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**CORPORATE SOCIAL DISCLOSURE IN THE TIMBER INDUSTRY IN  
WESTERN AUSTRALIA 1989-1998: A TEST OF LEGITIMACY THEORY**

By

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A thesis submitted in fulfilment of the requirements for the award of the degree of  
Doctor of Philosophy in Accounting at the Faculty of Business and Public Management,  
Edith Cowan University, Western Australia

Date of Submission: 10th October 2002

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## USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

## **ABSTRACT**

In recent years, accounting researchers have turned their attention to media agenda setting theory in addition to legitimacy theory as the theoretical framework for researching voluntary social disclosure in the annual report of a company. Their research has tended to show a significant relationship between the extent and change in the number of press media social reports and the extent and level of social disclosure in the annual report of a company based on the same classification of social items. They have also explored the existence of a time lag between the number of press media reports and disclosure in the annual report. A critical review of this literature suggested a number of gaps, some of which were acknowledged, present in this research. The purpose of this study is to replicate, refine and/or extend this recent research in a number of important directions.

The refinements and extensions to recent research were carried out over two stages and applied to the annual reports of three Western Australian timber companies, Whittakers Limited, Bunnings Limited, and Wesfarmers Limited over the period 1989 to 1998. These Western Australian companies satisfied the criteria of being in a sensitive industry and being involved in the processing of hardwoods and woodchipping, which are matters of public concern. In the first stage, a structured questionnaire was designed to investigate three matters in relation to the press: (1) whether the press influences disclosure in the annual report; (2) testing aspects of legitimacy theory on disclosure in the annual report; and (3) to ascertain which Australian newspapers directors of these companies were familiar with and the importance rating of them in regard to adverse press media reports on

categories of social matters. The questionnaire was mailed/delivered to persons that were former Directors of the three companies over the period of the study 1989-1998. In the second stage, hypotheses from prior research, concerning correlations of positive and total social disclosure with the number of adverse and total number of press media social reports were tested. The purpose of this replication was to ascertain if the results held up in the present study. Refinements and extensions to those hypotheses were made and additional hypotheses formulated and tested. A weighted index of newspaper characteristics comprising location, position, column width, space, and the presence of a visual aid was constructed and correlated with disclosure. Each characteristic of the index was correlated with disclosure. The two correlation groupings used in prior studies, total positive annual report disclosure (TPAR) correlated with total unfavourable media articles (TUMA), and total annual report disclosure (TAR) correlated with total media articles (TMA) were extended to four groupings by the addition of TPAR correlated with TMA, and TAR correlated with TUMA. This allowed for a greater range of legitimacy strategies by management to be examined. In addition, the existence of the same media time lag used in prior research was explored together with an alternative media time lag. All correlations were performed on the four groupings with the exception of characteristics, the number of press media articles and the press media index. Finally, the study was essentially a regional as opposed to a national study and this approach has not been adopted in earlier studies.

The results of the first stage, the questionnaire, indicated that while the press was considered important, it did not influence social disclosure in the annual report. However, the replies to reasons given for disclosure, for all categories of social disclosure, were

consistent with legitimacy theory. The results of the second stage, implied that the media did not influence disclosure in the annual report of the companies over the period of the study. There was a low level of correlation in that less than a majority of the analyses showed a significant correlation between the number of media articles and disclosure for all four groupings at the  $p < 0.10$  level. This result also applied to the press media index and the press media lag correlations. Similarly, the level of correlation of newspaper characteristics with disclosure was low. The most significant characteristic in terms of the number of times a characteristic was significant was location in the newspaper. These results are not inconsistent with legitimacy theory. Given that legitimacy theory implies/allows a number of different strategies the results suggest “different” strategies were employed by management of the companies in the present study. The result of the second stage was consistent with the analysis of the questionnaire in the first stage. In conclusion, the results for Whittakers Limited, Bunnings Limited, and Wesfarmers Limited, with the exception of press media time lags, were not consistent with prior research.

## DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

- (i) incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;
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Signature

Date

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I am extremely grateful to three external advisers who provided valuable comments on the questionnaire. I am also grateful of the assistance from two former directors in the timber industry, and a former company secretary, who advised and assisted me in soliciting response to the questionnaire from other former directors. And, of course, to the directors who completed the questionnaire despite their busy time schedules.

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# CHAPTER 1

## INTRODUCTION

### **Background to the Study**

A considerable body of evidence exists, both nationally and internationally, which shows that, for many years, management of public companies listed on the stock exchange have used their annual reports to shareholders to voluntarily disclose information relating to their social activities. This voluntary practice, referred to as corporate social reporting (CSR) other than when solely related to as environmental reporting, includes, for example, human resources and community information<sup>1</sup>. In recent years this practice of CSR has increasingly attracted the attention of accounting researchers. This has resulted in much empirical research, using a variety of methodologies and measurements of social disclosure, seeking to explain the factors affecting disclosure of this type of information in the annual reports of listed companies. However, the results of this empirical research, especially in relation to longitudinal studies, as well as the methodology to be used to investigate the motivation for CSR disclosure, remains largely unresolved. Current debate appears to be centred between the choice of either Political Economy Theory or Legitimacy Theory coupled with Media Agenda Setting Theory as an explanation of why companies disclose social information in their annual report<sup>2</sup>. The latter approach, Legitimacy Theory coupled with Media Agenda Setting Theory, is adopted in the present study because the

<sup>1</sup> A number of researchers use the term social and environmental, however, in the present study, other than when discussing solely environmental studies, the term social includes environmental.

<sup>2</sup> For a comprehensive discussion and comparison of the different theories, see Gray, Kouhy & Lavers (1995a).

decision to voluntarily disclose social information in the annual report of a company is the result of a conscious decision by management. Consequently, empirical research in attempting to explain social disclosure in the annual report must, of necessity, focus on the actions of management as they are the persons primarily responsible for the issuance of the report.

### **Purpose of the Study**

The present study is designed to investigate the motivation for management of listed public corporations engaged in timber and woodchip production from old growth forest in Western Australia to disclose social information in their annual reports over the ten-year period July 1988 to June 1998. The timber industry engaged in timber and old growth forest in Western Australia is selected for study because it is considered that this industry and those aspects of forestry are highly sensitive and has fuelled much public debate, and, therefore, worthy of study<sup>3</sup>. The three companies engaged in timber and woodchip production from old growth forest in Western Australia during the period of the study were Whittakers Limited, Bunnings Limited and Wesfarmers Limited, and these companies form the basis of this study<sup>4</sup>. These three companies have played an integral role in the development and policy of the timber industry in Western Australia over a significant period of time.

<sup>3</sup> The sensitivity of the timber industry has been acknowledged both nationally and internationally in a number of studies explicitly (for example, Adler & Milne, 1997; Brayshaw, 1999; Deegan & Gordon, 1996; Nasi, Nasi, Phillips & Zygliopoulos 1997; Savage, Rowlands, & Cataldo, 2000; and Simmons & Neu, 1996) and in other studies implicitly (for example, Neu, Warsame & Pedwell, 1997; and Walden & Schwartz, 1997).

<sup>4</sup> Bunnings Limited was “wholly” taken over by Wesfarmers Limited in 1994.

The general hypothesis of this study is that social disclosure in the annual reports of these three companies by management is to legitimise their activities in response to press media reports specifically related to the company issued by the press in Australia.

### **Contribution of the Study**

The contribution of this study is that it refines and extends the methodology of prior accounting research that used legitimacy theory coupled together with media agenda setting theory to examine the motivation of management to voluntarily report social disclosure in the annual report of a company. The methodology of prior research, which has provided the foundation for this study, is refined and/or extended in a number of important directions.

This was largely achieved by comparison of the content, classification measures, and the existence of time lags of newspapers in the media agenda-setting process used in mass media articles with the accounting studies. Accounting studies unlike the mass media articles did not consider press media article measures. For example, page location and space taken on a page in a newspaper. However, mass media articles had no basis for classifying the articles whereas accounting did. For example, unfavourable or favourable media articles. The mass media articles indicated the existence of a time lag for topics in the agenda-setting process whereas the results of accounting studies with respect to press media reports and annual report disclosure provided mixed results. This indicated a need to consider, in combination, the content, classification analysis, and time lags of both the mass media studies and accounting studies.

The refinements and extensions to the methodology of accounting studies are discussed next.

First, prior research has used the number of adverse news reports and total news reports in newspapers as a measure of community attitudes to environmental and social issues to explain annual report disclosure. The present study refines the measurement of a press report. It constructs a weighted index comprising a number of press report characteristics employed by newspaper staff to attract reader attention. These characteristics are: (1) location in the paper; (2) position on the page; (3) column width; (4) space occupied on the page; and (5) the presence of a visual aid. This index of characteristics is correlated with the total categories of, and the total components of categories of social disclosure in the annual report. The media literature suggests that such an index would provide a “better” measure of press reports than the number of press reports. This extension is important because it has the potential to capture the impact of aspects of a press report designed to capture reader attention and, in so doing, may influence voluntary disclosure in the annual report by management. However, to date, prior research has not adopted such an index. The analysis includes both the number of media articles and the index scores of these media articles. This enables replication of prior research and a comparison with the new index.

In the second extension, each of the characteristics is converted, where possible, to a continuous variable. Each of the five characteristics for the number of articles is then correlated with the total categories of, and the total components of categories of social

disclosure in the annual report. This provides useful information on the relative importance and association of each of these characteristics comprising the index score of each article with social disclosure. Information which is not available when an index score of each article is correlated with social disclosure. This information enables further indepth analysis with the use of multivariate parametric statistics as opposed to non-parametric statistics.

Third, prior research has been restricted to the use of two groups of correlations between media reports and financial report disclosure. Namely, correlations between total positive disclosure and unfavourable media reports, and, total disclosure and total media articles. Given, that legitimacy theory is non-restrictive in its range of strategies employed by management to combat favourable/unfavourable or even neutral press reports, an additional further two groups of correlations, derived from the two groups used in prior studies, are included<sup>5</sup>. These are total positive annual reports and total media articles, and total disclosure and total unfavourable media articles. This is an important extension as it implicitly enables testing of alternative possible strategies by management not previously considered, and, also, acts as a control group in relation to prior studies. The analysis includes both the number of media articles and the index scores of these media articles.

Fourth, prior research has explored the existence of time lags between press media articles and social disclosure in the annual report. An alternative time lag, comprising prior year and current year press media articles, is explored. This is important because it is unlikely that management would be influenced by prior-year media social reports if an issue had

<sup>5</sup> A description of the various strategies a company may choose to employ is described in Savage et al. (2000), pp. 48-50.

dissolved in the current year. The analysis includes both the number of media articles and the index scores of these media articles.

Fifth, while the business interests of the three companies in this study extend beyond the boundaries of Western Australia they were not considered extensive, hence, the study is regional, as opposed to a broad industry study. This is because the major part of the business and the majority of directors of these companies were located in Western Australia. This approach does not appear to have been adopted in prior literature in the area of social disclosure. A multiple case study approach coupled together with essentially a regional focus provides the opportunity for much more stringent empirical testing of association than a larger national sample of similar companies that has the potential to hide regional differences. For example, when regions differ in their dependency on an industry, this may result in different norms and values than regions not dependent on an industry. Similarly, norms and values in regions may be conditioned by company policies that may differ between regions. Further, it is in accord with legitimacy theory that communities may differ in their social norms and values.

Sixth, prior research has focussed on a single company (a case-study approach), whereas this study contains an analysis of more than one company in the same industry. In addition, they are different sized companies. Consequently, inclusion of a number of case studies of different size companies in the same industry strengthens the approach to empirical validation of legitimacy theory coupled together with media agenda setting theory in

explaining the motivation of management to disclose social information in their annual report. This enhances generalisability of the results.

Finally, this study extends prior research by using a structured questionnaire completed by directors and former directors of Whittakers Limited, Bunnings Limited and Wesfarmers Limited to explore the press media reporting in three separate but related directions. First, to explore the general impact of the press on the functioning of a board of directors of a company in the timber industry in Western Australia. Prior research has tended to assume this relationship by measures of association between voluntary environmental disclosure and adverse press reports. However, no study has actually asked directors about the impact of the media on voluntary social and environmental disclosure in the annual report and compared the responses with disclosure and press reports. Second, to explore validation of legitimacy theory and media agenda setting theory of social disclosure in the annual report. This research extends prior research by the inclusion of total social disclosure in an examination of more than a single case study in a single industry. Third, to investigate what Australian newspapers the directors in the study are familiar with and the importance of these newspapers in respect of adverse reporting on social issues. This enables newspapers that directors are familiar with and consider important to be included in this study as opposed to focussing on certain newspapers because of their availability on a database, as prior research has done. Utilisation of this questionnaire, is, in essence, a triangular approach that will assist in cross-validation of legitimacy theory and media agenda setting theory in explaining the motivation of management to disclose social information in their annual report.

## **Relevance of this Study**

The findings of this study are relevant to regulators of accounting information in Australia considering the promulgation of an accounting standard in CSR or some other form of regulation in relation to CSR. In particular, regulators may find it useful in understanding motivations of management when exposed to press scrutiny. This may be of assistance in anticipating management reaction to proposed disclosure requirements in this area. The findings are also of interest to stakeholders and other users of accounting reports, as well as the general public, concerned with the reason for voluntary social disclosure in the annual report and comparability across company annual reports. Finally, the results may be of interest to accounting researchers of voluntary social disclosure.

## **Organisation of the Study**

This chapter presented an overview of the study and the expected contribution of the study. Chapter 2 reviews related prior research. Chapter 3 reviews the theoretical frameworks of legitimacy theory and media agenda setting theory and states the general research question and specific hypotheses forming the basis of the study. Chapter 4 describes the questionnaire research methodology used to test some of the underlying assumptions of the general hypothesis of the study and to serve as a cross-validation of the results of the association between disclosure and press reports in Chapter 7 and Chapter 8. The research methodology described in Chapter 4 includes data source, basis of measurement, data collection and data analysis. Chapter 5 details the research method used to measure the

association between social disclosure in the annual reports of Whittakers Limited, Bunnings Limited and Wesfarmers Limited and press reports. The research method includes data sources, definitions, basis of measurement, data collection and data analysis. Chapter 6 reports the analysis and results of the questionnaire to former directors relevant to legitimacy theory and media agenda setting theory described in Chapter 4. The data analysis and results of Whittakers Limited is provided in Chapter 7, and Bunnings Limited and Wesfarmers Limited in Chapter 8. Chapter 9 offers a summary and evaluation of the findings, limitations and implications of the study, and some directions for further research.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **Introduction**

This chapter reviews prior literature relevant to the major purpose of the study, i.e., research examining whether voluntary social disclosure in the annual report of a company is related to press media reporting. Disclosure of social matters in the annual report in response to media attention may be used by management to legitimise their activities.

“But what is legitimacy? ... a measure of the attitude of society toward a corporation and its activities, and it is a matter of degree ranging from highly legitimate to highly illegitimate. ... legitimacy is a social construct based on cultural norms for corporate behavior” (Nasi et al., 1997, p. 300).

However, as legitimacy theory does not provide a measure of legitimacy, it is necessary to consider media agenda setting theory, which considers the media is a proxy for public opinion. Consequently, the literature review is limited to questionnaires sent to executives and managers and semi-structured interviews to test the underlying assumptions of the general hypothesis, and to annual report studies employing legitimacy theory or some related theory and which either implicitly or explicitly includes media attention. To facilitate comparison and analysis of the studies reviewed, they are categorised into four major groups, questionnaire and semi-structured interviews, event, one year cross sectional studies, and longitudinal studies.

## **Questionnaire and Semi-Structured Interview Studies**

Buhr (1998), as part of a study into Falconbridge, a Canadian nickel and smelting company, used a triangular approach to examine the relationship between environmental performance, legislation and annual report disclosure. Legitimacy theory and political economy theory were employed to explain annual report disclosures. Buhr addressed two key questions: (1) how the corporation responded to changing government regulations for sulphur dioxide abatement; and (2) how the corporation chose to present these activities in their annual reports over the period 1964 to 1991.

Buhr (1998) constructed a history of the company over varying time periods from “... government documents and articles from newspapers, business journals and trade publications” (p. 168). She also conducted semi-structured interviews with experienced company personnel and government officers and examined disclosures in the annual reports based on issue context in five general areas of subject matter. These were political, economic, social internal, social external and technological. The quantity of disclosure in the annual report was measured by the number of sentences related to relevant disclosure items. Buhr found there was a shared view on corporate motivation for reduction of sulphur dioxide emissions and corporate philosophy regarding the management of sulphur dioxide emission reductions. The emphasis was on technology both as a means of improving profitability and meeting current and proposed regulations. Buhr found that legitimacy theory seemed to explain annual report disclosure more so than political economy theory. Management appeared to be more concerned with technology than annual report disclosure.

O'Donovan (1999) conducted semi-structured interviews with senior managers from three Australian industries considered to be environmentally sensitive. The industries chosen were the mining, chemical, and paper and pulp industries. The companies selected from these industries were Broken Hill Proprietary Limited, Orica Limited and Amcor Limited. The stated aim of the study was to explore the extent to which legitimacy theory explained the presence of environmental disclosures in the annual reports of the companies in the study. Specifically, the research addressed two questions: (1) do parties responsible for annual report disclosure believe the media influences disclosure; and (2) do they believe the disclosures allow the company to shape public opinion. The results indicated that environmental disclosures in the annual report increase if there is a need to justify or defend negative environmental activities. Further, disclosure was more likely to occur in the face of attention from the media. The managers were also of the opinion that disclosure may help shape public opinion on an issue. However, management did not consider the annual report as a means of disclosing environmental information for specific environmental users. O'Donovan's findings provide support for legitimacy theory.

Frost and Seamer (2000), as part of a study into New South Wales public entities, explored whether the level of political visibility explained the level of internal management practices and external reporting in their 1996 annual reports. The number of words associated with the disclosure of environmental information was used to measure environmental disclosure in the annual reports. Legitimacy theory was adopted as the theoretical framework for the study. The proxies used for political visibility of the entities were size (asset), number of employees, sensitivity of the entity, and the source of funding. The proxy used for

management practices of the entity, in addition to adoption of an environmental policy, comprised a management system index (10 questions), an accounting practices index (9 questions), and a survey of management attitude on issues (10 questions). These proxies for management practices were obtained from a survey of New South Wales public sector entities by Frost and Toh (1998a; 1998b). Environmental disclosure related to the development of environmental management practices, and to the political visibility of the entity. Further, environmental management practices were related to the political visibility of the entity.

“The results suggest, consistent with legitimacy theory, that entities are responding to increased political visibility through higher levels of environmental disclosure, however, they are also responding through the development of environmental management practices” (Frost & Seamer, 2000, p. 1).

### **Summary**

These three questionnaire and/or semi-structured interview studies, which were limited to environmental disclosure, provide support for legitimacy theory. However, the studies do have limitations. A limitation of the study by Buhr (1998) is the absence of the set of questions forming the basis of the semi-structured interviews with staff and government officials. Further, it relies on the skill of the interviewer. Nevertheless, the triangular approach used by Buhr strengthens the validity of her results. The study by O'Donovan (1999) provides much needed insight into the processes of management in environmentally sensitive industries. His study may have introduced some bias because of the selection of large companies and known disclosers of environmental information. There is also the

problem of generalisability. Also, the study was not placed 'in-context', therefore, there is no way of making a judgment about the link between the study and actual decisions made.

Nevertheless, O'Donovan (p. 76) provides compelling support for direct questioning of management.

"In order to broaden testing of legitimacy theory, more specific evidence of a link between public pressure and whether management decide to change the amount of environmental disclosure needs to be discovered. This can best be done by direct questioning of the decision makers rather than by attempting to establish a correlation between two (or more) sources of content analysis alone. It cannot be over emphasised that in order to test for the existence or otherwise of legitimacy theory, one needs to discover management thoughts and perceptions in regard to reasons environmental information is being disclosed."

The study by Frost and Seamer (2000) is undertaken in New South Wales, and, hence may lack generalisability to other states of Australia. A summary of these questionnaire studies is contained in Table 1.

Table 1

Questionnaire and Semi-Structured Interview Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Buhr (1998)	Examines the relationship between environmental performance, legislation and annual report disclosure of Falconbridge, a nickel company in Canada.	Data source: Annual Reports 1964 to 1991, public archival documents, on-site semi-structured interviews with company and government representatives, legislation.	Primary order focus of disclosure was technological, economic, technological, political, technological.
	Addresses two key questions:	Sample: In-depth case study.	Very little disclosure of a social nature.
	(1) How did the corporation respond to changing government regulations for sulphur dioxide abatement?	Measurement of disclosure: Number of sentences for five areas of subject matter - political, economic, social internal/external, technological.	Emphasis on technology as opposed to annual report disclosure.
	(2) How did the corporation choose to present these abatement activities in its annual reports?	Interview instrument: Guided by a set of questions.	Legitimacy theory was deemed to provide a better explanation than political economy theory.
		Theories to evaluate disclosure: Legitimacy and political economy.	
		Research design: Descriptive statistics, simple percentages, graphs.	

Table 1 Continued

Questionnaire and Semi-Structured Interview Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
O'Donovan (1999)	<p>The primary aim was to discover to what extent legitimacy theory explains the presence of environmental disclosure in the annual report.</p> <p>Addresses two research questions:</p> <p>(1) Do parties responsible for annual report disclosure believe the media influences disclosure? and,</p> <p>(2) do they believe the disclosure allows the company to shape public opinion?</p>	<p>Data source: Semi-structured interviews with seven senior management personnel from the corporations in the study during 1995 and 1996.</p> <p>Sample: In-depth case studies of three companies in environmentally sensitive industries – BHP Ltd (mining and petroleum), Orica Ltd (chemical) and Amcor Ltd (paper and pulp).</p> <p>Interview instrument: Guided by a set of 12 questions from secondary sources, taped interviews (with one exception).</p>	<p>Will increase disclosures if called upon to defend or justify negative environmental activities.</p> <p>Incentive to disclose is related to media attention.</p> <p>Environmental disclosure in the annual report may help shape public opinion.</p> <p>Management does not view the annual report as a means of disclosing environmental information to specific environmental users.</p> <p>Findings consistent with legitimacy theory.</p>

Table 1 Continued

Questionnaire and Semi-Structured Interview Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Frost and Seamer (2000)	Draws upon legitimacy theory to explore whether New South Wales public sector entity's level of political visibility explains the level of adoption of both internal management practices and external environmental reporting.	Data source: Annual Reports 1996 of New South Wales public sector entities, postal questionnaire to New South Wales public sector entities.  Sample: 35 entities.  Measurement of disclosure: Number of words.  Proxies for political visibility: Size, number of employees, sensitivity, source of funding.  Proxies for management practices: Management system index, accounting practices index, management attitude on issues.  Research design: Spearman's rank correlation, multiple regression.	Environmental disclosure is related to the development of environmental management practices.  The level of disclosure is related to the political visibility of the entity.  Environmental management practices are related to the political visibility of the entity.  Results consistent with legitimacy theory.

## Event Studies

Patten (1992) used a sample of public traded petroleum companies for the years 1988 and 1989, other than Exxon, and used the classification scheme of Wiseman (1982) to measure the change in amount of environmental disclosure per page in the annual report in response to the oil spill in 1989. Disclosure in the annual report was measured by the amount of pages in one-hundredth page intervals. He used two independent variables in his regression model of change in environmental disclosure. These were size (revenues) and whether they were part owners of Alyeska, a company also held liable for the oil spill because of their tardiness in responding to cleaning up the oil spill. The results indicated that both variables were in the direction hypothesised (positive) and significant. The change in mean disclosure was also significant. The results were consistent with legitimacy theory.

Christopher (1999), using a legitimacy theory framework and a dichotomous index of disclosure, investigated changes in the level of environmental disclosures in the annual reports of 24 listed Australian oil and gas companies as a result of the Exxon Valdez oil spill in Alaska in 1988<sup>6</sup>. Considerable media attention was found to surround this disastrous event. Hypotheses formulated in relation to change/no change in the total quantity and categories (groupings) of disclosure related to the year prior to the spill, the year of the spill, and the years subsequent to the oil spill were accepted. There was a significant increase in environmental disclosure in the annual report in the financial period associated with the spill compared to the prior year, and no significant increase in the year subsequent

<sup>6</sup> Unknowingly, this study was in progress at the same time as the Deegan, Rankin and Voght (2000) study, part of which included the Exxon Valdez oil spill.

to the spill compared to the year of the spill. The results of this study, which was essentially an event study that included prior and subsequent years to the spill for control purposes, provide support for legitimacy theory. In addition, size was a significant variable for increased disclosure but there appeared to be no change in the quality of disclosure. Disclosure was primarily descriptive.

Deegan, Rankin and Voght (2000) investigated the social disclosure reaction, measured in sentences, in the annual reports of a sample of Australian firms they considered to be affected by five major social disasters that would have significant implications for society. These incidents were the Exxon Valdez in Alaska, the Bhopal chemical leak in India, the Moora Mine in Queensland, the Iron Baron oil spill off the coast of Tasmania, and the Kirki oil spill off the coast of Western Australia. These events were selected by the authors because of their seriousness and they could be tracked to a specific date, and, therefore, were ideal for a before and after analysis. Media attention given to these social disasters was also analysed. The analysis encompassed the number of articles for each event and selected newspaper comment. However, the number of media articles was not included in the study as an independent variable. The only incident for which there was not a significant difference in increased annual report incident disclosure was the Kirki oil incident, and this received the lowest media disclosure. The researchers conclude the results of their study provide support for legitimacy theory.

## **Summary**

These three event type studies, one Canadian and two Australian, provide evidence that management, when confronted with a considerable level of media attention, voluntarily increase environmental disclosure in their annual report to legitimise their activities. A weakness of the three studies described is that while they mentioned press articles or volume of press articles directed at the event under consideration, they did not use this information on a yearly basis in their statistical analysis to test the hypotheses they had formulated. Their analysis of media attention was purely observational. Further, two of the studies (Patten, 1992; Christopher, 1999) focussed solely on environmental disclosure, thereby neglecting the possible impact on other forms of social disclosure in the annual report. A summary of these event studies is contained in Table 2.

Table 2

Event Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Patten (1992)	To assess the impact of the Exxon Valdez oil spill on environmental disclosure in the annual reports of petroleum firms other than Exxon.	Data source: Annual Reports for the period 1988 to 1989.  Sample: 21 companies included in the petroleum segment of the 1989 Fortune 500 other than Exxon.  Measurement of annual report disclosure: Total disclosure measured as the amount of pages, in 1/100 <sup>th</sup> of a page intervals.  Variables: Revenues, part ownership of Alyeska Pipeline Service Company.  Research design: T-test, multiple regression.	There was a significant increase in environmental disclosure in annual reports between 1988 and 1989.  Changes in environmental disclosure were significantly related to company size and ownership of Alyeska Pipeline Service Company.  Results consistent with legitimacy theory's predictions for the change in disclosure.

Table 2 Continued

Event Studies			
Author(s) (Year)	Aim	Research Method	Principal Findings
Christopher (1999)	To assess the impact of the Exxon Valdez oil spill in Alaska on voluntary environmental disclosure in the annual reports of Australian listed Oil and Gas companies.	Data source: Annual Reports for the period 1988 to 1990, media articles from ABI/Inform global.	There was a significant increase in environmental disclosure in annual reports of individual items and categories of items in the year of the oil spill compared to the year before the spill.
		Sample: 24 oil and gas companies listed on the Australian Stock Exchange.	No significant increase in environmental disclosure in the year subsequent to the oil spill compared to the year of the spill.
		Measurement of annual report disclosure: Dichotomous index for individual items and for categories of items.	Changes in environmental disclosure were significantly related to company size.
		Measurement of media disclosure: Number of articles reported on the event.	Results consistent with legitimacy theory.
		Variables: Market capitalisation.	
		Research design: descriptive statistics, Pearson correlation, Wilcoxon matched-pairs signed rank test.	

Table 2 Continued

Event Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Deegan, Rankin and Voght (2000)	To assess the impact of major overseas and local social incidents (Union Carbide (UC), Exxon Valdez (EV), Kirki Oil (KO), Moura Mine (MM), Iron Baron (IB)) on voluntary disclosure of a number of social themes in the annual reports of Australian companies in similar industries.	Data source: Annual Reports from the Connect 4 Database and the AGSM report file, media articles from ABIX.  Sample Companies: UC 7, EV 7, KO 10, MM 10, IB 7.  Measurement of annual report disclosure: Number of sentences in the annual report.	Corporations in industries other than the Kirki oil spill significantly altered the disclosures in the annual report in the period subsequent to the incident.  Less media attention was given to the Kirki incident in comparison to the other incidents.
		Classification of media disclosure: event related, positive disclosures.	Results consistent with legitimacy theory.
		Measurement of media disclosure: Number of articles measured and observed.	
		Research design: descriptive statistics, Mann-Whitney U Test, correlation coefficient.	

## **One Year Cross Sectional Studies**

Adler and Milne (1997) examined social disclosure, measured in sentences, in the 1995 annual reports of 122 companies listed on the New Zealand stock exchange with two purposes in mind. First, to develop a proxy for public pressure and to test political economy's notion that public pressure motivates company disclosure. Second, to examine the association between size (market capitalisation, total assets and sales) and industry type on social disclosure in the annual report. The proxy used for public pressure was the media from a range of sources, each of which was found to be significantly correlated with disclosure for large companies. They also found different types of media exposure for small and large companies and equal exposure for business news media. The association between size and industry type on disclosure in the annual report was restricted to the larger companies. The industry variable was an analysis of 48 of the larger companies categorised into high and low profile companies based on high consumer visibility, level of political risk, or concentrated intense competition. There was also a lack of disclosure by the smaller companies. They acknowledge two major limitations of their research. First, there are other forms of pressure groups beside the media that can be included, and second, the link between public pressure and social activities ought to be examined.

Bewley and Li (2000) examined the 1993 annual reports of 196 Canadian companies to assess the extent to which voluntary disclosure theory explained general environmental information and financial environmental information. The independent variables used in the study were: news, size, auditor quality and return on assets. All were found to be

positively related with disclosure. News articles for 1986-1993 and 1986-1992, 1986, being the earliest date available from the Canadian Business and Current Affairs (CBCA) database, were both correlated with 1993 disclosure. News (both measures produced little difference), pollution propensity, and size, were significantly associated with general environmental disclosure, and pollution propensity and size with financial environmental disclosure. Therefore, general environmental disclosure was more closely related to voluntary disclosure variables than was financial environmental disclosure.

### **Summary**

These two one-year cross-sectional studies, one New Zealand and one Canadian, provide evidence about where the media is both associated and not associated with disclosure in the annual report. The New Zealand study by Adler and Milne (1997), showed that high profile companies exhibited more disclosure for closer to the front pages in the media. This study also appears to be the first accounting study that examined a characteristic of a media article. The information was provided to them on the basis of readership data available. The Canadian study by Bewley and Li (2000) reported an association with the media for general environmental disclosure and no association with the media for financial environmental disclosure. Bewley and Li (2000) also considered the association of other variables with disclosure in the annual report. A limitation of these studies is they relate to a sample of companies for one period only. Therefore, the results obtained may not be representative of a longer period. Also, the inclusion of what essentially amounts to a sample of non-homogeneous companies may distort the results. A summary of these one year cross-sectional studies is contained in Table 3.

Table 3

One Year Cross Sectional Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Adler and Milne (1997)	To develop a more precise proxy of social and political exposure that companies face to test political economy's notion of public pressure on social disclosure. In addition, to examine relationships between selected variables and disclosure.	<p>Data source: New Zealand 1995 Annual Reports. Media exposure in The National Business Review, The Herald, INNZ (Index New Zealand).</p> <p>Sample: 122 listed companies.</p> <p>Measurement of annual report disclosure: Number of sentences.</p> <p>Measurement of media articles: Weighted and unweighted (location) – good, bad, neutral.</p> <p>Other independent variables: Size-market capitalisation, total assets and sales, industry type-high and low profile.</p> <p>Research Design: Pearson correlations.</p>	<p>No association between small companies and the media, size, or industry. A significant association is found for large companies.</p> <p>Different types of media exposure for small companies, and lack of social disclosures. Equal exposure between small and large companies for business news media.</p> <p>More disclosure for high profile companies with prominent pages in the media. For example, the front page as opposed to later pages.</p>

Table 3 Continued

One Year Cross Sectional Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Bewley and Li (2000)	To assess the extent to which voluntary disclosure theory explains disclosure of general and financial environmental information.	<p>Data source: Canadian 1993 Annual Reports. Media articles from CBCA.</p> <p>Sample: 196 manufacturing companies from CICA survey.</p> <p>Measurement of annual report disclosure: Two for general-total and non-financial, two for financial-extent of or had any.</p> <p>Independent variables:  Outsiders knowledge about the firm's environmental problems (NEWS- no articles), pollution propensity, political exposure (SIZE-total assets), auditor quality, financial performance (ROA).</p> <p>Research design: OLS regression, logit regression.</p>	<p>All variables were positively associated with annual report disclosure. Consistent with voluntary disclosure theory.</p> <p>There was a positive association between the amount of general environmental disclosure and news media coverage (NEWS), higher pollution propensity, and more political exposure (SIZE).</p> <p>There was a positive association between the amount of financial environmental disclosure and higher pollution propensity, and more political exposure (SIZE).</p>

## **Longitudinal Studies**

Simmons and Neu (1996) investigated environmental disclosure, measured by the number of disclosures, in the annual reports of Canadian companies over the period 1982 to 1991 from the mining, oil and gas, forest, and chemical industries with fines levied and reported in the media, criticisms in the media, and financial performance. Fines reported and media criticisms were positively associated and financial performance negatively associated with the number of environmental disclosures in the annual report. The result was in the expected direction and consistent with legitimacy theory.

Brown and Deegan (1999) analyzed the environmental performance information, measured in number of words, in the annual reports of a sample of companies in chemical, forestry and forest products, gold, oil and gas, other metals (general), pastoral and agricultural, sand, solid fuels, and uranium industries. The period of the study was for selected years over a 14-year period. Total disclosure was correlated with total media reports and again with unfavourable media reports. The results indicated that, for most of the industries, the volume of disclosure was significantly associated with the number of media articles and negative media articles. This result, together with the hypothesised direction of the hypotheses, provides support for legitimacy theory. The researchers acknowledge limitations in their study. These included: unavailability of media sources; each article was equally rated; the prominence of media articles was not investigated; lack of attention to lag effects; and media reports on specific aspects were not examined for association with specific disclosure in the annual report.

Neu, Warsame and Pedwell (1998) investigated the amount of environmental disclosures, measured in words, in annual reports of 33 public companies operating in environmentally sensitive industries for the period 1982-1991. The purpose was to assess the impact of pressure by various relevant and general publics on the company to disclose this information. The study included independent variables for profit, debt to equity, media coverage of fines, media criticisms by aboriginals or other environmentalists, total articles on environment, other social responsibility disclosures, and gross revenues. The authors consider the results of the study were generally consistent with the view of managing public impressions, in this case shareholders and government. In particular, the variables related to the media were positive as anticipated. The results of the study provide support for legitimacy theory.

Savage, Cataldo and Rowlands (2000) used a multi-case research design to empirically examine environmental disclosure, measured by the number of pages of disclosure, in the 1991-1995 annual reports of two large Canadian-owned pulp and paper companies within a legitimacy theory framework. Their research was qualitative in nature in that measures of association were visual inspection of simple bar charts. The results indicated that companies responded in a number of ways to both industry-related and company-specific legitimization gaps. The responses were significantly associated with the number of adverse media reports on company and industry environmental issues. These findings provide support for legitimacy theory in explaining environmental disclosure in the annual reports of the two companies in the study. The researchers acknowledged limitations in the study. These included the fact that their study was limited to voluntary disclosure in the annual

report and limited to Canadian norms and values, and the inability to detect the concealment (non-disclosure) strategy.

Deegan, Rankin and Tobin (1999) examined social disclosures, measured by the number of sentences, in the annual reports of Broken Hill Proprietary Limited for the period 1983 to 1997, to ascertain whether they could be explained by the concepts of a social contract and legitimacy theory. Total disclosures, and for themes of environment, energy, human resources and community involvement, and sub-categories of these themes were correlated with total media attention and unfavourable media attention. The correlations were significant and in the expected directions. Further analysis for media time lags did not result in significant relationships. It was concluded that the results of this study supported legitimacy theory. The authors acknowledge limitations of the study. These include the problem of generalisability, equal weighting of articles, and disclosures limited to the annual report.

Christopher (2000) analysed the quantity of Commonwealth Bank Limited and National Australia Bank Limited bank closures disclosed in their annual reports for 1995 to 1999 and the relationship with the number of unfavourable press media articles appearing in Australian Newspapers stored on the ABIX data base over the same period. Disclosure related to bank closures in the annual reports of the two banks was measured in both sentences and words. The results of the study rejected the hypotheses for the two banks that disclosures in the annual report are a function of the number of unfavourable reports in Australian newspapers. The results did not support legitimacy theory.

Cassar, Frost and Holmes (1999) examined the effect of changing political visibility on six themes of voluntary social disclosure: environment, human resources, energy, products, community involvement and other, measured in words, in the annual reports of companies in the Australian banking industry for the period 1992-1996. The study included independent variables for size, number of shareholders, ownership diffusion, profitability (ROA), leverage, press coverage, and the Wallis Inquiry announcement. The existence of multicollinearity led to the removal of number of shareholders and press coverage. Of the remaining variables, only ROA and Wallis were significant. The authors consider that the results indicate an influence of political visibility over time. The results suggest that independent variables that influence social disclosure in the banking industry differ from those in other industries.

Kirk (2001) examined the social disclosures, measured by the number of sentences, in the annual reports of Fletcher Challenge Limited for the period 1987 to 1998, to determine which theory (stakeholder, legitimacy, political economy, and media agenda setting) provided the best explanation for this disclosure. The patterns of disclosure, based on Hackston and Milne (1996), appeared to be both reactive and proactive and at various times supported stakeholder, legitimacy and political economy theory, but not media agenda setting theory. Further, there was no discernible pattern between return on assets, return on equity, number of employees and social disclosure in the annual report. However, a qualitative assessment suggested an association between profit and social disclosure. It was concluded that the results of this study supported an overall political economy framework. The author acknowledges limitations of the study. These include the problem of

generalisability and the short time frame of the study. The author did not provide charts, statistics and research instruments in the paper, but footnoted their availability on request.

### **Summary**

These 10 recent studies divided between Australia, Canada and New Zealand, provide evidence that media reporting does impact on voluntary social disclosure in the annual report. With the exception of the studies by Cassar et al. (1999), Christopher (2000) and Kirk (2001), findings are consistent with legitimacy theory. Further, the Christopher (2000) study was limited to the larger banks and hence limits the generalisability of the results to smaller banks. However, Christopher assumed that if management wished to remain silent and to emphasise the advantages and cost benefit of using ATMs, then it could be concluded the study is consistent with legitimacy theory as management is trying to alter the public perception of bank closures. The study by Brown and Deegan (1999), which included Wesfarmers Limited in the forestry and forestry product industries for the total duration of the study, is open to question because this company only entered that industry in 1994 as a consequence of the takeover of Bunnings Limited. This suggests analysis of Bunnings Limited should have been included for the periods prior to 1994. Finally, with the exception of Deegan et al. (1999) and Kirk (2001), emphasis was on selected social disclosure and principally on environmental disclosure. This disregards the impact of the media on other forms of social disclosure. A limitation of all of these studies is they did not attempt to discover management thought and perception regarding disclosure and/or the importance of the press per se. A summary of these longitudinal studies is contained in Table 4.

Table 4

Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Christophers (2000)	To examine the relationship between bank closure annual report disclosure and adverse media reports for the major banks in Australia.	Data source: Annual Reports for the period 1995 to 1999, media articles from ABIX data base.  Sample: Two of the major banks in Australia, the Commonwealth Bank Limited and the National Australia Bank Limited.  Measurement of disclosure: Number of sentences and number of words of disclosure in the annual report.  Measurement of media disclosure: Number of articles reported.  Research design: descriptive statistics, simple regression.	Disclosure in the annual report was not significantly related to the number of adverse press reports.  Results not consistent with legitimacy theory.

