The Impact of IFRS on Annual Report Length

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Abstract

The move to the NZ IFRS has been surrounded by complaints of too much information being provided. This is not simply a matter of the cost of providing the information, but the possibility of data overload. Data overload is an important issue as it impacts information search strategies and decision outcomes. This is relevant for assessing whether the NZ IFRS has achieved its goals of reducing the cost of financial analysis. This paper develops a model of information processing capacity and then examines the impact of the move to international financial reporting by New Zealand listed entities on the quantity of data provided in their annual reports. Our analysis shows that the annual report length increased for 92% of our sample firms. The average increase in size was 29% above the prior years' annual report and arose through notes to the accounts and accounting policies. Even after transitional information (e.g. accounting policies and reconciliations) the increase was 15%.

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Introduction

"The other major gripe with IFRS was the sheer volume of disclosures required…" (Hall 2009). This quote is typical of anecdotal claims by practitioners that the move to the International Financial Reporting Standards (IFRS) has substantially increased the size of the annual report. Studies that report the on the potential impact of NZ IFRS (e.g. Dunstan 2002; Ernst & Young 2004) have ignored the impact of financial report length and the potential information overload as a cost of moving to the NZ IFRS. Thus the possibility of information overload is an important issue when considering whether the benefits of adopting IFRS have been achieved.

This paper has two objectives. The first is to raise the issue of information overload and its affect on the reporting and understanding of financial statements. This is important because the efficient market hypothesis implies that 'more disclosure' is the solution to information asymmetry in capital markets (Beaver 1973). On the other hand, psychology-based literature acknowledges that information overload impacts information processing strategies and decision outcomes (Eppler & Mengis 2004). To meet this objective we develop a theoretical model of information processing capacity. This model distinguishes between information characteristics and the information environment. Standard setters-only have responsibility for information characteristics (i.e. readability and information load). Given the considerable literature on the readability of annual reports, the second objective of this paper addresses information load.

To meet our second objective we provide empirical evidence on the anecdotal claims of increased report length under the NZ IFRS. We measure the change in the length of annual reports in the years surrounding the implementation of IFRS. We classify the major reasons for the change in disclosure and ask if other (non-financial statement) disclosures are reduced as a result of IFRS. Report length is a major element in assessing whether information overload is a potential issue under NZ IFRS. We find that 92% of our sample had annual reports which increased in length. This increase is due solely to an increase in the financials section (i.e. the financial statements and notes) of the annual report. The median increase from the previous year was 24%. Most of the increase arises from the notes to the accounts. We also find that firms beyond the transition phase of the NZ IFRS increase report size by 9%.

In the next section we discuss the literature on information processing capacity and information load. The following section provides an empirical analysis of the change in length of annual reports. The final section is a discussion.

Information Processing and Information Load

The semi-strong form of the *Efficient Market Hypothesis* (EMH) holds that market prices fully reflect all publicly available information (Fama 1970). One of the main implications of market efficiency for financial reporting is simply to provide more disclosure (Beaver 1973).[2] However, there is increasing dissatisfaction with the EMH due to evidence of pricing anomalies. For example, the post-announcement-drift anomaly arises when prices drift after the market has had the opportunity to react to

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[2] Beaver (1973) was perceptive enough to suggest that future research ought to examine the behavioural impact of accounting data on individual investors, as opposed to the impact on aggregate prices.

information (e.g. Bernard & Thomas 1990). Sloan (1996) provides evidence that prices over-react to the transitory accrual component of earnings. Hand (1990) finds a market reaction to a component of earnings that reflects previously announced information (with regard to a debt-equity swap). Furthermore, the experimental literature that shows that displaying financial information is important. For example, the manner of presenting comprehensive income influences investors' information processing and resulting judgements (Hirst & Hopkins 1998; Maines & McDaniel 2000; Hunton, Libby & Mazza 2006).

