
ANOVA F-test	3.1***	

Note: *** denotes significant at the 1 per cent level.

Having developed a typology based on the management-union climate, we now want to validate this typology by determining whether it is a useful method of discriminating between firms in terms of their attitude towards industrial relations reform. Organisations were asked several questions about the industrial relations reform agenda, which was originally spearheaded by the Federal Labor Government in the late 1980s, but supported by the ACTU, and subsequently continued, albeit to a more controversial level, by the Coalition Government.

Managers were first asked how successful they believed this reform process had been for Australia as a whole. The average responses were then cross-classified against the typology, the results of which are presented in Table 13. An ANOVA test indicated that responses to this question were not significantly different from each other, that is, regardless of the type of organisation, each had similar views on the success of the reform agenda for Australia as a whole.

The second question put to managers was how complete they thought the reform agenda was. The ANOVA results indicated these means were significantly different from each other, and

that organisations in the lowest four categories (the intuitive organisations) were less likely to believe that the reform agenda was complete compared to those in the highest category (good communicator, cautious, systematic).

The third question asked about the extent to which their organisation had embraced this reform agenda. In this instance, the ANOVA (and subsequent regression) results indicated that firms who were poor communicators, cautious about competition and relied on intuitive decision making (the lowest ranked category in the typology) were significantly less likely to report that their organisation had embraced the reform agenda compared to those in the highest category. Organisations in the six middle categories had responses that were not significantly different from the highest category.

Finally, respondents were asked about whether they thought the reform agenda had been successful for their organisation. Organisations that were significantly less likely to report success compared to the top category were in categories one, two, four and five. Additionally, the results suggested that the initial ranking based on management-union climate did not hold for this question, that is, moving from the top category to the bottom, there was not a monotonic decline in the average response.

Table 13: Typology of organisations according to views of IR reform since the late 1980s (ranked, low to high, by management-union climate)

Type of organization	How successful do you think the reform agenda since the late 1980s has been for Australia as a whole?	How complete do you think the reform agenda is?	To what extent has your organisation embraced this reform agenda?	How successful do you think this reform agenda has been for your organisation?
1. Poor communicator, Cautious, Intuitive	4.26	3.38	4.13	4.32
2. Good communicator, Bold, Intuitive	4.38	3.71	4.56	4.33
3. Good communicator, Cautious, Intuitive	4.00	3.57	4.79	4.07
4. Poor communicator, Bold, Intuitive	4.43	3.89	4.53	4.52
5. Poor communicator, Cautious, Systematic	4.32	3.88	4.44	4.20
6. Good communicator, Bold, Systematic	4.86	4.02	4.98	4.74
7. Poor communicator, Bold, Systematic	4.48	4.15	4.58	4.46
8. Good communicator, Cautious, Systematic	4.75	4.50	5.19	5.06
Total	*4.47*	*3.84*	*4.61*	*4.47*
ANOVA F-test	1.4	2.8***	1.5	1.4

Note: *** denotes significant at the 1 per cent level.

6.2. Management-employee climate

A similar typology was constructed using the main determinants of the management-employee climate. In the previous section it was shown that the three main variables 'explaining' this climate were internal labour market (ILM) structures, reliance on intuitive versus systematic decision making procedures and union density. The role of union density in the management-employee climate is not entirely unambiguous. Either a high union density acts as a barrier to good relations or is an outcome of poor relations. Without longitudinal data it is not possible to disentangle cause from effect. The mode of decision-making processes, which appeared to be a dominant influence for the management-union climate, was sub-ordinate for management-employee relations. Table 14 shows that the types of firms that had the best climate had good ILM structures with low union density and systematic decision making procedures. The worse type of firm had poor internal labour market structures with high union density and intuitive decision making processes. Again, an ANOVA test confirmed that these means were significantly different from each other, and regression analysis confirmed that the ranking was correct.

Table 14: Typology of organisations according to intra-organisation processes, management style and union density (ranked, low to high, by management-employee climate)

Type of organization	Management-employee climate measure	Percentage of organisations
1. Poor ILM, high union density, intuitive	-0.59	15.1
2. Poor ILM, high union density, systematic	-0.42	13.2
3. Good ILM, high union density, intuitive	-0.32	9.9
4. Poor ILM, low union density, intuitive	-0.02	14.7
5. Good ILM, high union density, systematic	0.17	16.9
6. Poor ILM, low union density, systematic	0.19	5.1
7. Good ILM, low union density, intuitive	0.57	15.1
8. Good ILM, low union density, systematic	0.68	9.9
ANOVA F-test	12.8***	

Note: *** denotes significant at the 1 per cent level.