Table 4 Continued

Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Deegan, Rankin and Tobin (1999)	To ascertain the extent and type of social and environmental disclosure in the annual report of BHP Limited in response to media attention.	Data source: Annual Reports for the period 1983 to 1997, media articles from ABI Inform.  Measurement of annual report disclosure: Number of sentences in the annual report.  Classification of disclosure: As per Hackston and Milne (1996), positive and negative disclosure.  Measurement of media disclosure: Number of articles.  Classification of media disclosure: Unfavourable, favourable and other.  Research design: Spearman's rank order correlation coefficient.	There was a significant association between specific themes of social disclosure and print media coverage.  A significant association between negative media coverage and specific theme and sub-theme positive disclosures.  As with the study by Guthrie and Parker (1989) some variability in the pattern of disclosure was observed.  Results consistent with legitimacy theory.

Table 4 Continued

Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Simmons and Neu (1996)	To examine the extent of environmental disclosure in the annual report and the association with environmental fines levied and reported in the media, media criticisms of environmental activities, and financial performance.	<p>Data source: Annual Reports for the period 1982 to 1991, newspaper and periodical articles from CBCA electronic data base.</p> <p>Sample: 42 firms from Financial Post's largest 250 Canadian companies, 15 mining industry, 15 oil and gas industry, 8 forest industry, 4 chemical industry.</p> <p>Measurement of annual report disclosure: Number of environmental disclosures.</p> <p>Variables: Number of critical media articles, number of fines reported in the media, profitability.</p> <p>Research design: Simple percentages, chart.</p>	<p>Firms subject to fines were more likely to disclose environmental information in the annual report.</p> <p>There was an observed positive relationship between media article criticisms of firm performance and disclosure in the annual report.</p> <p>Negative financial performance did not motivate managers to include environmental information in their annual report.</p> <p>Results consistent with legitimacy theory.</p>

Table 4 Continued

Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Savage, Cataldo and Rowlands (2000)	To examine the association between voluntary environmental disclosure in the annual report and adverse news reports targeting the company or industry.	Data source: Annual Reports from 1991 to 1995, media articles from the Canadian Business Affairs (CBCA) database.  Sample companies: Two publicly conspicuous and large companies from the paper and pulp industry.	Annual report disclosures were found to be associated with adverse company and industry media reports.  Three additional legitimization strategies were identified.  Results consistent with legitimacy theory.
		Measurement of annual report disclosure: proportion of pages to nearest 1% of standard letter-sized page.	
		Classification of media disclosure: Negative industry, and company actions.	
		Measurement of media disclosure: Number of articles.	
		Research design: A multi-case research design.	

Table 4 Continued

Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Brown and Deegan (1999)	To examine the relationship between print media coverage on environmental matters in Chemicals, Forestry and forest products, Gold, Oil and gas, Other metals, Pastoral and agricultural, Sand mining, Solid fuels, and Uranium industries, and the disclosure of environmental matters in their annual report.	<p>Data source: Annual Reports for selective years during the period 1981 to 1994, media articles from ABIX data base.</p> <p>Sample: 27 companies.</p> <p>Measurement of annual report disclosure: Number of words.</p> <p>Classification of disclosure: Positive and negative disclosure.</p> <p>Measurement of media disclosure: Number of articles.</p> <p>Classification of media disclosure: Unfavourable, favourable and other.</p> <p>Research Design: Descriptive statistics, Spearman's rank-order correlation coefficient.</p>	<p>In six of the nine industries there was a correlation in the predicted direction, with significant results for six industries, between media reports and the quantity of environmental disclosure in the annual reports.</p> <p>In eight of the nine industries there was a correlation in the predicted direction, with significant results for five industries, between adverse media reports and the quantity of environmental disclosure in the annual reports.</p> <p>Results consistent with legitimacy theory.</p>

Table 4 Continued

Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Neu, Warsame and Pedwell (1998)	To increase understanding of the role and functioning of environmental disclosures in annual reports in relation to potential pressures by relevant and general publics.	<p>Data source: Annual Reports over period 1982 to 1991, media articles from CBCA electronic data base.</p> <p>Sample: 33 public companies operating in mineral extraction, forestry, oil and gas, and chemical industries.</p> <p>Measurement of annual report disclosure: Number of words.</p> <p>Independent variables: Profit, debt to total equity, media articles reporting fines, adverse articles by aboriginals or other environmentalists, gross revenue.</p> <p>Research design: Descriptive statistics, Pearson correlation, multiple regression.</p>	<p>The results of the multiple regression were considered to be mostly in line with expectations – for shareholders and government.</p> <p>Results in relation to media were: Media coverage related to fines resulted in increased disclosure, media coverage of environmentalist criticisms was associated with decreased disclosure – in this case considered consistent because companies will accommodate more important publics.</p> <p>Results consistent with legitimacy theory.</p>

Table 4 Continued

Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Cassar, Frost and Holmes (1999)	To examine the effect of changing political visibility on voluntary social disclosure practices in Australian banks.	Data source: Annual Reports over period 1992 to 1996, media articles from ABIX data base.  Sample: Eight banks, comprising the four major banks and four smaller banks.  Measurement of annual report disclosure: Number of words for 6 themes of disclosure.  Independent variables: Size, number of shareholders, ownership diffusion, profitability (ROA), leverage, press coverage (no. articles), Wallis Inquiry announcement.  Research design: Descriptive statistics, Pearson correlation, multiple regression.	Because of the existence of multicollinearity between assets, number of shareholders and press, only assets was retained as it had the highest correlation to social disclosure.  Limited support for ROA and Wallis Inquiry announcement. Size had no influence. Influenced by political visibility over time.  Characteristics which influence “other” industries do not influence bank sector social disclosure.

Table 4 Continued  
Longitudinal Studies

Author(s) (Year)	Aim	Research Method	Principal Findings
Kirk (2001)	A pilot study to explore the relationship between social responsibility reporting and printed media on the annual report of Fletcher Challenge Limited to determine whether stakeholder, legitimacy, political economy, or media agenda setting theory provided the best explanation.	<p>Data source: Annual Reports for the period 1987 to 1998, media articles from on line data bases.</p> <p>Measurement of annual report disclosure: Number of sentences.</p> <p>Independent variables: ROA, ROE, number of employees.</p> <p>Classification of disclosure: As per Hackston and Milne (1996), and photographs, good, bad and neutral news.</p> <p>Measurement of media disclosure: Number of articles.</p> <p>Classification of media disclosure: Unfavourable, favourable and neutral.</p> <p>Research design: Graphs, descriptive statistics, percentages, qualitative.</p>	<p>Patterns of disclosure appeared to be both reactive and proactive.</p> <p>At various times supported stakeholder, legitimacy and political economy theory – seen as overlapping. But insufficient evidence to support media agenda setting theory.</p> <p>No discernible pattern between variables and social disclosure. However, qualitative assessment suggested profit.</p> <p>Results support an overall political economy framework.</p>

## **Conclusion**

This summary of prior research that considers the impact of media attention on social disclosure is relatively recent and there are not a large number of studies in this area. Nevertheless, these studies appear supportive of legitimacy theory or a related theory when it is used and coupled with media reporting.

The methodology employed in these studies cited is not the same. Some studies have utilised questionnaires in case studies, others questionnaires together with annual report disclosure, and others entirely on annual report disclosure. They differ in their measurement of voluntary social disclosure in the annual report. For example, some researchers use words, others use lines, others sentences, and another a dichotomous index to measure the extent of disclosure. Disclosure has also been classified as positive and negative. They also differ in their classification of media coverage, with some focussing on adverse articles alone, others on number of articles, others on adverse and total, and yet another on classifying them into adverse, favourable and other. The studies also differ in their choice of variables and industry.

While these articles contribute to the area of voluntary social disclosure, it appears the methodology employed can be improved in a number of ways. First, questionnaires to management have been semi-structured; assumed a connection with the media without attempting to ascertain the newspapers read and their relative importance, and limited, other than in a single case-study, to environmental disclosure. A structured questionnaire will

permit rigour in statistical analysis and obviate the dangers inherent in not being an experienced interviewer. The assumed connection with the media can be explored with a number of questions related to the influence of the media while newspaper reading and importance can be overcome by listing and requiring an indication of those read and rating the importance of the newspapers. The results can serve as justification for the inclusion of newspapers in the study, and also to cross-validate correlations between press media reports and social disclosure in the annual report. Further, questionnaires can easily be extended to include other forms of social disclosure. Second, prior research has examined correlations between two groupings of annual report disclosure and media articles being total positive annual report articles (TPAR) and total unfavourable media articles (TUMA), and total annual report articles (TAR) and total media articles (TMA). The number of groupings is expanded by the inclusion of a further two groupings TAR/TUMA and TPAR/TMA. This is because management has numerous strategies at their disposal to legitimise press media publicity and so four rather than two combinations would be more likely to capture the range of strategies. Third, prior research has not attempted to refine the newspaper article measure, rather they have considered the newspaper per se. With the exception of Adler and Milne (1997), which included location, they have not attempted to measure characteristics of the article, such as location, position on a page, space occupied, number of columns taken, and presence of a visual aid, factors that may impact on public perception of an issue. An analysis of the characteristics of newspaper articles will provide a better measure of the impact of individual media characteristics on social disclosure. In addition, construction of an index of the characteristics of the article would provide a more realistic measure of the weighting of an article as opposed to treating them all equally.

Fourth, prior research has investigated the possibility of a lag in the association between press media reports and disclosure only on the basis of the previous year press media reports, this should be extended to include not only the previous year media articles but also the current year reports. This is because it would be unrealistic for management to ignore current year media articles in the current year disclosure decision. Finally, no attempt has been made to include a regional analysis.

The following chapters of this thesis attempt to improve the methodology of prior studies in the directions prescribed in the previous paragraph and outlined in Chapter 1. The theoretical framework and hypotheses to test the suggested improved methodology is discussed in the next chapter, Chapter 3. Chapter 4 describes the research method to be employed in respect of questionnaires to be sent to management concerning social disclosure. The administration of these questionnaires provides the first of two separate stages to be used in the present study to assist in the cross-validation of the second stage.

## **CHAPTER 3**

### **THEORETICAL FRAMEWORK AND HYPOTHESES**

#### **Introduction**

This chapter describes the theoretical framework used to test the major purpose of the study, namely, that social disclosure in the annual reports of Bunnings Limited, Wesfarmers Limited and Whittakers Limited companies is used by management to legitimise their activities in response to press media reports specifically related to their company issued by the press in Australia. The theoretical framework of the study is legitimacy theory with support by media agenda setting theory to provide a measure of public opinion. Legitimacy theory is discussed first, followed by a discussion of media agenda setting theory. Following this, the selection of the annual report of an organisation as the method for voluntarily communicating legitimisation of social activities is justified. This is followed by the development of the hypotheses to be tested in the study. Finally, possible media time lags prior to social disclosure in the annual report to be explored are discussed.

#### **Legitimacy Theory**

Legitimacy theory has been derived from political economy theory (Gray, Owens and Adams, 1996) and is based on the notion of an unwritten social contract that a business adheres to and receives approval for its actions and ultimate survival (Perrow, 1970;

Guthrie & Parker, 1989). The notion of a social contract is not a recent phenomenon, it can be traced to Plato (Savage, 1999) and philosophers Thomas Hobbes (1558-1679) and John Locke (1632-1704) (Deegan, 2000). Godfrey, Hodgson and Holmes (2000) define a social contract (p. 710) as:

“a theory describing the interaction between individuals or organisations within society through implicit or explicit boundaries of behaviour (implicit boundaries are moral obligations, explicit boundaries are regulatory requirements).”

Legitimacy theory posits that voluntary corporate social disclosure is in response to environmental factors (economic, social, and political) and that such disclosure legitimises management and its activities (Preston & Post, 1975; Hogner, 1982). In short, organisations attempt to establish congruence between their social values and those of society (Dowling & Pfeffer, 1975). Community social values are not static and so organisations need to continually monitor and reassess their position. Different communities often have different ideas about what constitutes legitimate corporate behaviour (Nasi et al., 1997). It is not a question of whether they are right or wrong but how they are perceived by society. Sethi (1979, p. 64) emphasises this aspect:

“A specific action is more or less socially responsible *only* within the framework of time, environment, and the nature of the parties involved. The same activity may be considered socially responsible at one time, under one set of circumstances, and in one culture, and socially irresponsible at another time.”

Where society's expectations of a company's behaviour are not consistent with that of a company's actions and activities then illegitimacy is present. More specifically, a legitimacy gap exists (Sethi, 1975). In which case, "Companies may conform with, or in a number of different ways, attempt to alter these social perceptions, expectations, or values as part of a legitimization process" (O'Donovan, 1999, p. 66). A similar view is expressed by Lewis and Unerman (1999, p. 543).

"Some companies will have management teams who seek to ensure their companies fulfil their social contractual obligations by doing what is considered morally right and refraining from doing what is morally wrong (or even actively working against others who do wrong). Such managers will use CSR [Corporate Social Reporting] in the discharge of their duties of accountability to stakeholders, by informing these stakeholders about the social impact of their operations. Other companies will have managers who do not seek to fulfil their social contractual duties, but use CSR in legitimization strategies which aim at convincing key stakeholders that the company has behaved in a morally correct manner."

"This leads to the assertion that legitimacy is a two-way proposition. It is conferred by outsiders to the organisation, but may be controlled by the organisation itself" (O'Donovan, 1999, p. 67).

Thus, the theory is considered to be proactive and reactive. In recent times, legitimate activities extend to more than just the traditional view of profit maximisation (Patten 1991, 1992; Mathews, 1993), which generally focussed on the need of investors and not society. If management fail to counter a legitimacy gap then society may impose "legal, economic and other social sanctions" (Dowling and Pfeffer, 1975 p. 122) which amount to a negation

of the contract and, consequently, the organization may cease to exist. Woodward, Edwards and Birkin (1996, p. 4,) emphasise this aspect:

“An organizational legitimacy stance would suggest that companies have to do certain things if they are to maintain their mandate from society to continue existing. This would suggest that information has to be released by companies sufficient as regards both quality and quantity to convince society ...”.

As do Deegan et al. (2000):

“If firms cannot justify their position or actions their *social contract* may be revoked. This may occur in a number of ways, including pressure from governments in the form of more stringent legislation and reporting requirements, or higher taxes or licensing fees; or it may occur as a result of reduced demand for products by consumers; reduction in labour supply; or a decline in funds from lenders.”

Lindblom (1994, cited in Gray et al., 1995a) identifies courses of action an organisation can do to obtain, or maintain legitimacy.

1. Educate and inform its “relevant publics” about actual changes in the organisation’s performance and activities.
2. Change the perceptions of the relevant public without having to change the organisation’s actual behaviour.
3. Manipulate perception by deflecting attention from the issue of concern to other related issues through an appeal to, for example, emotive symbols.
4. Change external expectations of its performance.

When management of an organisation identifies that a course of action is necessary they must decide either between, or in combination, the two types of legitimisation activity and the appropriate strategy within these legitimisation activities to adopt. The two types of legitimisation activity referred to are substantive activity and symbolic activity. Savage et al. (2000) identify the strategies that can be adopted within the legitimisation activities as substantive and symbolic. Substantive strategies are role performance, coercive isomorphism, and altering socially institutionalised practices. Symbolic strategies are espousing socially acceptable goals, denial and concealment, identification with symbols, values or institutions, offering accounts, admission of guilt, offering apologies, ceremonial conformity, misrepresentation or distortion, avoiding, trivialising or skirting around the issue.

The major problem with legitimacy theory is that it does not provide a measure of legitimacy of corporate activities. Unfortunately there does not presently exist a readily available index as to what constitutes a measure of public concern (community attitudes) on corporate activities at any point in time. A major criticism of some of the earlier studies is that they assumed this connection. See, for example, the studies by Hogner (1982) and Deegan and Gordon (1996). To obtain a measure as a surrogate for public concern it is necessary to draw upon media agenda setting theory, which implies media attention can be used as a barometer of community attitude.

## **Media Agenda Setting Theory**

Media agenda setting theory is based on the notion that the amount of media attention given to an issue is related to the amount of salience these issues have for the general public (Ader, 1995). Hence, the media is seen as influencing the public on these issues. However, this theory does not assert that the print media is the only source of influence on the perceived salience of public issues and neither is it concerned with the distribution of opinion on issues (McCombs, 1981). Much of the earlier research on media agenda-setting theory focussed on polls and then moved to other areas including studies of individuals, for example, individuals' perceptions of media credibility (Wanta & Hu, 1994). More recently, media agenda-setting theory, coupled together with legitimacy theory, has examined the impact of media attention on disclosure of social issues in the annual report of a company. The studies that have explicitly/implicitly included the media together with legitimacy theory to examine social disclosure in the annual report were analysed and discussed in Chapter 2, Literature Review.

A study by Schoenbach and Semetko (1992), which questioned electors between different dates of issues related to the 1990 German National Election found the tone of political coverage as well as the frequency of coverage were important causes of an increase in salience of environmental problems in public opinion. The indicators used for salience of reporting were the: number of stories; number of very long stories; and number of stories on the front page of the newspaper. The frequency of coverage of an issue in the media is supported by Salwen (1988, p. 106), who states "... not mere coverage alone, but the

continuing endurance of an issue or issues in the news media also determine what the public will think about". He conducted telephone interviews in respect of environmental issues and compared the results with a content analysis, based on weighting of each press media story by page number and column inches, of three local and regional newspapers.

Ader (1995) found that from 1970-1990 the agenda setting effect supported the issue of environmental pollution. The results support the notion that public salience is influenced by the amount of media attention including renewed media attention. She found a positive correlation between media agenda and real-world conditions for waste pollution from 1970 to 1990. This finding was based on a content analysis of press media and secondary analysis of data including Gallup poll surveys. A prominence score, comprising location, column width, position on page, area of article, and visual aid area was calculated for each story in the New York Times. This study showed the public places reliance on the media for rating the importance of an issue, a finding consistent with Mayer (1980) and McCombs (1981). The findings of this study support the survey of Lasorsa and Want (1990), which drew comparisons of front story pages with three column headlines of the press media, and concluded that the press's agenda drives the publics' agenda.

McCombs and Shaw (1972) examined the agenda-setting capacity of the mass media for the 1968 presidential campaign. McCombs and Shaw conducted interviews and analysed the mass media serving these voters. They found that the mass media shape reality by choosing and displaying news. They also found that the readers learn about an issue in the media. Further, the readers rate the importance attached to an issue with reference to the

amount of information given and the position in the newspaper. This view of media influence also has support by Mayer (1980). Wanta and Hu (1994) found this to be the case provided the media was perceived as highly credible.

Stone and McCombs (1981) used content analysis of Times and Newsweek and surveys to investigate the time lag for topics in the press in the agenda-setting process. The content analysis comprised area of article, visual aid area, and number of stories. The results of two studies suggest that it takes two to six months for an average national interest topic to be registered. The authors stress the limitations of their research. The findings are tentative and based on a “small” sample and relate to an “average” national interest topic, whatever this means. Winter and Eyal (1981) also investigated time lags from 27 Gallup polls and the number of front-page stories in the New York Times. Their findings suggest that it was “recent” media emphasis and not cumulative effects over time that led to public salience<sup>7</sup>. However, they did acknowledge that prior literature indicated that time frame would not be constant with differing issues. Eyal, Winter and DeGeorge (1981) called for studies on issues that allowed for a comparison of time frames.

Parlour and Schatzow (1978) examined the role of the Canadian mass media on environmental issues from 1960-1972. They concluded that the media created awareness and concern for environmental issues. They constructed an Elite-Mass Media-Public Interaction model. This works on the basis of information being fed by a knowledgeable

<sup>7</sup> In the context of accounting annual reports, this could mean either prior year press media reports influence disclosure in the current year annual report, or press media reports toward the end of the current year influence disclosure in the current year annual report.

group to the media and to special interest groups that result in publication reports that, in turn, produce mass media response and public interest and concern. This results in increased media coverage which reinforces perceptions of the issue to the media and acts as a catalyst for coverage.

Research conducted by Zucker (1978) classified issues as either unobtrusive or obtrusive. The former was perceived as an issue that did not force itself onto individuals whereas the latter did. Zucker (1978) found pollution and drug abuse were unobtrusive issues, and cost of living and unemployment to be obtrusive issues. For an unobtrusive issue there was a relationship between public salience and media coverage. Similarly, Yagade and Dozier (1990) found that the amount of media coverage affects perceived salience of concrete issues (drug abuse, energy) but not the perceived salience of abstract issues (nuclear arms race). Their study investigated Gallup polls together with a content analysis of Time magazine. The content analysis was computed as column inches before and after each public agenda measure. Neuman (1990, p. 174), on the basis of research into ten political issues from 1945 to 1980, which included energy and pollution, and an examination of media coverage of an index of newspaper and magazine monthly stories, offers a similar conclusion not to accept the agenda-setting research on all issues:

“Clearly, the research community is in agreement that the agenda-setting concept is important and the data on the dynamics of issue salience are promising. It is also in agreement that the basic model of media-public opinion covariance has to be qualified by a useful typology of issue types, issue publics, and context effects.”

Tessier (1995) believes that while the press tends to dramatise events, in the majority of cases it responds to public values. He states (p. 396):

“I believe headlines are particularly significant in this respect because they are often formulated in such a way as to dramatize a situation. That is to say, they represent a situation by indicating that something important is in danger, or has overcome great difficulties against all odds. It can thus be said that in the majority of cases, the objects of concern expressed in press headlines correspond to important public values. These values change – this is evident if one compares press themes over a 10-year period – but as demonstrated by the limits encountered by agenda-setting-directed research, these values cannot be manipulated by the media. These values influence media content as well as the political choices that follow.”

## **General Summary**

The findings of these selective media studies together with those legitimacy studies in accounting previously discussed and analysed in Chapter 2 provide evidence that media agenda setting theory is capable of providing legitimacy theory with a measure of public concern. This, in turn, enables management to ascertain the existence, or otherwise, of a legitimacy gap in their corporate activities. If they consider there is a legitimacy gap, and even in the absence of a legitimacy gap, it remains then for management to select an appropriate strategy and their medium for communicating the legitimacy of their activities. One medium considered effective for management to communicate the legitimacy of their activities in response to media attention is the annual report and this is used in the present study. However, media agenda-setting theory does not provide us with the relevant newspapers nor does it provide an importance rating of newspapers, these remain empirical questions. Justification for selection of the annual report as the medium for communication

is provided in the following section. A summary of the content measures used in the articles discussed in the previous section (media agenda setting theory) is contained in Table 5.

With the exception of Ader (1995), who coded the content analysis of each story and calculated a prominence score, the content analysis of the mass media has been generally minimal with the main focus being those articles appearing on the front page. Furthermore, no rationale appears to have been given for the content measure selected; it has been implied. In addition, there has been no attempt to classify these articles on any basis to permit further analysis. Also, in some cases, the analysis of media articles has been limited to a single source.

Table 5

Press Media Article Measures \*

Author(s) (Date)	Location in Media	Column Width	Position on Page	Area of Article	Visual Aid Area	Number of Articles
Ader (1995)**	Sectional front page	Heading width by columns	Above or below fold	Column length	Columns	
McCombs and Shaw (1972)	Front page, editorial page or any page with three column inches	Headline columns		Large = minimum of five paragraphs		
Lasorsa and Wanta (1990)	Front page	Three column headline				
Yagade and Dozier (1990)				Column inches		
Winter and Eyal (1981)	Front page					
Stone and McCombs (1981)				Column inches including visual aids	Included in area of article	

Table 5 Continued

Press Media Article Measures\*

Author(s) (Date)	Location in Media	Column Width	Position on Page	Area of Article	Visual Aid Area	Number of Articles
Neuman (1990)						Monthly index of stories
Salwen (1988)	Page of story***			Column inches*** - based on two-inch wide columns		
Schoenbach and Semetko (1992)	Front page			Equivalent 25 square column inches		

\* The spaces left vacant in the columns in this table indicate the author(s) made no mention of that press media article measure.  
\*\* This study was the only one that used an index. The scores for each variable summed for a total prominence score.  
\*\*\* Weighted between location and area of article.

In comparison to the content measures used in the media agenda theory studies, the content measures used in the accounting articles has been limited. With the exception of Adler and Milne (1997), the content measures have been limited to a single characteristic from data on news readership, or to the number of articles. This represents the absolute minimum measure of content that could have been used in the circumstances. However, in contrast to the mass media articles, accounting articles have, in the main, been associated with a larger number of newspapers. Further, an attempt has been made to classify these articles and the associated disclosure in the annual report. In this instance, articles are classified as being unfavourable, favourable or other, and disclosure in the annual report into positive, negative or neutral. Clearly there is scope for examining social disclosure by management using a combination of content analysis of the mass media studies and the classification of content analysis used in the accounting social disclosure studies over a number of newspapers.

### **Medium of Communication by Management**

Management of an organisation can use a number of approaches to convey social information to the public to legitimise its activities. These approaches include “company staff newspapers, press releases, paid newspaper, television and radio advertising and company brochures” (Zeghal & Ahmed, 1990). They also include stand-alone environmental reports (for example, those currently being issued in Australia by Broken Hill Proprietary Limited, Western Mining Limited, ICI Limited and MIM Limited), and year-end financial reports of the organisation. These approaches are not mutually exclusive

and management may also elect to use any combination of them. Gray et al. (1995a, p. 82) note problems with attempts to monitor all approaches to social disclosure:

“Ideally, therefore all communications by an organization should be monitored if one is to capture all CSR [social and environmental reporting] by an entity. There is a major problem with this, as Zegal and Ahmed [1990] discovered. It simply proves impossible to be certain that one has identified all communications.”

This study focuses on social information disclosure in the year end-financial report of the company. The annual report is issued every year, it is audited and distributed to shareholders, the stock exchange and state and educational libraries. It is filed with the securities commission, and a significant number of annual reports are available on the Graduate School of Management and Connect4 data bases housed in educational institutions for both graduate and undergraduate use. This means the annual report is readily provided and available for use to a wide cross section of the Australian community and stakeholders. Also, some companies in Australia make their complete annual report available on their web page. Many companies, in particular larger ones, provide a copy of the annual report on request. Hence, the use of the annual report as a means of communicating and managing impressions has the potential to influence a wide range of the community.

The importance of the annual report has also been emphasised by researchers and supported in their research. Guthrie and Parker (1989, p. 344) state “it can be argued that the annual report is the one communication medium to outside parties over which management has complete editorial control”. Pressure groups also support the annual report to be the major

medium of communication for corporate social disclosure (Tilt, 1994) and to members of society who may be interested (Savage, 1998). “Social disclosures in annual reports provide corporations with a cost-effective way of responding to stakeholder concerns regarding corporate activities” (Simmons and Neu, 1996, p. 35). Furthermore, annual reports are acknowledged as a source of information sought by the users of these reports (Anderson and Epstein, 1995) and to assess the potential effects of environmental concerns (Gibson and O'Donovan, 1994). “The annual report is [considered to be] the most commonly accepted and recognised communication vehicle” (Buhr, 1998, p. 164). Hence, published empirical research both at the national and international level provide evidence to support the view that the annual report is an important document.

## **Hypotheses Formulation**

The following sub-sections in the chapter provide the formulation of each of the research hypotheses for examining the impact of newspapers on social disclosure in the annual reports of Whittakers Limited, Bunnings Limited and Wefarmers Limited, to be tested in this study. There are 28 hypotheses to be tested. They are all uni-dimensional and are developed from legitimacy theory and media agenda setting theory. The hypotheses will be tested for total social disclosure in the annual report (the dependent variable) for association with newspaper articles (the independent variable). for each of the categories of social disclosure, environment, human resources, community affairs, energy, and other, as well as components of these categories.

Hypotheses H1 and H2 replicate prior research using unweighted newspaper articles while H3 and H4 extend this prior research to a weighted index of newspaper articles. Hypotheses H5 and H6, and H7 and H8, further extend H1 and H2, and H3 and H4, to include alternative combinations of classification of annual report disclosure/newspaper articles. Hypotheses H9 to H28 examine newspaper article characteristics, the components of the weighted index of newspaper articles in H3, H4, H7 and H8.

### **Unweighted Number of Newspaper Articles – Prior Research**

Legitimacy theory argues that an organisation will select a strategy with a view to legitimising its activities. Prior research indicates that management responds to the number of adverse press media articles by increasing the amount of positive social disclosure in the annual report of their company (see, for example, Brown and Deegan, 1999; Deegan et al., 1999; Savage et al., 2000). The present study replicates this research because “there is a need to corroborate and solidify the results of earlier findings and to establish the range of different conditions under which these findings will hold” (Lau, Low and Eggleton, 1995, p. 63). The hypotheses to be tested in this section are those formulated in Deegan et al. (1999). These hypotheses are:

H1: Ceteris paribus, increases (decreases) in the Australian negative print media coverage given to specific attributes of a company’s social implications will be associated with increases (decreases) in the levels of specific positive social disclosures made by that company in its annual reports.

H2: Ceteris paribus, increases (decreases) in the Australian print media coverage given to specific attributes of a company's social implications will be associated with increases (decreases) in the levels of specific social disclosures made by that company in its annual reports.

### **Extension of Prior Research to Weighted Number of Newspaper Articles**

Prior research (H1 and H2) are related to the number of press media articles with no total weighting measure being given to the articles, i.e., they are all treated equally. It is not unreasonable to expect that management's attention, and hence that of the public, is likely to be attracted to a newspaper article because of the characteristics of that newspaper article. Studies in the agenda effects literature, with the exception of Ader (1995), have examined only selective press media article characteristics. In contrast, Ader (1995) when researching the agenda setting effect of the issue of environmental pollution, considered location, column width, position on page, area of article, and visual aid area and calculated a prominence score. Following on from her work, an index score of each newspaper article is calculated based on the sum of, location, column width, position, area, and presence of visual aid. Hence, the summing of these variables is consistent with that of Ader (1995) with the exception that she used the number of columns occupied by a visual aid. Concern, in this instance, is with the total score and not the importance of each component of that score or to justify the weighting given to aspects of each characteristic. Justification for each of the components of the index and the importance of each is examined in a later section entitled further analyses of newspaper media characteristics. Prior research is

extended to include the index into hypotheses H1 and H2. This gives rise to the following hypotheses.

H3: Ceteris paribus, increases (decreases) in the Australian negative print media indexed coverage given to specific attributes of a company's social implications will be associated with increases (decreases) in the levels of specific positive social disclosures made by that company in its annual reports.

H4: Ceteris paribus, increases (decreases) in the Australian print media indexed coverage given to specific attributes of a company's social implications will be associated with increases (decreases) in the levels of specific social disclosures made by that company in its annual reports.

#### **Further Extension of Prior Research to Alternative Combinations of Classification of Annual Report Disclosure/ Newspaper Articles**

Hypothesis H1 examined the association between total unfavourable media articles (TUMA) and total positive annual report disclosures (TPAR), and hypothesis H2 total media articles (TMA) and total annual report disclosure (TAR). Hypotheses H3 and H4 then applied an index weighting of characteristics of newspaper articles to TUMA and TMA. The implication of solely testing these hypotheses is, for example, in the case of H1 and H2, that an association between TUMA and TAR (TUMA/TAR), or between TMA and TPAR (TMA/TPAR) ought not be expected, and, therefore, the associations between them not be examined. This assumption seems unrealistic for a number of reasons. For example, if as is claimed the disclosure is predominantly of a self-laudatory nature (see, for example,

Deegan and Gordon, 1996) then the associations between TUMA/TAR and TMA/TPAR should be almost identical with those of TUMA/TPAR and TMA/TAR and likewise for weighted articles. Also, if management does adopt a strategy of negative information or neutral information, a strategy not disallowed by legitimacy theory, then the association between TUMA/TAR may be significant, and hence, the correlation between TUMA/TPAR may not be significant, and likewise for weighted articles. These two alternative groupings should also be tested. Consequently, hypotheses for unweighted and weighted newspaper articles are:

#### **Unweighted Number of Newspaper Articles**

- H5: Ceteris paribus, increases (decreases) in the Australian negative print media coverage given to specific attributes of a company's social implications will be associated with increases (decreases) in the levels of specific social disclosures made by that company in its annual reports.
- H6: Ceteris paribus, increases (decreases) in the Australian print media coverage given to specific attributes of a company's social implications will be associated with increases (decreases) in the levels of specific positive social disclosures made by that company in its annual reports.

### **Weighted Number of Newspaper Articles**

- H7: Ceteris paribus, increases (decreases) in the Australian negative print media indexed coverage given to specific attributes of a company's social implications will be associated with increases (decreases) in the levels of specific social disclosures made by that company in its annual reports.
- H8: Ceteris paribus, increases (decreases) in the Australian print media indexed coverage given to specific attributes of a company's social implications will be associated with increases (decreases) in the levels of specific positive social disclosures made by that company in its annual reports.

### **Further Analysis of Newspaper Media Characteristics**

Hypotheses H3, H4, H7 and H8 included an index score of press media articles characteristics designed to weight each of the articles. The index score of each newspaper article was based on the weighted sum of scores for location, column width, position, area, and presence of visual aid, based on weights for each of these characteristics. This section provides the rationale for each of the characteristics of the index and after conversion of these characteristics, where possible, to a continuous variable, correlates each of them with social disclosure in the annual report.

## **Page Location**

Newspapers do not consist of a single page but a number of pages and, hence, a decision is required by the editorial management of a newspaper as to the page in a newspaper an article is published. Evidence suggests that the more newsworthy an article is, from the point of view of a reader, the more likely it is to be published closer toward the front of the newspaper (see, for example, Ader, 1995; McCombs and Shaw, 1972; Lasorsa and Wanta, 1980; Winter and Eyal, 1981; Schoenbach and Semetko, 1992; Salwen, 1988). Therefore, location of an article on social interest in the early pages in a newspaper would in all probability attract more interest and as a result have greater influence on public opinion than an article on social interest appearing on later pages in the newspaper. The highest priority in terms of an issue of social interest would likely be published on the cover page of the newspaper, page 1.

The closer an article in a newspaper appears to the cover page, the higher the likelihood that it will be read and thereby influence public opinion. As a result, the more likely it is also read by the management of a company. Consequently, the more an article influences public opinion, the more likely it is to impact on management of a company and this is likely to increase social disclosure in the annual report. This gives rise to the following hypotheses.

- H9: Ceteris paribus, the proximity to the front page in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.
- H10: Ceteris paribus, the proximity to the front page in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.
- H11: Ceteris paribus, the proximity to the front page in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.
- H12: Ceteris paribus, the proximity to the front page in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.

### **Column Width of Article**

Pages in a newspaper contain a number of columns and the articles that appear do not all occupy a single column on a page neither do they all occupy all of the columns on a page. A decision is required of editorial management as to the number of columns an article should occupy on the page of the newspaper. Evidence suggests that articles spread over a number of columns are more likely in to attract reader attention (see, for example, Ader,

1995; McCombs and Shaw, 1972; Lasorsa and Wanta, 1990). By giving an article more spread in order to attract reader attention, it would be more likely to have the potential to influence public perception of an issue because of the larger number of potential readers. The highest priority in terms of an issue of social interest would likely be published across all columns in the newspaper.

The more columns on a page an article occupies, the more likely it will be read and thereby influence public opinion. As a result, the more likely it is to be read by the management of a company. Consequently, management may consider that it influences public opinion, and this is likely to result in increased social disclosure in the annual report. This gives rise to the following hypotheses.

- H13: Ceteris paribus, the column width in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.
- H14: Ceteris paribus, the column width in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.
- H15: Ceteris paribus, the column width in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.

H16: Ceteris paribus, the column width in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.

### **Position on Page**

Articles appearing in a newspaper, other than those articles that occupy the complete page, commence in various positions down the length of the page. For example, some articles commence near the top of the page whereas other articles commence near the centre of the page, and other articles toward the bottom of the page. This requires a decision by editorial management about the position the article should occupy on the page of the newspaper. Evidence suggests that articles appearing closer the top of the page of the newspaper are more likely to attract reader attention because this is likely to be the order of reading a page of a newspaper (see, for example, Ader, 1995). Further, there is a greater likelihood that articles commencing toward the bottom of the page have the least likelihood of not being read. Hence, the closer an article is published toward the top of the page, the more likely the article is read, and therefore, the more likely it is to impact on public opinion.

The closer an article of social interest is published toward the top of the page, so as to be more likely read, then the more likely it is to be read by the management of a company. Management is likely to consider this will influence public opinion and this is likely to result in increased social disclosure in the annual report. This gives rise to the following hypotheses.

- H17: Ceteris paribus, the position on the page in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.
- H18: Ceteris paribus, the position on the page in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.
- H19: Ceteris paribus, the position on the page in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.
- H20: Ceteris paribus, the position on the page in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.

### **Area of Article**

The amount of space taken by articles appearing in a newspaper differs considerably, ranging from a small amount of space on a page to occupying the complete page, and in some instances more than a single page. This requires a decision by editorial management about the amount of space dedicated to an article on the page of the newspaper. Evidence suggests that if the article is considered important it is likely to be allocated more space on a page (see, for example, Ader, 1995; McCombs and Shaw, 1972; Yagade and Dozier, 1990; Stone and McCombs, 1981; Schoenbach and Semetko, 1992). Conversely, if the article is small in terms of reader interest, it is likely that the space occupied on the page of

a newspaper will be small. Consequently, the more space dedicated to an article in the newspaper, the more likely it is to be read and hence the greater the chance of influencing the reader of the article.

The more space an article of social interest occupies in a newspaper the more likely it is to be read by the management of a company. Management is likely to consider this will influence public opinion and this is likely to result in increased social disclosure in the annual report. This gives rise to the following hypotheses.

- H21: Ceteris paribus, the area of an article in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.
- H22: Ceteris paribus, the area of an article in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.
- H23: Ceteris paribus, the area of an article in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.
- H24: Ceteris paribus, the area of an article in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.

## **Presence of Visual Aid**

The presence of a visual aid accompanying an article makes it more likely to be read, and, therefore, more likely to be read by the management of a company. As a result, it is more likely to impact on management of a company and this is likely to result in increased social disclosure in the annual report. This gives rise to the following hypotheses.

H25: *Ceteris paribus*, the presence of a visual aid in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.

H26: *Ceteris paribus*, the presence of a visual aid in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.

H27: *Ceteris paribus*, the presence of a visual aid in Australian negative newspaper coverage given to specific attributes of a company's social implications will be positively related to specific social disclosures made by that company in its annual reports.

H28: *Ceteris paribus*, the presence of a visual aid in Australian newspaper coverage given to specific attributes of a company's social implications will be positively related to specific positive social disclosures made by that company in its annual reports.

## **Extension of Prior Research on Press Media Time Lags**

Prior research has investigated the existence of time lags for topics in the media agenda-setting process. That is, the time frame for public interest to be registered after media attention. Stone and McCombs (1981) found the existence of a time lag, as did Winter and Eyal (1981). Winter and Eyal acknowledged prior research that indicated a time lag would not be uniform for all issues. “Both Brown and Deegan (1999) and O’Donovan (1999) suggested that there may be time lags present from media attention to eventual annual report disclosure” (Deegan et al., 1999, p. 24).

Bewley and Li (2000) found a significant association between the media and general environmental information but not for financial environmental information in the 1993 annual report of Canadian companies based on news articles for 1986-1993 and 1986-1992. They made no attempt to define the time lag, simply using the earliest available news date from a database. Deegan et al. (1999) investigated the possible existence of one-year time lags (for H1 and H2) for total social disclosure and the categories of environment, human resources, and community involvement, and components of these categories for BHP Limited. On the basis of their results, they concluded time lags were not in operation. Both of the studies did not have a hypothesis.

If management perceives the existence of a legitimacy gap in the current financial period, it seems unlikely that a strategy of disclosure in the annual report will be based solely on the previous year press media articles. More likely, it would be based on a combination of the

current year and previous year media articles. The present study replicates the time lag of Deegan et al. (1999) and explores a time lag based on the current year and previous year press media articles in respect of both unweighted and weighted number of articles for the four groupings of press media articles and disclosure. No hypothesis is formulated in the present study for the possible existence of media time lags.