Bloomfield (2002) provides a rationale for some of the observed anomalies in the EMH. He develops an *Incomplete Revelation Hypothesis* (IRH). The IRH suggests that "statistics" (i.e. useful facts extracted from financial statements such as earnings and financial ratios) that are more costly to extract result in less trading interest and are therefore less completely revealed by market prices. The market anomalies (i.e. information not being fully absorbed into prices) observed by Sloan (1996), Hand (1990), Bernard and Thomas (1990) and others can be explained by the cost of information extraction. The IRH does not imply that investors are irrational, but that the cost of extracting information not impounded in prices will not generate sufficient profits. Hence information processing capacity is an important factor in the efficient functioning of capital markets.

Figure 1 is a conceptual view of information processing capacity. The underlying demand for information arises from the requirements of the decision task (i.e. whether the task is simple or complex). Figure 1 indicates that information processing capacity is affected by characteristics of the information, such as readability and the information load (Tuttle & Burton 1999), and environmental factors such as the ability (capacity) of the decision maker (Eppler & Mengis 2004) and time constraints. Figure 1 also indicates that analysis can be motivated (by incentives) to adopt processing strategies that limit the impact of cognitive processing limits.

Readability of the information is an important consideration in information processing. Several studies analyse the readability of annual report disclosures using formulas (see the review by Jones & Shoemaker 1994). The consensus is that the readability of annual report disclosures is 'poor' (Schroeder & Gibson 1990) or ranges from 'difficult to very difficult' (Worthington 1978; Courtis 1986).

Information load also has an important impact on processing. Schroder, Driver & Struefert (1967) consider that task performance improves as the amount of information expands. However, as the amount of information exceeds the decision maker's capacity to process it, performance eventually declines. Information overload arises when the supply of information exceeds the individual's capacity to process information within the available time (Snowball 1980; Schick, Gordon & Haka 1990). The Schroder, Driver & Struefert (1967) model is important, because it is the accountants who prepare reports that determine how much information is presented and, therefore, used by decision makers (Tuttle & Burton 1999). Several studies examine decision performance under differing levels of accounting information (Casey 1980; Snowball 1980; Shields 1983; Iselin 1988; Chewning & Harrell 1990).[3] The information load in these studies is manipulated by varying the level of aggregated data: by not including the notes to the financial statements; and by diversifying the amount of information presented.

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[3] Casey (1980) summarises the empirical and non-empirical research over the period 1961-1975.

Information overload has consequences for processing strategies and decision outcomes. Research on how individuals cope with information overload is limited. A few studies have focussed on information search and on retrieval strategies. In dealing with the stress of information overload, research suggests an ordered response: (1) acceleration; (2) filtration; and (3) changing the decision model. Without time constraints individuals spend more total time to make decisions relative to those with lower information loads (Casey 1980). Even without time constraints individuals often self-impose time limits on tasks. Accelerating the rate at which information is processed is the simplest form of coping with information overload, but the most difficult to sustain. Research into human processing indicates that individuals can only process about six or seven chunks of information at one time (Chewning & Harrell 1990). Filtration consists of processing the information that is perceived to be most important and filtering out that which is less important. High information loads also lead to the adoption of a less cognitively demanding decision model.

The ordered response to information overload suggests that differences in decision outcomes may occur depending on the chosen coping strategy. In general, research shows that information overload results in lower decision quality (e.g. Chewning & Harrell 1990; Stocks & Harrell 1995; Stocks & Tuttle 1998; Tuttle & Burton 1999).

In the following empirical analysis we focus on the impact of IFRS on information characteristics (rather than on the decision makers' environment) because these factors are more likely to be important to accounting policy makers. We focus on information load rather than readability. There is sufficient literature to show that the readability of annual reports is poor.[4] Hence, we focus on report length, because, although there are anecdotal claims of increased report length under IFRS, there is no systematic evidence on the source of this increase in report length.