As in the previous section, the categories were cross-classified against the questions regarding the industrial relations reform agenda, the results of which are shown in Table 15. In contrast to the management-union climate typology, respondents classified by these categories had significantly different opinions on how successful they thought the reform agenda had been for Australia as a whole. Organisations with the best management-employee climate—those with good ILM structures, low union density and systematic decision making methods—were also those which felt the reform process had been good for Australia, had the

highest response in regards to whether the reform agenda was complete, had embraced the reform agenda, and thought it had been successful for their organisation. In contrast, those who had the poorest view on these reforms were not necessarily the same across the questions. Those with the poorest management-employee climate—organisations with poor ILM structures, high union density and intuitive decision making methods—had the least favourable view regarding whether the reform agenda was complete. Those with poor ILM structures, low union density and systematic decision making methods were significantly less likely to report that their organisation had embraced the reform agenda or that it had been successful for their organisation. Those that felt the reform agenda had been the least successful for Australia had good ILM structures with high union density and an intuitive decision making process.

There was mixed evidence on the usefulness of the management-employee climate typology as a method of distinguishing between firms. For the most part, the organisations in each of the categories had significantly different responses to the organisations with the best management-employee climates. However, the initial ranking based on the management-employee climate did not hold for any of the reform questions, that is, moving from the top category to the bottom, there was not a monotonic decline in the average response.

Table 15: Typology of organisations according to views of IR reform since the late 1980s (ranked, low to high, by management-employee climate)

Type of organisation	How successful do you think the reform agenda since the late 1980s has been for Australia as a whole?	How complete do you think the reform agenda is?	To what extent has your organisation embraced this reform agenda?	How successful do you think this reform agenda has been for your organisation?
1. Poor ILM, high union density, intuitive	4.15	3.34	4.05	4.20
2. Poor ILM, high union density, systematic	4.33	4.00	4.67	4.25
3. Good ILM, high union density, intuitive	4.07	3.45	4.72	4.24
4. Poor ILM, low union density, intuitive	4.21	3.78	4.33	4.23
5. Good ILM, high union density, systematic	4.74	4.09	4.98	4.70
6. Poor ILM, low union density, systematic	4.57	3.64	3.62	4.00
7. Good ILM, low union density, intuitive	4.78	3.98	4.73	4.73
8. Good ILM, low union density, systematic	4.96	4.39	5.29	5.21
Total	*4.47*	*3.84*	*4.61*	*4.47*
ANOVA F-test	2.4***	3.5**	3.0***	3.1***

Note: ** and *** denotes significant at the 5 per cent and 1 per cent level respectively.

7. Conclusion

A recurring theme from the analysis of this data has been that organisations which have well-developed and bilateral channels of communication between managers and employees and those companies that use systematic and analytical methods for making major decisions tend to have the most cooperative climate of relations between management, employees and unions. Good communicators have a clear strategic mission that is well understood and communicated throughout the organisation. They use a number of procedures to communicate important information to employees and actively involve affected employees in work allocation and method decisions. They act on suggestions from employees and have formal grievance or complaint systems. Finally, the good communicator devotes an above average level of resources to organisational and managerial reform. Systematic decision makers make extensive use of quantitative data analysis and nearly always use formal written reports for their major operations and strategic decisions. Systematic evaluation is more commonly used than rules of thumb developed though experience and intuition.

It appeared that *how* industrial relations change had occurred was more important to climate than the extent of the changes. Those who reported that they had embraced reform also reported significantly poorer management-union climate. Organisations that had workers on agreements that had been negotiated without a trade union had a poorer management-union climate, as did those that reported that the individual contracts suited the needs of the organisation. Some good news for industrial relations reform was found for those who reported that the reform agenda had been successful for their organisation, as they had better management-employee climates. As long as the majority of employees on individual contracts were on contracts that were important in shaping the employment and working conditions of those covered, and suited the needs of the organisation, the management-employee climate was good. Organisations that reported that collective agreements suited the needs of the organisation well also had better management-union relations.

Union density was significantly related to the manager-employee climate but not the manager-union climate while management style with respect to competitors was related to the latter but not the former. It is possible that poor employee relations encouraged greater union membership, however it may also be the case that the presence of unions and shop stewards at workplaces is a hindrance to good relations. Aggressive, bold, high risk management teams do not appear to be conducive to good relations between management and unions, although it does not appear to make any difference to relations between managers and their workers.

These conclusions are subject to the caveats about what manager-based measures of climate actually mean. A more cooperative climate from the managers perspective may, from the union's perspective, be one of manager domination and worker cowardice. Too little conflict can be suboptimal because it subverts constructive criticism. Nonetheless, these results suggest that organisations that seriously want to improve the cooperative stance of the climate of relations between management and unions or employees should enhance their channels of bilateral communication and base their major decisions more on quantitative analysis.

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