## **Summary**

This chapter discussed the theoretical framework of the study, comprising legitimacy theory and media agenda setting theory. Then justification of the annual report as the medium of conveying social information by management was discussed. Newspaper articles and corporate social disclosure in the annual report were used to develop a series of hypotheses within the theoretical framework of the study. Also, the intention and approach to be used to explore the existence of media time lags was described.

## **CHAPTER 4**

### **RESEARCH METHOD – QUESTIONNAIRE**

#### **Introduction**

The general hypothesis of this study, that social disclosure by management in their annual reports is to legitimise their activities in response to press media reports specifically related to the company, is tested in two stages. This is the first stage. In this stage a questionnaire was sent to persons who were directors of the three companies in the study during the period 1989 to 1998. The purpose being to explore selected aspects underlying the assumptions of the general hypothesis of the study, and to serve as a cross validation of the results of the association between annual report disclosure and press media articles in Chapters 7 and 8. These aspects include the following three separate, but interrelated, questions. To what extent, if any, do press reports influence a board of directors? To what extent, if any, does the board of directors attempt to report specific voluntary social disclosure in the annual report to legitimise their activities? Which of the selected Australian newspapers are directors familiar with, and what is the relative importance of these newspapers in respect of adverse social reporting on the company? In the second stage, social disclosure in the annual report is correlated with media reports. The research method of the second stage of the study is described in Chapter 5.

This chapter discusses the methodological aspects of the first stage of the study. The discussions are on the following areas: (1) justification of choice of selection of companies; (2) justification of the time period selected; (3) justification of the respondents selected to be used in the study; (4) the construction and rationale for the research instrument to be used to collect the data; (5) the approval required prior to using the research instrument; (6) the research instrument and data collection method employed; and (7) the sample response rate.

### **Selection of Companies**

The sample of companies was drawn from Western Australian timber companies listed on the Australian Stock Exchange during the period 1989 to 1998. These companies are involved in both the logging of hardwoods and woodchipping, which is a politically and environmentally sensitive industry. These two aspects of the timber industry were selected because of the considerable attention they have received in all forms of the media. The 3 companies selected for the study are Whittakers Limited, Bunnings Limited and Wesfarmers Limited.

### **Selection of Time Period**

The period 1989 to 1998 was selected in the study for the following reasons. Wesfarmers Limited acquired Bunnings Limited in 1994 and so an initial period commencing 1989 enables a five-year period for both companies. In addition, the period of the study (1989-1998) is a relatively recent one and 10 years is sufficiently long to qualify as a longitudinal

study. Whittakers Limited was listed on the Australian Stock Exchange in 1979 and so the period 1989 to 1998 represents a common period of comparison of questionnaire response with press media impact on social disclosure with the other two companies in the sample.

**Selection of Respondents**

The sample of respondents includes members of the Boards of Directors of Whittakers Limited and Bunnings Limited over the period 1989 to 1998 and 1989 to 1993, respectively, and, Wesfarmers Limited members of the Board of Directors during the period 1994 to 1998. For the purpose of this study, no distinction is made between part time-directors, full-time directors, chairperson or chief executive officer. The reason being, that as members of a board of directors, business matters on an agenda are likely to be decided on a consensus basis. The names of the directors of each of the three companies during this period were obtained from the annual reports of the three companies. Their names are shown in Tables 6, 7 and 8.

Table 6

## Wesfarmers Limited Directors 1994-1998

NAME	1994	1995	1996	1997	1998
D J Asimus	*	*	*	*	*
R E Buegge	*	*	0	0	0
M A Chaney !	*	*	*	*	*
D I Crawford	*	*	*	0	0
T R Eastwood !	*	*	*	*	*
T J Flugge	0	0	0	0	*
E Fraunschiel !	*	*	*	*	*
L A Giglia	*	*	*	*	*
J P Graham	0	0	0	0	*
S C Glassford	*	*	*	*	0
K P Hogan	*	*	*	*	*
R D Lester	0	*	*	*	*
J J Lussick	*	*	*	*	0
W I Murphy	0	0	0	*	*
D E W Nuttall	*	*	*	*	*
J M Paterson	*	*	*	*	*
C H Perkins	*	*	*	*	*
W A Treloar	*	*	0	0	0
D C White	*	*	*	*	*

\* serving on the board in that year

0 not serving on the board in that year

! served as a director of Bunnings Limited

Table 7

## Bunnings Limited Directors 1989-1993

NAME	1989	1990	1991	1992	1993
Boros J	0	0	0	*	*
Bunning G L	*	*	*	*	*
Bunning G M	*	0	0	0	0
Bunning R G ⊥	*	*	*	0	0
Chaney M A !	*	*	*	*	*
Clough W H	*	*	*	*	*
Eastwood T R !	*	*	*	*	*
Fraunschiel E !	0	0	0	*	*
Goddard M J	*	*	*	*	*
Hovell C De B	*	*	*	*	*
Kuba I C	*	*	*	0	0
MacKenzie I C R	*	*	*	*	*
Odbert K E	0	*	*	0	0
Oldham J A	*	*	0	0	0
Sallitt T W B	*	0	0	0	0
Stokes J	0	0	0	0	*
Vose H B M	*	*	*	0	0
Zink D W	*	*	*	*	0

\* serving on the board in that year

0 not serving on the board in that year

⊥ served as a director of Whittakers Limited

! served as a director of Wesfarmers Limited

Table 8

## Whittakers Limited Directors 1989-1998

NAME	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Anderson J C	*	0	0	0	0	0	0	0	0	0
Atkins C R	0	0	0	*	*	0	0	0	0	0
Birchmore A G	0	0	0	*	*	*	0	0	0	0
Bunning R G L	0	0	0	*	*	*	*	0	0	0
Finch R L	*	*	0	0	0	0	0	0	0	0
Golokin S L	0	0	0	0	*	*	0	0	0	0
Hamilton P A	0	0	0	0	0	0	*	*	*	*
Hogan T M	*	*	*	*	0	0	0	0	0	0
Hogan T W	*	*	*	*	*	*	0	0	0	0
Kirkwood J B	*	*	0	0	0	0	0	0	0	0
Lee F S K	0	0	0	0	*	*	*	*	*	*
Lodge H S	0	*	*	*	*	*	0	0	0	0
Ray B T	0	0	0	0	0	0	0	0	0	*
Reading P E	*	*	0	0	0	0	0	0	0	0
Sepawi A H B	0	0	0	0	0	*	*	*	*	0
Whittaker L R	*	*	*	*	0	0	0	0	0	0
Wong K H	0	0	0	0	0	0	*	*	*	0

\* serving on the board in that year

0 not serving on the board in that year

L served as a director of Bunnings Limited

Tables 6, 7 and 8 show there were 54 directors of those 3 companies during the sample time period. These comprised 19 directors of Wesfarmers Limited, 18 directors of Bunnings Limited, and 17 directors of Whittakers Limited. Three of the directors of Wesfarmers Limited had been directors of Bunnings Limited, and one director of Bunnings Limited later served as a director of Whittakers Limited. This means there were 50 unique directors during the period 1989-1998.

Directors were chosen as the respondents in the study because members of boards of directors are accepted as the supreme decision making authority in an organisation. They are the persons primarily responsible for compiling the annual financial report of the company and issuing it to their shareholders. They also appear in many of the sections of the report, for example, Corporate Governance, Chairman's Report, Chief Executive Officer's Report, Directors' Report and Directors Shareholdings, which are required by corporations law and stock exchange regulations. Directors also have common law obligations. Disclosure of social information in the annual report is voluntary, and hence, disclosure of this type of sensitive information would most likely be the result of a conscious decision by members of the board of directors. Therefore, in seeking to explore reasons for social disclosure in an annual report it is of paramount importance to question them, the likely decision makers in this instance, as to the reasons for this form of voluntary disclosure.

This approach, i.e., questioning the persons who participate in the decision, is capable of providing added empirical support for the second stage of this study, which examines the correlations between press media reports and social disclosure in the annual report. In effect, the first stage provides a triangular approach to the major research question. It can also be used to help refine some of the measures to be employed in the second stage. For example, those newspapers read/not read by members of a board of directors, and the relative importance of those newspapers that are read. This enables the relevant newspapers to be included in a correlation model as opposed to simply including all newspapers whose information is summarised and included in a database, for example, the Australian Business Intelligence Index (ABIX) database.

### **Research Instrument**

A questionnaire was designed to address the three interrelated research questions described in the introduction, i.e., influence of press attention on Directors, press influence on their decision to report specific voluntary social disclosure in the annual report of a company, and legitimisation of activities. The questionnaire consisted of 24 questions, organised into three sections. Section I was the press, Section II voluntary disclosure, and Section III the newspapers. Categories of social disclosure, Human Resources, Environmental, Energy, Community Related, and Other, were used in Sections II and III. These categories were the categories of social disclosure from Hackston and Milne (1996).

Prior to completing the final version of the questionnaire, formal discussions were held with two directors from two other major universities, one a graduate director and the other an MBA director, and a third person, a director of a large public company in the construction industry. The discussions centred on the content of the questionnaire and the appropriate data collection method for the study. The comments received are indicated in the discussion parts of each of the three sections of the questionnaire, and again under data collection. For simplicity, these persons are referred to as “external advisers” in subsequent discussion.

### **Questionnaire Cover Page**

A short single page letter explaining that personal and company details were not requested and a statement of the total number of questions formed the cover page of the questionnaire. The cover letter also described the content of the three sections in the paper, the approximate time to complete the questionnaire, and instructions to return the questionnaire in the stamp addressed envelope. The questionnaire was signed both by the researcher and the thesis supervisor. The letter concluded with a sentence directing respondents with queries about the manner in which the questionnaire was being administered to contact the signatories to the questionnaire or the executive officer of the Human Research Ethics Committee of Edith Cowan University.

## **Questionnaire Design Considerations**

In designing the questionnaire, a number of factors were considered important. First, directors of companies are extremely busy persons and difficult to gain access to. This suggested that the questionnaire should not be too lengthy. Second, because directors are busy people, the questionnaire should not be too complex and should not take more than 15 to 20 minutes to complete. This suggested questions that require either a circle or a tick as opposed to written answers. Third, social disclosure is a highly sensitive issue and so references to social disclosure were avoided in the covering letter to the questionnaire. Fourth, directors tend to be secretive about disclosing information concerning their organisation. This suggested the questions be anonymous as to personal information company name and company details, as well as the names of other companies in the study. All of these matters were adhered to in the final questionnaire and cover letter.

## **Section I: Press**

### **Rationale**

Section I of the questionnaire was designed to explore the extent, if any, that press reports influence members of boards of directors. Prior research utilising media agenda setting theory and legitimacy theory shows a connection between adverse reporting in the press media and social disclosure in the annual report of a company (see, for example, Brown and Deegan, 1999). However, an inherent weakness of empirical research is that statistical

association alone does not imply cause. It would seem that to strengthen the statistical measures of association of annual report disclosure with the media also requires that members of a board of directors, the decision maker, be questioned about this apparent link and to acknowledge it. The need to question management is an aspect emphasized by O'Donovan (1999).

If members of a board of directors acknowledge the link between the media and disclosure in their annual report, this would imply a number of separate but associated matters in respect of the press. Namely, because their company is in a sensitive industry, the media will scrutinise their activities and, therefore, what the media writes about their company should not be ignored by directors. It is likely that this constant monitoring by the press will influence the way a board of directors communicates their decisions. Further, it may result in disclosures in the annual report.

## **Questions**

Section I comprised four questions related to the possibility of influence of the press on a board of directors. These questions were:

1. Press reporting on matters related to a company cannot be ignored by a Board of Directors.
2. Members on the Board of Directors consider their activities are under scrutiny by the press.

3. The likelihood of press reporting on company matters impacts on the way Boards of Directors communicate decisions.
4. Disclosure in an annual report can be a consequence of press reporting.

Respondents were asked to rate each of the questions on a 5 point Likert type bipolar scale, ranging from Strongly Agree to Strongly Disagree. The questions in this section on the press were numbered 1 to 4 in the questionnaire in Appendix B of the thesis.

Feedback on the first draft of the questionnaire from the external advisers resulted in a reduction in the total number of questions, and changes in wording in a number of the questions.

## **Section II: Voluntary Disclosure**

### **Rationale**

Section II of the questionnaire explored the manner in which a board of directors manages legitimacy. The framework is that of Dowling and Pfeffer (1975) cited in Deegan (2000, p. 256):

- The organisation can adapt its output, goals and methods of operation to conform to prevailing definitions of legitimacy.
- The organisation can attempt, through communication, to alter the definition of social legitimacy so that it conforms to the organisation's present practices, output and values.

- The organisation can attempt through communication to become identified with symbols, values or institutions that have a strong base of legitimacy.

Deegan (2000, p. 257) considers Dowling and Pfeffer's strategy of communication to be fairly similar to that of Lindblom (1994).

“According to Lindblom, Dowling and Pfeffer, the public disclosure of information in such places as annual reports can be used by an organisation to implement each of the above strategies. Certainly this is a perspective that many researchers of social responsibility reporting have adopted ... . For example, a firm may provide information to counter or offset negative news which may be publicly available, or it may simply provide information to inform the interested parties about attributes of the organisation that were previously unknown. In addition, organisations may draw attention to strengths, for instance environmental awards won, or safety initiatives that have been implemented, while sometimes neglecting, or down-playing information concerning negative implications of their activities, such as pollution or workplace accidents.”

This leads to the three questions for each of the categories in Section II of the questionnaire that were directly related to the framework of Dowling and Pfeffer (1975).

### **Questions**

Section II consisted of 15 questions, three for each category of social disclosure. The questions relate to management strategies in relation to social disclosure as implied in the framework by Dowling and Pfeffer (1975). These three questions were:

1. The disclosure of ... (category) related information in the annual report of a company is a consequence of press attention.

2. The inclusion of ... (category) related information in the annual report of a company influences the public's perception of that issue.
3. ... (category) related information is disclosed in the annual report of a company to show the company is responsive to public expectations.

The respondents were asked to rate each of the questions on a 5 point Likert type bipolar scale, ranging from Strongly Agree to Strongly Disagree.

The questions on voluntary disclosure were numbered 5 to 19 in the questionnaire in Appendix B of the thesis.

Feedback on the draft questionnaire from the external advisers resulted in a change in wording in a number of the questions.

### **Section III: Relevance of Newspapers**

#### **Rationale**

Section III of the questionnaire was used to determine which newspapers were considered relevant to the directors of those companies in the study. Research into disclosure of corporate social matters in the annual report of companies, using legitimacy theory and media agenda theory, provided empirical evidence that adverse disclosures in the press were significantly correlated with social disclosures. However, there was no guidance as to

which newspapers were most important. Consequently, prior studies (for example, Brown and Deegan, 1999; Deegan et al., 2000) used the newspapers for which articles are summarised and entered in the ABIX. In contrast, this study uses the Australian newspapers considered important by relevant company directors in respect of adverse social reporting on a company.

This section of the questionnaire was designed to address two separate but related questions. First, which newspapers were directors familiar with, and second, for those newspapers they were familiar with, how important these newspapers were in respect of adverse media reports on their company.

### **Questions**

Section III contained five questions related to newspapers comprising one question for each category of social disclosure. After consultation with the external advisers, selected Australian newspapers were listed and respondents were required to indicate those newspapers with which they were familiar. Respondents were also required to rate the importance of those newspapers with which they were familiar on a 5 point Likert type bipolar scale ranging from Not Important to Very Important. The newspapers were: Sydney Morning Herald, The Advertiser, The Age, The Australian, The Australian Financial Review, The Courier Mail, and The West Australian.

Feedback on the draft questionnaire from the external advisers resulted in a reduction in the number of newspapers listed, and the inclusion of a column indicating “not familiar” with any of the newspapers listed.

The questions on newspapers in this section were numbered 20 to 24 in the questionnaire in Appendix B of the thesis.

### **Ethical Issues**

The rules and regulations of Edith Cowan University require that when human data is sought by questionnaire, whether it be for a research project or thesis, a formal clearance of the contents of that questionnaire must be obtained. Clearance is required before the questionnaire is issued. The procedure is to complete the specified form and to send copies of that form to the Executive Officer of the Human Research Ethics Committee. The formal clearance of the committee was given in writing on 12<sup>th</sup> October 2000 with the proviso that the following be shown, in the covering letter on the cover page of the questionnaire.

“If you have any complaint regarding the manner in which the project is conducted you may contact me at the above address or, alternatively, the Executive Officer, Human Research Ethics Committee at Edith Cowan University (telephone number 9273 8170)”.

The letter of acceptance received from the committee appears in Appendix A of the thesis.

## **Data Collection**

Discussions with the outside advisers prior to commencement of data collection on data collection method suggested that a postal questionnaire would probably not achieve an acceptable response level. Consequently, the most appropriate method was deemed to be convenience sampling with a variety of approaches used to collect the sample<sup>8</sup>. Three related approaches were used in the data collection process. First, directors were contacted by telephone and explained the purpose of the research. If a director agreed to cooperate then the research instrument was sent in the mail in a reply paid envelope. When a director agreed to cooperate, their assistance was sought to contact other named directors using their name as a point of reference. When a director was not contactable by telephone but a mailing address had been located, a letter was sent with the questionnaire indicating the prime objective of the study and other directors to whom the questionnaire had been sent. When directors of one company during the period of the study were currently employed the company secretary of that organisation was contacted and approval was sought to deliver the questionnaires for inside distribution. Addresses of former directors were supplied and the questionnaires were sent with a letter indicating the names of other directors of that company to whom the questionnaire had been sent.

<sup>8</sup> It is acknowledged that the sample taken would be non-random as opposed to a mail survey of the population but it is considered that a reasonable sample size would to a large extent overcome this limitation.

The data was collected during October and November 2000. There were three major reasons for the selection of this period for the collection of the data. First, by this date the previous year's annual financial statements would have been completed and so directors would most likely be contactable and, which could therefore, increase their willingness to complete the questionnaire. Second, the period was not too close to Christmas when directors were likely to be engrossed in business entertainment and other personal engagements. Third, the period was not likely to be a vacation period from their demanding activities. A count was kept of the number of questionnaires despatched during this period.

### **Sample Response Rate**

The response rate achieved was 24 responses from a total of 35 questionnaires sent, which equates to a response rate of 68.57%. Section III was not completed on one of the questionnaires and so the response rate for this section was 65.71%. A further three directors were contacted but for a variety of reasons would not agree to complete the questionnaire if it was to be sent to them. The inclusion of these directors with those directors who responded equates to a response rate of 63.16%. The remaining directors comprising the balance of the potential total population of directors were not contactable. In terms of the potential total population of directors, after allowing for directors who were

members of two or more of the companies in the study, the response rate achieved was 48%. Hence, the response rate was considered to be a satisfactory response rate<sup>9</sup>.

## **Summary**

This chapter discussed the methodology of stage one of the present study and encompassed seven main aspects, each of which was discussed in a section of this chapter. These sections were sample selection, time period selection, respondent selection, research instrument, ethics clearance, data collection, and sample response rate.

<sup>9</sup> Ideally there should be a test for non-response bias. However, for two reasons this was not possible. First, each questionnaire was mailed/delivered when a director was contactable, and second, the questionnaire was completely anonymous. This meant that any form of identification mark would have amounted to a breach of confidentiality and may have impacted on the response rate. The possible impact on the response rate was identified by one of the external advisers during the construction of the questionnaire.

## **CHAPTER 5**

### **RESEARCH METHOD – ANNUAL REPORT DISCLOSURE AND PRESS MEDIA ARTICLES**

#### **Introduction**

This chapter discusses the methodology used to examine the relationship between total social disclosure, categories of social disclosure, and components of the categories in the annual reports of Whittakers Limited, Bunnings Limited and Wesfarmers Limited, and media reports on these companies issued by the press in Australia. The discussions in the chapter centre on the following: (1) criteria for selection of companies to be used in the present study; (2) selection of the time period; (3) the data sources utilised in the data collection and data analysis stages; (4) the definitions of dependent and independent variables to be employed; and (5) the data collection procedure to achieve stability and reproducibility of data.

#### **Selection of Companies**

This sample equated with the sample selection of companies described in Chapter 4. The sample companies were drawn from Western Australian timber companies listed on the Australian Stock Exchange over the period 1989-1998. A condition of selection being that these companies had been involved in both the logging of hardwoods and woodchipping. This resulted in three companies, Bunnings Limited, Wesfarmers Limited and Whittakers Limited.

**Selection of Time Period**

As with the selection of companies the period selected (1989-1998) equated with that period described in Chapter 4. The total assets of Whittakers Limited, Bunnings Limited and Wesfarmers Limited are shown in Table 9.

Table 9

Total Assets of Whittakers Limited, Bunnings Limited and Wesfarmers Limited\*

Year	Whittakers Limited	Bunnings Limited	Wesfarmers Limited
	\$000s	\$000s	\$000s
1989	57,222	270,748	-
1990	60,811	298,222	-
1991	38,833	282,444	-
1992	23,802	305,927	-
1993	36,343	386,033	-
1994	52,274	-	1,692,610
1995	52,601	-	1,932,270
1996	52,784	-	2,004,577
1997	49,078	-	2,057,810
1998	43,447	-	2,373,645
Mean	46,719	308,675	2,012,182

\*Wesfarmers Limited acquired Bunnings Limited in 1994

This selection of companies allows a comparison of a smaller company with larger companies. Whittakers Limited is a smaller company in comparison to the other two companies. Hence, the inclusion of Whittakers Limited in the sample enables a comparison of social disclosure on the basis of size, and the impact of press media influence on annual report social disclosure.

The same companies and the same time period permits general comparison of the response by directors of these three companies to the questionnaire, and the influence of the media on social disclosure in the annual reports of the three companies.

**Data Sources**

The data used in the study are derived from two sources: (1) the annual reports covering the period 1989 to 1998, i.e., Whittakers Limited from July 1988-June 1998, Bunnings Limited July 1988-June 1993, and Wesfarmers Limited July 1993-June 1998; and (2) press articles from major Australian newspapers over the period 1989 to 1998.

**Annual Reports**

**Social Disclosure**

The source of voluntary social disclosure was the hard copies of annual reports of these companies. Whittakers Limited annual reports were available from two sources. A number

of their reports were obtained on loan from the Churchlands campus library of Edith Cowan University (ECU) and the balance from the Australian Securities and Investment Commission. Copies of the annual reports of Bunnings Limited were obtained on request from a former secretary of that company. The annual reports of Wesfarmers Limited were obtained on loan from the library on the Churchlands campus of ECU.

**Data Extraction**

The data extracted from the annual reports was voluntary social disclosure comprising categories for environment, energy, human resources, community involvement, and other disclosures. The categories for environment and human resources were sub-classified by component items and the remaining categories by component items. The categories were the sum of all items contained under their respective headings, for example all items under A. ENVIRONMENT in the List of Social Disclosure below. The sub-classification of environment by component items comprises environmental pollution, aesthetics, and other. And, for human resources: employee health and safety, employment of minorities or women, employee training, employee assistance/benefits, employee remuneration, employee profiles, employee share purchase schemes, employee morale, and industrial relations.

The categories and component items of categories were those categories and items contained in the list compiled by Ng (1985) and subsequently updated in the research of

Hackston and Milne (1996), and later modified by Deegan et al. (1999). The list of social disclosure items appears below.

This list of disclosure items was selected for three reasons. First, the list was a relatively comprehensive list of social disclosure items<sup>10</sup>. Second, the items were well defined and, as such, would minimise classification errors in extraction of the data from the annual reports. Third, it was suited to the present study because the classifications and sub-classifications used in the present study have been used in other major studies. See, for example, Deegan and Brown (1999) and Deegan et al. (1999). However, this did not preclude adding other items to this list during the data extraction.

**List of Social Disclosure Items**

**A. ENVIRONMENT**

Environmental pollution

- pollution control in the conduct of the business operations; capital, operating and research and development expenditures for pollution abatement;
- statements indicating that the company’s operations are in compliance with environmental laws and regulations; recognition of the need to comply with society standards and regulations;
- statements indicating that pollution from operations has been or will be reduced;
- prevention or repair of damage to the environment resulting from processing or natural resources, e.g., land reclamation or reforestation, e.g., OK Tedi and its results;
- conservation or natural resources, e.g., recycling glass, metals, oil, water and paper;
- using, or researching, recycled materials;

<sup>10</sup> Arguably, the most comprehensive list of social disclosure items is that contained in the research database of UK companies described in Gray et al. (1995b).

- efficiently using materials resources in the manufacturing process;
- supporting anti-litter campaigns;
- receiving an award relating to the company's environmental programmes or policies;
- preventing waste.

#### Aesthetics

- designing facilities harmonious with the environment;
- contributions in terms of cash or art/sculptures to beautify the environment;
- restoring historical buildings/structures.

#### Other

- undertaking environmental impact studies to monitor the company's impact on the environment; conducting reviews of performance, employing specialist consultants;
- wildlife conservation;
- training employees in environmental issues.

### **B. ENERGY**

- conservation of energy in the conduct of business operations;
- using energy more efficiently during the manufacturing process;
- utilising waste materials for energy production;
- disclosing energy savings resulting from product recycling;
- discussing the company's efforts to reduce energy consumption;
- disclosing increased energy efficiency of products;
- research aimed at improving energy efficiency of products;
- receiving an award for an energy conservation programme;
- voicing the company's concern about the energy shortage;
- disclosing the company's energy policies.

## **C. HUMAN RESOURCES**

### **Employee Health and Safety**

- reducing or eliminating pollutants, irritants, or hazards in the work environment;
- promoting employee safety and physical or mental health;
- disclosing accident statistics;
- complying with health and safety standards and regulations;
- receiving a safety award;
- establishing a safety department/committee/policy;
- conducting research to improve work safety;
- providing low cost health care for employees;
- compensation, litigation or enquiries, related to safety;
- providing information on industrial action related to health and safety.

### **Employment of minorities or women**

- recruiting or employing racial minorities and/or women;
- disclosing percentage or number of minority and/or women employees in the workforce and/or in the various managerial levels;
- employment of youth or local community personnel;
- information on apprenticeship schemes;
- establishing goals for minority representation in the workforce;
- programme for the advancement of minorities in the workplace;
- employment of other special interest groups, e.g. the handicapped, ex-convicts or former drug addicts;
- disclosures about internal advancement statistics.

### **Employee training**

- training employees through in-house programmes;
- giving financial assistance to employees in educational institutions or continuing education courses;

- establishment of trainee centres.

#### Employee assistance/benefits

- providing assistance or guidance to employees who are in the process of retiring or who have been made redundant;
- providing staff accommodation/staff home ownership schemes;
- providing scholarships for employees' children;
- providing recreational activities/facilities.

#### Employee remuneration

- providing amount and/or percentage figures for salaries, wages, PAYE taxes, superannuation;
- disclosing workers compensation arrangements;
- any policies/objectives/reasons for the company's remuneration package/schemes.

#### Employee profiles

- providing the number of employees in the company and/or at each branch/subsidiary;
- providing the occupations/managerial levels involved;
- providing the disposition of staff - where the staff are stationed and the number involved;
- providing statistics on the number of staff, the length of service in the company and their age groups;
- providing per employee statistics, e.g. assets per employee and sales per employee;
- providing information on the qualifications of employees recruited.

#### Employee share purchase schemes

- providing information on the existence of or amount and value of shares offered to employees under a share purchase scheme or pension programme;
- providing any other profit sharing schemes.

## Employee morale

- providing information on the company/management's relationships with the employees in an effort to improve job satisfaction and employee motivation;
- expressing appreciation or recognition of the employees;
- seeking employees' opinions and input to planning;
- providing information on the stability of the workers' jobs and the company's future;
- providing information on the availability of a separate employee report;
- providing information about any awards for effective communication with employees;
- providing information about communication with employees on management styles and management programmes which may directly affect the employees.

## Industrial relations

- reporting on the company's relationship with trade unions and/or workers;
- reporting on agreements reached for pay and other conditions;
- reporting on any strikes, industrial actions/activities and the resultant losses in terms of time and productivity;
- providing information on how industrial action was reduced/negotiated.

## Other

- improvements to the general working conditions - both in the factories and for the office staff;
- information on the reorganisation of the company/discussions/branches which affect the staff in any way;
- the closing down of any part of the organisation, the resultant redundancies created, and any relocation/retraining efforts made by the company to retain staff;
- reporting industrial action associated with a reduction in employees;
- information and statistics on employee turnover;
- information about support for day-care, maternity and paternity leave.

## **D. COMMUNITY INVOLVEMENT**

- donations of cash, products or employee services to support established community activities, events, organisations, education and the arts;
- summer or part-time employment of students;
- sponsoring public health projects;
- aiding medical research;
- sponsoring educational conferences, seminars or art exhibits;
- funding scholarship programmes or activities;
- other special community related activities, e.g., providing civic amenities, supporting town planning;
- supporting national pride/government sponsored campaigns;
- supporting the development of local industries or community programmes and activities;
- recognising local and indigenous communities;
- providing aid or compensation to communities around their operations.

## **E. OTHERS**

- Corporate objectives/policies: general disclosure of corporate objectives/policies relating to the social responsibility of the company to the various segments of society; disclosing corporate governance practices.
- Other disclosing/reporting to groups in society other than shareholders and employees, e.g., consumers, any other information that relates to the social responsibility of the company.

### **Data Classification**

All items comprising the categories of social disclosure were extracted from the annual reports and classified into positive, negative, and neutral disclosures (Hogner, 1982; Brown and Deegan, 1999).

These definitions for the classification of items were:

- Positive: referring to information about corporate social activities that have a positive or beneficial impact on society.
- Negative: referring to information about corporate social activities that have a negative or deleterious impact on society.
- Neutral: referring to information about corporate social activities whose impact on society cannot be determined as either positive or negative.

### **Data Measure**

The measure used is the number of sentences. However, it should not be inferred that this is the only basis of measurement that can be used for voluntary social disclosure in the annual report. There is not an agreed “best method” of content analysis (Gibson and Guthrie, 1995). Indeed researchers have used a variety of different measurements of disclosure. These, in addition to the number of sentences, have included number of words, number of lines, weighted measure, and space taken in the annual report. “The preferred units of analysis in written communications tend to be words, sentences and pages” (Gray et al., 1995b, p. 83), however, “sentences are to be preferred if one is seeking to infer meaning” (Gray et al., 1995b, p. 84). “Ingram and Frazier (1980) suggest the sentence as the unit of analysis, as it is easily identified and is less subject to intercoder variation than other measures, such as words and pages” (Deegan et al., 1999, p. 10).

“Hackston and Milne (1996) suggest that measurement error between various quantification techniques is likely to be quite negligible. In their study they illustrate how counting sentence-coded data in terms of the number of sentences or proportions of pages to the nearest one-hundredth made little difference to the subsequent analysis performed on the coded data. The extra precision that might be gained from counting words seems unlikely to add to understanding. Using sentences for both coding and measurement seems likely, therefore, to provide complete, reliable and meaningful data for further analysis” (Milne and Adler, 1999, p. 243).

All categories of social disclosure comprising environment, energy, human resources, community involvement, and other, and the components of these categories, were treated equally in respect of the measurement of sentences. That is, no weighting is applied. Hence, the data measure in this instance is an unweighted index of disclosure.

Visual aids in or on the annual report, for example, pictures, photographs and drawings, were not included as a data measure. The reason being that it would be too difficult in the case of the timber industry to assess whether visual aids included in the annual report were related to social disclosure. For example, it may be simply a picture of their product (trees) or what can be manufactured from their product.

## **Press Media Articles**

### **Press Disclosure**

Information on Australian media articles was obtained from a number of sources. Computer print-outs of selected articles appearing in the West Australian were obtained from the

West Australian Newspapers library. Selected articles, because only those articles that were non-copyright were permitted to be printed and distributed by The West Australian Newspapers library. These selective articles were obtained on payment of an agreed fee. The second source was the ABIX, which was used to reconcile Western Australian media articles with the printout received from the West Australian Newspapers library and in so doing provided information not available from the newspaper library list. That is, information on articles not available from The West Australian because of copyright regulation. It also provided information on press articles from newspapers other than the West Australian. The ABIX, however, did not provide a complete copy of the article, rather it provided a condensed summary of the article. Also housed on the Churchlands campus of ECU was microfiche containing media articles for Australian newspapers other than The West Australian. Finally, microfiche in the Battye Library of Australian History, Perth, Western Australia, which contained editions of The West Australian and other Australian newspapers, was used to obtain complete copies of articles not obtainable from the West Australian Newspapers library.

### **Selection of Newspapers**

In summary, the newspapers used as sources of information in this section of the study were: The Sydney Morning Herald, The Advertiser, The Age, The Australian, The Australian Financial Review, The Courier Mail, and The West Australian. These newspapers were identical to the ones recommended by external advisers and referred to in Chapter 4. The directors indicated their familiarity or otherwise with these newspapers, and

ranked the importance of those newspapers with which they were familiar in relation to adverse reporting on a company.

### **Data Extraction**

Data extracted from each of the newspaper reports on voluntary social disclosure were classified by categories and components of these categories as per Deegan et al. (1999) as follows:

- (1) the newspaper;
- (2) the date of the newspaper;
- (3) the page number on which the article appears;
- (4) the total pages in the newspaper;
- (5) the position on the page;
- (6) the column width of the article;
- (7) the number of columns on the page on which the article appears;
- (8) the area of the article; and
- (9) the presence of a visual aid.

The items used as independent variables are discussed in a later section entitled, Definition of Variables.

## **Data Classification**

The component items of the categories extracted from each article from the newspapers were classified as unfavourable, favourable, and neutral (Hogner, 1982; Brown and Deegan, 1999). These definitions for the classification of articles were:

- Unfavourable: where the content indicates that the operations/strategies/performance of Whittakers, Bunnings or Wesfarmers are detrimental to, or not in harmony with, the social environment.
- Favourable: where the content indicates that the operations/strategies/performance of Whittakers, Bunnings or Wesfarmers are beneficial to, or in harmony with, the social environment.
- Other: where the content does not indicate that the operations/strategies/performance of Whittakers, Bunnings or Wesfarmers was beneficial to or detrimental to the social environment.

## **Definition of Variables**

In this section, the definition and measurement of the dependent and independent variables to be used in the present study are discussed.

## **Dependent Variable**

The dependent variables used in this study were the number of sentences of positive and total social disclosure, by total, categories, and component items of the categories in the annual reports of each of the three companies.

## **Independent Variables**

### **Number of Articles**

The number of articles refer to both the total number of newspaper articles and the number of unfavourable newspaper articles containing social disclosure appearing in Australian newspapers over the period of the study specifically related to Whittakers Limited, Bunnings Limited and Wesfarmers Limited. Focussing only on the number of articles amounts to an unweighted approach. This has been identified as having shortcomings because, “it treats individual disclosures as being equally important” (Coy, Tower and Dixon, 1993, p. 122). This aspect ought to be examined.

The purpose of including this variable was to enable a partial replication of the Deegan et al. (1999) study. This enables a comparison of the results with the present study that refines the independent variable, the number of newspaper articles, to an index score and to individual characteristics of these newspaper articles. “However, it is clear from the ...

literature that construction of an index is a difficult matter that generally involves subjective treatment on the part of the researchers” (Marston and Shrives, 1991, p. 207).

### **Weighted Number of Articles**

The scoring method used for the five characteristics to be summed to obtain the index prominence score for each newspaper article is described below. The result was a maximum and minimum score of 15 and 4 respectively.

### **Page Location**

A single accounting research study by Milne and Adler (1997) found an association between front page stories in the press media on high profile companies and social disclosure in the annual report. Press media research has used a variety of media article measures for location that have shown a positive association between the location of a newspaper article and the topic of their study. These include sectional page (Ader, 1995), front page (Lasorta and Wanta, 1990; Winter and Eyal, 1981; Schoenbach and Semetko, 1992), front page or editorial page or any page with three column inches (McCombs and Shaw, 1972), and weighted between location and area of article (Salwen, 1988). Ader (1995) was the only researcher to use an index score. The scoring used was a 1 for front page and 0 for other, with no explanation for the scoring. This approach was not considered appropriate in the present study because it was considered too extreme. A scoring method was used that was considered more equitable, and provided a uniform basis for scoring an

article in a number of newspapers of different size, on whatever page an article appeared. The scoring used maintained the association (positive) of a higher score for articles appearing earlier in a newspaper.

Consistent with Marston and Shrives (1991) a subjective measure was adopted for page location. The total number of pages of the newspaper or lift-out section of the newspaper was divided into quarters. If the article appeared in the first quarter it was given a score of 4; for the second quarter 3; the third quarter 2; and the fourth quarter 1.

### **Column Width of Article**

Press media research has used alternative media article measures for column width that have shown a positive association between the location of a newspaper article and the topic of their study. These include heading width by columns (Ader, 1995; McCombs and Shaw, 1972) and three column headlines (Lasorta and Wanta, 1990) as a positive measure of association with topic. The approach by Ader, who used an index score, was 2 for four to six columns, 1 for two to three columns, and 0 for one column. This was modified slightly for the present study, as her scoring method was related to a single newspaper with six columns (Australian newspapers have five columns) with no explanation for the scoring method. The scoring used maintained the association (positive) of a higher score for articles occupying a greater number of columns in a newspaper.

Consistent with Marston and Shrives (1991) a subjective measure was adopted for column width of article. The number of columns on a single page in the newspaper or lift-out section of the newspaper in which the article was contained was divided by the number of columns on that page of that newspaper or lift-out. For a proportion up to 0.25 it was given a score of 1; for greater than 0.25 and up to 0.50 2; greater than 0.50 and up to 0.75 3; and greater than 0.75 4.

### **Position on Page**

Press media research by Ader (1995) scored 1 for an article appearing in the top one-half of the newspaper and 0 for appearing in the bottom one-half. The approach by Ader (1995) was modified slightly for the present study, as her scoring method appeared to suggest no weighting for an article appearing in the bottom one-half of the page, and, hence, could be argued to be technically incorrect. Nevertheless, the same weighting attached to an article appearing in the top one-half of the page of a newspaper was maintained in the present study.

When the article commenced on the top one-half of the page of a newspaper or lift-out section it was given a score of 2. If the article commenced in the bottom one-half of the page it was given a score of 1.

### **Area of Article**

Press media research has used a variety of media article measures for the area of an article that have shown a positive association between the area of a newspaper article and the topic of their study. These include column length (Ader, 1995), column inches (Yagade and Dozier, 1990), column inches including visual aids (Stone and McCombs, 1981), column inches based on two inch wide columns weighted between location and area of article (Salwen, 1988), equivalent 25 square column inches (Schoenbach and Semetko, 1992), and minimum of five paragraphs (McCombs and Shaw, 1972). The methods used were considered inappropriate for the present study as they were based on a single newspaper, and, hence, would not uniformly measure newspapers of different size which were used in the present study. Neither were explanations provided for the basis of scoring. A judgmental approach was adopted for the designated number of areas for scoring. The scoring used maintained the positive association of a higher score for the larger the area an article occupied on a page in a newspaper.

Consistent with Marston and Shrives (1991) a subjective measure was adopted for the area of an article. The page of the newspaper or lift-out containing the article was divided into quarters. For an article covering up to one-quarter of the page it was given a score of 1; more than one-quarter of a page and up to one-half of a page 2; more than one-half of a page and up to three-quarters of a page 3; and more than three-quarters of a page 4. This included the area of a visual aid if one was present. A visual aid included a diagram,

picture, or a drawing accompanying an article. In line with Marston and Shrives (1991) this was a subjective assessment of the measure to be adopted for area of an article.

**Presence of Visual Aid**

Press media research by Ader (1995) scored 2 for photographs or drawings extending across four to six columns, 2 for two to three columns, and 1 for one column. This was considered inappropriate for the present study as the study included the visual aid in the area of the article. In addition, no mention was made of the score to be used in the absence of a visual aid. The scoring method used maintains the positive association with a higher score for the existence of a visual aid.

When a visual aid accompanied an article it was given a score 1. If there was no visual aid present then it was scored as a 0.

Table 10 presents the summary of the description of dependent and independent variables for the index score calculation. For correlation with the number of sentences of disclosure in the annual report in each year the index scores of the articles were summed for each year.