Empirical Analysis of Annual Report Length

Data

The population for sampling was all (170) firms listed on the New Zealand Stock Exchange as at 31 March 2009. An interval sampling method was used, with a randomly chosen starting point. Firms were discarded for several reasons. First, we excluded finance companies, banks, or insurance companies as they have prudential supervision requirements and additional industry standards under the NZ IFRS which are likely to impact the level of disclosures. Second, we excluded firms not reporting under the NZ IFRS (e.g. those reporting under Australian equivalents to IFRS). Third, we excluded trusts as these have a different ownership and governance structure to other listed firms, and this is known to influence financial reporting. When a firm was discarded the next firm on the NZ Stock Exchange list was sampled.

The mandatory date for the NZ IFRS adoption was for periods beginning 1 January 2007.[5] For sampled firms the annual reports for 2007 and 2008 were either downloaded from the entity's website or from the Companies Office website

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[4] It is difficult to imagine that IFRS has improved the readability of annual reports, when it has introduced standards on accounting topics such as financial instruments and share-based payments.

[5] Firms were allowed to early adopt the NZ IFRS from 2005. Early adopters were identified against a list of 48 firms obtained from the Investment Research Group website.

(www.companies.govt.nz). However, it was expected that our sample would include early adopters of NZ IFRS. Late adopters provide evidence on the transition to the NZ IFRS (i.e. 2007 is pre-IFRS and 2008 is IFRS), whereas early adopters provide an interesting control group of firms that have passed the transition year and are continuing under the NZ IFRS. The sampling procedures resulted in a total of 38 firms comprising 12 early adopters and 26 late adopters.

Data are collected from the annual reports by counting the number of pages or part-pages to selected topics. We use page size, rather than sentence counts, because the data analysed contains tables as well as text. Furthermore, while measurement in sentences may be carried out with greater accuracy than measurement in proportions of a page, the former is likely to give less relevant results than the latter (Unerman 2000). The authors independently coded one company's annual report and then compared the results. This comparison and discussion formed the basis for the procedures to be followed. Annual report pages were analysed into fractions of pages: halves, thirds, quarters and eighths were used.[6] One author collected data for the entire sample while the other independently test checked 10% of the sample observations. As a numerical control, all individual sections were added and checked against the total number of pages in the document.

To measure the relative change length of the annual report we estimate the following statistic: relative change = (length of section in year *t* less length of section in year *t-1*) / total annual report length in year *t-1*.[7]

Results

Annual Report Length

In Table 1, Panel A we report the percentage of firms which increase, decrease or have no change in their annual report length. We also report the distribution of annual report length (page) for each year (2007 and 2008) analysed by late adopters (Panel B) and early adopters (Panel C).

As seen in Panel A, 77% of late adopters increased their annual report size, compared to 75% of early adopters. Recall that late adopters reflect the transition to IFRS, while early adopters reflect continuing IFRS obligations. This explains the higher proportion of no change firms (17%) in the early adopters. Unexpectedly, given anecdotal claims, more late adopters actually decrease the annual report (19%) than early adopters (8%).

In Panel B, the median (mean) annual report for late adopters increased from 53 (60) pages to 71 (76) pages. In Panel C, it can be seen that a large number of early adopters also increased their report length from median 63 pages to 72 pages). The means and medians in Table 1 indicate that the data are right skewed. Hence, non-parametric statistics are appropriate. In Panel D we report the results of a Wilcoxon matched pair test. The results show that the difference in annual report length between 2007 and 2008 is statistically different from zero (at the 0.01 level) for both late and early adopters.

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[6] The fineness of the page fraction recorded is a trade-off between capturing the appropriate level of detail and estimation reliability. The authors were reluctant to use a finer fraction than 1/8th of a page. Non-financial statement report pages only required counting in whole or half pages.

[7] We considered scaling the section change in *t* by the length of the section in *t-1*. However, in several cases the length in the section in *t-1* is zero.