Table 10  
Index Score: Variable Summary

Variables	Expected Sign	Measures
<u>Dependent Variable: Annual Report Disclosure</u>		
1. Total	n.a.	Number of positive sentences of disclosure in the annual report for each year
2. Human Resources (HR)		
3. Environmental (ENV)		
4. Energy (EN)		Total number of sentences of disclosure in the annual report for each year
5. Community (COM)		
6. Other (OTH)		
7. Components of HR, ENV, EN, COM, and OTH		
<u>Independent Variables: Total Media Articles and Unfavourable Media Articles*</u>		
Location	+	Page number divided by total pages ≥ 0.00 and ≤ 0.25 = 4 ≥ 0.25 and ≤ 0.50 = 3 ≥ 0.50 and ≤ 0.75 = 2 ≥ 0.75 and ≤ 1.00 = 1
Column Width	+	No. of columns divided by total columns ≥ 0.00 and ≤ 0.25 = 1 ≥ 0.25 and ≤ 0.50 = 2 ≥ 0.50 and ≤ 0.75 = 3 ≥ 0.75 and ≤ 1.00 = 4
Position	+	Commencing top half of the page = 2; bottom half = 1
Area	+	Space of article (including visual aid) divided by total page space ≥ 0.00 and ≤ 0.25 = 1 ≥ 0.25 and ≤ 0.50 = 2 ≥ 0.50 and ≤ 0.75 = 3 ≥ 0.75 and ≤ 1.00 = 4
Visual aid	+	Presence of visual aid = 1; otherwise = 0

\*For correlation analysis the scores were summed for each year

## **Individual Characteristics**

Each of the five characteristics that were summed to obtain the index prominence for each newspaper article is examined individually for their association with social disclosure in the annual report. Prior to analysis they are converted to continuous variables. The description of each of these variables after conversion to continuous variables is described below.

### **Page Location**

Location was measured as the page number in which the article appeared in the newspaper divided by the total number of pages in that newspaper, expressed as a proportion.

### **Column Width of Article**

Column width was measured as the number of columns taken by an article divided by the total number of columns on the page of that newspaper, expressed as a proportion.

### **Position on Page**

Articles were classified as either commencing on the top one-half of the page or the bottom one-half of the page. Then, the number of articles in each year that commenced on the top one-half of the page was expressed as a proportion of the total number of articles in each year.

### **Area of Article**

Area was measured as the amount of space taken by an article divided by the total space on that page of the newspaper, expressed as a proportion. The area was measured using a grid of squares with the size of the squares equalling the area taken by the smallest article.

### **Presence of Visual Aid**

Articles were classified into those that had a visual aid and those that did not have a visual aid. Then, the number of articles that had a visual aid in each year was expressed as a proportion of the total number of articles in each year.

Table 11 presents the summary of the description of dependent and independent variables for the individual characteristics. For correlation with the number of sentences of disclosure in the annual report in each year the mean score for location, column width and area for each year was used, and for position and visual aid the proportion for each year was used.

Table 11		
Individual Characteristics: Variable Summary		
Variables	Expected Sign	Measures
<u>Dependent Variable: Annual Report Disclosure</u>		
1. Total	n.a.	Number of positive sentences of disclosure in the annual report for each year
2. Human Resources (HR)		
3. Environmental (ENV)		Total number of sentences of disclosure in the annual report for each year
4. Energy (EN)		
5. Community (COM)		
6. Other (OTH)		
7. Components of HR, ENV, EN, COM, and OTH		
<u>Independent Variables: Total Media Articles and Unfavourable Media Articles</u>		
Location*	+	Page number divided by total pages
Column Width*	+	Number of columns divided by total columns
Position**	+	Proportion of total articles commencing on the top one-half of the page
Area*	+	Space of article divided by total page space
Visual Aid**	+	Proportion of total articles with a visual aid

\* For correlation analysis the mean score for each year was used

\*\*For Correlation analysis the proportion for each year was used

## **Media Lags**

The presence of a lag between the association of newspaper reports and social disclosure in the annual reports was examined. To enable replication and extension of prior research, this was in respect of the five major categories of social disclosure: environment, energy, human resources, community involvement, and other. The consequence of lag correlations for prior years was that less than 10 years of social disclosure were examined.

## **Unweighted**

The lag was based purely on the number of newspaper articles on social disclosure.

## **Prior Year**

Correlations were undertaken between social disclosure in the annual report in one year and the number of media articles in the previous year. For example, the 1990 annual report disclosure with the number of 1989 newspaper articles. The assumption being that the decision to voluntarily disclosure social information in the current year was influenced by media attention in the previous year. This enabled a comparison of the prior study by Deegan et al. (1999).

### **Prior Year and Current Year**

Correlations were undertaken between social disclosure in the annual report in one year and the number of media articles in the previous year summed together with the number of articles in the current year. For example, the 1990 annual report disclosure with the sum of the number 1989 and 1990 newspaper articles. The assumption being, that the decision to voluntarily disclosure social information in the current year was influenced by media attention both in the previous year and the previous year. This extended the prior study by Deegan et al. (1999).

### **Weighted**

The lag was based on the indexed newspaper articles on social disclosure. The weighting applied to each article was that shown in Table 10. This further extended the study by Deegan et al. (1999) from the number of articles to weighted index articles.

### **Prior Year**

Correlations were undertaken between social disclosure in the annual report in one year and the indexed media articles in the previous year. For example, the 1990 annual report disclosure with the 1989 indexed newspaper articles.

## **Prior Year and Current Year**

Correlations were undertaken between social disclosure in the annual report in one year and the indexed media articles in the previous year summed together with the indexed articles in the current year. For example, the 1990 annual report disclosure with the sum of the indexed 1989 and 1990 newspaper articles.

## **Data Collection - Reproducibility of Data**

Krippendorff (1980) suggests, when undertaking content analysis, stability and reproducibility of data as measures of reliability to achieve reliable categorisation of data. He considers stability is the weaker of the two and merely refers to a second (later) categorisation of data classified and recorded to ensure stability. Reproducibility refers to two or more parties working independently and reaching agreement on the classification of the data recording at hand.

“Any instrument of science is expected to be reliable. More specifically, when other researchers, at different points in time and perhaps under different circumstances, apply the same technique to the same data, the results must be the same. This is the requirement of a content analysis to be *replicable*” (Krippendorff, 1980, p. 21).

A prerequisite for these conditions is to have the recording unit suitably defined and categories to be defined (Krippendorff, 1980). These prerequisites have been suitably defined, together with their basis of measurement in the previous sections on data sources and definition of variables. Other factors in addition to rules and procedures considered

important include: judge training, measure pretesting, judge independence and the number of judges (Kolbe & Burnett, 1991).

However, as Kolbe and Burnett (1991, p. 250) state in relation to minimum standards of validity, “there would need to be some middle ground between methodological ideals and practical research decisions”. A similar view is expressed by Milne and Adler (1999, p. 252).

“... experimental results suggest that formally measuring inter-rater reliability and the establishment of minimum standards to be achieved in content analysis is complex. The choice between methods is often arbitrary. Further, each method generates different theoretical and working limits. Consequently, there are no universal rules of thumb or universal minimum standards that can be adopted for the reliability of social and environmental disclosures content analysis. The only advice that seems to emerge from this study is that researchers need to understand their tools, their limits and the research context, before making careful interpretations of results.”

Having regard to the aforementioned discussion and comment on stability and reproducibility of Krippendorff (1980), Kolbe and Burnett (1991), and Milne and Adler (1990), the following procedure was adopted in the present study.

1. A meeting was held between the author of this thesis and an additional person (hereinafter referred to as “research assistant”) appointed to code the data.
2. The research assistant has an honours degree in accounting, with an honours thesis in environmental disclosure and is currently completing a master’s thesis in corporate governance. This person is also a qualified accountant and has performed the role of a financial accountant in a major organisation.

3. The coding of the data by the research assistant was undertaken on a paid full time basis.
4. An initial meeting was held between the candidate and the research assistant to provide an overview of the study and the coding task related to annual reports and press articles.
5. At the initial meeting the list of items from the research by Hackston and Milne (1996) with modifications by Deegan et al. (1999) was provided to the research assistant together with the classification definitions of Hogner (1982 ) and Deegan et al. (1999) to be used in coding annual report data. These were fully discussed. To enable the research assistant to study them thoroughly a meeting was scheduled a week later.
6. The later meeting discussed the list of items and classification definitions and any queries the researcher had.
7. At that meeting (6) two annual reports one from each of two companies were selected and coded by both parties. Differences were reconciled and the procedure was repeated again. This procedure was undertaken to achieve shared meaning between the researcher assistant and the author of this thesis.
8. At a later date step 7, was repeated.
9. Annual reports of all companies applicable to the present study were given to the research assistant. The author randomly checked codings of the annual reports by the researcher.
10. Differences were reconciled, as were all additions to the list of items. The latter were independently checked.
11. An identical process was adopted for newspaper articles. This required a close approximation of the procedure for steps 5 – 10 inclusive.

A high level of consensus was reached and any differences were discussed and resolved in a reasonable amount of time. This would to a large extent be attributed to the definitions provided by Deegan et al. (1999), and the list of items by Hackston and Milne (1996) with modifications by Deegan et al. (1999). In the main the differences centred on “E OTHERS” category.

An extract of the list of social disclosure items indicating those added, in uppercase and underlined, were:

**List of Social Disclosure Items (Extract)**

**A. ENVIRONMENT**

Environmental pollution

- conservation or natural resources, e.g. recycling glass, metals, oil, water and paper;  
SUSTAINABILITY OF TIMBER

Other

- CONDUCTING EDUCATIONAL PROGRAMMES FOR SCHOOL STUDENTS AND COMMUNITY GROUPS ON ENVIRONMENTAL ISSUES

**B. HUMAN RESOURCES**

Employee Health and Safety

- disclosing accident statistics; AND OR DETAILS OF SPECIFIC ACCIDENTS

Employment of minorities or women

- AWARD FOR RECOGNITION OF EMPLOYMENT OF PERSONS WITH DISABILITIES

Employee training

- EMPLOYER TRAINING EXCELLENCE AWARD

Employee remuneration

- PRODUCTIVITY BASED BONUS SCHEMES

## **D. COMMUNITY INVOLVEMENT**

- CUSTOMER SERVICE AWARDS

## **E. OTHERS**

Other disclosing/reporting to groups in society other than shareholders and employees, e.g. consumers, any other information that relates to the social responsibility of the company, QUALITY ASSURANCE

## **Summary**

This chapter discussed sample selection, time period selection, data sources, data classification, definition and measurement of variables, and stability and reproducibility of data in detail.

## **CHAPTER 6**

### **QUESTIONNAIRE ANALYSIS**

#### **Introduction**

The purpose of this chapter is to present the results of the statistical analyses performed to explore the three major research questions proposed in the questionnaire described in Chapter 4. Because the respondents are not required to provide a company name the responses will be analysed as a single group.

The results in this chapter are presented in line with the order of the three major sections of the questionnaire. First, Section I the Press comprising four questions. Then, Section II Voluntary Social Disclosure comprising fifteen questions. Finally, Section III Newspapers comprising five questions.

#### **Analysis Section I: Press**

Questions 1 to 4 in the questionnaire were:

1. Press reporting on matters related to a company cannot be ignored by a Board of Directors.
2. Members on the Board of Directors consider their activities are under scrutiny by the press.
3. The likelihood of press reporting on company matters impacts on the way Boards of Directors communicate decisions.
4. Disclosure in an annual report can be a consequence of press reporting.

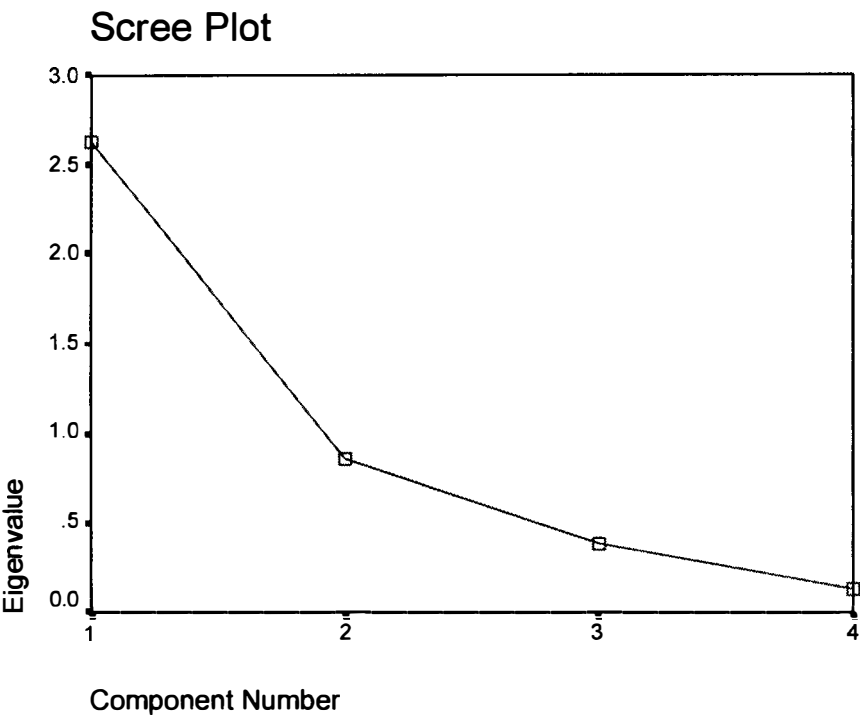
The Directors in the sample rated each of the four questions on a scale ranging from 1 (Strongly agree) to 5 (strongly disagree). A factor analysis of the four items was subjected to a varimax rotation. The results indicate satisfactory construct validity (Kerlinger, 1964) in which all of the four items loaded above the 0.5 level on a single (uni-dimensional) factor with an eigen value greater than one, which explained 65.65% of the total variance. The result of the factor analysis is shown in Table 12. Cronbach’s alpha coefficient (Cronbach, 1951) was 0.82, suggesting the scale had a very high internal reliability (Nunnally, 1967). The strength of the first factor can be visually observed in the Scree Plot in Figure 1.

Table 12  
Principal Components Analysis of Press Questions – Factor Analysis

Question	Factor Loading
Q1. Press reporting on matters related to a company cannot be ignored by a Board of Directors.	0.910
Q2. Members on the Board of Directors consider their activities are under scrutiny by the press.	0.576
Q3. The likelihood of press reporting on company matters impacts on the way Boards of Directors communicate decisions.	0.939
Q4. Disclosure in an annual report can be a consequence of press reporting.	0.765

Figure 1

Press Questions



Caution needs to be taken when an analysis is undertaken with a small sample size such as in the present case ( $n = 24$ ). Further considerations are necessary and some of these indicated by a number of authors are:

1. To apply Bartlett's sphericity test (Cooley and Lohnes, 1971).
2. To have at least five times as many observations in the study as the number of variables (Hair et al., 1995).
3. Components with four or more loadings above .60 (Stevens, 1992).

Consideration of the above three matters suggested the result of the factor analysis using the varimax rotation was reliable in this instance. The result of Bartlett’s sphericity test was significant and hence acceptable. There was more than five times the number of observations as variables – there were four variables and 24 observations. Three of the component loadings were far in excess of .60 and the fourth was .58. Because this loading was extremely close, it was judged that question 2 with a component loading of .58 was sufficiently close to .60 so it was accepted.

Table 13  
Principal Components Analysis of Press Questions – Correspondence Analysis

Question	Factor Loading
Q1. Press reporting on matters related to a company cannot be ignored by a Board of Directors.	0.894
Q2. Members on the Board of Directors consider their activities are under scrutiny by the press.	0.712
Q3. The likelihood of press reporting on company matters impacts on the way Boards of Directors communicate decisions.	0.945
Q4. Disclosure in an annual report can be a consequence of press reporting.	0.855

In addition to the three matters mentioned in the preceding paragraph, correspondence analysis was used on the data set and this also resulted in a single dimension. The results indicate satisfactory construct validity (Kerlinger, 1964) in which all of the four items loaded above 0.5 level on a single (uni-dimensional) factor with an eigen value greater than

one, which explained 73.26% of the total variance. The result of this analysis is shown in Table 13. Cronbach's alpha coefficient (Cronbach, 1951) was 0.88, suggesting the scale had a very high internal reliability (Nunnally, 1967).

The frequency distributions of the responses to the four press-related questions are contained in Table 14. The majority of directors, excluding neutral responses, agreed with questions 1, 2 and 3, with agreement of 66.7%, 50%, and 54.2%, and disagreed with question 4 (66.7%). The descriptive statistics showed the means for questions 1, 2 and 3 (2.33, 2.42, 2.71) tended toward agreement and the median that these three questions were positively skewed. In comparison, the mean for question 4 (3.79) tended toward disagreement and was negatively skewed. A t test of proportions rejected the null hypothesis between the level of agreement and disagreement for all four questions at the 0.10 level of significance<sup>1</sup>. This implied the directors believed they could not ignore matters reported in the press about the company. However, they did not believe that what they reported in an annual report was a consequence of press reports.

The result for question 4 appears to run counter to prior research (for example, Deegan and Gordon, 1996; Deegan et al., 1997; Savage et al., 1999), which showed that unfavourable media reporting was accompanied with increased social and environmental disclosure in the annual report. However, caution should be exercised in interpreting this result because the question was generally worded and not specifically related to social disclosures.

<sup>1</sup> A t test was used because the sample size was small.

Table 14

## Response Frequency: Press

Questions	SA* 1	SD				Agree**	Disagree	t test Sig.	Mean (SD)***	Median	Range
		2	3	4	5						
	%	%	%	%	%	%	%				
Q1. Press reporting on matters related to a company cannot be ignored by a Board of Directors.	25.0	41.7	8.3	25.0	-	66.7	25.0	0.005	2.33 (1.13)	2.00	1-4
Q2. Members on the Board of Directors consider their activities are under scrutiny by the press.	20.8	29.2	37.5	12.5	-	50.0	12.5	0.01	2.42 (0.97)	2.50	1-4
Q3 The likelihood of press reporting on company matters impacts on the way Boards of Directors communicate decisions.	12.5	41.7	16.7	20.8	8.3	54.2	29.1	0.10	2.71 (1.20)	2.00	1-5
Q4. Disclosure in an annual report can be a consequence of press reporting.	4.2	16.7	12.5	29.2	37.5	20.9	66.7	-0.005	3.79 (1.25)	4.00	1-5

\* 1 = Strongly agree (SA), through to 7 = Strongly disagree (SD)

\*\* Agree = 1 and 2, Disagree = 4 and 5

\*\*\* Standard Deviation

Nevertheless, it was a response by Directors of timber industry companies, which is considered to be a highly sensitive industry.

Given the results obtained in this section, it was of interest to examine the analysis of responses to questions in Section II of the questionnaire, which were geared specifically to categories of social disclosure areas. Also, whether the responses to the first questions in each category were correlated to question 4 of this section.

### **Analysis Section II: Voluntary Social Disclosure**

Questions 5 to 19 in the questionnaire are shown below. Questions 5 to 7 concerned the disclosure of human resources information in the annual report. The identical three questions followed for environment (8-10), energy (11-14), community related (14-16), and other (17-19).

5. The disclosure of human resources related information in the annual report of a company is a consequence of press attention.
6. The inclusion of human resources related information in the annual report of a company influences the public's perception of that issue.
7. Human resources related information is disclosed in the annual report of a company to show the company is responsive to public expectations.
8. The disclosure of environmental related information in the annual report of a company is a consequence of press attention.

9. The inclusion of environmental related information in the annual report of a company influences the public's perception of that issue.
10. Environmental related information is disclosed in the annual report of a company to show the company is responsive to public expectations.
11. The disclosure of energy related information in the annual report of a company is a consequence of press attention.
12. The inclusion of energy related information in the annual report of a company influences the public's perception of that issue.
13. Energy related information is disclosed in the annual report of a company to show the company is responsive to public expectations.
14. The disclosure of community related information in the annual report of a company is a consequence of press attention.
15. The inclusion of community related information in the annual report of a company influences the public's perception of that issue.
16. Community related information is disclosed in the annual report of a company to show the company is responsive to public expectations.
17. The disclosure of corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees in the annual report is a consequence of press attention.
18. The inclusion of corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees in the annual report of a company influences the public's perception of that issue.
19. Corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees related information is disclosed in the annual report of a company to show the company is responsive to public expectations.

These questions were measured using a 5-point Likert-type scale ranging from 1 (Strongly agree) to 5 (strongly disagree).

The frequency distributions of the responses to questions 5 to 19 are contained in Table 15. The directors, excluding neutral responses, disagreed with questions 5 (83.4%), 8 (50%), 11 (70.8%), 14 (58.3%), and 17 (62.5%), and agreed with questions 6 (45.9%), 7 (54.1%) 9 (54.1%), 10 (79.2%), 12 (50%), 13 (58.3%), 15 (50%), 16 (58.3%), 18 (54.2%), and 19 (66.6%)<sup>2</sup>. The descriptive statistics for each of the questions shown in Table 15 indicated that the means for questions 6, 7, 9, 10, 12, 13, 15, 16, 18, and 19 tended toward agreement and the median that these questions were positively skewed. In comparison the mean and median for questions 5, 8, 11, 14, and 17 tended toward disagreement and indicated the questions were negatively skewed. A t test of proportions rejected the null hypothesis between the level of agreement and disagreement for questions 5 to 19 at the 0.10 level of significance. This implied the directors believed that the disclosure of social information in the annual report could influence the public's perception of that issue. Further, that social information was disclosed in the annual report to show responsiveness to public expectations. However, the disclosure of social information in the annual report was not attributable to press reporting.

<sup>2</sup> Principal components analysis was not undertaken because the categories in this small size sample contained only three components. Consequently, Stevens (1992) test of components with four or more loadings above .60 was not possible.

Table 15

Response Frequencies: Categories

Questions	SA* 1	2	3	4	SD 5	Agree** %	Disagree %	t test Sig.	Mean (SD)***	Median	Range
<i>Human Resources</i>											
Q5. The disclosure of human resources related information in the annual report of a company is a consequence of press attention.	-	8.3	8.3	66.7	16.7	8.3	83.4	0.005	3.92 (0.78)	4.00	2-5
Q6. The inclusion of human resources related information in the annual report of a company influences the public's perception of that issue.	4.2	41.7	33.3	16.7	4.2	45.9	20.9	0.10	2.75 (0.94)	3.00	1-5
Q7. Human resources related information is disclosed in the annual report of a company to show the company is responsive to public expectations.	8.3	45.8	33.3	8.3	4.2	54.1	12.5	0.01	2.54 (0.93)	2.00	1-5
<i>Environment</i>											
Q8. The disclosure of environmental related information in the annual report of a company is a consequence of press attention.	4.2	20.8	25.0	41.7	8.3	25.0	50.0	0.10	3.29 (1.04)	3.50	1-5
Q9. The inclusion of environmental related information in the annual report of a company influences the public's perception of that issue.	8.3	45.8	33.3	8.3	4.2	54.1	12.5	0.01	2.54 (0.93)	2.00	1-5
Q10. Environmental related information is disclosed in the annual report of a company to show the company is responsive to public expectations.	29	50.0	12.5	8.3	-	79.2	8.3	0.005	2.0 (0.88)	2.00	1-4

Table 15 Continued

Response Frequencies: Categories

Questions	SA*	SD					Agree**		Disagree	t test Sig.	Mean (SD)***	Median	Range
		1	2	3	4	5	%	%					
<i>Energy</i> Q11. The disclosure of energy related information in the annual report of a company is a consequence of press attention.	-		12.5	16.7	58.3	12.5		12.5	70.8	-0.005	3.71 (0.86)	4.00	2-5
Q12. The inclusion of energy related information in the annual report of a company influences the public's perception of that issue.	8.3	41.7	29.2	12.5	8.3		50.0	20.8		0.05	2.71 (1.08)	2.50	1-5
Q13. Energy related information is disclosed in the annual report of a company to show company is responsive to public expectations.	25.0	33.3	20.8	12.5	8.3		58.3	20.8		0.025	2.46 (1.25)	2.00	1-5
<i>Community Related</i> Q14. The disclosure of community related information in the annual report of a company is a consequence of press attention.	4.2	8.3	29.2	37.5	20.8		12.5	58.3		0.005	3.62 (1.05)	4.00	1-5
Q15. The inclusion of community related information in the annual report of a company influences the public's perception of that issue.	-	50.0	33.3	12.5	4.2		50.0	16.7		0.025	2.71 (0.86)	2.50	2-5
Q16. Community related information is disclosed in the annual report of a company to show the company is responsive to public expectations.	25.0	33.3	25.0	4.2	12.5		58.3	16.7		0.01	2.46 (1.28)	2.00	1-5

Table 15 Continued

## Response Frequencies: Categories

Questions	SA*	SD				Agree**	Disagree	t test Sig.	Mean (SD)***	Median	Range
		1	2	3	4	5					
<i>Other</i>		%	%	%	%	%	%				
Q17. The disclosure of corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees in the annual report is a consequence of press attention.	4.2	4.2	29.2	41.7	20.8		62.5	-0.005	3.71 (1.00)	4.00	1-5
Q18. The inclusion of corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees in the annual report of a company influences the public's perception of that issue.	-	54.2	25.0	16.7	4.2		20.9	0.05	2.71 (0.91)	2.00	2-5
Q19. Corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees related information is disclosed in the annual report of a company to show the company is responsive to public expectations.	20.8	45.8	16.7	12.5	4.2		16.7	0.005	2.33 (1.10)	2.00	1-5

\* 1 = Strongly agree (SA), through to 7 = Strongly disagree (SD)

\*\* Agree = 1 and 2, Disagree = 4 and 5

\*\*\* Standard Deviation

A Spearman rank order correlation between question 4 in Section I, the press, and questions 5, 8, 11, and 17 in this section were significant at the  $p < 0.01$  level for a one-tailed test, and question 14 at the  $p < 0.05$  level. This implied consistency in response to the general question in Section I that disclosure in the annual report was not a consequence of press reporting, and similarly to all of the five categories of social disclosure.

The Spearman rank order correlation matrix comprising questions 5, 8, 11, 14 and 17 in the five categories of social disclosure is shown in Table 16. The results showed the categories to be significant for a one-tailed test. With the exception of the correlation between environment and community related disclosure, which was significant at the  $p < 0.05$  level, all other correlation between the categories were significant at the  $p < 0.01$  level. Clearly the directors in the sample did not consider that press attention influenced social disclosure in the annual report of a company. This result was not inconsistent with legitimacy theory because the board of directors may adopt a number of strategies to counter press media reports. For example, they may choose to ignore the press media report or they may attempt to influence the public's perception via other disclosures in the annual report. See, for example, the result of questions 6, 9, 12, 15 and 18. The results for these questions showed that inclusion of information in the annual report of a company could influence the public's perception of an issue.

Table 16

Spearman Rank Correlation Matrix: Questions 5, 8, 11, 14, 17  
Disclosure in the Annual Report is a Consequence of Press Attention

Categories	Human Resource	Environment	Energy	Community Related	Other
Human Resource	1.000	.625**	.745**	.480**	.721**
Environment		1.000	.638**	.459*	.652**
Energy			1.000	.733**	.858**
Community Related				1.000	.825**
Other					1.000

\* Correlation is significant at the  $p < 0.05$  level (1-tailed).

\*\* Correlation is significant at the  $p < 0.01$  level (1-tailed).

The Spearman rank order correlation matrix comprising questions 6, 9, 12, 15 and 18 in the five categories of social disclosure is shown in Table 17. These questions related to whether the inclusion of a category of social information in the annual report influenced the public's perception of that issue. The results showed that eight of ten correlations between the categories were significant using a one-tailed test. The two correlations not significant were between environment and other disclosure, and energy and other disclosure. The remaining eight correlations were either significant at the  $p < 0.01$  level or  $p < 0.05$  level. This result implied the directors in the sample considered that other corporate social objectives /policies and/or reporting to groups in society other than shareholders and employees in the

annual report did not influence the public’s perception of that issue as much as the other four categories of social disclosure.

Table 17

Spearman Rank Correlation Matrix: Questions 6, 9, 12, 15, 18  
Disclosure in the Annual Report Affects Public Perceptions of an Issue

Categories	Human Resource	Environment	Energy	Community Related	Other
Human Resource	1.000	.431*	.367*	.512**	.524**
Environment		1.000	.770**	.718**	.190
Energy			1.000	.787**	.208
Community Related				1.000	.503**
Other					1.000

\* Correlation is significant at the p<0.05 level (1-tailed).

\*\* Correlation is significant at the p<0.01 level (1-tailed).

The Spearman rank order correlation matrix comprising questions 7, 10, 13, 16 and 19 in the five categories of social disclosure is shown in Table 18. These questions related to the inclusion of a category of social information in the annual report to show the company was responsive to public expectations. The results showed all the categories of social disclosure were highly significant at the p<0.01 level for a one-tailed test. This result implied that the directors in the sample believed that social disclosures in the annual report of a company showed the company was responsive to public expectations. The responsiveness was perceived to be equal in all categories.

Table 18

Spearman Rank Correlation Matrix: Questions 7, 10, 13, 16, 19  
Disclosure in the Annual Report Shows the Company is Responsive to Public Expectations

Categories	Human Resource	Environment	Energy	Community Related	Other
Human Resource	1.000	.760**	.679**	.832**	.850**
Environment		1.000	.790**	.726**	.795**
Energy			1.000	.567**	.693**
Community Related				1.000	.877**
Other					1.000

\*\* Correlation is significant at the  $p < 0.01$  level (1-tailed).

Analysis Section III: Newspaper Familiarity

Familiarity Ranking of Newspapers

Questions 20 to 24 in the questionnaire are contained in Table 19. The scales in Table 19 were repeated 5 times, once for each of the five social categories with the indication that the question was in respect of “adverse reporting”.

Table 19  
Familiarity and Importance of Newspapers

	Not Familiar	Not Important				Very Important
Sydney Morning Herald	<input type="checkbox"/>	1	2	3	4	5
The Advertiser	<input type="checkbox"/>	1	2	3	4	5
The Age	<input type="checkbox"/>	1	2	3	4	5
The Australian	<input type="checkbox"/>	1	2	3	4	5
The Australian Financial Review	<input type="checkbox"/>	1	2	3	4	5
The Courier Mail	<input type="checkbox"/>	1	2	3	4	5
The West Australian	<input type="checkbox"/>	1	2	3	4	5

Instructions to Directors completing the questionnaire indicated the following procedure. If they were not familiar with a newspaper, they were instructed to tick the box in the column and to proceed to the next newspaper. If they were familiar with a newspaper, they were instructed not to mark the box in the “not familiar” column but to circle a number between 1 (Not Important) and 5 (Very Important), which represented their perception of the importance of that newspaper in respect of adverse reporting.

The respondent’s familiarity responses, in numbers and percentages, for all the newspapers for the five categories of social disclosure are shown in Table 20. The result indicated there were both similarities and differences in terms of familiarity with the newspapers in respect of adverse reporting on a social issue. In terms of ranking of familiarity, the highest ranking was attributed to The West Australian and the lowest ranking to The Courier Mail. The West Australian was followed jointly by The Australian and The Australian Financial Review, followed jointly by The Sydney Morning Herald and The Age, then The Advertiser, and finally The Courier Mail. A visual inspection suggested there were two broad clusters of familiarity that appeared to be identical across all five social categories.

Cluster one included The Australian, The Australian Financial Review and The West Australian, and Cluster two included the Sydney Morning Herald, The Advertiser, The Age, and The Courier Mail. For each newspaper, the familiarity scores were the same across the 5 social reporting categories.

Table 20

Newspaper Familiarity: Categories of Social Disclosure

n = 23

Newspaper	Human Resources		Environment		Energy		Community Related		Other	
	No	%	No	%	No	%	No	%	No	%
Sydney Morning Herald	10	43.5	10	43.5	10	43.5	10	43.5	10	43.5
The Advertiser	8	34.8	8	34.8	8	34.8	8	34.8	8	34.8
The Age	10	43.5	10	43.5	10	43	10	43.5	10	43.5
The Australian	20	87.0	20	87.0	20	87.0	20	87.0	20	87.0
The Australian Financial Review	20	87.0	20	87.0	20	87.0	20	87.0	20	87.0
The Courier Mail	8	34.8	8	34.8	8	34.8	8	34.8	8	34.8
The West Australian	22	95.7	22	95.7	22	95	22	95.7	22	95.7

## **Importance Ranking of Newspapers**

The frequency distributions of the responses of directors in the sample to the ranking of importance of the newspapers in respect of adverse publicity on human resources are shown in Table 21. Table 21 indicated importance rankings for the Sydney Morning Herald (SMH), The Age (AGE), The Australian (AUS), The Australian Financial Review (AFR), and The West Australian (WA), and lack of importance ranking for The Advertiser (ADV) and The Courier Mail (CM). The majority of directors, excluding neutral responses, importance ranking for SMH, AGE, AUS, AFR, and WA was 50%, 50%, 70%, 75% and 45.4% respectively, and non-importance ranking for the ADV and CM was 44.4% and 55.6%.

The frequency distributions of the responses of the directors in the sample to the ranking of the importance of the newspapers in respect of adverse publicity on environmental issues are shown in Table 22. Table 22 indicated importance ranking for the SMH, AGE, AUS, AFR, and WA, and lack of importance ranking for ADV and CM. The majority of directors, excluding neutral responses, importance ranking for SMH, AGE, AUS, AFR, and WA of 50%, 50%, 60%, 60% and 54.5% respectively, and non-importance ranking for the ADV and CM of 44.4% and 55.6%.

Table 21

## Human Resources: Importance Ranking of Newspapers

Newspaper	Not Important 1		2		3		4		Very Important 5	
	No	%	No	%	No	%	No	%	No	%
Sydney Morning Herald	0	0.0	3	30.0	2	20.0	5	50.0	0	0.0
The Advertiser	1	11.1	3	33.3	4	44.4	1	11.1	0	0.0
The Age	0	0.0	3	30.0	2	20.0	5	50.0	0	0.0
The Australian	0	0.0	0	0.0	6	30.0	12	60.0	2	10.0
The Australian Financial Review	0	0.0	0	0.0	5	25.0	9	45.0	6	30.0
The Courier Mail	0	0.0	5	55.6	3	33.3	1	11.1	0	0.0
The West Australian	0	0.0	3	13.6	9	40.9	3	13.6	7	31.8

Table 22

## Environment: Importance Ranking of Newspapers

Newspaper	Not Important 1		2		3		4		Very Important 5	
	No	%	No	%	No	%	No	%	No	%
Sydney Morning Herald	0	0.0	4	40.0	1	10.0	4	40.0	1	10.0
The Advertiser	0	0.0	4	44.4	4	44.4	0	0.0	1	11.1
The Age	0	0.0	4	40.0	1	10.0	4	40.0	1	10.0
The Australian	0	0.0	1	5.0	7	35.0	10	50.0	2	10.0
The Australian Financial Review	0	0.0	2	10.0	6	30.0	8	40.0	4	20.0
The Courier Mail	0	0.0	5	55.6	3	33.3	0	0.0	1	11.1
The West Australian	0	0.0	2	9.1	8	36.4	3	13.6	9	40.9

The frequency distributions of the responses of the directors in the sample to the ranking of the importance of the newspapers in respect of adverse publicity on energy issues are shown in Table 23. Table 23 indicated importance ranking for the AUS AFR, and WA, and lack of importance ranking for SMH, ADV, AGE, and CM. The majority of directors,

excluding neutral responses, importance ranking for AU, FR, and WA was 45%, 55%, and 40.9% respectively, and non-importance ranking for the SMH, ADV, AGE, and CM was 50%, 55.5%, 50%, and 66.7%.

Table 23

Energy: Importance Ranking of Newspapers

Newspaper	<div> <div>Not Important</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>Very Important</div> <div>5</div> </div>									
	No	%	No	%	No	%	No	%	No	%
Sydney Morning Herald	1	10.0	4	40.0	1	10.0	4	40.0	0	0.0
The Advertiser	1	11.1	4	44.4	3	33.3	1	11.1	0	0.0
The Age	1	10.0	4	40.0	1	10.0	4	40.0	0	0.0
The Australian	1	5.0	1	5.0	9	45.0	6	30.0	3	15.0
The Australian Financial Review	1	5.0	1	5.0	7	35.0	7	35.0	4	20.0
The Courier Mail	1	11.1	5	55.6	2	22.2	1	11.1	0	0.0
The West Australian	1	4.5	2	9.1	10	45.5	3	13.6	6	27.3

The frequency distributions of the responses of the directors in the sample to the ranking of the importance of the newspapers in respect of adverse publicity on community related issues are shown in Table 24. Table 24 indicated importance ranking for the AUS, AFR, and WA, and lack of importance ranking for SMH, ADV, AG,E and CM. The majority of directors, excluding neutral responses, importance ranking for AUS, AFR, and WA was 45%, 50%, and 54.6% respectively, and non-importance ranking for the SMH, ADV, AGE, and CM was 50%, 55.6%, 50%, and 66.7%.

The frequency distributions of the responses of the directors in the sample to the ranking of the importance of the newspapers in respect of adverse publicity on “other” issues are shown in Table 25. Table 25 indicated importance ranking for the SMH, AUS, AFR, and WA, equal importance ranking for AGE, and lack of importance ranking for ADV and CM. The majority of directors, excluding neutral responses, importance ranking for SMH, AUS, AFR, and WA was 50%, 45%, 65%, and 54.6% respectively, equally for AGE (40%), and non-importance ranking for the ADV and CM was 55.6%, and 55.6%.

Table 24

Community Related: Importance Ranking of Newspapers

Newspaper	<div> <div>Not Important</div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>Very Important</div> <div>5</div> </div>									
	No	%	No	%	No	%	No	%	No	%
Sydney Morning Herald	0	0.0	5	50.0	1	10.0	4	40.0	0	0.0
The Advertiser	0	0.0	5	55.6	3	33.3	1	11.1	0	0.0
The Age	0	0.0	5	50.0	1	10.0	4	40.0	0	0.0
The Australian	0	0.0	4	20.0	7	35.0	7	35.0	2	10.0
The Australian Financial Review	0	0.0	4	20.0	6	30.0	6	30.0	4	20.0
The Courier Mail	0	0.0	6	66.7	2	22.2	1	11.1	0	0.0
The West Australian	0	0.0	2	9.1	8	36.4	2	9.1	10	45.5

Table 25

## Other: Importance Ranking of Newspapers

Newspaper	Not Important 1		2		3		4		Very Important 5	
	No	%	No	%	No	%	No	%	No	%
Sydney Morning Herald	0	0.0	3	30.0	2	20.0	5	50.0	0	0.0
The Advertiser	0	0.0	5	55.6	3	33.3	1	11.1	0	0.0
The Age	0	0.0	4	40.0	2	20.0	4	40.0	0	0.0
The Australian	0	0.0	2	10.0	9	45.0	7	35.0	2	10.0
The Australian Financial Review	0	0.0	1	5.0	6	30.0	8	40.0	5	25.0
The Courier Mail	0	0.0	5	55.6	3	33.3	1	11.1	0	0.0
The West Australian	0	0.0	2	9.1	8	36.4	6	27.3	6	27.3

The descriptive statistics for each of the five social categories are shown in Table 26. These results showed a different mean ranking for each of the categories. However, a visual inspection of the mean for each of the categories suggested the presence of three broad clusters of newspapers. Cluster one consisted of AUS, AFR, and WA. Cluster two SMH and AGE, and Cluster three the ADV and CM. The descriptive statistics attributable to each

of these three clusters inferred the newspapers comprising cluster one (AUS, AFR, WA) were perceived as relatively more important than cluster two (SMH, AGE) in relation to adverse press reporting, and even more so than for cluster three (ADV, CM).

The results of the Kruskal-Wallis test of the importance for each of the newspapers in respect of adverse press reporting are contained in Table 27. They showed a significant difference in the importance ranking of newspapers for Human Resource, Energy, Community Related and Other at the  $p<0.01$  level of significance, and for environment at the  $p<0.05$  level of significance. That is, the low significance level rejected the hypothesis that all seven newspapers had the same distribution. The mean rankings for each of the five categories provided empirical support for the differences in the newspapers and the three broad clusters observed in Table 26. The mean ranks of AUS, AFR and WA broadly suggested a single grouping; SMH and the AGE a second broad grouping; and the ADV and CM a third broad grouping.

Table 26

## Descriptive Statistics: Newspapers All Categories

Newspaper	Human Resource	Environment	Energy	Community Related	Other
	Mean (Median) (SD) (Range)	Mean (Median) (SD) (Range)	Mean (Median) (SD) (Range)	Mean (Median) (SD) (Range)	Mean (Median) (SD) (Range)
Sydney Morning Herald n = 10	3.20 (3.50) (0.92) (2-4)	3.20 (2.78) (1.13) (2-5)	2.80 (2.5) (1.13) (1-4)	2.90 (2.5) (0.99) (2-4)	3.20 (3.5) (0.92) (2-4)
The Advertiser n = 9	2.55 (3.00) (0.88) (1-4)	2.78 (3.00) (0.97) (2-5)	2.44 (2.00) (0.88) (1-4)	2.56 (2.00) (0.73) (2-4)	2.57 (2.00) (0.73) (2-4)
The Age n = 10	3.2 (3.5) (0.92) (2-4)	3.20 (3.50) (1.13) (2-5)	2.80 (2.5) (1.14) (1-4)	2.90 (2.5) (0.99) (2-4)	3.00 (3.00) (0.94) (2-4)
The Australian n = 20	3.80 (4.0) (0.62) (3-5)	3.65 (4.00) (0.74) (2-5)	3.45 (3.00) (1.00) (1-5)	3.35 (3.00) (0.93) (2-5)	3.45 (3.00) (0.83) (2-5)
The Australian Financial Review n = 20	4.05 (4.00) (0.76) (3-5)	3.70 (4.00) (0.92) (2-5)	3.60 (4.00) (1.05) (1-5)	3.50 (3.50) (1.05) (2-5)	3.85 (4.00) (0.87) (2-5)
The Courier Mail n = 9	2.56 (2.00) (0.73) (2-4)	2.67 (2.00) (1.00) (2-5)	2.33 (2.00) (0.87) (1-4)	2.44 (2.00) (0.73) (2-4)	2.56 (2.00) (0.73) (2-4)
The West Australian n = 22	3.64 (3.00) (1.09) (2-5)	3.86 (4.00) (1.08) (2-5)	3.50 (3.00) (1.14) (1-5)	3.91 (4.00) (1.11) (2-5)	3.73 (4.00) (0.98) (2-5)

Table 27

## Kruskal-Wallis-Test of Newspapers: All Categories

Newspaper	Human Resource	Environment	Energy	Community Related	Other
	Mean Rank	Mean Rank	Mean Rank	Mean Rank	Mean Rank
Sydney Morning Herald	43.55	44.25	41.90	41.35	47.00
The Advertiser	26.06	31.89	31.72	32.06	27.33
The Age	43.55	44.25	41.90	41.35	41.00
The Australian	60.00	56.30	57.80	53.58	53.13
The Australian Financial Review	66.78	57.40	61.72	56.95	64.38
The Courier Mail	24.39	29.00	28.72	28.78	27.33
The West Australian	54.07	61.05	58.07	66.59	60.36
Chi-square	25.78	15.48	17.50	20.09	21.75
Asymp. Sig.	.000	.017	.008	.003	.001

The result of the familiarity and importance ranking of adverse press disclosure for all categories of social disclosure indicated that not all members of the boards of directors were familiar with all newspapers in the study. Neither did they rank them of equal importance in respect of adverse disclosure in all social categories. Nevertheless, some directors were familiar with each of the newspapers and this provided justification of inclusion of these newspapers in the study on the basis of familiarity. Similarly, not all directors who responded considered all newspapers important in respect of adverse social reporting for all categories, but all newspapers received a percentage of agreement of important ranking in all categories and so this provided added support for the inclusion of all these newspapers in the present study.

## **Conclusion**

In this chapter, the results of the data analysis of the questionnaire described in chapter 4 to investigate three major research questions were reported in detail. Namely, the influence of the media on a board of Directors; the legitimisation of voluntary social disclosure in the annual report; and familiarity and importance of Australian newspapers in respect of adverse reporting.

The results of the analysis of the three major research questions posed in the questionnaire implied the following. First, press reporting was considered important by members of a board of directors and should not be ignored by them. This did not mean that all Australian newspapers were considered to be of equal importance in respect of adverse reporting on

social matters. Indeed, such was found to be the case in the present study. However, as all newspapers in this study received a familiarity rating this was considered sufficient for all of them to be used in the analysis. Despite the perceived importance of the press by the board of directors it did not greatly influence them in respect to general and social disclosure in the annual report. This meant the general hypothesis formulated in Chapter 3, and, hence, all specific hypotheses formulated in that chapter, that social disclosure in the annual report of a company is a function of press media reports were rejected. A result not consistent with current research findings in this area. However, this result may have been a function of the criteria for selection of the companies in the study and/or the regional nature of the study. Nevertheless, this result cannot be considered inconsistent with legitimacy theory and supports the framework of Dowling and Pfeffer (1975).

In the following chapter (Chapter 7), the results of the analysis of the data of the second stage of the research methodology described in Chapter 5 in relation to Whittakers Limited for the period 1989 to 1998 will be discussed in detail. Chapter 8 will be devoted to an analysis of Bunnings Limited and Wesfarmers Limited. The results obtained in this chapter can be compared with the results of Chapters 7 and 8 to determine the extent of their cross-validation.

## **CHAPTER 7**

### **ANALYSIS – WHITTAKERS LIMITED**

#### **Introduction**

The purpose of this chapter is twofold. First, to undertake an analysis of voluntary social disclosures in the annual report of Whittakers Limited, and second, to examine the extent, if any, to which voluntary social disclosures in the annual report are a function of Australian press media social reports. An analysis is undertaken of unfavourable and total voluntary annual report social disclosures by Whittakers Limited, and unfavourable and total press media reports on social matters pertaining to Whittakers Limited as the basis for testing the hypotheses proposed in Chapter 3.

The analysis of this chapter is divided into four sections. The first section presents an analysis of Australian newspaper articles written about Whittakers Limited. The second section examines the correlation of annual report disclosures with the number of newspaper articles. In addition, this section explores the possible existence of lags between press media reports and annual report disclosures. Specifically, two lags are examined. First, a one year lag between press media articles and disclosures in the annual report, and the second, the previous year press media articles summed together with the current year articles and their correlation with disclosures in the annual report. The third section examines the correlation between disclosures in the annual report and press media disclosures scored on an index of the characteristics of press media reporting. This section, also examines the possibility of a lag distribution in the categories of disclosure. The final

section examines the extent of correlation of annual report disclosure with the characteristics of press media articles.

The statistical tests undertaken in this chapter are the non-parametric Spearman correlation one-tailed tests with a cut-off point at the  $p < 0.10$  level of significance. The non-parametric Spearman correlation test is chosen because of the non-normality of the data. Simple percentages are used to assess the number of tests meeting the cut-off criteria. Descriptive statistics for maximum, minimum and mean annual report disclosure and media articles for Whittakers Limited for the period 1989 to 1998 are shown in Appendix C at the conclusion of the thesis.

## **Section I: Newspapers**

Table 28 provides a summary of the Australian newspapers that had press articles on social matters, unfavourable and total, directly related to Whittakers Limited over the period 1989 to 1998. There is no discernible long-term trend in the data in Table 28 over the 10 year period. Of the seven Australian newspapers utilised in the present study, only two newspapers, The Australian Financial Review and the West Australian reported articles in the area of social disclosure. This equates to only 28.57 per cent of the sample of newspapers considered in the present study. This amounts to a relatively small percentage of the total number of newspapers. Of significance is the large proportion of the total number of articles appearing in The West Australian over all years, and, in particular, 1996. The number of articles appearing in The West Australian amounted to 97.92 per cent of the

total unfavourable media articles reported, and 95.59 per cent of the total media articles reported. The peak period was 1995 with 20 unfavourable articles and a total of 22 articles. The three articles that appeared in The Australian Financial Review in 1991 and 1992 centred solely on reporting in the human resource area, only one of the five categories of social disclosure investigated in the present study.

The pattern of newspaper reporting described in the previous paragraph, especially the proportion attributable to The West Australian, suggests the analysis of Whittakers Limited in the present chapter to be a regional study. This may be partly attributed to the size of Whittakers Limited, a comparatively small company and lacking eastern states affiliation in comparison to Bunnings Limited and Wesfarmers Limited and, hence, a politically less visible company. As a consequence, Whittakers Limited would be less likely to attract media attention, both in the range of newspapers and total press media articles written, than Bunnings Limited and Wesfarmers Limited. In turn, social disclosure in the annual report of Whittakers Limited would be expected to be less than Bunnings Limited and Wesfarmers Limited.

Table 28

Whittakers Limited: Number of Unfavourable (U) Press Media Articles and Total (T)  
Press Media Articles 1989 - 1998

Newspaper	1989		1990		1991		1992		1993		1994		1995		1996		1997		1998		Total	
	U	T	U	T	U	T	U	T	U	T	U	T	U	T	U	T	U	T	U	T	U	T
The Advertiser	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The Age	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The Australian	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The Australian Financial Review	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	1	3
The Courier Mail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sydney Morning Herald	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The West Australian	3	6	2	3	9	11	1	2	9	12	0	3	20	22	1	4	1	1	0	1	47	65
Total	3	6	2	3	9	11	1	4	10	13	0	3	20	22	1	4	1	1	0	1	48	68

The total number of unfavourable media articles and total media articles by categories of social disclosure is shown in Table 29. This shows the unfavourable media articles to be 70.57 per cent of the total number of articles. The unfavourable articles are considerably in excess of the combined total of favourable and neutral articles, which represent the difference between the total unfavourable and total media articles.

Table 29

**Whittakers Limited: Number of Unfavourable Press Media Articles and Total Press Media Articles by Categories 1989 - 1998**

Categories	Unfavourable Media Articles		Total Media Articles	
	No	%	No	%
Environment	20	41.67	27	39.71
Energy	0	00.00	0	00.00
Human Resources	28	58.33	39	57.35
Community Involvement	0	00.00	0	00.00
Other	0	00.00	2	2.94
Total	48	100.00	68	100.00

The association between between press media articles in this section and disclosure in the annual reports appears in the following sections.

## **Section II: Annual Report Disclosure and Press Media Articles**

### **Annual Report Sentences and Press Media Articles**

Total positive annual report sentences (TPAR) and total annual report sentences (TAR) and their Spearman correlations with total unfavourable media articles (TUMA), and total media articles (TMA) for Whittakers Limited by year for 1989 to 1998 are classified into four groupings and appear in Table 30<sup>13</sup>.

<sup>13</sup> Not all of the four groupings in this chapter, TPAR/TUMA, TPAR/TMA, TAR/TUMA and TAR/TMA, will report correlations and in other instances the groupings will record the same correlation. Correlations would not be reported when, for example, groupings have low annual report disclosure and a low number of media articles. Identical correlations will occur between groupings when they have equal annual report disclosure and media articles, for example, when TPAR is the same as TAR, and TUMA is the same as TMA.

Table 30

Whittakers Limited: Spearman Correlation of Total Annual Report Sentences and Press Media Articles by Year 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation Coefficient	0.386	0.383	0.358	0.410
Significance	0.135	0.138	0.155	0.120

The Spearman correlations for all four groupings in Table 30 indicate that none of the four groupings is statistically significant at the  $p < 0.10$  level<sup>14</sup>. This implies that total yearly press media social articles do not significantly influence social disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 31<sup>15</sup>. The Spearman correlations for all four groupings in Table 31 indicate that none of them is statistically significant at the  $p < 0.10$  level. Although, the correlation between TAR/TUMA is marginally close with a correlation coefficient of 0.468 and significance level of 0.102 and is in the anticipated (positive) direction. This implies that neither prior year press media social articles alone or together with current year press media social articles significantly influence social disclosure in the annual report

<sup>14</sup> As indicated in the introduction section of this chapter, all Spearman correlation tests are one-tailed.

<sup>15</sup> Whenever lags are calculated, because prior year lag is being considered, this necessitates the omission of 1989 annual report sentences and 1998 media reports.

Table 31

Whittakers Limited: Spearman Correlation of Press Media Lags for Annual Report Sentences and Press Media Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	0.379	0.200	0.468	0.361
Coefficient				
Significance	0.157	0.303	0.102	0.170
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.258	0.093	0.343	0.217
Coefficient				
Significance	0.251	0.406	0.183	0.288

### Categories of Annual Report Disclosure and Press Media Articles

#### Total Categories

Total positive annual report sentences and TAR and their Spearman correlations for TUMA, and TMA for each of the five categories of social disclosure for the ten year period 1989 to 1998 combined, appear in Table 32<sup>16</sup>.

<sup>16</sup> As each of the categories is totalled for the 10 year period, lags are not calculated.

Table 32

Whittakers Limited: Spearman Correlation of Total Categories of Social Disclosure Sentences and Press Media Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation Coefficient	0.918**	1.000***	0.918**	1.000***
Significance	0.014	0.000	0.014	0.000

\*\* Significant at the  $p < 0.05$  level

\*\*\* Significant at the  $p < 0.01$  level

The Spearman correlations between TPAR/TUMA, and TAR/TMA are statistically significant at the  $p < 0.05$  level and for TPAR/TMA and TAR/TMA at the  $p < 0.01$  level. The correlations are, in all instances, in the anticipated (positive) direction. This implies that all categories of press media social articles considered in total for all groupings for 1989-1998 significantly influence social disclosure in the annual report.

The amount of annual report disclosure and the number of media articles written for each of the five categories of social disclosure appear in Table 33. The ranking order of each of the categories for annual report disclosure and media reports is, first, human resources, next environment, followed by other, followed jointly by energy and community involvement. There were neither annual report disclosure or media articles for the energy and community involvement categories.

Table 33

Whittakers Limited: Categories of Social Disclosure Sentences and Press Media Articles  
1989 – 1998

Categories	Total Positive Annual Report Sentences	Total Annual Report Sentences	Total Unfavourable Media Articles	Total Media Articles
Environment	9	9	20	27
Energy	0	0	0	0
Human Resources	95	169	28	39
Community Involvement	0	0	0	0
Other	5	7	0	2
Total	109	185	48	68

### Environment

Total positive environment annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for Whittakers Limited for 1989 to 1998 appear in Table 34.

Table 34

Whittakers Limited: Spearman Correlation of Environment Annual Report Sentences and Press Media Environmental Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation	-0.147	0.401	-0.147	0.401
Coefficient Significance	0.343	0.125	0.343	0.125

The Spearman correlations for all four groupings in Table 34 indicate that no grouping is statistically significant at the  $p<0.10$  level. This implies that press media environmental articles do not significantly influence environmental disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 35. The Spearman correlations for all four groupings in Table 35 indicate that they are not statistically significant at the  $p<0.10$  level. This implies that neither prior year press media environmental articles alone or together with current year press media environmental articles significantly influence environmental disclosure in the annual report.

Table 35

Whittakers Limited: Spearman Correlation of Press Media Lags for Environment Annual Report Sentences and Press Media Environmental Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	-0.085	-0.070	-0.085	-0.070
Coefficient				
Significance	0.413	0.429	0.413	0.429
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.273	0.367	0.273	0.367
Coefficient				
Significance	0.239	0.166	0.239	0.166

## Human Resource

Total positive human resource annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for Whittakers Limited for 1989 to 1998 appear in Table 36.

Table 36

Whittakers Limited: Spearman Correlation of Human Resource Annual Report Sentences and Press Media Human Resource Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation	0.070	0.105	0.242	0.281
Coefficient				
Significance	0.424	0.386	0.250	0.216

The Spearman correlations for all four groupings in Table 36 indicate that not one of the groupings is statistically significant at the  $p < 0.10$  level. This implies that press media human resource articles do not significantly influence human resource disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 37. The Spearman correlations for all four groupings in Table 37 indicate that of the four groupings only one was statistically significant. This was TAR/TMA in at the  $p < 0.10$  level and this was in the anticipated (positive) direction. This implies that, except for a single grouping for prior and current year, neither prior year press media

human resource articles alone or together with current year press media human resource articles significantly influence human resource disclosure in the annual report.

Table 37

Whittakers Limited: Spearman Correlation of Press Media Lags for Human Resource Annual Report Sentences and Press Media Human Resource Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	0.035	0.081	0.312	0.358
Coefficient				
Significance	0.465	0.418	0.207	0.172
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.073	0.223	0.385	0.502*
Coefficient				
Significance	0.426	0.282	0.153	0.084

\* Significant at the p<0.10 level

Other

Total positive other annual report sentences and TAR and their Spearman correlations with TUMA and TMA for Whittakers Limited for 1989 to 1998 appear in Table 38.

Table 38

Whittakers Limited: Spearman Correlation of Other Annual Report Sentences and Press Media Other Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation Coefficient	NCCR#	0.311	NCCR#	0.161
Significance	NSCR##	0.191	NSCR##	0.328

# No correlation coefficient reported

##No Spearman correlation reported

The Spearman Correlation for all four groupings in Table 38 indicates that not one of the groupings is statistically significant at the  $p < 0.10$  level. This implies that press media other articles do not significantly influence other disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 39. The Spearman correlations for all four groupings in Table 39 indicate that of the four groupings only one was statistically significant. This was TPAR/TMA at the  $p < 0.05$  level and this was in the anticipated (positive) direction. This implies that, except for a single grouping for prior and current year, neither prior year press media other articles alone or together with current year press media other articles significantly influence other disclosure in the annual report.

Table 39

Whittakers Limited: Spearman Correlation of Press Media Lags for Other Annual Report Sentences and Press Media Other Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	NCCR#	0.425	NCCR#	0.309
Coefficient				
Significance	NSCR##	0.127	NSCR##	0.209
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	NCCR#	0.593**	NCCR#	0.362
Coefficient				
Significance	NSCR##	0.046	NSCR##	0.169

\*\*Significant at the  $p < 0.05$  level

# No correlation coefficient reported

##No Spearman correlation reported

### Specific Items Within Categories

Specific items within each of the categories of social disclosure for environment, human resource, and other TPAR and TAR and their Spearman correlations with TUMA, and TMA for Whittakers Limited for 1989 to 1998 appear in Table 40<sup>17</sup>.

In a number of instances in respect of Table 40, the Spearman correlation for TPAR/TUMA, TPAR/TMA, TAR/TUMA and TAR/TMA, were found to be statistically

<sup>17</sup> Throughout this chapter, correlations were not performed for those specific items that had either no annual report sentences or press media articles. This applied to three specific items. Also, as indicated in Chapter 3, correlations for lags were only to be calculated for the major categories of social disclosure.

significant at the  $p < 0.10$ . These correlations were: environment – conservation for TPAR/TUMA, TPAR/TMA, TAR/TUMA and TAR/TMA; human resource – employee morale for TPAR/TUMA; and human resource – information on reorganisation affecting staff for TPAR/TMA and TAR/TMA. With the exception human resource – employee morale they were in the expected (positive) direction. This implies that, with the exception of environment-conservation (all four groupings) and human resource – information on reorganisation affecting staff (two groupings) press media articles, specific items within each of the categories very few significantly influence specific items within each category disclosure in the annual report.

Table 40

Whittakers Limited: Spearman Correlation of Specific Items Within Categories Annual Report Sentences and Press Media Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Environment:</i>				
<i>Conservation</i>				
Correlation	0.554*	0.445*	0.544*	0.445*
Coefficient				
Significance	0.052	0.099	0.052	0.099
<i>HR:</i>				
<i>Employment of Minorities or Women</i>				
Correlation	-0.111	-0.111	-0.111	-0.111
Coefficient				
Significance	0.380	0.380	0.380	0.380
<i>HR: Employee Profile</i>				
Correlation	NCCR#	0.328	NCCR#	0.264
Coefficient				
Significance	NSCR##	0.177	NSCR##	0.231

<i>HR: Employee Morale</i>				
Correlation Coefficient	-0.468*	-0.347	-0.094	-0.093
Significance	0.086	0.163	0.398	0.400
<i>HR: Information on Reorganisation Affecting Staff</i>				
Correlation Coefficient	0.208	0.508*	0.208	0.508*
Significance	0.282	0.067	0.282	0.067
<i>HR: Closing Down of Part of Organisation</i>				
Correlation Coefficient	NCCR#	NCCR#	0.057	0.057
Significance	NSCR##	NSCR##	0.438	0.438
<i>Other: Corporate Objectives</i>				
Correlation Coefficient	NCCR#	0.311	NCCR#	0.161
Significance	NSCR##	0.191	NSCR##	0.328

\*Significant at the  $p < 0.10$  level

# No correlation coefficient reported

##No Spearman correlation reported

### Summary and Discussion

In respect of the analyses in Section II, other than for lags, that included total disclosure and media articles, categories of disclosure and media articles, and disclosure of specific items within categories and press media articles, a number of correlations were statistically

significant at the  $p<0.10$  level. Although the correlation for human resource – employee morale for TPAR/TUMA was not in the anticipated (positive) direction.

Table 41

Whittakers Limited: Summary of Significant Spearman Correlation Tests Between Annual Report Sentences and Press Media Articles 1989-1998

DISCLOSURE TYPE	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Categories:</i>	0.014**	0.000***	0.014**	0.000***
<i>Environment:</i>				
Conservation	0.052*	0.099*	0.052*	0.099*
<i>Human Resource:</i>				
Employee	-0.086*	NS#	NS#	NS#
Morale				
Reorganisation	NS#	0.067*	NS#	0.067*
% Significant Positive Results	16.7%	25%	16.7%	25%

\* Significant at the  $p<0.10$  level  
 \*\* Significant at the  $p<0.05$  level  
 \*\*\*Significant at the  $p<0.01$  level

#Not Significant

The results are summarised in Table 41, together with the percentage of significant positive results<sup>18</sup>. The results of all four groupings are promising with the significant correlations for categories, environment – conservation and human resource - reorganisation. However, the lack of positive significance for the individual major categories of social disclosure for all four groupings coupled together with the percentage of significant positive results suggests a rejection of the general hypothesis of the study. The result does not provide strong support for a positive relationship between annual report social disclosure and media articles for Whittakers Limited over the ten-year period 1989-1998.

Analyses undertaken, with the exception of specific items within categories, were explored for the possible existence of lags between press media reports and annual report disclosure. These lags, a one-year lag between media articles and annual report disclosure, and a second lag, comprising the previous year and current year media articles and annual report disclosure produced only a small number of statistically significant Spearman correlations within the  $p < 0.10$  level. This small number (two) of significant lags related only to one lag, the current and prior year lag. These are summarised in Table 42, together with the percentage of significant positive results<sup>19</sup>. This result suggests that a lag distribution, or at

<sup>18</sup> This percentage, also shown in Sections III and IV, is calculated by dividing the number of significant positive results for all four groupings by the total number of analyses undertaken for all four groupings. For example, TAR/TMA was analysed 12 times (Tables 30, 32, 34, 36, 38, 40), and there were 3 significant positive results.

<sup>19</sup> This percentage, also shown in Sections III and IV, is calculated by dividing the number of significant positive results for all four groupings by the total number of analyses undertaken for all four groupings. For example, TAR/TMA was analysed 8 times (Tables 31, 35, 37, 39), and there was 1 significant positive result.

least the two lag distributions explored in relation to media article numbers, may not be appropriate in the case of Whittakers Limited over the ten-year period 1989 – 1998 of the present study.

Table 42

Whittakers Limited: Summary of Significant Spearman Correlation Tests for Press Media Article Lags

DISCLOSURE CATEGORY/ LAG	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Human Resource:</i>				
Current and Prior Year	NS#	NS#	NS#	0.084*
Other: Current and Prior Year	NSCR##	0.046**	NSCR##	NS#
% Significant Positive Results	Nil	12.5%	Nil	12.5%

\* Significant at the  $p<0.10$  level

\*\* Significant at the  $p<0.05$  level

# Not Significant

##No Spearman correlation reported

The implication of the result obtained in respect of the analyses in Section II for Whittakers Limited is fourfold. First, the results suggest that annual report social disclosure was not a function of the number of media articles. This result is not consistent with prior research (for example, Adler and Milne, 1997; Brown and Deegan, 1999; Deegan et al., 1999; Savage et al., 2000), which was based on the TPAR/TUMA and TAR/TMA groupings.

However, there would appear to be some evidence of an association between the number of press media reports and annual report disclosure. Second, the evidence on lags is not very supportive of their influence on disclosure in the annual report. The result for the prior period was consistent with Deegan et al. (1999), which was based on the TPAR/TUMA and TAR/TMA groupings. Third, the addition of two further groupings, TPAR/TMA and TAR/TUMA, on the basis that they include additional legitimacy strategies that may be used was not found to be the case at the  $p < 0.10$  level of significance. Fourth, it supports the questionnaire analysis in Chapter 6, wherein response of a sample of directors of Whittakers Limited, Bunnings Limited, and Wesfarmers Limited during the period of the present study indicated the media was important but that it did not influence disclosure in the annual report. These implications lead to a rejection of hypotheses formulated in Chapter 3, namely, hypotheses H1, H2, H5 and H6. However, there remains a possibility that the results obtained may be partly a function of treating each press media article equally.

**Section III: Annual Report Disclosure and Index Scores of Press Media Articles**

**Annual Report Sentences and Index Score of Press Media Articles**

Total positive annual report sentences and TAR and their Spearman correlation total index score for unfavourable media articles (XTUMA), and total index score for total media articles (XTMA) for Whittakers Limited by year for 1989 to 1998 appear in Table 43.

The index score used in the present section comprises a composite score of individual scores for location, position, columns occupied, space taken, and presence of visual aid for each press article. A higher score is given: the closer an article appears toward the front of a newspaper; appears in the top one-half of a page as opposed to the bottom one-half of a page; occupies greater column width; the more page space an article occupies; and has a visual aid. The method of scoring each of these variables and their summing is described in detail in Chapter 5.

Table 43

Whittakers Limited: Spearman Correlation of Total Annual Report Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation	0.374	0.439	0.292	0.401
Coefficient				
Significance	0.143	0.102	0.207	0.125

The Spearman correlations for all four groupings in Table 43 indicate they are not statistically significant at the  $p<0.10$  level. This implies that total yearly press media social indexed articles do not significantly influence social disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 44. The Spearman correlation for all four groupings in Table 44 indicates that none of them is statistically significant at the  $p<0.10$  level. This implies that neither prior year press media social indexed articles alone or together with current year

press media social indexed articles significantly influence social disclosure in the annual report.

Table 44

Whittakers Limited: Spearman Correlation of Press Media Lags for Annual Report Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	0.338	0.335	0.467	0.452
Coefficient				
Significance	0.187	0.189	0.103	0.111
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.295	0.270	0.433	0.383
Coefficient				
Significance	0.220	0.241	0.122	0.154

Categories of Annual Report Disclosure and Press Media Articles Index Total

Total Categories

Total positive annual report sentences and TAR and their Spearman correlations with XTUMA and XTMA for each of the five categories of social disclosure for the 10 year period 1989 to 1998 appear in Table 45.

Table 45

Whittakers Limited: Spearman Correlation of Total Categories of Social Disclosure Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation Coefficient	0.918**	1.000***	0.918**	1.000***
Significance	0.014	0.000	0.014	0.000

\*\* Significant at the  $p < 0.05$  level

\*\*\*Significant at the  $p < 0.01$  level

The Spearman correlations in Table 45 indicate the correlations between TPAR/XTUMA, and TAR/XTUMA to be significant at the  $p < 0.05$  level, and TPAR/XTUMA, and TPAR/XTMA at the  $p < 0.01$  level. The correlation is, in all four groupings, in the anticipated (positive) direction. This implies that all categories of press media social indexed articles considered in total for 1989-1998 significantly influence social disclosure in the annual report.

The amount of annual report disclosure and the number of media articles written for each of the five categories of social disclosure appear in Table 46. The ranking of each of these categories for both annual report disclosure and media index scores is human resources, next environment, followed by other, followed jointly by energy and community involvement. There were neither annual report disclosure or media articles for the energy and community involvement categories. This result is consistent with Section II.

Table 46

Whittakers Limited: Categories of Social Disclosure Sentences and Press Media Index Scores 1989-1998

Category	Total Positive Annual Report Sentences	Total Annual Report Sentences	Total Index Score for Unfavourable Media Articles	Total Index Score for Total Media Articles
Environment	9	9	203	264
Energy	0	0	0	0
Human Resource	95	169	253	359
Community Involvement	0	0	0	0
Other	5	7	0	17
Total	109	185	456	640

### Environment

Total positive environment annual report sentences and TAR and their Spearman correlations with XTUMA and XTMA for Whittakers Limited appear in Table 47.

Table 47

Whittakers Limited: Spearman Correlation of Environment Annual Report Sentences and Press Media Environmental Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation Coefficient	-0.194	0.337	-0.194	0.337
Significance	0.295	0.171	0.295	0.171

The Spearman correlations for all four groupings in Table 47 indicate that no grouping is statistically significant at the  $p < 0.10$  level. This implies that press media environmental indexed articles do not significantly influence environmental disclosure in the annual report.

The Spearman correlations for a prior year lag and a prior and current year media lag appear in Table 48. The Spearman correlations for all four groupings in Table 48 indicate that they are not statistically significant at the  $p < 0.10$  level. This implies that neither prior year press media environmental indexed articles alone or together with current year press media environmental indexed articles significantly influence environmental disclosure in the annual report.

Table 48

Whittakers Limited: Spearman Correlation of Press Media Lags for Environment Annual Report Sentences and Press Media Environmental Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	-0.196	-0.220	-0.196	-0.220
Coefficient				
Significance	0.307	0.285	0.307	0.285
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.000	0.248	0.000	0.248
Coefficient				
Significance	0.500	0.260	0.500	0.260

**Human Resource**

Total positive human resource annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for Whittakers Limited for 1989 to 1998 appear in Table 49.

Table 49

Whittakers Limited: Spearman Correlation of Human Resource Annual Report Sentences and Press Media Human Resource Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation	-0.075	0.068	0.132	0.271
Coefficient				
Significance	0.418	0.426	0.358	0.225

The Spearman correlations for all four groupings in Table 49 indicate that no grouping is statistically significant at the  $p<0.10$  level. This implies that press media human resource indexed articles do not significantly influence environmental disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 50. The Spearman correlations for all four groupings in Table 50 indicate that of the four groupings only one was statistically significant. This was TAR/XTMA for the prior and current year lag at the  $p<0.10$  level. This implies that, except for a single grouping for prior and current year, neither prior year press media human resource indexed

articles alone or together with current year press media human resource indexed articles significantly influence human resource disclosure in the annual report.

Table 50

Whittakers Limited: Spearman Correlation of Press Media Lags for Human Resource Annual Report Sentences and Press Media Human Resource Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	-0.102	0.043	0.305	0.322
Coefficient				
Significance	0.397	0.457	0.212	0.199
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	-0.134	0.134	0.350	0.483*
Coefficient				
Significance	0.366	0.366	0.178	0.094

\*Significant at the p<0.10 level

**Other**

Total positive other annual report sentences and TAR sentences and their Spearman correlations with XTUMA and XTMA for Whittakers Limited for 1989 to 1998 appear in Table 51.

Table 51

Whittakers Limited: Spearman Correlation of Other Annual Report Sentences and Press Media Other Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation Coefficient	NCCR#	0.253	NCCR#	0.112
Significance	NSCR##	0.240	NSCR##	0.379

# No correlation coefficient reported

##No Spearman correlation reported

The Spearman correlations for all four groupings in Table 51 indicate that no grouping is statistically significant at the  $p < 0.10$  level. This implies that press media other indexed articles do not significantly influence other disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 52. The Spearman correlations for all four groupings in Table 52 indicate that none of the groupings was significant at the  $p < 0.10$  level. This implies that neither prior year press media other indexed articles alone or together with current year press media other indexed articles significantly influence other disclosure in the annual report.

Table 52

Whittakers Limited: Spearman Correlation of Press Media Lags for Other Annual Report Sentences and Press Media Other Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	NCCR#	0.344	NCCR#	0.232
Coefficient				
Significance	NSCR##	0.183	NSCR##	0.274
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	NCCR#	0.341	NCCR#	0.138
Coefficient				
Significance	NSCR##	0.185	NSCR##	0.362

# No correlation coefficient reported

##No Spearman correlation reported

### Specific Items Within Categories

Specific items within each of the categories of social disclosure for environment, human resources, and other TPAR and TAR and their Spearman correlations with XTUMA, and XTMA for Whittakers Limited for 1989 to 1998 appear in Table 53.

In a number of instances in respect of Table 53, the Spearman correlation for TPAR/XTUMA, TPAR/XTMA, TAR/XTUMA and TAR/XTMA are statistically significant at the  $p < 0.10$ . These correlations were: environment – conservation for TPAR/XTUMA; human resource – employee morale for TPAR/XTUMA; and human resource – information on reorganisation affecting staff for TPAR/XTMA and

TAR/XTMA. With the exception of human resource – employee morale for TPAR/XTMA they were in the expected (positive) direction. This implies that, with the exception of environment-conservation and human resource – information on reorganisation affecting staff for two groupings for press media indexed articles, specific indexed items within each of the categories do not significantly influence specific items within each category disclosure in the annual report.

Table 53

Whittakers Limited: Spearman Correlation of Specific Items Within Categories Annual Report Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Environment:</i>				
<i>Conservation</i>				
Correlation	0.498*	0.402	0.498*	0.402
Coefficient				
Significance	0.071	0.125	0.071	0.125
<i>HR:</i>				
<i>Employment of Minorities or Women</i>				
Correlation	-0.111	-0.111	-0.111	-0.111
Coefficient				
Significance	0.380	0.380	0.380	0.380
<i>HR: Employee Profile</i>				
Correlation	NCCR#	0.328	NCCR#	0.264
Coefficient				
Significance	NSCR##	0.177	NSCR##	0.231
<i>HR: Employee Morale</i>				
Correlation	-0.468*	-0.347	-0.094	-0.093
Coefficient				
Significance	0.086	0.163	0.398	0.400

---

<i>HR: Information on Reorganisation Affecting Staff</i>				
Correlation Coefficient	0.149	0.464*	0.149	0.464*
Significance	0.341	0.088	0.341	0.088
<i>HR: Closing Down of Part of Organisation</i>				
Correlation Coefficient	NCCR#	NCCR#	0.102	0.102
Significance	NSCR##	NSCR##	0.389	0.389
<i>Other: Corporate Objectives</i>				
Correlation Coefficient	NCCR#	0.253	NCCR#	0.112
Significance	NSCR##	0.240	NSCR##	0.379

---

\*Significant at the  $p < 0.10$  level

# No correlation coefficient reported

##No Spearman correlation reported

## Summary and Discussion

In respect of the analyses in Section III, other than for lags, that included total disclosure and media articles index score, categories of disclosure and media articles index score, and disclosure of specific items within categories and media articles index score, a number of correlations were statistically significant at the  $p < 0.10$  level. Although the correlation for human resource – employee morale for TPAR/XTUMA was not in the anticipated

(positive) direction. The results are summarised in Table 54, together with the percentage of significant positive results. While the results of all four groupings are significant for categories and one specific item within the major categories, they lack significance for the individual major categories. This result suggests rejection of the general hypothesis of the study. This result does not support a positive relationship between annual report social disclosure and media article index scores for Whittakers Limited over the ten-year period 1989 – 1998.

Table 54

Whittakers Limited: Summary of Significant Spearman Correlation Tests Between Annual Report Sentences and Press Media Articles Index Scores 1989-1998

DISCLOSURE TYPE	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Categories:</i>	0.014**	0.000***	0.014**	0.000***
<i>Environment:</i>				
Conservation	0.071*	NS#	0.071*	NS#
<i>Human Resource:</i>				
Employee	-0.086*	NS#	NS#	NS#
Morale				
Info on	NS#	0.088*	NS#	0.088*
Reorganisation				
% Significant Positive Results	16.7%	16.7%	16.7%	16.7%

\* Significant at the p<0.10 level  
 \*\* Significant at the p<0.05 level  
 \*\*\*Significant at the p<0.01 level  
 #Not significant

Analyses undertaken, with the exception of specific items within categories, were explored for the possible existence of lags between an index score for press media reports and annual report disclosure. These lags, a one-year lag between media articles index scores and annual report disclosure, and a second lag, comprising the previous year and current year media articles index scores and annual report disclosure produced only a single statistically significant Spearman correlation, TAR/XTMA for environment, within the  $p<0.10$  level. This result is summarised in Table 55, together with the percentage of significant positive results. This result suggests that a lag distribution, or at least the two lag distributions explored, may not be appropriate for index scoring in the case of Whittakers Limited over the ten-year period 1989 – 1998.

Table 55

Whittakers Limited: Summary of Significant Spearman Correlation Tests for Press Media Index Lags

DISCLOSURE CATEGORY/ LAG	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Environment:</i> Prior and Current Year	NS#	NS#	NS#	0.094*
% Significant Positive Results	Nil	Nil	Nil	12.5%

\*Significant at the  $p<0.10$  level

#Not Significant

The implication of the result obtained in respect of the analyses in Section III for Whittakers Limited is identical to that of Section II in which media articles were unweighted. First, that annual report disclosures were not a function of the index score of media articles at the  $p < 0.10$  level of significance. However, there is some evidence, though not strong, between an index of media reports and annual report disclosure. Second, the evidence on the existence of lags is not supportive of the impact of prior year press media reports or a combination of prior year and current year press media reports on annual report disclosure. Third, the addition of two further groupings, TPAR/XTMA and TAR/XTUMA, so as to cater for the possibility of further legitimacy strategies was not accepted at the  $p < 0.10$  level of significance. Fourth, it supports the questionnaire analysis in Chapter 6, wherein the responses of a sample of directors of Whittakers Limited, Bunnings Limited, and Wesfarmers Limited indicated the media was important but that it did not influence disclosure in the annual report. These implications lead to a rejection of hypotheses formulated in Chapter 3, namely, hypotheses H3, H4, H7 and H8. However, this result may be a function of the basis of the scoring of components of the index. A different basis of scoring may alter the result obtained here.

## **Section IV: Press Media Characteristics**

### **Total Annual Report Sentences and Press Media Characteristics**

Total positive annual report sentences (TPAR), TAR, and their correlations with characteristics of TUMA and TMA for total social disclosure for Whittakers Limited for the period 1989 to 1998 appear in Table 56.

The press characteristics: location, position, columns occupied, space taken, and presence of visual aid are those characteristics comprising the index score used in the analysis in Section III converted, when necessary, to continuous variables for the purpose of analysis in the present section, Section IV. The process of conversion of these variables to continuous variables is described in Chapter, 5.

Table 56

Whittakers Limited: Spearman Correlation of Total Annual Report Sentences and Characteristics of Press Media Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.350	0.287	0.304	0.321
Significance	0.161	0.210	0.197	0.183
<i>Position</i>				
Correlation Coefficient	0.321	0.366	0.210	0.332
Significance	0.183	0.149	0.280	0.174
<i>Columns</i>				
Correlation Coefficient	0.417	0.472*	0.353	0.413
Significance	0.115	0.084	0.159	0.118
<i>Space</i>				
Correlation Coefficient	0.442	0.526*	0.340	0.455*
Significance	0.101	0.059	0.168	0.093
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.417	0.299	0.202	0.212
Significance	0.115	0.201	0.288	0.278

\*Significant at the  $p < 0.10$  level

Table 56 indicates limited Spearman correlation for the five press characteristics for the four groupings under consideration. Only TPAR/TMA for columns and space and TAR/TMA for space are significant at the  $p < 0.10$  level. The correlations for these characteristics are in the expected (positive) direction. This implies that, with the exception of space (two groupings) and columns (single grouping) of an article in total yearly press

media articles, the characteristics do not significantly influence social disclosure in the annual report.

**Categories of Annual Report Sentences and Press Media Characteristics**

**Total Categories**

Total positive annual report sentences and TAR and their correlations with characteristics of TUMA and TMA for Whittakers Limited for the combined five categories of social disclosure for the period 1989 to 1998 appear in Table 57.