In the untabulated results we compare the difference between early and late adopters of IFRS. The difference in report length between early and late adopters is not significantly different from zero (at conventional levels) in either year. We also examine whether the change in annual report length is related to firm characteristics. The change in report length is not related to firm size, leverage or profitability.

Overall, these results suggest that both the move to the NZ IFRS and the continuing requirements have increased annual report size across a wide range of listed firms. However, unexpectedly, a large number of late adopters (19%) reduced their annual report length.

Table 1

A comparison of annual report length for late adopters (N=26)
and early adopters (N=12)

	Late adopters	Early adopters
Panel A: Summary change in report length (percentage of firms)		
Increase	77%	75%
Decrease	19%	8%
No change	4%	17%
	2007	2008
Panel B: Late adopters (annual report pages)		
Mean	60	76
Std Dev	25	30
Minimum	28	40
Median	53	71
Maximum	122	138
Panel C: Early adopters (annual report pages)		
Mean	69	79
Std Dev	23	31
Minimum	40	44
Median	63	72
Maximum	111	153
Panel D: Is the change significant? (Wilcoxon matched pair test)		
Z statistic	3.775	2.727
p-value (2-tailed)	0.000	0.006

Annual Report Components

We analyse the relative change in the annual report for three major components: (1) financials (the major statements and notes); (2) non-financials (management commentary, audit reports and directory information); and (3) other (non-content items such as title pages, blank pages and pictures). The untabulated results show that the relative change (increase) in the financials component was

statistically significant, while changes in the other two components are not statistically different. Hence, it is only the financial statements that are driving the changes (on average increase) in annual report length observed in Table 1.

Table 2 reports the change in financials section of the annual report analysed by components: (1) the four major statements (balance sheet, income statement, movement in equity, cash flow statement); (2) accounting policies; and (3) notes. In Panel A we report the increase, decrease and no change, and in Panel B we report descriptive statistics of the relative change measure. The results of statistical tests of whether the change in relative report length is significant and whether there is a difference between late and early adopters is reported in Panel C.

As seen in Table 2, Panel A, the financials section of the annual report increases for 92% of firms and decreases for 8%. The median (mean) relative increase on last year's annual report is 24% (22.4%). In Panel B, the change in the length of the financials section ranges from -16% to +67%. That is, for at least one firm the financial section of the annual report increased by two-thirds. Panel C shows that the relative increase is statistically significant at the 0.01 level. All of the components of the financials have increased. Panel B shows that the largest (median) increase is in the notes to the accounts (10.9%), followed by accounting policies (10.3%) and the statements (0.5%). These increases are statistically significant at the 0.01 level. The increase in annual report length is greater for late adopters than early adopters and it is statistically significant at conventional levels.

Table 2

An analysis of the change in the length of the financials section of annual reports for the total sample (N=38) by component

		Components		
	Major Statements	Accounting Policies		Notes
Panel A: Summary of change (percentage of firms)				
Increase	92%	74%	92%	84%
Decrease	8%	16%	8%	16%
No change	0%	11%	0%	0%
Panel B: Relative change				
Mean	0.224	0.008	0.098	0.117
Std Dev	0.196	0.014	0.066	0.133
Minimum	-0.160	-0.023	-0.034	-0.104
Median	0.240	0.005	0.103	0.109
Maximum	0.670	0.047	0.250	0.470
Panel C: Statistical tests				
Is the change significant? (Wilcoxon matched pair test)				
Z statistic	5.040	3.781	5.228	4.576
p-value	0.000	0.000	0.000	0.000
Are late adopters different from early adopters? (Mann Whitney test)				
Z statistic	3.046	2.859	2.292	3.423
p-value	0.002	0.004	0.022	0.001

Financials Components

We provide further analysis of the change in the length of the financials section. Table 3 analyses the impact of the NZ IFRS on each accounting statement and the accounting policies. Panels A and B report the percentage increase, decrease and no change for the late and early adopters respectively. Panel C reports descriptive statistics on relative changes and Panel D reports the results of the statistical tests. Table 4 examines the impact on the notes to the financial statements. Panels A and B report the percentage increase, decrease and no change for the late and early adopters respectively.