Table 57

**Whittakers Limited: Spearman Correlation of Categories of Annual Report Sentences and Characteristics of Press Media Articles 1989 – 1998**

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.918**	1.000***	0.918**	1.000***
Significance	0.014	0.000	0.014	0.000
<i>Position</i>				
Correlation Coefficient	0.918**	1.000***	0.918**	1.000***
Significance	0.014	0.000	0.014	0.000
<i>Columns</i>				
Correlation Coefficient	0.918**	1.000***	0.918**	1.000***
Significance	0.014	0.000	0.014	0.000
<i>Space</i>				
Correlation Coefficient	0.803*	1.000***	0.803*	1.000***
Significance	0.051	0.000	0.051	0.000
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.918**	1.000***	0.918**	1.000***
Significance	0.014	0.000	0.014	0.000

\* Significant at the  $p < 0.10$  level

\*\* Significant at the  $p < 0.05$  level

\*\*\* Significant at the  $p < 0.01$  level

All of the Spearman correlations for the five characteristics in Table 57 are statistically significant and in the expected (positive) direction. The highest correlations are in TPAR/TMA and TAR/TMA which are all significant at the  $p < 0.01$  level. This implies that all of the press media characteristics of all press media social articles considered in total for 1989-1998 significantly influence social disclosure in the annual report.

**Environment**

Total positive environment annual report sentences, TAR, and their correlations with characteristics of TUMA and TMA for Whittakers Limited for the environment category of social disclosure for the period 1989 to 1998 appear in Table 58.

Table 58

Whittakers Limited: Spearman Correlation of Environment Annual Report Sentences and Characteristics of Press Media Environmental Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.004	0.798***	0.004	0.798***
Significance	0.496	0.003	0.496	0.003
<i>Position</i>				
Correlation Coefficient	-0.147	0.401	-0.147	0.401
Significance	0.343	0.125	0.343	0.125
<i>Columns</i>				
Correlation Coefficient	-0.171	0.272	-0.171	0.272
Significance	0.319	0.223	0.319	0.223
<i>Space</i>				
Correlation Coefficient	-0.170	0.431	-0.170	0.431
Significance	0.319	0.107	0.319	0.107
<i>Presence Visual Aid</i>				
Correlation Coefficient	-0.084	0.156	-0.084	0.156
Significance	0.408	0.334	0.408	0.334

\*\*\*Significant at the  $p<0.01$  level

Of the Spearman correlations for the five characteristics in Table 58 only one characteristic is significant. This is location for TPAR/TMA and TAR/TMA at the  $p<0.01$  level and the correlation is in the expected (positive) direction. This implies that, with the exception of the location of an article in press media environmental articles in two groupings, the characteristics do not significantly influence environmental disclosure in the annual report.

**Human Resource**

Total positive human resource annual report sentences, TAR, and their correlations with characteristics of TUMA and TMA for Whittakers Limited for the human resource category of social disclosure for the period 1989 to 1998 appear in Table 59.

Table 59

Whittakers Limited: Spearman Correlation of Human Resource Annual Report Sentences and Characteristics of Press Media Human Resource Articles 1989-1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.088	0.049	0.207	0.154
Significance	0.405	0.446	0.283	0.336
<i>Position</i>				
Correlation Coefficient	-0.144	-0.134	0.095	0.081
Significance	0.346	0.356	0.397	0.412
<i>Columns</i>				
Correlation Coefficient	0.075	0.049	0.169	0.154
Significance	0.418	0.446	0.320	0.336
<i>Space</i>				
Correlation Coefficient	-0.075	-0.117	0.132	0.074
Significance	0.418	0.374	0.358	0.420
<i>Presence Visual Aid</i>				
Correlation Coefficient	-0.277	-0.313	-0.172	-0.282
Significance	0.219	0.189	0.317	0.215

The Spearman correlations between the four groupings and press characteristics in Table 59 did not result in a single significant correlation. This implies that the characteristics of the press media human resource articles, does not significantly influence human resource disclosure in the annual report.

## Other

Total positive other annual report sentences, TAR, and their correlations with characteristics of TUMA and TMA for Whittakers Limited for the other category of social disclosure for the period 1989 to 1998 appear in Table 60.

Table 60

Whittakers Limited: Spearman Correlation of Other Annual Report Sentences and Characteristics of Press Media Other Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	0.253	NCCR#	0.112
Significance	NSCR##	0.240	NSCR##	0.379
<i>Position</i>				
Correlation Coefficient	NCCR#	0.311	NCCR#	0.161
Significance	NSCR##	0.191	NSCR##	0.328
<i>Columns</i>				
Correlation Coefficient	NCCR#	0.253	NCCR#	0.112
Significance	NSCR##	0.240	NSCR##	0.379
<i>Space</i>				
Correlation Coefficient	NCCR#	0.253	NCCR#	0.112
Significance	NSCR##	0.240	NSCR##	0.379
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	-0.166	NCCR#	-0.215
Significance	NSCR##	0.324	NSCR##	0.275

# No correlation coefficient reported

##No Spearman correlation reported

The Spearman correlations between the four groupings and press characteristics in Table 60 did not result in a single significant correlation. This implies that the characteristics of the press media other articles, does not significantly influence other disclosure in the annual report.

### **Specific Items Within Categories**

Total positive annual report sentences TAR and their correlations with characteristics of TUMA and TMA for Whittakers Limited made within each of the five categories of social disclosure for the period 1989 to 1998 appear in Tables 61 to 67.

Specific items within the five categories of disclosure include: environment – conservation; human resource – employment of minorities or women; human resource – employee profile; human resource – employee morale; human resource – information on reorganisation affecting staff; human resource – closing down of part of organisation; and corporate objectives - other.

The Spearman correlations between the four groupings and press characteristics in a number of tables did not result in a single significant correlation. These were: Table 62 (human resource – employment of minorities or women), Table 63 (human resource – employee profile), Table 66 (human resource – closing down of part of organisation), and Table 67 (corporate objectives – other).

The Spearman correlations between the four groupings and press characteristics in a number of tables did result in significant correlations. These were: Table 61 (environment – conservation), all characteristics with the exception of presence of visual aid for all four groupings, Table 64 (human resource – employee morale), all characteristics with the exception of presence of visual aid for TPAR/TUMA. Table 65 (human resource – information on reorganisation affecting staff), location, position, and columns for TPAR/TMA and TAR/TMA. With the exception of Table 64 (human resource – employee morale) correlations for significant characteristics were in the expected (positive) direction. This implies that characteristics, with the exception of presence of visual aid for press media articles for environment – conservation and characteristics; and space and presence of visual aid for two groupings for human resource – information on reorganisation affecting staff, significantly influence disclosure in the annual report.

Table 61

Whittakers Limited: Spearman Correlation of Environment – Conservation Annual Report  
Sentences and Characteristics of Press Media Environmental – Conservation Articles 1989  
– 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.747***	0.604*	0.747***	0.604**
Significance	0.006	0.032	0.006	0.032
<i>Position</i>				
Correlation Coefficient	0.544*	0.445*	0.544*	0.445*
Significance	0.052	0.099	0.052	0.099
<i>Columns</i>				
Correlation Coefficient	0.542*	0.443*	0.542*	0.443*
Significance	0.053	0.100	0.053	0.100
<i>Space</i>				
Correlation Coefficient	0.542*	0.443*	0.542*	0.443*
Significance	0.053	0.100	0.053	0.100
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.326	0.255	0.326	0.255
Significance	0.179	0.238	0.179	0.238

\* Significant at the  $p < 0.10$  level

\*\* Significant at the  $p < 0.05$  level

\*\*\*Significant at the  $p < 0.01$  level

Table 62

Whittakers Limited: Spearman Correlation of Human Resource - Employment of Minorities or Women Annual Report Sentences and Characteristics of Press Media Human Resource - Employment of Minorities or Women Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.111	-0.111	-0.111	-0.111
Significance	0.380	0.380	0.380	0.380
<i>Position</i>				
Correlation Coefficient	-0.111	-0.111	-0.111	-0.111
Significance	0.380	0.380	0.380	0.380
<i>Columns</i>				
Correlation Coefficient	-0.111	-0.111	-0.111	-0.111
Significance	0.380	0.380	0.380	0.380
<i>Space</i>				
Correlation Coefficient	-0.111	-0.111	-0.111	-0.111
Significance	0.380	0.380	0.380	0.380
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

# No correlation coefficient reported

##No Spearman correlation reported

Table 63

Whittakers Limited: Spearman Correlation of Human Resource - Employee Profiles  
Annual Report Sentences and Characteristics of Press Media Human Resource -  
Employee Profiles Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Position</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Columns</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Space</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

# No correlation coefficient reported

##No Spearman correlation reported

Table 63

Whittakers Limited: Spearman Correlation of Human Resource - Employee Profiles  
Annual Report Sentences and Characteristics of Press Media Human Resource -  
Employee Profiles Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Position</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Columns</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Space</i>				
Correlation Coefficient	NCCR#	0.328	NCCR#	0.264
Significance	NSCR##	0.177	NSCR##	0.231
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

# No correlation coefficient reported  
##No Spearman correlation reported

Table 64

Whittakers Limited: Spearman Correlation of Human Resource - Employee Morale  
Annual Report Sentences and Characteristics of Press Media Human Resource - Employee  
Morale Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.468*	-0.347	-0.094	-0.093
Significance	0.086	0.163	0.398	0.400
<i>Position</i>				
Correlation Coefficient	-0.468*	-0.347	-0.094	-0.093
Significance	0.086	0.163	0.398	0.400
<i>Columns</i>				
Correlation Coefficient	-0.468*	-0.347	-0.094	-0.093
Significance	0.086	0.163	0.398	0.400
<i>Space</i>				
Correlation Coefficient	-0.468*	-0.282	-0.094	-0.046
Significance	0.086	0.215	0.398	0.449
<i>Presence Visual Aid</i>				
Correlation Coefficient	-0.314	-0.131	0.180	0.148
Significance	0.189	0.359	0.309	0.342

\*Significant at the  $p < 0.10$  level

Table 65

Whittakers Limited: Spearman Correlation of Human Resource - Information on Reorganisation Affecting Staff - Annual Report Sentences and Characteristics of Press Media Human Resource - Information on Reorganisation Affecting Staff Articles 1989 – 1999

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.266	0.643**	0.266	0.643**
Significance	0.229	0.023	0.229	0.023
<i>Position</i>				
Correlation Coefficient	-0.247	0.454*	-0.247	0.454*
Significance	0.246	0.094	0.246	0.094
<i>Columns</i>				
Correlation Coefficient	0.208	0.479*	0.208	0.479*
Significance	0.282	0.081	0.282	0.081
<i>Space</i>				
Correlation Coefficient	0.149	0.366	0.149	0.366
Significance	0.341	0.149	0.341	0.149
<i>Presence Visual Aid</i>				
Correlation Coefficient	-0.166	-0.321	-0.166	-0.321
Significance	0.324	0.183	0.324	0.183

\* Significant at the  $p < 0.10$  level

\*\*Significant at the  $p < 0.05$  level

Table 66

Whittakers Limited: Spearman Correlation of Human Resource - The Closing Down of Part or all Organisation Annual Report Sentences and Characteristics of Press Media Human Resource - The Closing Down of Part or all Organisation Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	NCCR#	0.007	0.007
Significance	NSCR##	NSCR##	0.492	0.492
<i>Position</i>				
Correlation Coefficient	NCCR#	NCCR#	0.188	0.188
Significance	NSCR##	NSCR##	0.302	0.302
<i>Columns</i>				
Correlation Coefficient	NCCR#	NCCR#	-0.087	-0.087
Significance	NSCR##	NSCR##	0.405	0.405
<i>Space</i>				
Correlation Coefficient	NCCR#	NCCR#	0.051	0.051
Significance	NSCR##	NSCR##	0.444	0.444
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	0.245	0.245
Significance	NSCR##	NSCR##	0.247	0.247

# No correlation coefficient reported

##No Spearman correlation reported

# Summary and Discussion

In respect of all the analyses in Section IV there was support obtained for the TPAR/TMA grouping and limited support for the TAR/TUMA groupings for the five characteristics examined that were significant within the  $p<0.10$  level of significance. These correlations at the  $p<0.10$  level of significance, with the exception of human resource – employee morale, were in the expected direction. They are summarised in Table 68. The order of importance of the significant results, in terms of the number of times a characteristic was significant and positive is, location, columns, followed by position and space, and last presence of visual aid. The percentage of significant positive results for each of the five characteristics does not provide strong support for a positive relationship between annual report social disclosure and the characteristics of press media articles for Whittakers Limited over the ten-year period 1989-1998.

Table 68

Whittakers Limited: Summary of Significant Spearman Correlation Tests 1989-1998 for  
Press Media Characteristics

DISCLOSURE TYPE	CHARACTERISTIC	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
Total	Columns Space	NS# NS#	0.084* 0.059*	NS# NS#	NS# 0.093*
Categories	Location	0.014**	0.000***	0.014**	0.000***
	Position	0.014**	0.000***	0.014**	0.000***
	Columns	0.014**	0.000***	0.014**	0.000***
	Space	0.051*	0.000***	0.014*	0.000***
	Presence Visual Aid	0.014**	0.000***	0.014**	0.000***
Environment	Location	NS#	0.003***	NS#	0.003***
Environment - Conservation	Location	0.046***	0.032*	0.006***	0.032**
	Position	0.052*	0.099*	0.052*	0.099*
	Columns	0.053*	0.100*	0.053*	0.100*
	Space	0.053*	0.100*	0.053*	0.100*
HR- Employee Morale	Location	-0.086*	NS#	NS#	NS#
	Position	-0.086*	NS#	NS#	NS#
	Columns	-0.086*	NS#	NS#	NS#
	Space	-0.086*	NS#	NS#	NS#
HR- Reorganisation	Location	NS#	0.023**	NS#	0.643**
	Position	NS#	0.094*	NS#	0.094*
	Columns	NS#	0.081*	NS#	0.081*
% Significant Positive Results	Location	16.7%	33.3%	16.7%	33.3%
	Position	16.7%	25.0%	16.7%	25.0%
	Columns	16.7%	33.3%	16.7%	25.0%
	Space	16.7%	25.0%	16.7%	25.0%
	Presence Visual Aid	8.3%	8.3%	8.3%	8.3%

\* Significant at the  $p < 0.10$  level

\*\* Significant at the  $p < 0.05$  level

\*\*\*Significant at the  $p < 0.01$  level

#Not Significant

The implication of the result obtained in respect of the analyses in Section IV for Whittakers Limited is twofold. First, the results suggest, based on the percentage of significant positive results, annual report disclosure for the four groupings were not significantly correlated with the five selected characteristics of press media reports: location, position, columns, space, and presence of visual aid. Second, the results indirectly support the questionnaire analysis in Chapter 6 that indicated that while reporting by the press media was important it did not influence disclosure in the annual report. These implications lead to a rejection of hypotheses formulated in Chapter 3, namely, hypotheses H9 to H28. However, it is possible the result obtained was due to the manner of weighting each characteristic. Hence, an alternative basis of weighting may bring a different result than that obtained here.

### **General Conclusion**

The analyses in Sections II, III and IV of annual report disclosure sentences and number of media articles, index scores for media articles, media articles and annual report disclosure lags, and press characteristics in the present chapter provide consistent results. Consistent in that they provide only limited support at the  $p < 0.10$  level of significance for the general hypothesis, that annual report disclosure of a social nature is a function of press media articles on social issues, and the 28 specific hypotheses formulated in Chapter 3. There were, however, common correlation in Sections II and III and IV and these were categories (the combined categories for 10 years as a whole), environment – conservation, and human resource – reorganisation, in that order of importance for the groupings. Further, the result

obtained from the analyses is consistent with that obtained from the questionnaire analysis in Chapter 6 of questions 5, 8, 11, 14 and 17 that indicated the press did not motivate disclosure in the annual report. The results obtained, while leading to a rejection of the hypotheses formulated in Chapter 3, that included those replicating prior research, was not inconsistent with the expectations of legitimacy theory. This is because, for example, management of an organisation may simply elect to ignore press media reports. Alternatively, they may disclose information in the annual report to influence the public's perception of an issue or to show the company is responsive to public expectation. This view is supported in the analysis of questions 6, 7, 9, 10, 12, 13, 15, 16, 18, and 19 of the questionnaire in Chapter 6. However, a rather surprising aspect of the results, especially for a company in the timber industry, was the lack of either annual report disclosure or press media articles on community involvement. Especially, as communities in country towns are considered to be an integral part of timber operations.

The result obtained in the present chapter may be attributed in part to the low level of political visibility of Whittakers Limited, and hence the low level of media attention and social disclosure as indicated by the descriptive statistics in Appendix C at the conclusion of the thesis. The result may also have been compounded to some extent by the large list of items used to classify the press media reports and disclosure sentences in the annual reports.

## **Conclusion**

In this chapter, the results of the data analysis of the second stage of the research methodology described in Chapter 5 in relation to Whittakers Limited for the period 1989 to 1998 was discussed in detail. The results not being supportive of the impact of press media social articles on disclosure sentences in the annual report of Whittakers Limited, and consistent with the results of the data analysis of the first stage of the research methodology in Chapter 6.

## **CHAPTER 8**

### **ANALYSIS – BUNNINGS LIMITED AND WESFARMERS LIMITED**

#### **Introduction**

The purpose of this chapter is twofold. First, to undertake a combined analysis of voluntary social disclosures in the annual report of Bunnings Limited and Wesfarmers Limited, and second, to examine the extent, if any, to which voluntary social disclosures in the annual report are a function of Australian press media social reports. An analysis is undertaken of unfavourable and total voluntary annual report disclosures and unfavourable and total press media reports on social matters pertaining to these companies as the basis for testing the hypotheses proposed in Chapter 3.

The sample companies in the present study were capable of being analysed in four ways. First, Whittakers Limited for the period 1989-1993, Bunnings Limited 1989-1993, and Wesfarmers Limited 1994-1998. This approach does not allow any comparison of the same periods between the three companies. Second, Whittakers Limited for the period 1989-1993, Bunnings Limited 1989-1993, Whittakers Limited 1994-1998, and Wesfarmers Limited. 1994-1998. This approach has the advantage of allowing a comparison of the three companies over similar periods. However, the five-year periods are considered relatively short for the type of analysis being undertaken. This is especially so when investigating the presence of prior period media lags, because this effectively reduces the time periods to four years. Further, it impacts on Whittakers Limited because it breaks the ten-year period

into two five-year periods. Third, to combine the three companies as though they were a single group. This approach would correlate average disclosure results with average press media reports for the three companies as a group. The ability to compare them would be forfeited. Hence, a measure of control would be lost, that is, the possibility of a case study control group. Fourth, Whittakers Limited for the period 1989-1998, and Bunnings Limited and Wesfarmers Limited combined for 1989-1998. This is the preferred method and is used in the present study. An advantage being that it allows similar time periods (ten year) to be examined. It also has the benefit of a control type group in the sense that Whittakers Limited was the smallest company. In addition, the combination of Bunnings Limited and Wesfarmers Limited is justified for a number of other reasons. First, Bunnings Limited was taken over by Wesfarmers Limited in 1994. Second, prior to the takeover activities disclosures of Bunnings Limited would have been thoroughly researched. Third, a number of directors of Wesfarmers Limited were directors of Bunnings Limited prior to the takeover. Fourth, the company secretary of Bunnings Limited was appointed to the same position in Wesfarmers Limited. To assist continued comparison, non-timber related social disclosures were excluded, with the proviso that when in doubt, for example, in the case of human resources disclosures, they were included. A procedure considered unavoidable given the circumstances. However, it is considered this would not impact materially on the results obtained.

The analysis of this chapter is divided into four sections. The first section presents a combined analysis of Australian newspaper articles written about Bunnings Limited and Wesfarmers Limited. The second section examines the correlation of annual report

disclosures with the number of newspaper articles. In addition, this section explores the possible existence of lags between press media reports and annual report disclosure. Specifically, two lags are examined. First, a one year lag between press media articles and disclosures in the annual report, and the second, the previous year press media articles summed together with the current year articles and their correlation with disclosures in the annual report. The third section examines the correlation between disclosures in the annual report and press media disclosure scored on an index of the characteristics of press media reporting. This section also examines the possibility of a lag distribution. The final section examines the extent of correlation of annual report disclosures with characteristics of press media articles.

The statistical tests undertaken in this chapter are the same as those in Chapter 7 for Whittakers Limited. They are the non-parametric Spearman correlation one-tailed tests with a cut-off point at the 0.10 level of significance. The non-parametric Spearman correlation test is chosen because of the non-normality of the data. Simple percentages are used to assess the number of tests meeting the cut-off criteria. Descriptive statistics for maximum, minimum and mean annual report disclosure and media articles for Bunnings Limited and Wesfarmers Limited for the period 1989 to 1998 are shown in Appendix C at the conclusion of the thesis.

## **Section I: Newspapers**

Table 69 provides a combined summary of the Australian newspapers that had press articles on social matters, unfavourable and total, directly related to Bunnings Limited for the period 1989 to 1993 and Wesfarmers Limited for the period 1994 to 1998. The data in Table 69 shows a slight upward trend over the 10 year period. All of the seven Australian newspapers utilised in the present study reported articles in the area of social disclosure. However, the percentage of total articles excluding those in The West Australian on these companies was only 6.05 per cent. This amounts to a relatively small percentage of the total number of articles written. Of significance is the large proportion of the total number of articles appearing in The West Australian over all years, and in particular 1995 and 1998. The number of articles appearing in The West Australian amounted to 94.74 per cent of the total unfavourable media articles reported, and 93.95 per cent of the total media articles reported. The peak period was 1995 with 34 unfavourable articles and a total of 45 articles. The press articles that appeared in newspapers other than the The West Australian centred on the categories of environment, human resource, and community involvement, three of the five categories of social disclosure investigated in the present study.

The pattern of newspaper reporting described in the previous paragraph, especially the proportion attributable to The West Australian, suggests, as with the analysis of Whittakers Limited in the previous chapter (Chapter 7), the analysis of Bunnings Limited and Wesfarmers Limited to be more in the nature of a regional study. This may be partly attributed to the extent of Western Australian operations of Bunnings and Wesfarmers

Limited as compared to their eastern states affiliation. Further, as Bunnings Limited and Wesfarmers Limited are much larger in comparison to Whittakers Limited, and hence politically more visible companies, as expected, they attracted a larger range of newspapers, and more press articles that covered a greater range of social categories. Consequently, it would be expected that this would lead to more social disclosure in their annual report.

Table 69

Bunnings Limited and Wesfarmers Limited: Number of Unfavourable (U) Press Media Articles and Total (T) Press Media Articles

Newspaper	1989 U T	1990 U T	1991 U T	1992 U T	1993 U T	1994 U T	1995 U T	1996 U T	1997 U T	1998 U T	Total U T
The Advertiser	0 0	0 0	0 0	0 0	0 0	0 0	1 2	0 1	0 0	0 0	1 3
The Age	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 1	0 0	1 1	2 2
The Australian	0 0	0 0	0 0	0 0	0 0	0 0	1 1	0 0	0 0	0 0	1 1
The Australian Financial Review	0 0	0 0	0 0	0 2	0 0	0 0	1 1	0 0	0 0	0 2	1 5
The Courier Mail	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 1	0 0	0 0	1 1
Sydney Morning Herald	0 0	0 0	0 0	0 0	0 0	1 1	0 0	0 0	0 0	0 0	1 1
The West Australian	5 6	8 13	19 24	10 16	4 10	2 13	31 41	7 18	12 25	28 36	126 202
Total	5 6	8 13	19 24	10 18	4 10	3 14	34 45	9 21	12 25	29 39	133 215

The total number of unfavourable media articles and total media articles by categories of social disclosure is shown in Table 70. This shows the unfavourable media articles to be 61.86 per cent of the total number of articles. In excess of the combined total of favourable and neutral articles, which represent the difference between the total unfavourable and total media articles.

Table 70

Bunnings Limited and Wesfarmers Limited: Number of Unfavourable (U) Press Media Articles and Total (T) Press Media Articles by Categories 1989 - 1998

Categories	Unfavourable Media Articles		Total Media Articles	
	No	%	No	%
Environment	90	67.67	114	53.02
Energy	0	00.00	0	00.00
Human Resources	42	31.58	59	27.44
Community Involvement	0	00.00	40	18.61
Other	1	00.75	2	00.93
Total	133	100.00	215	100.00

The association between press media articles in this section and disclosure in the annual reports appears in the following sections.

**Section II: Annual Report Disclosure and Number of Press Media Articles**

**Annual Report Sentences and Press Media Articles**

Total positive annual report sentences (TPAR) and total annual report sentences (TAR) and their Spearman correlations with total unfavourable media articles (TUMA), and total media articles (TMA) for Bunnings Limited and Wesfarmers Limited (BW) by year for 1989 to 1998 are classified into four groupings and appear in Table 71<sup>20</sup>.

Table 71

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Total Annual Report Sentences and Press Media Articles by Year 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation Coefficient	-0.236	-0.539*	-0.212	-0.600**
Significance	0.255	0.054	0.278	0.033

\* Significant at the p<0.10 level  
\*\* Significant at the p<0.05 level

<sup>20</sup> Not all of the four groupings in this chapter, TPAR/TUMA, TPA/TMA, TAR/TUMA and TAR/TMA, will report correlations and in other instances the groupings will record the same correlation. Correlations would not be reported when, for example, groupings have low annual report disclosure and a low number of media articles. Identical correlations will occur between groupings when they have equal annual report disclosure and media articles, for example when TPAR is the same as TAR, and TUMA is the same as TMA.

The Spearman correlations for all four groupings in Table 71 indicate that two of the four groupings are statistically significant<sup>21</sup>. TPAR/TMA is significant at the  $p < 0.10$  level and TAR/TMA at the  $p < 0.05$  level. However, they are not in the expected (positive) direction. This implies that total yearly press media social articles do not significantly influence social disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 72<sup>22</sup>. The Spearman correlations for all four groupings in Table 72 indicate that only one of them is statistically significant at the  $p < 0.10$  level. TPAR/TUMA for a prior year lag is significant at the  $p < 0.05$  level and it is in the anticipated (positive) direction. This implies that, with the exception of a single grouping for prior year, prior year press media social articles either alone or together with current year press media social articles do not significantly influence social disclosure in the annual report.

<sup>21</sup> As indicated in the introduction section of this chapter, all Spearman correlation tests are one-tailed.

<sup>22</sup> Whenever lags are calculated, because prior year lag is being considered, this necessitates the omission of 1989 annual report sentences and 1998 media reports.

Table 72

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Annual Report Sentences and Press Media Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	0.583**	0.267	0.417	0.000
Coefficient				
Significance	0.050	0.244	0.132	0.500
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.100	-0.133	-0.033	-0.350
Coefficient				
Significance	0.399	0.366	0.466	0.178

\*\*Significant at the  $p < 0.05$  level

**Categories of Annual Report Disclosure and Press Media Articles**

**Total Categories**

Total positive annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for each of the five categories of social disclosure for the 10 year period 1989 to 1998 combined, appear in Table 73<sup>23</sup>.

<sup>23</sup> As each of the categories is totalled for the 10 year period, lags are not calculated.

Table 73

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Total Categories of Annual Report Disclosure Sentences and Press Media Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation	0.872**	0.800*	0.667	0.500
Coefficient Significance	0.027	0.052	0.109	0.196

\* Significant at the  $p < 0.10$  level

\*\* Significant at the  $p < 0.05$  level

The Spearman correlation between TPAR/TUMA is significant at the  $p < 0.05$  and TPAR/TMA at the  $p < 0.01$  level. Both correlations are in the anticipated (positive) direction. This implies that all categories of press media social articles considered in total for two groupings for 1989-1998 do not significantly influence social disclosure in the annual report.

The amount of annual report disclosure and the number of media articles written for each of the five categories of social disclosure appear in Table 74. The ranking order of each of the categories for annual report disclosure and media reports differs slightly. For annual report disclosure, first, human resources, next environment, followed by other, and finally community involvement. For media reports, first, environment, next human resources, followed by community involvement, and finally other. There were neither annual report disclosure or media articles for the energy category and no unfavourable media articles for the community involvement category.

Table 74

Bunnings Limited and Wesfarmers Limited: Categories of Social Disclosure Sentences and Press Media Articles 1989 – 1998

Categories	Total Positive Annual Report Sentences	Total Annual Report Sentences	Total Unfavourable Media Articles	Total Media Articles
Environment	83	83	90	114
Energy	0	0	0	0
Human Resources	229	355	42	59
Community Involvement	23	23	0	40
Other	81	85	1	2
Total	416	546	133	215

### Environment

Total positive environment annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for BW for 1989 to 1998 appear in Table 75.

Table 75

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Environment Annual Report Sentences and Press Media Environmental Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation Coefficient	0.177	0.013	0.177	0.013
Significance	0.312	0.486	0.312	0.486

The Spearman correlations for all four groupings in Table 75 indicate that no grouping is statistically significant at the  $p<0.10$  level. This implies that press media environmental articles do not significantly influence environmental disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 76. The Spearman correlations for all four groupings in Table 76 indicate that only two of the groupings for a prior year lag are statistically significant at the  $p<0.10$  level. TPAR/TUMA and TAR/TUMA are significant at the  $p<0.05$  level. This implies that, with the exception of two groupings for prior year, neither prior year press media environmental articles alone or together with current year press media environmental articles, influence environmental disclosure in the annual report.

Table 76

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Environment Annual Report Sentences and Press Media Environmental Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	0.634**	0.238	0.634**	0.238
Coefficient				
Significance	0.033	0.269	0.033	0.269
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.466	0.440	0.466	0.440
Coefficient				
Significance	0.103	0.118	0.103	0.118

\*\*Significant at the  $p<0.05$  level

## Human Resource

Total positive human resource annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for BW for 1989 to 1998 appear in Table 77.

Table 77

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource Annual Report Sentences and Press Media Human Resource Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation	0.178	0.127	0.190	0.139
Coefficient				
Significance	0.311	0.363	0.300	0.351

The Spearman correlations for all four groupings in Table 77 indicate that not one of the groupings is statistically significant at the  $p<0.10$  level. This implies that press media human resource articles do not significantly influence human resource disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 78. The Spearman correlations for all four groupings in Table 78 indicate that of the four groupings three of them for prior and current year are statistically significant. These were TPAR/TUMA, TPAR/TMA and TAR/TMA at the  $p<0.10$  level and they are all in the anticipated (positive) direction. This implies that, except for three groupings for prior and current year press media human resource articles, neither prior year

press media article press media articles alone or together with current year press media articles significantly influence human resource disclosure in the annual report.

Table 78

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Human Resource Annual Report Sentences and Press Media Human Resource Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	0.246	0.223	0.122	0.077
Coefficient				
Significance	0.262	0.282	0.377	0.422
<i>Prior and Current</i>				
<i>Year</i>				
Correlation	0.549*	0.487*	0.504*	0.444
Coefficient				
Significance	0.063	0.092	0.083	0.116

\*Significant at the p<0.10 level

# No correlation coefficient reported

##No Spearman correlation reported

Community Involvement

Total positive community involvement annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for BW for 1989 to 1998 appear in Table 79.

Table 79

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Community Involvement Annual Report Sentences and Press Media Community Involvement Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation	NCCR#	0.035	NCCR#	0.035
Coefficient				
Significance	NSCR##	0.461	NSCR##	0.461

# No correlation coefficient reported  
##No Spearman correlation reported

The Spearman correlations for all four groupings in Table 79 indicate that not one of the groupings is statistically significant at the  $p<0.10$  level. This implies that press media community involvement articles do not significantly influence community involvement disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 80. The Spearman correlations for all four groupings in Table 80 indicate they are not statistically significant at the  $p<0.10$  level. This implies that neither prior year press media community involvement articles alone or together with current year press media community involvement articles significantly influence community involvement disclosure in the annual report.

Table 80

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Community Involvement Annual Report Sentences and Press Media Community Involvement Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Prior Year				
Correlation	NCCR#	-0.017	NCCR#	-0.017
Coefficient				
Significance	NSCR##	0.482	NSCR##	0.482
Prior and Current Year				
Correlation	NCCR#	0.138	NCCR#	0.138
Coefficient				
Significance	NSCR##	0.362	NSCR##	0.362

# No correlation coefficient reported  
##No Spearman correlation reported

Other

Total positive other annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for BW for 1989 to 1998 appear in Table 81.

Table 81

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Other Annual Report Sentences and Press Media Other Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
Correlation	-0.236	-0.236	-0.234	-0.234
Coefficient				
Significance	0.256	0.256	0.258	0.258

The Spearman Correlation for all four groupings in Table 81 indicates that not one of the groupings is statistically significant at the  $p<0.10$  level. This implies that press media other articles do not significantly influence other disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 82. The Spearman correlations for all four groupings in Table 82 indicate that they are not statistically significant at the  $p<0.10$  level. This implies that neither prior year press media other articles alone or together with current year press media other articles significantly influence other disclosure in the annual report.

Table 82

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Other Annual Report Sentences and Press Media Other Articles 1989-1998

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Prior Year</i>				
Correlation	0.139	-0.139	-0.138	-0.138
Coefficient				
Significance	0.360	0.360	0.362	0.363
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	-0.316	-0.316	-0.312	-0.312
Coefficient				
Significance	0.204	0.204	0.207	0.207

### **Specific Items Within Categories**

Specific items within each of the categories of social disclosure for environment, human resource, community involvement, and other TPAR and TAR and their Spearman correlations with TUMA, and TMA for BW for 1989 to 1998 appear in Table 83<sup>24</sup>.

The Spearman correlations between the four groupings in Table 83 did not result in a single significant correlation. These were: environment – compliance, environment – prevention or repair, human resource – employment minorities, human resource – reorganisation, human resource – closing down, human resource – industrial relations, community related - donations, community related – other special, community involvement – customer service awards, other – corporate objectives, other – other. The Spearman correlations remaining, environment – preventing waste, human resource – employee morale, human resource – employee health and safety, and human resource – employee training had a number of significant groupings but they were not all in the anticipated (positive) direction. This implies that specific items within each of the categories do not significantly influence specific items within each category disclosure in the annual report.

<sup>24</sup> Throughout this chapter, correlations were not performed for those specific items that had either no annual report sentences or press media articles. This applied to twelve specific items. Also, as indicated in Chapter 3, correlations for lags were only to be calculated for the major categories of social disclosure.

Table 83

**Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Specific Items  
Within Categories Annual Report Sentences and Press Media Articles 1989-1998**

	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Environment:</i>				
<i>Conservation</i>				
Correlation	-0.471*	-0.530*	-0.471*	-0.530*
Coefficient				
Significance	0.085	0.057	0.085	0.057
<i>Environment:</i>				
<i>Compliance</i>				
Correlation	NCCR#	0.180	NCCR#	0.180
Coefficient				
Significance	NSCR##	0.310	NSCR##	0.310
<i>Environment:</i>				
<i>Prevention or Repair</i>				
Correlation	NCCR#	0.248	NCCR#	0.248
Coefficient				
Significance	NSCR##	0.245	NSCR##	0.245
<i>Environment:</i>				
<i>Preventing Waste</i>				
Correlation	0.496*	0.386	0.496*	0.386
Coefficient				
Significance	0.073	0.135	0.073	0.135
<i>HR:</i>				
<i>Employment Minorities or Women</i>				
Correlation	NCCR#	0.359	NCCR#	0.359
Coefficient				
Significance	NSCR##	0.154	NSCR##	0.154
<i>HR: Employee Morale</i>				
Correlation	0.659**	0.386	0.659**	0.386
Coefficient				
Significance	0.019	0.135	0.019	0.135

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<i>HR:</i>				
<i>Reorganisation</i>				
Correlation	0.022	-0.064	0.297	0.156
Coefficient				
Significance	0.476	0.430	0.202	0.333
<i>HR: Closing Down</i>				
Correlation	-0.362	-0.362	0.059	0.059
Coefficient				
Significance	0.152	0.152	0.436	0.436
<i>HR: Employee Health and Safety Report</i>				
Correlation	-0.194	-0.459*	-0.192	-0.454*
Coefficient				
Significance	0.295	0.091	0.298	0.094
<i>HR: Employee Training</i>				
Correlation	NCCR#	-0.534*	NCCR#	-0.534*
Coefficient				
Significance	NSCR##	0.056	NSCR##	0.056
<i>HR: Industrial Relations</i>				
Correlation	-0.391	-0.391	-0.391	-0.391
Coefficient				
Significance	0.132	0.132	0.132	0.132
<i>Community Related: Donations</i>				
Correlation	NCCR#	-0.054	NCCR#	-0.054
Coefficient				
Significance	NSCR##	0.441	NSCR##	0.441
<i>Community Related: Other Special</i>				
Correlation	NCCR#	-0.266	NCCR#	0.179
Coefficient				
Significance	NSCR##	0.229	NSCR##	0.310

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<i>Community Involvement:</i>				
<i>Customer Service Awards</i>				
Correlation	NCCR#	-0.111	NCCR#	-0.111
Coefficient				
Significance	NSCR##	0.380	NSCR##	0.380
<i>Other:</i>				
<i>Corporate Objectives</i>				
Correlation	NCCR#	-0.234	NCCR#	0.059
Coefficient				
Significance	NSCR##	0.257	NSCR##	0.436
<i>Other: Other</i>				
Correlation	-0.167	-0.167	-0.214	-0.214
Coefficient				
Significance	0.323	0.323	0.276	0.276

\* Significant at the  $p < 0.10$  level

\*\*Significant at the  $p < 0.05$  level

# No correlation coefficient reported

##No Spearman correlation reported

## Summary and Discussion

In respect of the analyses in Section II, other than for lags, that included total disclosure and media articles, categories of disclosure and media articles, and disclosure of specific items within categories and media articles, a small number of correlations were statistically significant at the  $p < 0.10$  level. These are summarised in Table 84, together with the percentage of significant positive results. But, as can be observed from the table not all were in the anticipated (positive) direction<sup>25</sup>. The results in respect of TPAR/TUMA and TPAR/TMA are promising in respect of media influence for categories, and TPAR/TMA for total disclosure. However, the lack of positive significance for any of the major categories of social disclosure for these two groupings and the weak correlation results for the remaining two groupings, together with the significant positive analyses, suggests a rejection of the general hypothesis of the study. The results only mildly support a positive relationship between annual report social disclosure and media articles for BW over the ten-year period 1989-1998<sup>26</sup>.

<sup>25</sup> This percentage, also shown in Sections III and IV, is calculated by dividing the number of significant positive results for all four groupings by the total number of analyses undertaken for all four groupings. For example, TPAR/TUMA was analysed 22 times (Tables 71, 73, 75, 77, 79, 81, 83), and there were 3 significant positive results.

<sup>26</sup> A separate analysis of the Spearman correlations for Bunnings Limited and Wesfarmers Limited, and a combined analysis for Bunnings Limited, Wesfarmers Limited and Whittakers Limited, for total, total categories, and categories were performed but not reported in this chapter. Wesfarmers Limited had no significant correlations whereas Bunnings Limited did, for total categories ( $p < 0.05$ ) for TPAR/TUMA and TAR/TUMA, and human resources ( $p < 0.01$ ) for the same groupings. These results were the same for both number of press media articles and the index scores of these articles. The combined analysis for the three companies for total categories ( $p < 0.05$ ) for TPAR/TUMA for both media articles and the index scores of these articles.