For the late adopters (i.e. the IFRS transition effect) the change in the length of the balance sheet and cash flow statement is not statistically significant at conventional levels. There are small (but significant) increases to the income statement and comprehensive income statement (statement of changes in equity or statement of recognised income and expense). The NZ IFRS requires more items to be shown on the face of the balance sheet (*IAS 1.68*) and the income statement (*IAS 1.81*) than under the previous Generally Accepted Accounting Practice (GAAP) (pre-IFRS). The norm under GAAP was to have a simple income statement with more details in the notes.

For the change in accounting policy components, we analysed separately 'IFRS transition' and 'critical estimates', as these are new reporting requirements under IFRS. It became obvious during the analysis that 'financial instruments' was a major item of change. The 'general' column represents the residual impact on accounting policies after the changes in transition, critical estimates and financial instruments have been measured.

All components of accounting policy (general, IFRS transition, financial instruments and critical estimates) have significantly increased in length. For late adopters, the financial instrument accounting policy increased for 96% of the sample firms, and even general accounting policies increased for 81% of the sample firms (Table 3, Panel A). The IFRS transition policy note is relatively small. The critical estimates policy is a new feature under NZ IFRS (*IAS 1.116*). Perhaps surprisingly for 46% of firms there is no change for the accounting policy on critical estimates.

As to be expected, the early adopters have a larger percentage of no changes across all items in Table 3, Panel B. For early adopters, the only items to register statistically significant changes are increases in accounting policy notes in the general and financial instrument components. These items suggest the continuing effect of IFRS is both specific (to IFRS) and general.

In Table 4 we report the impact of the NZ IFRS on the notes to the financial statements. For late adopters (Panel A), tax and deferred tax (row 4) is the most common cause of increase (92% of firms). The requirement to report earnings per share (row 12) increased annual report length for 81% of firms. Earnings per share was not required to be reported under GAAP. However "other" balance sheet items (row 5) also increased for 81% of firms, indicating a general increasing trend. For late adopters, the total impact on notes to the accounts (row 1) is a median (mean) increase of 14% (16.1%). The range is from -10.4% to +47%. The median (mean) increase due to the IFRS reconciliation (row 17) is 4.5% (4.6%). Hence, if the IFRS reconciliation is a temporary reporting requirement, the transition to the NZ IFRS has resulted in a median 10% increase in the notes to the financial statements.

Table 3

An analysis of the change in the length of statements and accounting policies

	Statements					Accounting Policies			
	Income statement	Balance sheet	Comprehensive income	Cash flow statement		General	IFRS transition	Financial instruments	Critical estimates
Panel A: Late adopter: Summary change (% of firms)									
Increase	65%	19%	58%	19%		81%	54%	96%	46%
Decrease	4%	8%	8%	15%		19%	19%	0%	8%
No change	31%	73%	35%	65%		0%	27%	4%	46%
Panel B: Early adopter: Summary change (% of firms)									
Increase	25%	0%	33%	8%		75%	17%	100%	25%
Decrease	25%	0%	17%	17%		17%	8%	0%	25%
No change	50%	100%	50%	75%		8%	75%	0%	50%
Panel C: Relative change									
Mean	0.003	0.000	0.005	0.000		0.035	0.007	0.054	0.003
Std Dev	0.005	0.005	0.010	0.005		0.039	0.021	0.035	0.005
Minimum	-0.004	-0.024	-0.004	-0.017		-0.034	-0.018	0.000	-0.005
Median	0.002	0.000	0.000	0.000		0.025	0.000	0.048	0.000
Maximum	0.017	0.012	0.042	0.017		0.156	0.116	0.119	0.017
Panel D: Statistical tests									
Is the change significant? Late adopters (Wilcoxon matched pair test)									
Z statistic	3.835	1.030	3.341	0.241		3.797	2.248	4.445	2.819
p-value	0.000	0.302	0.001	0.810		0.000	0.025	0.000	0.005
Is the change significant? Early adopters (Wilcoxon matched pair test)									
Z statistic	0.127		0.888	-0.576		2.551	0.680		0.211
p-value	0.899		0.374	0.565		0.011	0.496		0.833
Are late adopters different from early adopters? (Mann Whitney test)									
Z statistic	2.674	0.836	0.052	0.594		2.261	0.914	0.47	1.86
p-value	0.008	0.403	0.692	0.545		0.024	0.361	0.574	0.063

Table 4
Panel A: Late adopters
An analysis of the change in the length of notes to the financial statements

	Relative change					Change (% firms)			Statistical tests	
	Mean	Standard Deviation	Minimum	Median	Maximum	Increase	Decrease	No change	Z statistic	p-value (2-tailed)
1. Total	0.161	0.137	-0.104	0.140	0.470	88%	12%	0%	4.178	0.000
2. Segments	0.005	0.018	-0.071	0.005	0.028	62%	15%	23%	2.712	0.007
3, Revenue and expense	0.006	0.017	-0.030	0.008	0.055	69%	27%	4%	1.867	0.062
4. Tax and deferred tax	0.015	0.012	-0.004	0.015	0.043	92%	8%	0%	4.280	0.000
5. Balance sheet (other)	0.027	0.031	-0.026	0.026	0.096	81%	19%	0%	3.543	0.000
6. Intangibles	0.012	0.012	-0.006	0.012	0.033	73%	8%	19%	3.853	0.000
7. Investments	-0.002	0.021	-0.066	0.000	0.040	38%	42%	19%	0.204	0.838
8. Borrowings	0.009	0.013	-0.003	0.003	0.047	58%	8%	35%	3.380	0.001
9. Equity and dividends	0.013	0.023	-0.019	0.009	0.085	69%	19%	12%	2.950	0.003
10. Cash flow reconciliation	0.000	0.004	-0.008	0.000	0.010	23%	31%	46%	0.604	0.546
11. Share based payments	0.010	0.015	0.000	0.000	0.044	35%	0%	65%	2.980	0.003
12. Earnings per share	0.007	0.006	-0.002	0.006	0.026	81%	8%	12%	4.120	0.000
13. Contingencies, commitments and leases	0.003	0.005	-0.007	0.003	0.015	69%	15%	15%	3.081	0.002
14. Related party	0.009	0.011	-0.012	0.006	0.042	73%	15%	12%	3.445	0.001
15. Events dafter balance date	0.000	0.007	-0.027	0.000	0.015	46%	35%	19%	0.549	0.583
16. Retirement plans	0.002	0.008	0.000	0.000	0.039	4%	0%	96%	1.000	0.317
17. IFRS reconciliation	0.046	0.041	-0.027	0.045	0.151	77%	12%	12%	3.928	0.000

Table 4
Panel B: Early adopters
An analysis of the change in the length of notes to the financial statements