Table 84

Bunnings Limited and Wesfarmers Limited: Summary of Significant Spearman Correlation Tests Between Annual Report Sentences and Press Media Articles  
1989-1998

DISCLOSURE TYPE	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Total:</i>	NS#	0.054*	NS#	-0.033**
<i>Categories:</i>	0.027**	0.052*	NS#	NS#
<i>Environment:</i>				
Conservation	-0.085*	-0.057*	-0.085*	-0.057*
Preventing Waste	0.073*	NS#	0.073*	NS#
<i>Human Resource:</i>				
Employee	0.019**	NS#	0.019**	NS#
Morale	NS#	-0.091*	NS#	-0.094*
Employee Health & Safety	NSCR##	-0.056*	NSCR##	-0.056*
Employee Training				
% Significant Positive Results	13.6%	9.1%	9.1%	00.0%

\* Significant at the  $p < 0.10$  level

\*\*Significant at the  $p < 0.05$  level

# Not significant

##No Spearman correlation reported

Analyses undertaken, with the exception of specific items within categories, were explored for the possible existence of lags between press media reports and annual report disclosure. These lags, a one-year lag between media articles and annual report disclosure, and a second lag, comprising the previous year and current year media articles and annual report disclosure produced a small number of statistically significant Spearman correlations within the  $p < 0.10$  level. This small number of significant lags related to both the prior year lag and the current and prior year lag. These are summarised in Table 85, with the percentage of significant positive analyses<sup>27</sup>. The results shown in Table 85 suggest that a lag distribution may be appropriate to the groupings TPAR/TUMA and TAR/TUMA that both had significant results for the environment and human resource categories and TPAR/TUMA for Total. The two lag distributions appear to be inappropriate for the remaining two groupings TAR/TUMA and TAR/TMA in the case of BW over the ten-year period 1989 – 1998 of the present study.

<sup>27</sup> This percentage, also shown in Sections III and IV, is calculated by dividing the number of significant positive results for all four groupings by the total number of analyses undertaken for all four grouping. For example, TPAR/TUMA was analysed 10 times (Tables 72, 76, 78, 80, 82), and there were 3 significant positive results.

Table 85

Bunnings Limited and Wesfarmers Limited: Summary of Significant Spearman Correlation Tests for Press Media Article Lags

DISCLOSURE TYPE	TPAR/TUMA	TPAR/TMA	TAR/TUMA	TAR/TMA
<i>Total:</i> Prior Year	0.050**	NS#	NS#	NS#
<i>Environment:</i> Prior Year	0.033**	NS#	0.033**	NS#
<i>Human Resource:</i> Prior and Current Year	0.063*	0.092*	0.083*	NS#
% Significant Positive Results	30.0%	10.0%	20.0%	00.0%

\* Significant at the p<0.10 level

\*\* Significant at the p<0.05 level

#Not Significant

The implication of the result obtained in respect of the analyses in Section II for BW is fourfold. First, the results suggest that annual report social disclosure was not totally a function of the number of media articles. This is not consistent with prior research (for example, Adler and Milne, 1997; Brown and Deegan, 1999; Deegan et al., 1999; Savage et al., 2000) which was based on the TPAR/TUMA and TAR/TMA groupings. Second, the lag results provide some evidence of the presence of a lag distribution effect but not sufficient to conclude the overall existence of a lag distribution effect, which is consistent

with Deegan et al. (1999) for the prior year lag that was based on the TPAR/TUMA and TAR/TMA groupings. Third, the addition of two further groupings, TPAR/TMA and TAR/TUMA, on the basis that they include additional legitimacy strategies that may be used was not found to be the case at the  $p<0.10$  level of significance. Fourth, it provides considerable support for the questionnaire analysis in Chapter 6, wherein the responses of a sample of directors indicated the media was important but that it did not influence disclosure in the annual report. However, it appears that in certain instances media reports on social matters may influence disclosure in the annual report. These implications, with minor exceptions, lead to a rejection of hypotheses formulated in Chapter 3, namely, hypotheses H1, H2, H5, and H6. However, it is possible the result may be partly a function of treating each press media article equally.

**Section III: Annual Report Disclosure and Index Scores of Press Media Articles**

**Annual Report Sentences and Index Score of Press Media Articles**

Total positive annual report sentences and total TAR and their Spearman correlation total index score for unfavourable media articles (XTUMA), and total index score for total media articles (XTMA) for BW by year for 1989 to 1998 appear in Table 86.

The index score used in the present section comprises a composite score of individual scores for location, position, columns occupied, space taken, and presence of visual aid for each press article. A higher score is given: the closer an article appears toward the front of a

newspaper; appears in the top one-half of a page as opposed to the bottom one-half of a page; occupies greater column width; the more page space an article occupies; and has a visual aid. The method of scoring each of these variables and their summing is described in detail in Chapter 5.

Table 86

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Total Annual Report Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation Coefficient	-0.224	-0.455*	-0.176	-0.515*
Significance	0.267	0.093	0.314	0.064

\*Significant at the  $p<0.10$  level

The Spearman correlations for all four groupings in Table 86 indicate that TPAR/XTMA and TAR/XTMA are statistically significant at the  $p<0.10$  level. However, they are not in the anticipated (positive) direction. This implies that total yearly press media social indexed articles do not significantly influence social disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 87. The Spearman correlation for all four groupings in Table 87 indicates that TPAR/XTUMA in the prior year lag is statistically significant at the  $p<0.10$  level and is in the anticipated (positive) direction. This implies that, except for a single grouping for prior year press media social indexed articles, neither prior year press media social articles

alone or together with current year media indexed social articles influence social disclosure in the annual report.

Table 87

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media lags for Total Annual Report Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	0.550*	0.300	0.467	0.083
Coefficient				
Significance	0.062	0.216	0.103	0.416
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.368	-0.067	0.268	-0.301
Coefficient				
Significance	0.165	0.432	0.243	0.215

\*Significant at the  $p<0.10$  level

Categories of Annual Report Disclosure and Press Media Articles Index Total

Total Categories

Total positive annual report sentences and TAR sentences and their Spearman correlations with XTUMA and XTMA for each of the five categories of social disclosure for the 10 year period 1989 to 1998 appear in Table 88.

Table 88

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Total Categories of Social Disclosure Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation Coefficient	0.872**	0.800*	0.667	0.500
Significance	0.027	0.052	0.109	0.196

\* Significant at the  $p < 0.10$  level

\*\*Significant at the  $p < 0.05$  level

The Spearman correlations in Table 88 indicate the correlations between TPAR/XTUMA to be significant at the  $p < 0.05$  level, and TPAR/XTMA at the  $p < 0.10$  level. Both correlations are in the anticipated (positive) direction. This implies that, except for two groupings, all categories of press media social indexed articles considered in total for 1989-1998 do not significantly influence social disclosure in the annual report.

The amount of annual report disclosure and the number of media articles written for each of the five categories of social disclosure appear in Table 89. The ranking order of each of the categories for annual report disclosure and media reports differs. For annual report disclosure, first, human resource, followed jointly by environment and other, and finally community involvement. For media, first, environment, next human resources, followed by community involvement, and finally other. There were neither annual report disclosure or media article index scores for the energy category and no unfavourable media article index score for the community involvement category.

Table 89

Bunnings Limited and Wesfarmers Limited: Categories of Social Disclosure and Press Media Index Scores 1989-1998

Category	Total Positive Annual Report Sentences	Total Annual Report Sentences	Total Index Score for Unfavourable Media Articles	Total Index Score for Total Media Articles
Environment	83	83	887	1115
Energy	0	0	0	0
Human Resource	229	355	369	520
Community Involvement	23	23	0	354
Other	81	85	9	19
Total	416	546	1265	2008

### Environment

Total positive environment annual report sentences and TAR and their Spearman correlations with XTUMA and XTMA for BW appear in Table 90.

Table 90

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Environment Annual Report Sentences and Press Media Environmental Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation Coefficient	0.251	0.080	0.251	0.080
Significance	0.242	0.413	0.242	0.413

The Spearman correlations for all four groupings in Table 90 indicate that no grouping is statistically significant at the  $p<0.10$  level. This implies that press media environmental indexed articles do not significantly influence environmental disclosure in the annual report.

The Spearman correlations for a prior year lag and a prior and current year media lag appear in Table 91. The Spearman correlations indicate for both lags a number of groupings that they are statistically significant. TPAR/XTUMA and TAR/XTUMA for prior year lag at the  $p<0.05$  level and all four groupings for prior and current year lag at the  $p<0.10$  level. All significant groupings are in the anticipated (positive) direction. This implies that, prior year press media indexed environmental articles significantly influence two groupings of environmental disclosure in the annual report, and prior and current year press media indexed environmental articles significantly influence all groupings of environmental disclosure in the annual report.

Table 91

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Environment Annual Report Sentences and Press Media Environmental Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	0.616**	0.343	0.616**	0.343
Coefficient				
Significance	0.039	0.183	0.039	0.183
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.532*	0.517*	0.532*	0.517*
Coefficient				
Significance	0.070	0.077	0.070	0.077

\* Significant at the  $p<0.10$  level

\*\*Significant at the  $p<0.05$  level

**Human Resource**

Total positive human resource annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for BW for 1989 to 1998 appear in Table 92.

Table 92

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource Annual Report Sentences and Press Media Human Resource Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation	0.178	0.135	0.190	0.128
Coefficient				
Significance	0.311	0.355	0.300	0.362

The Spearman correlations for all four groupings in Table 92 indicate that no grouping is statistically significant at the  $p<0.10$  level. This implies that press media human resource indexed articles do not significantly influence human resource disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 93. The Spearman correlations for all four groupings in Table 93 indicate that three of the four groupings were statistically significant. This was TAR/XTMA for the prior and current year lag at the  $p<0.10$  level. This implies that prior year press media human resource indexed articles do not significantly influence human resource disclosure in the annual report, and prior and current year press media human resource indexed

articles significantly influence human resource disclosure in the annual report for three groupings.

Table 93

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Human Resource Annual Report Sentences and Press Media Human Resource Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	0.246	0.122	0.122	-0.034
Coefficient				
Significance	0.262	0.377	0.377	0.466
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	0.599**	0.487*	0.546*	0.444
Coefficient				
Significance	0.044	0.092	0.064	0.116

\* Significant at the p<0.10 level

\*\*Significant at the p<0.05 level

**Community Involvement**

Total positive community involvement annual report sentences and TAR and their Spearman correlations with TUMA, and TMA for BW for 1989 to 1998 appear in Table 94.

Table 94

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Community Involvement Annual Report Sentences and Press Media Community Involvement Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation	NCCR#	0.190	NCCR#	0.190
Coefficient				
Significance	NSCR##	0.299	NSCR##	0.299

# No correlation coefficient reported  
##No Spearman correlation reported

The Spearman correlations for all four groupings in Table 94 indicate that not one of the groupings is statistically significant at the  $p<0.10$  level. This implies that press media community involvement indexed articles do not significantly influence community involvement disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 95. The Spearman correlations for all four groupings in Table 95 indicate they are not statistically significant at the  $p<0.10$  level. This implies that neither prior year press media community involvement indexed articles alone or together with current year press media community involvement indexed articles significantly influence community involvement disclosure in the annual report.

Table 95

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for  
Community Involvement Annual Report Sentences and Press Media Community  
Involvement Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Prior Year</i>				
Correlation	NCCR#	-0.173	NCCR#	-0.173
Coefficient				
Significance	NSCR##	0.329	NSCR##	0.329
<i>Prior and</i>				
<i>Current Year</i>				
Correlation	NCCR#	0.138	NCCR#	0.138
Coefficient				
Significance	NSCR##	0.362	NSCR##	0.362

# No correlation coefficient reported

##No Spearman correlation reported

### Other

Total positive other annual report sentences and TAR sentences and their Spearman correlations with XTUMA and XTMA for BW for 1989 to 1998 appear in Table 96.

Table 96

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Other Annual Report  
Sentences and Press Media Other Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Correlation	-0.236	-0.236	-0.234	-0.234
Coefficient				
Significance	0.256	0.256	0.258	0.258

The Spearman correlations for all four groupings in Table 96 indicate that no grouping is statistically significant at the  $p<0.10$  level. This implies that press media other indexed articles do not significantly influence other disclosure in the annual report.

The Spearman correlations for a prior year media lag and a prior and current year media lag appear in Table 97. The Spearman correlations for all four groupings in Table 97 indicate that none of the groupings was significant at the  $p<0.10$  level. This implies that neither prior year press media other indexed articles alone or together with current year press media other indexed articles significantly influence other disclosure in the annual report.

Table 97

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Press Media Lags for Other Annual Report Sentences and Press Media Other Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
Prior				
Year				
Correlation	-0.139	-0.139	-0.138	-0.138
Coefficient				
Significance	0.360	0.360	0.362	0.362
Prior and				
Current Year				
Correlation	-0.316	-0.316	-0.312	-0.312
Coefficient				
Significance	0.204	0.204	0.207	0.207

### **Specific Items Within Categories**

Specific items within each of the categories of social disclosure for environment, human resource, community involvement, and other TPAR and TAR and their Spearman correlations with XTUMA, and XTMA for BW for 1989 to 1998 appear in Table 98.

The Spearman correlations between the four groupings for the majority of indexed items did not result in a single significant correlation. These were: environment – conservation, environment – compliance, environment – prevention or repair, human resource – employment minorities, human resource – reorganisation, human resource – closing down, human resource – health and safety, human resource – employee training, human resource – industrial relations, community related – donations, community related – other special, community involvement – customer service awards, other – corporate objectives, other – other. The Spearman correlations for the remaining two items environment – preventing waste, and human resource – employee morale, were significant for two groupings and in the anticipated (positive) direction. This implies that, except for environment – preventing waste, and human resource – employee morale for two groupings, press media article specific items within categories indexed items do not significantly influence specific items within categories disclosure in the annual report.

Table 98

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Specific Items  
Within Categories Annual Report Sentences and Press Media Index Scores 1989-1998

	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Environment:</i>				
<i>Conservation</i>				
Correlation	-0.291	-0.406	-0.291	-0.406
Coefficient				
Significance	0.207	0.122	0.207	0.132
<i>Environment:</i>				
<i>Compliance</i>				
Correlation	NCCR#	0.180	NCCR#	0.180
Coefficient				
Significance	NSCR##	0.310	NSCR##	0.310
<i>Environment:</i>				
<i>Prevention or Repair</i>				
Correlation	NCCR#	0.248	NCCR#	0.248
Coefficient				
Significance	NCCR##	0.245	NCCR##	0.245
<i>Environment:</i>				
<i>Preventing Waste</i>				
Correlation	0.496*	0.386	0.496*	0.386
Coefficient				
Significance	0.073	0.135	0.073	0.135
<i>HR:</i>				
<i>Employment Minorities or Women</i>				
Correlation	NCCR#	0.359	NCCR#	0.359
Coefficient				
Significance	NSCR##	0.154	NSCR##	0.154
<i>HR: Employee Morale</i>				
Correlation	0.636**	0.325	0.636**	0.325
Coefficient				
Significance	0.024	0.180	0.024	0.180

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<i>HR:</i>				
<i>Reorganisation</i>				
Correlation	0.022	-0.064	0.254	0.145
Coefficient				
Significance	0.476	0.431	0.240	0.345
<i>HR: Closing Down</i>				
Correlation	-0.359	-0.359	0.042	0.042
Coefficient				
Significance	0.154	0.154	0.454	0.454
<i>HR: Employee Health and Safety Report</i>				
Correlation	-0.194	-0.427	-0.192	-0.421
Coefficient				
Significance	0.295	0.109	0.298	0.113
<i>HR: Employee Training</i>				
Correlation	NCCR#	-0.513	NCCR#	-0.513
Coefficient				
Significance	NSCR##	0.065	NSCR##	0.065
<i>HR: Industrial Relations</i>				
Correlation	-0.391	-0.391	-0.391	-0.391
Coefficient				
Significance	0.132	0.132	0.132	0.132
<i>Community Related: Donations</i>				
Correlation	NCCR#	0.007	NCCR#	0.007
Coefficient				
Significance	NSCR##	0.493	NSCR##	0.493
<i>Community Related: Other Special</i>				
Correlation	NCCR#	-0.261	NCCR#	0.193
Coefficient				
Significance	NSCR##	0.233	NSCR##	0.296
<i>Community Involvement: Customer</i>				

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<i>Service Awards</i>				
Correlation	NCCR#	-0.111	NCCR#	-0.111
Coefficient				
Significance	NSCR##	0.380	NSCR##	0.380
<i>Other:</i>				
<i>Corporate Objectives</i>				
Correlation	NCCR#	-0.234	NCCR#	0.059
Coefficient				
Significance	NSCR##	0.257	NSCR##	0.436
<i>Other: Other</i>				
Correlation	-0.167	-0.167	-0.214	-0.214
Coefficient				
Significance	0.323	0.323	0.276	0.276

\* Significant at the  $p < 0.10$  level

\*\*Significant at the  $p < 0.05$  level

# No correlation coefficient reported

##No Spearman correlation reported

## Summary and Discussion

In respect of the analyses in Section III, other than for lags, that included total disclosure and media articles index score, categories of disclosure and media articles index score, and disclosure of specific items within categories and media articles index score, a number of correlations were statistically significant at the  $p < 0.10$  level. These are summarised in Table 99 together with the percentage of significant positive results. They were not all in the anticipated (positive) direction. Of the four groupings TPAR/XTUMA had three specific items and TAR/XTUMA two specific items within categories statistically significant and in the anticipated (positive) direction. This result, and that none of the four groupings had significant results for any of the individual major categories of social

disclosure or total disclosure suggests the general hypothesis of the study be rejected for BW over the ten-year period 1989-1998. Disclosure in annual reports do not appear to be significantly influenced by press media reports.

Table 99

Bunnings Limited and Wesfarmers Limited: Summary of Significant Spearman Correlation Tests Between Annual Report Sentences and Press Media Articles Index Scores 1989-1998

DISCLOSURE TYPE	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Total:</i>	NS#	-0.093*	NS#	-0.064*
<i>Categories:</i>	0.027**	0.052*	NS#	NS#
<i>Environment:</i>				
Preventing Waste	0.073*	NS#	0.073*	NS#
<i>Human Resource:</i>				
Employee Morale	0.024**	NS#	0.024**	NS#
% Significant Positive Results	13.6%	4.6%	9.1%	00.0%

\* Significant at the p<0.10 level  
 \*\*Significant at the p<0.05 level

#Not significant

Analyses undertaken, with the exception of specific items within categories, were explored for the possible existence of lags between an index score for press media reports and annual report disclosure. These lags, a one-year lag between media articles index scores and

annual report disclosure, and a second lag, comprising the previous year and current year media articles index scores and annual report disclosure resulted in a number of statistically significant Spearman correlations within the  $p<0.10$  level. This result is summarised in Table 100, together with the percentage of significant positive results. The results obtained for the two groupings TPAR/XTUMA and TAR/XTUMA provide support for the notion of media articles index lags but not for the remaining two groupings TPAR/XTMA and TAR/XTMA. This result suggests that a lag distribution, or at least for the two lag distributions explored, TPAR/XTMA and TAR/XTMA are less appropriate for index scoring in the case of BW over the ten-year period 1989 – 1998.

Table 100

Bunnings Limited and Wesfarmers Limited: Summary of Significant Spearman Correlation Tests for Press Media Articles Index Lags

N = 4 Analyses for Each Type of Lag

DISCLOSURE CATEGORY/ LAG	TPAR/XTUMA	TPAR/XTMA	TAR/XTUMA	TAR/XTMA
<i>Total:</i>				
Prior Year	0.062*	NS#	NS#	NS#
<i>Environment:</i>				
Prior Year	0.039**	NS#	0.039**	NS#
Prior and Current Year	0.070*	0.077*	0.070*	0.077*
<i>Human Resource:</i>				
Prior and Current Year	0.044**	0.092*	0.064*	NS#
% Significant Positive Results	40.0%	20.0%	30.0%	10.0%

\* Significant at the  $p<0.10$  level

\*\*Significant at the  $p<0.05$  level

#Not Significant

The implications of the result obtained in respect of the analyses in Section III for BW are fourfold. First, that annual report disclosure is not significantly related to the index score of media articles at the  $p < 0.10$  level of significance. Second, the evidence provides limited support for a lag distribution effect. Third, the addition of two further groupings, TPAR/XTMA and TAR/XTUMA, on the basis that they include additional legitimacy strategies that may be used was not found to be the case at the  $p < 0.10$  level of significance. Fourth, the results supports the questionnaire analysis in Chapter 6, wherein the responses of a sample of directors of Whittakers Limited, Bunnings Limited, and Wesfarmers Limited indicated the media was important, but that it did not influence disclosure in the annual report. Nevertheless, there is some mild support for the general hypothesis of the study. These implications lead to a rejection of hypotheses formulated in Chapter 3, namely, hypotheses H3, H4, H7, and H8. This result may be a function of the basis of the scoring of components of the index. A different basis of scoring may bring a different result than that obtained in the present study.

#### **Section IV: Press Media Characteristics**

##### **Total Annual Report Sentences and Press Media Characteristics**

Total positive annual report sentences (TPAR), TAR, and their correlations with characteristics of TUMA and TMA for total social disclosure for BW for the period 1989 to 1998 appear in Table 101.

The press characteristics: location, position, columns occupied, space taken, and presence of visual aid are those characteristics comprising the index score used in the analysis in Section III converted to continuous variables for the purpose of analysis in the present section, Section IV. The process of conversion of these variables to continuous variables is described in Chapter 5.

Table 101

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Total Annual Report Sentences and Characteristics of Press Media Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.321	-0.394	-0.345	-0.600**
Significance	0.183	0.130	0.164	0.033
<i>Position</i>				
Correlation Coefficient	-0.348	-0.488*	-0.299	-0.537*
Significance	0.163	0.149	0.201	0.055
<i>Columns</i>				
Correlation Coefficient	-0.188	-0.358	-0.115	-0.406
Significance	0.302	0.155	0.376	0.122
<i>Space</i>				
Correlation Coefficient	-0.188	-0.455*	-0.115	-0.503*
Significance	0.302	0.093	0.376	0.069
<i>Presence Visual Aid</i>				
Correlation Coefficient	-0.189	-0.530*	-0.195	-0.634**
Significance	0.300	0.057	0.295	0.024

\* Significant at the p<0.10 level

\*\*Significant at the p<0.05 level

Table 101 indicates that fewer (7 of 20) of the Spearman correlations for the five press characteristics for the four groupings under consideration were significant. Only TPAR/TMA for position and space and TAR/TMA for location, position, columns, space, and presence of visual aid are significant at the  $p<0.10$  level. The correlations for these characteristics are not in the expected (positive) direction. This implies that the characteristics of total yearly press media social articles do not significantly influence social disclosure in the annual report.

**Categories of Annual Report Sentences and Press Media Characteristics**

**Total Categories**

Total positive annual report sentences TAR and their correlations with characteristics of TUMA and TMA for BW for combined five categories of social disclosure for the period 1989 to 1998 appear in Table 102.

Table 102

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Categories of Annual Report Sentences and Characteristics of Press Media Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.872**	0.500	0.667	0.200
Significance	0.027	0.196	0.109	0.374
<i>Position</i>				
Correlation Coefficient	0.872**	0.800*	0.667	0.500
Significance	0.027	0.052	0.109	0.196
<i>Columns</i>				
Correlation Coefficient	0.918**	0.800*	0.667	0.500
Significance	0.027	0.052	0.109	0.196
<i>Space</i>				
Correlation Coefficient	0.872**	0.800*	0.667	0.500
Significance	0.027	0.052	0.109	0.196
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.783*	0.500	0.447	0.200
Significance	0.059	0.196	0.225	0.374

\* Significant at the  $p < 0.10$  level

\*\* Significant at the  $p < 0.05$  level

All of the Spearman correlations for the five characteristics for TPAR/TUMA and three characteristics, position, columns, and space for TPAR/TMA are statistically significant and in the expected (positive) direction. This implies that, except for a single grouping of all of the press media characteristics of all categories of press media social articles and position, columns and space in a second grouping considered in total for 1989-1998, do not significantly influence social disclosure in the annual report.

## Environment

Total positive environment annual report sentences, TAR, and their correlations with characteristics of TUMA and TMA for BW for the environment category of social disclosure for the period 1989 to 1998 appear in Table 103.

Table 103

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Environment Annual Report Sentences and Characteristics of Press Media Environmental Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.073	-0.080	-0.073	-0.080
Significance	0.420	0.414	0.420	0.414
<i>Position</i>				
Correlation Coefficient	0.052	-0.006	0.052	-0.006
Significance	0.443	0.493	0.443	0.493
<i>Columns</i>				
Correlation Coefficient	0.171	0.049	0.171	0.049
Significance	0.318	0.447	0.318	0.447
<i>Space</i>				
Correlation Coefficient	0.171	0.214	0.171	0.214
Significance	0.318	0.276	0.318	0.276
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.320	0.283	0.320	0.283
Significance	0.184	0.214	0.184	0.214

The Spearman correlations between the four groupings and press characteristics in Table 103 did not result in a single significant statistic. This implies that characteristics of the

press media environmental articles do not significantly influence environmental disclosure in the annual report.

**Human Resource**

Total positive human resource annual report sentences, TAR, and their correlations with characteristics of TUMA and TMA for BW for the human resource category of social disclosure for the period 1989 to 1998 appear in Table 104.

Table 104

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource Annual Report Sentences and Characteristics of Press Media Human Resource Articles 1989-1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.138	0.024	0.144	0.012
Significance	0.352	0.473	0.346	0.487
<i>Position</i>				
Correlation Coefficient	0.124	0.150	0.136	0.162
Significance	0.367	0.340	0.354	0.327
<i>Columns</i>				
Correlation Coefficient	0.294	0.263	0.299	0.238
Significance	0.205	0.231	0.201	0.254
<i>Space</i>				
Correlation Coefficient	0.135	0.140	0.146	0.128
Significance	0.355	0.350	0.343	0.363
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.185	0.070	0.204	0.092
Significance	0.305	0.423	0.286	0.400

The Spearman correlations between the four groupings and press characteristics in Table 104 did not result in a single significant correlation. This implies that the characteristics of the press media human resource articles do not significantly influence human resource disclosure in the annual report.

**Community Involvement**

Total positive community involvement annual report sentences, TAR, and their correlations with characteristics of TUMA and TMA for BW for the community involvement category of social disclosure for the period 1989 to 1998 appear in Table 105.

Table 105

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Community Involvement Annual Report Sentences and Characteristics of Press Media Community Involvement Articles 1989-1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.138	0.024	0.144	0.012
Significance	0.352	0.473	0.346	0.487
<i>Position</i>				
Correlation Coefficient	0.124	0.150	0.136	0.162
Significance	0.367	0.340	0.354	0.327
<i>Columns</i>				
Correlation Coefficient	0.294	0.263	0.299	0.238
Significance	0.205	0.231	0.201	0.254
<i>Space</i>				
Correlation Coefficient	0.135	0.140	0.146	0.128
Significance	0.355	0.350	0.343	0.363
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.185	0.070	0.204	0.092
Significance	0.305	0.423	0.286	0.400

# No correlation coefficient reported

##No Spearman correlation reported

The Spearman correlations between the four groupings and press characteristics in Table 105 did not result in a single significant correlation. This implies that the characteristics of the press media community involvement articles do not significantly influence community involvement disclosure in the annual report.

## Other

Total positive other annual report sentences, TAR, and their correlations with characteristics of TUMA and TMA for BW for the other category of social disclosure for the period 1989 to 1998 appear in Table 106.

Table 106

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Other Annual Report Sentences and Characteristics of Press Media Other Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.236	-0.236	-0.234	-0.234
Significance	0.256	0.256	0.258	0.258
<i>Position</i>				
Correlation Coefficient	-0.236	-0.236	-0.234	-0.234
Significance	0.256	0.256	0.258	0.258
<i>Columns</i>				
Correlation Coefficient	-0.236	-0.236	-0.234	-0.234
Significance	0.256	0.256	0.258	0.258
<i>Space</i>				
Correlation Coefficient	-0.236	-0.236	-0.234	-0.234
Significance	0.256	0.256	0.258	0.258
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	-0.236	NCCR#	-0.234
Significance	NSCR##	0.256	NSCR##	0.258

# No correlation coefficient reported

##No Spearman correlation reported

The Spearman correlations between the four groupings and press characteristics in Table 106 did not result in a single significant correlation. This implies that the characteristics of the press media other articles do not significantly influence other disclosure in the annual report.

**Specific Items Within Categories**

Total positive annual report sentences TAR and their correlations with characteristics of TUMA and TMA for BWB made within each of the five categories of social disclosure for the period 1989 to 1998 appear in Tables 107 to 122.

The Spearman correlations between the four groupings and press characteristics in 13 of the 16 tables did not result in a single significant positive correlation. These were: Table 107 (environment – prevention or repair), Table 108 (environment – conservation), Table 109 (environment – compliance), Table 111 (human resource – employment of minorities or women), Table 114 (human resource – closing down), Table 115 (human resource – employee health and safety), Table 116 (human resource – employee training), Table 117 (human resource – industrial relations), Table 118 (community involvement – donations), Table 119 (community related – other special), Table 120 (community related – customer service award) Table 121 (other – corporate objectives) and Table 122 (other – other). The Spearman correlations between a number of groupings and a number of press characteristics in Table 110 (environment – preventing waste), Table 112 (human resource – employee morale), and Table 113 (human resource - reorganisation) did result in significant positive correlations. This implies that characteristics of press media specific

items within categories articles do not significantly influence specific items within categories disclosure in the annual report.

Table 107

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Environment – Prevention or Repair Annual Report Sentences and Characteristics of Press Media Environmental – Prevention or Repair Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	0.248	NCCR#	0.248
Significance	NSCR##	0.245	NSCR##	0.245
<i>Position</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##
<i>Columns</i>				
Correlation Coefficient	NCCR#	0.248	NCCR#	0.248
Significance	NSCR##	0.245	NSCR##	0.245
<i>Space</i>				
Correlation Coefficient	NCCR#	0.248	NCCR#	0.248
Significance	NSCR##	0.245	NSCR##	0.245
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

# No correlation coefficient reported  
##No Spearman correlation reported

Table 108

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Environment – Conservation Annual Report Sentences and Characteristics of Press Media Environmental – Conservation Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.522*	-0.522*	-0.522*	-0.522*
Significance	0.061	0.061	0.061	0.061
<i>Position</i>				
Correlation Coefficient	-0.471*	-0.530*	-0.471*	-0.530*
Significance	0.085	0.057	0.085	0.057
<i>Columns</i>				
Correlation Coefficient	-0.406	-0.522*	-0.406	-0.522*
Significance	0.122	0.061	0.122	0.061
<i>Space</i>				
Correlation Coefficient	-0.290	-0.407	-0.290	-0.407
Significance	0.208	0.121	0.208	0.121
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.000	-0.177	0.000	-0.177
Significance	0.500	0.313	0.500	0.313

\*Significant at the  $p < 0.10$  level

Table 109

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Environment - Compliance Annual Report Sentences and Characteristics of Press Media Environmental - Compliance Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	0.180	NCCR#	0.180
Significance	NSCR##	0.310	NSCR##	0.310
<i>Position</i>				
Correlation Coefficient	NCCR#	0.180	NCCR#	0.180
Significance	NSCR##	0.310	NSCR##	0.310
<i>Columns</i>				
Correlation Coefficient	NCCR#	0.180	NCCR#	0.180
Significance	NSCR##	0.310	NSCR##	0.310
<i>Space</i>				
Correlation Coefficient	NCCR#	0.180	NCCR#	0.180
Significance	NSCR##	0.310	NSCR##	0.310
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	0.180	NCCR#	0.180
Significance	NSCR##	0.310	NSCR##	0.310

# No correlation coefficient reported

##No Spearman correlation reported

Table 110

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Environment – Preventing Waste Annual Report Sentences and Characteristics of Press Media Environmental – Preventing Waste Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.496*	0.385	0.496*	0.385
Significance	0.073	0.136	0.073	0.136
<i>Position</i>				
Correlation Coefficient	0.443*	0.386	0.443*	0.386
Significance	0.100	0.135	0.100	0.135
<i>Columns</i>				
Correlation Coefficient	0.496*	0.386	0.496*	0.386
Significance	0.073	0.135	0.073	0.135
<i>Space</i>				
Correlation Coefficient	0.496*	0.385	0.496*	0.385
Significance	0.073	0.136	0.073	0.136
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.663**	0.443*	0.663**	0.443*
Significance	0.018	0.100	0.018	0.100

# Significant at the  $p < 0.10$  level

## Significant at the  $p < 0.05$  level

Table 111

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource – Employment of Minorities or Women Annual Report Sentences and Characteristics of Press Media Human Resource – Employment of Minorities or Women Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	0.359	NCCR#	0.359
Significance	NSCR##	0.154	NSCR##	0.154
<i>Position</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##
<i>Columns</i>				
Correlation Coefficient	NCCR#	0.359	NCCR#	0.359
Significance	NSCR##	0.154	NSCR##	0.154
<i>Space</i>				
Correlation Coefficient	NCCR#	0.359	NCCR#	0.359
Significance	NSCR##	0.154	NSCR##	0.154
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

# No correlation coefficient reported

##No Spearman correlation reported

Table 112

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource – Employee Morale Annual Report Sentences and Characteristics of Press Media Human Resource – Employee Morale Articles 1989 – 1999

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.716***	0.027	0.716***	0.027
Significance	0.010	0.471	0.010	0.471
<i>Position</i>				
Correlation Coefficient	0.369	0.477*	0.369	0.477*
Significance	0.147	0.082	0.147	0.082
<i>Columns</i>				
Correlation Coefficient	0.636**	0.220	0.636**	0.220
Significance	0.024	0.271	0.024	0.271
<i>Space</i>				
Correlation Coefficient	0.636**	0.307	0.636**	0.307
Significance	0.024	0.194	0.024	0.194
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.248	0.369	0.248	0.369
Significance	0.245	0.147	0.245	0.147

\* Significant at the  $p < 0.10$  level

\*\* Significant at the  $p < 0.05$  level

\*\*\*Significant at the  $p < 0.01$  level

Table 113

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource -  
Reorganisation Annual Report Sentences and Characteristics of Press Media Human  
Resource - Reorganisation Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	0.036	-0.049	0.306	0.129
Significance	0.460	0.446	0.195	0.361
<i>Position</i>				
Correlation Coefficient	0.030	-0.057	0.285	0.144
Significance	0.468	0.438	0.213	0.346
<i>Columns</i>				
Correlation Coefficient	0.036	-0.049	0.228	0.148
Significance	0.460	0.446	0.264	0.342
<i>Space</i>				
Correlation Coefficient	0.022	-0.063	0.254	0.173
Significance	0.476	0.431	0.240	0.316
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.196	-0.015	0.525*	0.117
Significance	0.294	0.484	0.059	0.373

\*Significant at the  $p < 0.10$  level

Table 114

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource – Closing Down Annual Report Sentences and Characteristics of Press Media Human Resource – Closing Down Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.359	-0.359	0.146	0.146
Significance	0.154	0.154	0.344	0.344
<i>Position</i>				
Correlation Coefficient	-0.362	-0.362	0.059	0.059
Significance	0.152	0.152	0.436	0.436
<i>Columns</i>				
Correlation Coefficient	-0.359	-0.359	0.107	0.107
Significance	0.154	0.154	0.384	0.384
<i>Space</i>				
Correlation Coefficient	-0.359	-0.359	0.107	0.107
Significance	0.154	0.154	0.384	0.384
<i>Presence Visual Aid</i>				
Correlation Coefficient	0.321	0.321	-0.056	-0.056
Significance	0.183	0.183	0.439	0.439

Table 115

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource – Employee Health and Safety Annual Report Sentences and Characteristics of Press Media  
Human Resource – Employee Health and Safety Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.194	-0.488*	-0.192	-0.482*
Significance	0.295	0.076	0.298	0.079
<i>Position</i>				
Correlation Coefficient	-0.178	-0.466*	-0.176	-0.460*
Significance	0.311	0.087	0.314	0.090
<i>Columns</i>				
Correlation Coefficient	-0.194	-0.488*	-0.192	-0.482*
Significance	0.295	0.076	0.298	0.079
<i>Space</i>				
Correlation Coefficient	-0.194	-0.488*	-0.192	-0.482*
Significance	0.295	0.076	0.298	0.079
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

\*Significant at the  $p < 0.10$  level

# No correlation coefficient reported

##No Spearman correlation reported

Table 116

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource – Employee Training Annual Report Sentences and Characteristics of Press Media Human Resource – Employee Training Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	-0.548**	NCCR#	-0.548**
Significance	NSCR##	0.050	NSCR##	0.050
<i>Position</i>				
Correlation Coefficient	NCCR#	-0.534*	NCCR#	-0.534*
Significance	NSCR##	0.056	NSCR##	0.056
<i>Columns</i>				
Correlation Coefficient	NCCR#	-0.513*	NCCR#	-0.513*
Significance	NSCR##	0.065	NSCR##	0.065
<i>Space</i>				
Correlation Coefficient	NCCR#	-0.513*	NCCR#	-0.513*
Significance	NSCR##	0.065	NSCR##	0.065
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	-0.237	NCCR#	-0.237
Significance	NSCR##	0.232	NSCR##	0.232

\* Significant at the  $p < 0.10$  level

\*\*Significant at the  $p < 0.05$  level

# No correlation coefficient reported

##No Spearman correlation reported

Table 117

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Human Resource – Industrial Relations Annual Report Sentences and Characteristics of Press Media Human Resource – Industrial Relations Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.391	-0.391	-0.391	-0.391
Significance	0.132	0.132	0.132	0.132
<i>Position</i>				
Correlation Coefficient	-0.394	-0.391	-0.394	-0.391
Significance	0.130	0.132	0.130	0.132
<i>Columns</i>				
Correlation Coefficient	-0.391	-0.391	-0.391	-0.391
Significance	0.132	0.132	0.132	0.132
<i>Space</i>				
Correlation Coefficient	-0.391	-0.391	-0.391	-0.391
Significance	0.132	0.132	0.132	0.132
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	-0.262	NCCR#	-0.262
Significance	NSCR##	0.232	NSCR##	0.232

# No correlation coefficient reported

##No Spearman correlation reported

Table 118

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Community Related  
– Donations Annual Report Sentences and Characteristics of Press Media Community  
Related – Donations Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	0.151	NCCR#	0.151
Significance	NSCR##	0.338	NSCR##	0.338
<i>Position</i>				
Correlation Coefficient	NCCR#	0.221	NCCR#	0.221
Significance	NSCR##	0.270	NSCR##	0.270
<i>Columns</i>				
Correlation Coefficient	NCCR#	0.053	NCCR#	0.053
Significance	NSCR##	0.443	NSCR##	0.443
<i>Space</i>				
Correlation Coefficient	NCCR#	0.086	NCCR#	0.086
Significance	NSCR##	0.407	NSCR##	0.407
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	0.141	NCCR#	0.141
Significance	NSCR##	0.349	NSCR##	0.349

# No correlation coefficient reported

##No Spearman correlation reported

Table 119

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Community Related  
 – Special Other Annual Report Sentences and Characteristics of Press Media Community  
 Related – Special Other Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	-0.261	NCCR#	0.227
Significance	NSCR##	0.233	NSCR##	0.264
<i>Position</i>				
Correlation Coefficient	NCCR#	-0.272	NCCR#	0.262
Significance	NSCR##	0.223	NSCR##	0.232
<i>Columns</i>				
Correlation Coefficient	NCCR#	-0.261	NCCR#	0.160
Significance	NSCR##	0.233	NSCR##	0.330
<i>Space</i>				
Correlation Coefficient	NCCR#	-0.261	NCCR#	0.344
Significance	NSCR##	0.233	NSCR##	0.100
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	-0.218	NCCR#	0.047
Significance	NSCR##	0.272	NSCR##	0.449

# No correlation coefficient reported

##No Spearman correlation reported

Table 120

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Community Related - Customer Service Award Annual Report Sentences and Characteristics of Press Media Community Related - Customer Service Award Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	-0.111	NCCR#	-0.111
Significance	NSCR##	0.380	NSCR##	0.380
<i>Position</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##
<i>Columns</i>				
Correlation Coefficient	NCCR#	-0.111	NCCR#	-0.111
Significance	NSCR##	0.380	NSCR##	0.380
<i>Space</i>				
Correlation Coefficient	NCCR#	-0.111	NCCR#	-0.111
Significance	NSCR##	0.380	NSCR##	0.380
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

# No correlation coefficient reported  
##No Spearman correlation reported

Table 121

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Other - Corporate Objectives Annual Report Sentences and Characteristics of Press Media Other - Corporate Objectives Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	NCCR#	-0.234	NCCR#	-0.234
Significance	NSCR##	0.258	NSCR##	0.258
<i>Position</i>				
Correlation Coefficient	NCCR#	-0.234	NCCR#	-0.234
Significance	NSCR##	0.258	NSCR##	0.258
<i>Columns</i>				
Correlation Coefficient	NCCR#	-0.234	NCCR#	-0.234
Significance	NSCR##	0.258	NSCR##	0.258
<i>Space</i>				
Correlation Coefficient	NCCR#	-0.234	NCCR#	-0.234
Significance	NSCR##	0.258	NSCR##	0.258
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	-0.234	NCCR#	-0.234
Significance	NSCR##	0.258	NSCR##	0.258

# No correlation coefficient reported

##No Spearman correlation reported

Table 122

Bunnings Limited and Wesfarmers Limited: Spearman Correlation of Other – Other Annual Report Sentences and Characteristics of Press Media Other – Other Articles 1989 – 1998

CHARACTERISTICS	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
<i>Location</i>				
Correlation Coefficient	-0.167	-0.167	-0.214	-0.214
Significance	0.323	0.323	0.276	0.276
<i>Position</i>				
Correlation Coefficient	-0.167	-0.167	-0.214	-0.214
Significance	0.323	0.323	0.276	0.276
<i>Columns</i>				
Correlation Coefficient	-0.167	-0.167	-0.214	-0.214
Significance	0.323	0.323	0.276	0.276
<i>Space</i>				
Correlation Coefficient	-0.167	-0.167	-0.214	-0.214
Significance	0.323	0.323	0.276	0.276
<i>Presence Visual Aid</i>				
Correlation Coefficient	NCCR#	NCCR#	NCCR#	NCCR#
Significance	NSCR##	NSCR##	NSCR##	NSCR##

# No correlation coefficient reported

##No Spearman correlation reported

## Summary and Discussion

In respect of all the analyses in Section IV there was limited support obtained for the five characteristics examined that were significant at the  $p < 0.10$  level of significance and in the anticipated (positive) direction. These correlations and their groupings were TPAR/TUMA (categories, environment – preventing waste, human resource – employee morale), TPAR/TMA (categories, environment – preventing waste, human resource – employee morale), TAR/TUMA (environment – preventing waste, human resource – employee morale, human resource - reorganisation), and TAR/TMA (environment – preventing waste, human resource employee morale). The results are summarised in Table 123, together with the percentage of significant positive results for each characteristic. The order of importance of the characteristics, in terms of the number of times a characteristic was significant and positive, is first, position, space, and presence of visual aid, followed by columns, and finally location. The percentage of significant results for each of the five press characteristics does not provide strong support for a positive relationship between annual report social disclosure and the characteristics of press media articles for BW over the ten-year period 1989-1998. In other words, social disclosures in annual reports do not appear to be influenced by press media social articles.