	Relative change					Change (% of firms)			Statistical tests	
	Mean	Standard Deviation	Minimum	Median	Maximum	Increase	Decrease	No change	Z statistic	p-value (2-tailed)
1. Total	0.021	0.040	-0.044	0.014	0.110	75%	25%	0%	1.648	0.099
2. Segments	0.001	0.004	-0.008	0.000	0.008	42%	8%	50%	1.480	0.139
3. Revenue and expense	0.001	0.007	-0.010	0.000	0.016	25%	33%	42%	-0.123	0.902
4. Tax and deferred tax	-0.001	0.006	-0.012	0.000	0.008	33%	50%	17%	-0.669	0.503
5. Balance sheet (other)	0.002	0.014	-0.019	0.001	0.025	58%	42%	0%	0.549	0.583
6. Intangibles	0.002	0.004	-0.003	0.000	0.009	42%	17%	42%	1.435	0.151
7. Investments	0.008	0.020	-0.011	0.003	0.065	58%	33%	8%	1.295	0.195
8. Borrowings	0.003	0.006	-0.005	0.002	0.018	58%	8%	33%	2.088	0.037
9. Equity and dividends	0.004	0.016	-0.038	0.006	0.020	58%	17%	25%	1.586	0.113
10. Cash flow reconciliation	0.001	0.002	-0.002	0.000	0.006	17%	8%	75%	0.680	0.496
11. Share based payments	0.004	0.009	-0.001	0.000	0.030	33%	8%	58%	1.506	0.132
12. Earnings per share	0.001	0.003	-0.005	0.000	0.008	33%	17%	50%	0.804	0.422
13. Contingencies, commitments and leases	0.001	0.004	-0.007	0.001	0.008	50%	25%	25%	1.230	0.219
14. Related party	-0.001	0.009	-0.029	0.001	0.010	50%	25%	25%	0.952	0.341
15. Events after balance date	-0.001	0.002	-0.006	0.000	0.001	17%	50%	33%	-1.767	0.077
16. Retirement plans	0.000	0.000	0.000	0.000	0.000	0%	0%	100%		
17. IFRS reconciliation	-0.004	0.013	-0.046	0.000	0.000	0%	8%	92%		

For early adopters (Panel B, row 1) there is a median increase in report length of 1.4% (mean 2.1%). Overall this increase is weakly significant at the 0.10 level. Only borrowings (row 8) registered a significant increase (at the 0.05 level). This is likely to be due to the requirements of the NZ IFRS 7 *Financial Instrument Disclosures* which became operative on or after 1 January 2007, or which could be adopted earlier if the full NZ IFRS was adopted early.[8]

Discussion

Concerns over the psychological limitations of information processing and data expansion on accounting communication and understanding are not new (e.g. Fertakis 1969; Revsine 1970). Furthermore, some accounting jurisdictions acknowledge the impact of processing costs on disclosure by having a differential reporting regime. For example, *Framework for Differential Reporting* (ICANZ 2001, 3.3 (a)) acknowledges that financial reporting standards create costs (usually for the reporting entity) and benefits (usually for the users of financial reports).[9]

However, the *Conceptual Frameworks* of the IASB and Financial Accounting Standards Board have not developed a conceptual basis for disclosure or analysed the costs of disclosure. Hence, the first objective of this paper is to begin to develop an information processing capacity framework (Figure 1). This model distinguishes between information characteristics and the information environment decision.

Standard-setters are mainly focussed on information characteristics (i.e. readability and load). On the basis that there already exists evidence on the readability of financial statements, the second objective of this paper was to examine the area of information load. This is important because studies that consider the impact of adopting IFRS (e.g. Dunstan 2002), while acknowledging the cost to preparers of financial reports, do not explicitly consider the possible impact of information load. In reviewing whether the benefits to financial analysis under the NZ IFRS have been achieved (i.e. whether the cost of capital is lower), it seems reasonable to consider the negative effects of any potential information overload. Thus the second part of this study examines the annual report length surrounding the introduction of IFRS in New Zealand.

The results show that the increase in annual report size was due to the financials section of the report. The financials section increased for 92%(Table 2, Panel A) of our sample firms and decreased for 8%. (Table 2, Panel A) The median increase in financials section was 24% (Table 2, Panel B), which came mostly from increases in the notes to the accounts and accounting policies. IFRS reconciliations and accounting policies on transition accounted for nearly 5% (Table 4, Panels A and B) of this increase. These items are not required on a continuing basis. If these transitory items are eliminated, the results indicate nearly a 20% continuing increase in the annual report arising mostly from accounting policy and note disclosures under

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[8] Events after balance date significantly decreased for early adopters. Arguably this item could be removed from the analysis as it relates to (possibly random) events that might confound the analysis. Our preference is to report these in our analysis rather than eliminate them from the reader's view. However the impact is unlikely to alter the interpretation.

[9] The IASB issued *IFRS for Small and Medium-sized Entities* in July 2009. In June 2010, the Australian Accounting Standards Board established a reduced disclosure framework consisting of two tiers of reporting requirements for preparing general purpose financial statements.
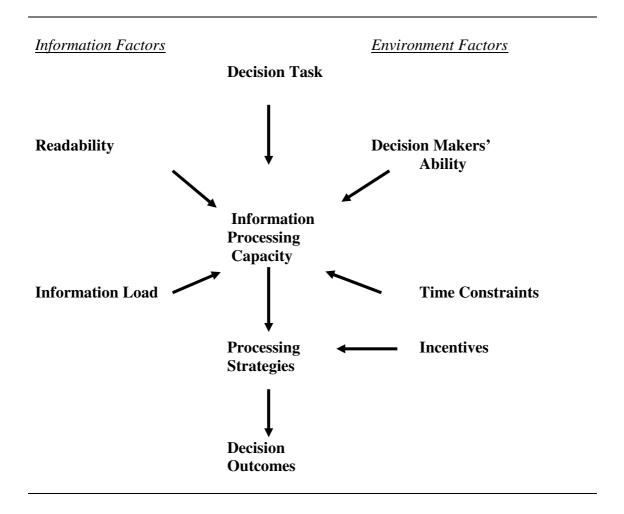
IFRS. The annual reports of firms continuing under the NZ IFRS (i.e. the early adopters) have a median relative increase of 9%, mostly related to accounting policies.

When the decision to adopt IFRS was made in 2002, the Financial Reporting Standards Board (FRSB) and the Accounting Standards Review Board (ASRB) discontinued its previous harmonisation policy with Australian and international accounting standards. Had this policy continued, then it is likely that IAS 39, *Financial Instruments: Recognition and Measurement* and IFRS 2 *Share-based Payments* would have been adopted. Hence, it could be argued that these two standards are not strictly part of the adoption to IFRS or at least should be considered separately. These two accounting standards accounted for a median 4.8% increase in annual report for late adopters. Thus, even if IAS 39, IFRS 2 and the transition and reconciliation adjustments are discounted, the NZ IFRS reports have increased by 15% for adopting firms and 3% for firms continuing under the NZ IFRS.

In conclusion, the NZ IFRS has significantly increased information loads for the preparation, communication and understanding of financial statements. However, it should be noted that 19% of the sample reduced their annual report size, although only 8% decreased the financial statement section. This suggests that annual report narrative (e.g. management commentary) and financial disclosures are substitutes. This raises the question of whether increased requirements to report accounting numbers will drive out narrative interpretation.

The understandability of accounting information is a joint product of the decision maker's ability, the readability and amount (load) of information. The readability of accounting information is known to be poor (see Courtis 1986; Schroeder & Gibson 1990; Jones & Shoemaker 1994). This paper has provided evidence that the information load has significantly increased under IFRS. Future research needs to establish whether the increased information in IFRS annual reports (and financial instruments in particular) has increased the cost of analysis or resulted in better decisions. Figure 1 indicates that this will require specifying the decision context in which the information is used and holding the environmental factors constant.

Figure 1
Conceptual view of factors associated with information processing capacity

Information Factors   *Environment Factors*

Decision Task

Readability   **Decision Makers'**
                                                         Ability

                        Information
                        Processing
                        Capacity

Information Load   **Time Constraints**

                        Processing   ◄── **Incentives**
                        Strategies

                        Decision
                        Outcomes

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