Table 123

**Bunnings Limited and Wesfarmers Limited: Summary of Significant Spearman Correlation Tests 1989-1998  
for Press Media Characteristics**

DISCLOSURE TYPE	CHARACTERISTIC	TPAR/ TUMA	TPAR/ TMA	TAR/ TUMA	TAR/ TMA
Total:	Location	NS#	NS#	NS#	-0.033**
	Position	NS#	-0.149*	NS#	-0.055*
	Space	NS#	-0.093*	NS#	-0.069*
	Presence Visual Aid	NS#	-0.057*	NS#	-0.024*
Categories:	Location	0.027**	NS#	NS#	NS#
	Position	0.027**	0.052*	NS#	NS#
	Columns	0.027**	0.052*	NS#	NS#
	Space	0.027**	0.052*	NS#	NS#
	Presence Visual Aid	0.059*	NS#	NS#	NS#
Environment: Conservation	Location	-0.061*	-0.061*	-0.061*	-0.061*
	Position	-0.085*	-0.057*	-0.085*	-0.057*
	Columns	NS#	-0.061*	NS#	-0.061*
Environment: Preventing Waste	Location	-0.073*	NS#	0.073*	NS#
	Position	0.100*	NS#	0.100*	NS#
	Columns	0.073*	NS#	0.073*	NS#
	Space	0.073*	NS#	0.073*	NS#
	Presence Visual Aid	0.018**	0.100*	0.018**	0.100*
Human Resource: Employee Morale	Location	0.010***	NS#	0.010***	NS#
	Position	NS#	0.082*	NS#	0.082*
	Columns	0.024**	NS#	0.024**	NS#
	Space	0.024**	NS#	0.024**	NS#
Human Resource: Reorganisation	Presence Visual Aid	NS#	NS#	0.059*	NS#
Human Resource: Employee Health and Safety	Location	NS#	-0.076*	NS#	-0.079*
	Position	NS#	-0.087*	NS#	-0.090*
	Columns	NS#	-0.076*	NS#	-0.079*
	Space	NS#	-0.076*	NS#	-0.079*
Human Resource: Employee Training	Location	NSCR##	-0.050**	NSCR##	-0.050**
	Position	NSCR##	-0.056*	NSCR##	-0.056*
	Columns	NSCR##	-0.065*	NSCR##	-0.065*
	Space	NSCR##	-0.065*	NSCR##	-0.065*
% Significant	Location	9.1%	0.0%	9.1%	0.0%
Positive Results	Position	9.1%	9.1%	4.6%	4.6%
	Columns	13.6%	4.6%	9.1%	0.0%
	Space	13.6%	4.6%	9.1%	0.0%
	Presence Visual Aid	9.1%	4.6%	9.1%	4.6%

\* Significant at the  $p < 0.10$  level

\*\* Significant at the  $p < 0.05$  level

\*\*\*Significant at the  $p < 0.01$  level

#Not Significant

The implication of the result obtained in respect of the analyses in Section IV for BW is twofold. First, the results suggest, based on the percentage of significant positive results, annual report disclosures were not significantly correlated with the five selected characteristics of press media reports: location, position, columns, space, and presence of visual aid. Second, the results indirectly support the questionnaire analysis in Chapter 6, which indicated that while reporting by the press media was important it did not influence disclosure in the annual report. These implications lead to a rejection of the hypotheses formulated in Chapter 3, namely, hypotheses H9 to H28. However, it is possible the result obtained was due to the manner of weighting each characteristic. Hence, an alternative basis of weighting may bring a different result than that obtained in the present study.

### **General Conclusion**

The analyses in Sections II, III and IV of annual report disclosure and number of media articles, index scores for media articles, media articles and annual report disclosure lags, and press characteristics in the present chapter provide consistent results. Consistent in that they provide only limited support at the  $p < 0.10$  level of significance for the hypotheses formulated in Chapter 3, and, therefore, are rejected<sup>28</sup>. The results may be partly attributed to the large list of items used to classify the press media reports and disclosure in the annual

<sup>28</sup> Footnote 26 which contains the analysis of Bunnings Limited and Wesfarmers Limited as separate entities and the combined analysis of Bunnings Limited, Wesfarmers Limited and Whittakers Limited, excluding characteristics of press media articles, suggest the same result.

reports. The result is consistent with that obtained from the questionnaire analysis in Chapter 6 of questions 5, 8, 11, 14 and 17, which indicated the press did not motivate disclosure in the annual report.

The results obtained, while not leading to acceptance of the general hypothesis formulated in Chapter 3, were not inconsistent with the expectations of legitimacy theory. This is because, for example, an organisation may simply elect to ignore press media reports. Alternatively, it may disclose information in the annual report to influence the public's perception of an issue or to show the company is responsive to public expectation. This view is supported in the analysis of questions 6, 7, 9, 10, 12, 13, 15, 16, 18, and 19 of the questionnaire in Chapter 6.

The descriptive statistics in Appendix C show, as expected, that overall there was more disclosure and more news press reports for BW than Whittakers Limited. In the 46 means calculated for disclosure, which included total disclosure, the five categories of disclosure, and components of the categories, only one by Whittakers Limited was greater. For press media articles, for the same classifications, Whittakers only had four that were greater than BW. Despite this, Whittakers Limited had a considerably higher percentage of significant positive results for both the number of articles and indexed score of articles than BW.

## **Conclusion**

In this chapter, the results of the data analysis of the second stage of the research methodology described in Chapter 5 in relation to BW for the period 1989 to 1998 was discussed in detail. The results are not generally supportive of the impact of press media articles on disclosure in the annual report of BW, and are consistent with the results of the data analysis of the first stage of the research methodology in Chapter 6.

The following chapter, Chapter 9, presents the conclusion of the present study. This chapter will provide the aim and summary of the study, findings of the study and limitations of the study. Then, the implications of the study, and, finally, directions for further research are discussed.

## **CHAPTER 9**

### **CONCLUSIONS, LIMITATIONS AND IMPLICATIONS**

#### **Introduction**

The purpose of this chapter is to provide the aim and a summary of the study, and to present conclusions from the findings of the study. In the next section, the limitations of the study are discussed in some detail. In the following section, the implications of the findings of the study are discussed. The final section contains some suggestions for further research followed by a concluding comment.

#### **Aims and Summary of the Study**

The main aim of the study was to refine and extend the methodology used in prior studies that have examined voluntary social disclosure by management in their annual reports as a means of legitimising their activities in response to Australian press media reports on their social activities. These refinements and extensions were applied to Whittakers Limited, Bunnings Limited and Wesfarmers Limited three timber companies in Western Australian over the period 1989 to 1998. For the purpose of analysis, and for the reasons outlined in Chapter 8, Bunnings Limited and Wesfarmers Limited were combined and Whittakers Limited analysed separately.

The published research on the impact of the press media on social disclosure in the annual report of a company is limited. This research adds to that literature by first replicating prior research, and then refining and extending methodology employed in prior studies in a number of important directions. These are: a regional study of social disclosure; a structured questionnaire to directors of the three companies; construction of a weighted index of characteristics of a press media report; an examination of the importance of characteristics of a press media report; extension of analysis of correlation of social disclosure in the annual report with press media from two groupings of disclosure/press media to four groupings, to allow for the possibility of more strategies by management; and further exploration of press media time lags. With the exception of press media time lags, hypotheses included those from prior research and additional hypotheses for the refinements and extensions to prior research.

There were two stages to the present study. In the first stage, a mail/delivered questionnaire that included sections on the press, voluntary disclosure, and newspapers, was sent to former directors of Whittakers Limited, Bunnings Limited and Wesfarmers Limited who were directors of these companies over the period of the study. This first stage was designed to serve as a cross-validation of the second stage. The second stage, using the refined and extended methodology, was a spearman correlation analysis of social disclosure in the annual report of these companies with social press media reports in Australian newspapers from 1989 to 1998.

## **Findings of the Study**

The findings of the study, subject to the limitations as stated in a later section of this chapter, are now reported.

The first stage of the study, the questionnaire to former directors of the companies in the study produced the following results. There was agreement with three of the first four questions on the impact of press media. These were: that press reporting on matters related to the company could not be ignored; considered their activities were under press scrutiny, and press reporting impacts on the way Boards of Directors communicate decisions. The fourth question with which there was disagreement was that disclosure in the annual report can be a consequence of press reporting. Later, three questions were specifically related to the five major categories of social disclosure, environment, energy, human resources, community involvement, and other, in the annual report. The first that disclosure is a consequence of press attention, second, disclosure influences the public's perception of an issue, and third, disclosure shows the company is responsive to public expectations. The first question was not supported by the directors whereas the remaining two questions were. Later questions addressed the five major categories of social disclosure, in respect of the familiarity of the directors with a selection of Australian newspapers, and the importance of those newspapers in the event of adverse reporting. All newspapers listed in the questionnaire received a familiarity rating and an importance rating.

The results of the analysis of the questionnaire responses pointed to the following. First, that newspaper reporting on a company is considered important by the directors of that company. Second, that disclosure in the annual report, including social disclosure is not the result of reporting in the press. Third, the responses indicate a consistency with legitimacy theory in that this theory accepts that a number of strategies are employed in respect of disclosure in the annual report of a company. That is, they need not respond to press reporting but may attempt to influence the public's perception and/or to show they are responsive to public expectations. Finally, the familiarity and importance ratings in the questionnaire provided empirical support for all of the newspapers in the questionnaire to be included in the second stage of the study.

The second stage of the study was to correlate disclosures in the annual report with press media reports in Australian newspapers. Due to the comparatively larger size, and hence political visibility of Bunnings Limited/Wesfarmers Limited, in comparison with Whittakers Limited, there was more media coverage and a greater range of newspapers media coverage, and consequently more social disclosure in the annual report. Spearman one-tailed correlations between social disclosure in the annual report over the period (1989 to 1998) and the number of press media reports by Australian newspapers by Whittakers Limited and Bunnings Limited/Wesfarmers Limited provided only limited evidence to support the influence of media on disclosures in the annual report. The correlations, for four groupings of disclosure and press media reporting, were in relation to total disclosure over the ten-year period, total categories and by individual categories, and components within individual categories. The results were not significant regardless of whether number of

press media articles alone or an index score of press media articles was used. A separate analysis of the Spearman correlations for Bunnings Limited and Wesfarmers Limited, and a combined analysis for Bunnings Limited, Wesfarmers Limited and Whittakers Limited, for total, total categories, and categories indicated a similar result. The present study also found there was no consistent evidence of time lags based on prior year or prior and current year for either number of media reports or the index scores. The characteristics of media reports were also positively significant in only a limited number of Spearman correlations. This provides indirect support for the lack of influence of the press media on annual report disclosure. Nevertheless, the results do provide some insight in to the order of importance of these characteristics. The order of these characteristics for Whittakers Limited in terms of number of times they were significant was, location, columns, position and space, and finally presence of visual aid. This order differed from Bunnings Limited/Wesfarmers Limited for which the order was, position, space, presence of visual aid, columns, and finally location. On the basis of the Spearman correlations the major hypothesis of the study that annual report disclosure is a function of press media reports is not accepted, and, consequently, the specific hypotheses formulated are rejected.

These results from the second stage were consistent with those obtained from the questionnaire sent to former directors of Whittakers Limited, Bunnings Limited and Wesfarmers Limited. They provide evidence that management do legitimise their activities through social disclosure in the annual report, but not solely in response to Australian press media reports. This result implies that social disclosure in the annual report is the result of a series of complex relationships. The evidence in the present study on the impact of the

press media on social disclosure is, therefore, not generally supportive of a relationship between press media reports and disclosure in the annual report. This result is not consistent with the findings of earlier longitudinal studies (for example, Brown and Deegan, 1999; Deegan et al., 1999; and Savage et al., 2000) that concluded press media reports did impact on social disclosures in the annual report. However, it is consistent with Deegan et al. (1999) as regards the lack of evidence on the existence of a prior period media lag.

The fact that this study conflicts with the results of earlier evidence on the association between disclosure and press media reports suggests a number of possibilities. First, the prior research is not generalisable to the present study. Second, there is a further need to re-examine this area of research and perhaps even to refine the approach adopted in this study. Third, it could be due to the limitations of this study. Directions for further research in this area are provided in the final section of the present chapter.

### **Limitations of the Study**

The present study has several limitations. First, the study was undertaken in a number of hardwood companies in a single industry, the timber industry, and with their major operations in Western Australia. Hence, the results may not be generalised to other states of Australia or other industries either in Western Australia or other states of Australia.

Second, the analysis of voluntary social disclosure by the companies in the study was limited to that in their annual report and correlated with articles written on social matters concerning these companies in the Australian press media. This approach ignores other mediums of communication that may be used by a company such as flyers and at annual general meetings of the company. Further, by focussing on the press media it ignores the possible impact of other available media sources such as television and radio.

Third, the characteristics used and the respective weighting given to each of the characteristics in the index used were not empirically determined. This means, a more scientific approach may result in the selection of other characteristics and alternative weighting of those characteristics to those used in the present study. Despite this limitation, the characteristics of press media reports chosen were based on prior research in media studies and the weighting applied were based on rational argument.

Finally, the limitations of the questionnaire used in the present study. Because of the sensitivity of social disclosure in the annual report and the use of directors as respondents, the questionnaire design was completely anonymous and the number of questions restricted so as to minimise the time to complete the questionnaire and to minimise non-response bias. This meant the questionnaire was addressed to all former directors of the companies in the study as a single group. In addition, there are the normal limitations associated with postal questionnaires and questionnaires generally and these are well documented elsewhere.

## **Implications of the Study**

The results of the present study, which are essentially the combined decision of a board of directors to disclose information in the annual report, have important implications for the users of annual reports. The users include among others, shareholders, investors and analysts. Other interested parties for which the results would have implications would include regulators of accounting information as well as researchers interested in voluntary social disclosure.

Users would not be able to discern the reason for an item being voluntarily disclosed in the annual report or alternatively the reason for non-disclosure of social information in the annual report. All they can assume is the reason for disclosure/non-disclosure of social information is a strategic one, but for any one of a number of reasons, and that this is supported by legitimacy theory. It certainly cannot be attributed, at least on the basis of the results of the sample in the present study, solely to press media reports because the association between press media reports and annual disclosure was found to be a tenuous one. This implies that social disclosure between companies would be non-uniform and hence true comparison between companies would be fraught with difficulty. Moreover, social disclosure in the annual report of companies located in different regions may not be comparable.

Regulators of accounting information in the annual report would be concerned at the lack of comparability of social disclosure between companies and this would require measures on

their part to bring about uniformity. That is, regulators are unable to rely solely on market forces, in this instance the press media, to achieve uniformity and as a consequence of uniformity, comparability. Measures that could be taken to achieve a measure of uniformity would include a section in Corporations Law or an accounting standard specifically related to social disclosure in the annual report. Ideally, an accounting standard in this area should be comparable with that issued by the International Accounting Standards Committee.

Researchers interested in voluntary social disclosure would now be aware of the possibility that regional differences could impact on disclosure in the annual report and that to generalise results is indeed a complex problem. That is, more than simply replicating the results of prior research in other or the same environments. Further, it paves the way for possible hypotheses of regional differences, for example, due to factors such as organisational culture or people culture or a combination of both.

This longitudinal study has produced results that, with the exception of Kirk (2001), do not coincide with those of other longitudinal studies by researchers that have examined the impact of the press media on voluntary social disclosures in the annual report. The results in this area have produced mixed results. This study has shown in comparison with other studies, at least in relation to the sample used, that social disclosures in the annual report are only mildly correlated with press media reports. This result paves the way for researchers to replicate and/or refine the approach adopted in the present study. Only by further research can the issue be resolved. Suggestions for further research are indicated in the next section.

## **Further Research**

The limitations of the present study provide some directions for research. First, to counteract the problem of generalisability of the results obtained in this two-stage study, the study can be replicated in other states of Australia and in other sensitive industries other than the timber industry. For example, other highly sensitive industries include the chemical and mining industries. Consideration could also be given to replicating the study in other environments as a basis for assessing cross-country generalisability.

Second, to overcome the limitation of examining social disclosure solely in the annual report with press media reporting, other mediums of communication such as flyers and annual general meetings could be included in the voluntary social disclosure and other media reporting, for example, television and radio, considered together with press reporting. Analyses could be undertaken both separately and in combination of different forms of communication and media reporting as a basis for considering the total and marginal contribution of each form of media reporting on each form of social disclosure. Further, by including different industries the impact of alternative mediums of communication and media on different industries can be assessed.

Third, press media characteristics and their weighting in an index of press media importance. The perception of important press media characteristics and their relevant weighting could be assessed by constructing a questionnaire and mailing it to either company specific directors or to directors of companies in a specific industry. The results

could then be used as the basis for the construction of an index to be used as the independent variable in the second stage of a study or in a further study.

Fourth, and closely related to the third, the reason for social disclosures could be explored using a case study questionnaire approach. A questionnaire could be used to ask directors the reason for disclosing each of the stated social disclosure items in their annual report as well as the reason for few disclosures or non-disclosure of items in certain areas in the annual report. This would assist in overcoming an inherent limitation of empirical research which is to assume reason(s) based on measures of association.

Fifth, alternative media time lags more recent to those used in the present study can be explored. For example, press media articles in the latter half of the financial year can be correlated with disclosures in the annual report. This six-month period can be progressively reduced and correlated in the form of a sensitivity analysis. It could even be extended to include early months in the new financial year prior to the date of the signing of the annual report.

Sixth, consideration could be given to an examination of alternative theories to the research issue, for example, issue life cycle theory and/or stakeholder theory. These alternative theories could be examined independently of legitimacy theory so as to enable a comparison of the explanatory power of each theory.

Finally, a considerably larger sample than that used in the present study would permit a more rigorous statistical analysis than using non-parametric statistics. An example, of more rigorous statistical method would include partial least-squares regression. Partial Least-squares regression would enable an analysis of possible interaction of press media characteristics and their direction in a predictive model of voluntary social disclosure in the annual report.

In conclusion, the results of this study suggest that while there was some evidence on the impact of the press media on social disclosure in the annual report, overall, it was not statistically significant. Consequently, the press media did not qualify to be used as a single measure of social disclosure in this instance. This conflicting result with prior research emphasises the need for further replication and refinement into the impact of the media on disclosure. The directions for further research indicated here may provide useful results in this challenging and complex area of research.

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**APPENDIX A: Human Research Ethics Committee Letter**

12<sup>th</sup> October 2000

**Human Research Ethics Committee**

Mr Theo Christopher  
School of Accounting  
Churchlands Campus

Dear Mr Christopher

**Code:** 00-148  
**Project Title:** *Corporate Social Disclosure in the Timber Industry in WA 1989-98: A Test of Legitimacy Theory and Media Agenda Setting Theory*

This project was reviewed by the Human Research Ethics Committee at its meeting on the 6<sup>th</sup> October 2000.

I am pleased to advise that the proposal complies with the provisions contained in the University's policy for the conduct of ethical research, and your application for ethics clearance has been approved.

Period of approval: **From** 9<sup>th</sup> October 2000 **To** 31<sup>st</sup> December 2000

Please note that this approval is subject to the following statement being added to the bottom of your disclosure statement.

"If you have any complaint regarding the manner in which the project is conducted you may contact me at the above address or, alternatively, the Executive Officer, Human Research Ethics Committee at Edith Cowan University (telephone number 9273 8170)"

Also note that your research proposal must be approved by the Research Students and Scholarships Committee before you commence any data collection. The Graduate School will inform you in writing as soon as your research proposal has been accepted.

Yours sincerely

  
**ROD CROTHERS**  
Executive Officer

**Attachment: Conditions of Approval**

cc: Professor G Munroe, Supervisor  
Ms C Ledwith, Higher Degrees Co-ordinator  
Mrs Karen Leckie, Executive Officer, Graduate School



## **CONFIDENTIAL**

The attached questionnaire is part of a doctoral program that I am currently undertaking in the School of Accounting at Edith Cowan University. The study examines the influence of the media on voluntary disclosure in annual financial reports. It extends prior research that I undertook that was published in *Accountability and Performance*, *The International Journal of Accounting and Business Society*, *Issues in Business and Government*, and *Small Enterprise Research: The Journal of SEANZ*.

**No personal information or company name or details is requested of respondents.**

This questionnaire has three sections and contains 24 questions that require either a tick in a box or the circling of a number. There are no written answers.

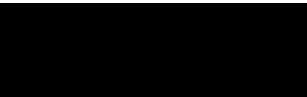
Section I has four questions that ask about the media and members of a Board of Directors.

Section II has five parts, each with three questions that ask about voluntary disclosure in the annual report of a company.

Section III has five questions that ask about the importance of selected Australian newspaper reporting of a company.

The questionnaire should take approximately 15 minutes to complete and can be returned in the pre-paid envelope provided. The validity of the research project relies on your support and I thank you in advance for your cooperation in this regard.

Many thanks

  
Theo Christopher  
Senior Lecturer in Accounting  
Tel: 9273 8736  
Email: T.Christopher@ecu.edu.au

  
Professor Gary Monroe  
Head of School, Supervisor  
Tel: 9273 8728  
Email: G.Monroe@ecu.edu.au

“If you have any complaint regarding the manner in which the project is conducted you may contact me at the above address or, alternatively, the Executive Officer, Human Research Ethics Committee at Edith Cowan University (telephone number 9273 8170)”.



# Edith Cowan University

## School of Accounting

### SECTION I: PRESS

This section consists of four questions. The questions are 'general' type questions concerning the influence of the press on a Board of Directors. For these questions circle one of the numbers between 1 (Strongly Agree) and 5 (Strongly Disagree).

1. Press reporting on matters related to a company cannot be ignored by a Board of Directors.

1	2	3	4	5
Strongly				Strongly
Agree				Disagree

2. Members on the Board of Directors consider their activities are under scrutiny by the press.

1	2	3	4	5
Strongly				Strongly
Agree				Disagree

3. The likelihood of press reporting on company matters impacts on the way Boards of Directors communicate decisions.

1	2	3	4	5
Strongly				Strongly
Agree				Disagree

4. Disclosure in an annual report can be a consequence of press reporting.

1	2	3	4	5
Strongly				Strongly
Agree				Disagree

## SECTION II: VOLUNTARY DISCLOSURE

This section consists of five parts, (a) to (e), each part is related to an aspect of 'voluntary' disclosure in the annual report of a company. Voluntary disclosure is defined as any disclosure of monetary, non-monetary, quantitative, or non-quantitative information about activities of a company that is not required by any form of legislation or accounting standard. The three (3) questions in each of parts (a) to (e) are identical.

### Part (a) Human Resources

Questions 5 to 7 are questions concerning reasons for voluntary disclosure of 'Human Resources' information in an annual report of a company. Some examples of 'Human Resources' relate to disclosure about employee health and safety, employment of minorities or women, employee training, and employee assistance and benefits. For these questions circle one of the numbers between 1 (Strongly Agree) and 5 (Strongly Disagree) from your point of view as a member of a Board of Directors.

5. The disclosure of human resources related information in the annual report of a company is a consequence of press attention.

1	2	3	4	5
Strongly Agree				Strongly Disagree

6. The inclusion of human resources related information in the annual report of a company influences the public's perception of that issue.

1	2	3	4	5
Strongly Agree				Strongly Disagree

7. Human resources related information is disclosed in the annual report of a company to show the company is responsive to public expectations.

1	2	3	4	5
Strongly Agree				Strongly Disagree

## Part (b) Environmental

Questions 8 to 10 are questions concerning reasons for voluntary disclosure of 'Environmental' related information in an annual report of a company. Some examples of 'Environmental' relate to disclosure about pollution control, conservation of resources, preventing waste, wildlife conservation, receiving an environmental award, and using recycled materials. For these questions circle one of the numbers between 1 (Strongly Agree) and 5 (Strongly Disagree) from your point of view as a member of a Board of Directors.

8. The disclosure of environmental related information in the annual report of a company is a consequence of press attention.

1	2	3	4	5
Strongly Agree				Strongly Disagree

9. The inclusion of environmental related information in the annual report of a company influences the public's perception of that issue.

1	2	3	4	5
Strongly Agree				Strongly Disagree

10. Environmental related information is disclosed in the annual report of a company to show the company is responsive to public expectations.

1	2	3	4	5
Strongly Agree				Strongly Disagree

**Part (c) Energy**

Questions 11 to 13 are questions concerning reasons for voluntary disclosure of ‘Energy’ related information in an annual report of a company. Some examples of ‘Energy’ relate to disclosure about conservation of energy, utilising waste materials for energy production, energy savings, receiving an award for an energy conservation programme, and energy policies. For these questions circle one of the numbers between 1 (Strongly Agree) and 5 (Strongly Disagree) from your point of view as a member of a Board of Directors.

11. The disclosure of energy related information in the annual report of a company is a consequence of press attention.

1	2	3	4	5
Strongly Agree				Strongly Disagree

12. The inclusion of energy related information in the annual report of a company influences the public’s perception of that issue.

1	2	3	4	5
Strongly Agree				Strongly Disagree

13. Energy related information is disclosed in the annual report of a company to show the company is responsive to public expectations.

1	2	3	4	5
Strongly Agree				Strongly Disagree

**Part (d) Community**

Questions 14 to 16 are questions concerning reasons for voluntary disclosure of ‘Community’ related information in an annual report of a company. Some examples of ‘Community’ relate to disclosure about donations to support community activities, summer or part-time employment of students, aiding medical research, and supporting the development of local industries. For these questions circle one of the numbers between 1 (Strongly Agree) and 5 (Strongly Disagree) from your point of view as a member of a Board of Directors.

14. The disclosure of community related information in the annual report of a company is a consequence of press attention.

1	2	3	4	5
Strongly Agree				Strongly Disagree

15. The inclusion of community related information in the annual report of a company influences the public’s perception of that issue.

1	2	3	4	5
Strongly Agree				Strongly Disagree

16. Community related information is disclosed in the annual report of a company to -show the company is responsive to public expectations.

1	2	3	4	5
Strongly Agree				Strongly Disagree

**Part (e) Other Disclosure**

Questions 17 to 19 are questions concerning reasons for voluntary disclosure of ‘Other’ information in an annual report of a company. Some examples of ‘Other’ relate to disclosure about corporate objectives/policies relating to the social responsibility of the company to the various segments of society, and disclosure to groups in society other than shareholders and employees, for example, consumers. For these questions circle one of the numbers between 1 (Strongly Agree) and 5 (Strongly Disagree) from your point of view as a member of a Board of Directors.

17. The disclosure of corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees in the annual report is a consequence of press attention.

1	2	3	4	5
Strongly Agree				Strongly Disagree

18. The inclusion of corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees in the annual report of a company influences the public’s perception of that issue.

1	2	3	4	5
Strongly Agree				Strongly Disagree

19. Corporate social objectives/policies and/or reporting to groups in society other than shareholders and employees related information is disclosed in the annual report of a company to show the company is responsive to public expectations.

1	2	3	4	5
Strongly Agree				Strongly Disagree

**SECTION III: NEWSPAPERS**

Questions 20 to 24 contain a number of Australian newspapers. If you are familiar with a newspaper please rate them in terms of the importance a member of a Board of Directors would attach to each paper in respect of ‘adverse’ reporting on Human Resources, Environmental, Energy, Community, and Other disclosure – the types of disclosure defined in the previous section.

For each of the seven newspapers in each question follow this procedure. If you are not familiar with a newspaper then tick the box in the column and proceed to the next newspaper. If you are familiar with a newspaper do not mark the box in the column but circle a number between 1 (Not Important) and 5 (Very Important).

**20. Human Resources**

	Not Familiar	Not Important				Very Important
Sydney Morning Herald	<input type="checkbox"/>	1	2	3	4	5
The Advertiser	<input type="checkbox"/>	1	2	3	4	5
The Age	<input type="checkbox"/>	1	2	3	4	5
The Australian	<input type="checkbox"/>	1	2	3	4	5
The Australian Financial Review	<input type="checkbox"/>	1	2	3	4	5
The Courier Mail	<input type="checkbox"/>	1	2	3	4	5
The West Australian	<input type="checkbox"/>	1	2	3	4	5

**21. Environmental**

	Not Familiar	Not Important				Very Important
Sydney Morning Herald	<input type="checkbox"/>	1	2	3	4	5
The Advertiser	<input type="checkbox"/>	1	2	3	4	5
The Age	<input type="checkbox"/>	1	2	3	4	5
The Australian	<input type="checkbox"/>	1	2	3	4	5
The Australian Financial Review	<input type="checkbox"/>	1	2	3	4	5
The Courier Mail	<input type="checkbox"/>	1	2	3	4	5
The West Australian	<input type="checkbox"/>	1	2	3	4	5

**22. Energy**

	Not Familiar	Not Important				Very Important
Sydney Morning Herald	<input type="checkbox"/>	1	2	3	4	5
The Advertiser	<input type="checkbox"/>	1	2	3	4	5
The Age	<input type="checkbox"/>	1	2	3	4	5
The Australian	<input type="checkbox"/>	1	2	3	4	5
The Australian Financial Review	<input type="checkbox"/>	1	2	3	4	5
The Courier Mail	<input type="checkbox"/>	1	2	3	4	5
The West Australian	<input type="checkbox"/>	1	2	3	4	5

**23. Community Related**

	Not Familiar	Not Important				Very Important
Sydney Morning Herald	<input type="checkbox"/>	1	2	3	4	5
The Advertiser	<input type="checkbox"/>	1	2	3	4	5
The Age	<input type="checkbox"/>	1	2	3	4	5
The Australian	<input type="checkbox"/>	1	2	3	4	5
The Australian Financial Review	<input type="checkbox"/>	1	2	3	4	5
The Courier Mail	<input type="checkbox"/>	1	2	3	4	5
The West Australian	<input type="checkbox"/>	1	2	3	4	5

**24. Other**

	Not Familiar	Not Important				Very Important
Sydney Morning Herald	<input type="checkbox"/>	1	2	3	4	5
The Advertiser	<input type="checkbox"/>	1	2	3	4	5
The Age	<input type="checkbox"/>	1	2	3	4	5
The Australian	<input type="checkbox"/>	1	2	3	4	5
The Australian Financial Review	<input type="checkbox"/>	1	2	3	4	5
The Courier Mail	<input type="checkbox"/>	1	2	3	4	5
The West Australian	<input type="checkbox"/>	1	2	3	4	5

**THANK YOU VERY MUCH FOR YOUR TIME AND COOPERATION**

## APPENDIX C

### Descriptive Statistics

DESCRIPTION	TPAR*		TAR**		TUMA***		TMA****	
Total Disclosure:	Wh#	BW!	Wh	BW	Wh	BW	Wh	BW
Total	109	416	185	546	48	133	68	215
Maximum	21	69	36	84	20	34	22	45
Minimum	4	13	5	22	0	3	1	61
Mean	10.9	41.6	18.5	54.6	4.8	13.3	6.8	21.5
Total Categories:+								
Environment	9	83	9	83	20	90	27	114
Energy	0	0	0	0	0	0	0	0
Human Resource	95	229	169	355	28	42	39	59
Community Involvement	0	23	0	23	0	0	0	40
Other	5	81	7	85	0	1	2	2
Total	109	416	185	546	48	133	68	215
Maximum	95	229	169	355	28	90	39	114
Minimum	0	0	0	0	0	0	0	0
Mean	10.1	41.6	18.5	54.6	4.8	13.3	6.8	21.5
Environment:								
Total	9	83	9	83	20	90	27	114
Maximum	4	30	4	30	12	26	13	28
Minimum	0	1	0	1	0	2	0	5
Mean	0.9	8.3	0.9	8.3	1.9	9.0	2.7	11.4
Human Resource:								
Total	95	229	169	355	28	42	39	59
Maximum	21	33	36	62	9	15	12	18
Minimum	0	4	3	13	0	0	0	1
Mean	9.5	22.9	16.9	35.5	2.8	4.2	3.9	5.9
Community Involvement:								
Total	0	23	0	23	0	0	0	40
Maximum	0	5	0	5	0	0	0	9
Minimum	0	0	0	0	0	0	0	0
Mean	0	2.3	0	2.3	0	0	0	4.0

\* Total positive annual report disclosure

\*\* Total annual report disclosure

\*\*\* Total Unfavourable media articles

\*\*\*\* Total media articles

# Whittakers Limited

! Bunnings Limited & Wesfarmers Limited combined

+ See Page 228, Footnote 24 first line, for explanation as to why the sum of the sub-categories of a category may not equal a category

## APPENDIX C (Continued)

### Descriptive Statistics

DESCRIPTION	TPAR		TAR		TUMA		TMA	
Other:	Wh	BW	Wh	BW	Wh	BW	Wh	BW
Total	5	81	7	85	0	1	2	2
Maximum	3	15	3	15	0	1	1	2
Minimum	0	2	0	2	0	0	0	0
Mean	0.5	8.1	0.7	8.5	0.0	0.10	0.2	0.2
Environment - Conservation:								
Total	3	7	3	7	18	81	21	96
Maximum	2	7	2	7	12	26	12	28
Minimum	0	0	0	0	0	2	0	2
Mean	0.3	0.7	0.3	0.7	1.8	8.1	2.1	9.6
Environment – In Compliance:								
Total	0	19	0	19	0	0	0	1
Maximum	0	5	0	5	0	0	0	1
Minimum	0	0	0	0	0	0	0	0
Mean	0	10.9	0	1.9	0	0	0	0.1
Environment - Prevention:								
Total	0	27	0	27	0	0	0	1
Maximum	0	13	0	13	0	0	0	1
Minimum	0	0	0	0	0	0	0	0
Mean	0	2.7	0	2.7	0	0	0	0.1
Environment – Prevention of Waste:								
Total	0	13	0	13	0	8	0	11
Maximum	0	7	0	7	0	5	0	6
Minimum	0	0	0	0	0	0	0	0
Mean	0	1.3	0	1.3	0	0.8	0	0.1
HR – Employment of Minorities or Women								
Total	2	7	2	7	1	0	1	1
Maximum	2	3	2	3	1	0	1	1
Minimum	0	0	0	0	0	0	0	0
Mean	0.2	0.7	0.2	0.7	0.1	0	0.1	0.1

## APPENDIX C (Continued)

### Descriptive Statistics

DESCRIPTION	TPAR		TAR		TUMA		TMA	
HR – Employee Profile:	W	BW	W	BW	W	BW	W	BW
Total	9	0	10	0	0	0	1	0
Maximum	3	0	3	0	0	0	1	0
Minimum	0	0	0	0	0	0	0	0
Mean	0.9	0.0	1.0	0.0	0.0	0.0	0.1	0.0
HR – Employee Morale:								
Total	19	36	25	36	8	5	9	11
Maximum	7	6	7	6	5	3	5	4
Minimum	0	2	0	2	0	0	0	0
Mean	1.9	3.6	2.5	3.6	0.8	0.5	0.9	1.1
HR – Information on Reorganisation Affecting Staff								
Total	16	23	26	56	7	14	15	19
Maximum	10	10	19	15	5	6	6	7
Minimum	0	0	0	0	0	0	0	0
Mean	1.6	2.3	2.6	5.6	0.7	1.4	1.5	1.9
HR – Closing Down								
Total	0	6	21	27	9	16	8	16
Maximum	0	6	12	7	5	6	5	6
Minimum	0	0	0	0	0	0	0	0
Mean	0.0	0.6	2.1	2.7	0.9	1.6	0.8	1.6
HR – Employee Health and Safety								
Total	0	29	0	35	0	3	0	5
Maximum	0	7	0	8	0	2	0	3
Minimum	0	0	0	0	0	0	0	0
Mean	0.00	2.9	0	3.5	0.0	0.3	0.0	0.5
HR – Employee Training								
Total	0	26	0	26	0	0	0	2
Maximum	0	6	0	6	0	0	0	1
Minimum	0	0	0	0	0	0	0	0
Mean	0.00	2.6	0.00	2.6	0.0	0.00	0.0	0.2

**APPENDIX C (Continued)**

Descriptive Statistics

DESCRIPTION	TPAR		TAR		TUMA		TMA	
HR – Industrial Relations:	W	BW	W	BW	W	BW	W	BW
Total	0	12	0	12	0	4	0	5
Maximum	0	4	0	4	0	3	0	4
Minimum	0	0	0	0	0	0	0	0
Mean	0.00	1.2	0	1.2	0.0	0.4	0.0	0.5
Community - Donations:								
Total	0	13	0	13	0	0	0	32
Maximum	0	3	0	3	0	0	0	7
Minimum	0	0	0	0	0	0	0	0
Mean	0.0	1.3	0.0	1.3	0.0	0.0	0.0	3.2
Community – Other Special								
Total	0	3	0	6	0	0	0	5
Maximum	0	3	0	3	0	0	0	2
Minimum	0	0	0	0	0	0	0	0
Mean	0.0	0.3	0.0	0.6	0.0	0.0	0.0	0.5
Community – Customer Service								
Total	0	1	0	1	0	0	0	1
Maximum	0	1	0	1	0	0	0	1
Minimum	0	0	0	0	0	0	0	0
Mean	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1
Other – Corporate Objectives								
Total	5	77	7	64	0	0	2	1
Maximum	3	15	3	15	0	0	1	1
Minimum	0	2	0	1	0	0	0	0
Mean	0.5	7.7	0.7	6.4	0.0	0.0	0.2	0.1
Other - Other								
Total	0	4	0	7	0	1	0	1
Maximum	0	2	0	4	0	1	0	1
Minimum	0	0	0	0	0	0	0	0
Mean	0	0.4	0.0	0.7	0.0	0.1	0.0	0.1