THE RELATIVE INFORMATION CONTENT OF COMPLEMENTARY AND SUPPLEMENTARY NARRATIVE COMMENTARY IN UK INTERIM REPORTS

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ABSTRACT

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The Relative Information Content of Complementary and Supplementary Narrative
Commentary in UK Interim Reports

The main objective of the research is to investigate the relative information content of complementary and supplementary narrative commentaries in UK interim reports. The study also examines the relative importance of complementary and supplementary narrative attributes. The subsidiary objective of the study is to investigate incremental information content of complementary and supplementary narratives. The study used 309 interim reports of 103 companies for the years 2005 to 2007. The returns used were daily market adjusted cumulative abnormal returns ±5 days around the announcement of interim reports. The disclosure index method was used to capture complementary and supplementary information using disclosure variety (number of information items) and disclosure depth set of attributes (good news, amounts and comparison of current with past performance, reasons for performance and forward-looking). The control variables included financial performance measures of dividend yield, earnings per share and total assets. Event studies based multiple regression models were used to measure information content.

The findings in respect of the main objective indicate that supplementary narratives had higher but insignificant information content than complementary narratives for the model based on disclosure variety. However, when disclosure depth is used, complementary narratives have higher and significant relative information content than supplementary narratives. The results also show that complementary good news, complementary amounts and comparisons of current with past performance and complementary reasons for performance were associated with returns unlike their respective counterparts in supplementary narratives. Both complementary and supplementary forward-looking attributes were not associated with returns. The results of the subsidiary objective suggest that the disclosure variety model combining complementary and supplementary narratives when compared with the disclosure variety model having supplementary narratives does not have a significant difference. All

other incremental information content comparisons based on either disclosure variety or disclosure depth had significant differences. This study has a number of research and policy implications, especially after the 2007 subprime financial crisis.

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"God is the toughest taskmaster I have known. He tries you through and through. When you find your faith or your body is failing you, and you are sinking, He comes to your assistance. He proves to you that you must not lose your faith... I cannot recall a single instance when, at the eleventh hour, He has forsaken me." - Mahatma Ghandi

Honour to the Almighty God whose grace, guidance and favour account for all my life's achievements. I thank Him for all the people I have met and will meet, for these people model me into a responsible global citizen.

"I am because we are, and therefore we are because I am." - Asante Proverb

This thesis is an enormous achievement towards my career ambition. The philosophy of my career is to develop into a highly qualified finance expert so that I can enhance global economic value through efficient and effective financial services.

I am grateful for the invaluable support from various people. My expression may not be compared to the vast sacrifices and unconditional help they provided. I hope that my dedication of this work to you is an acceptable gesture of my gratitude. The list of those who assisted is innumerable, however, there are people and organisations deserve my special recognition.

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DECLARATION

This thesis contains no material that has been accepted for the award of any other degree or diploma in any university or institution. To the best of my knowledge and belief, this thesis contains no material published or written by another person or group of persons, except where due reference is made in the thesis.

Martin Francis KYEYUNE

July 2010

LIST OF ACRONYMS

ACCA   Association of Chartered Certified Accountants

Adjusted R^2 Adjusted Squared Multiple Correlation

ADY   Annual Dividend Yield

AICPA   American Institute of Certified Public Accountants

AIMR – FAF   Association of Investment Management and Research – Financial
                     Analysts Federation

AIMR   Association of Investment Management and Research

AMEX   American Stock Exchange

ANOVA   Analysis of Variance

APB   Accounting Principles Board

API   Abnormal Performance Index

APT   Asset Pricing Theorem

ASB   Accounting Standards Board

ASC   Accounting Standards Committee

ASSC   Accounting Standards Steering Committee

BCCI   Bank of Credit and Commerce International

BoT   Board of Trade

CAC   Complementary Amounts and Comparison Attribute

CAPM   Capital Asset Pricing Model

CAR	Cumulative Abnormal Returns
CCAB	Consultative Committee of Accountancy Bodies
CFW	Complementary Forward-looking Attribute
CGD	Complementary Good News Attribute
CII	Complementary Number of Information Items Attribute
COM	Complementary Information Item
CRE	Complementary Reason for Performance Attribute
CVaR	Conditional Value at Risk
CXS	Interactive Variable between Complementary and Supplementary
DTI	Department of Trade and Industry
DTR	Disclosure and Transparency Rules
D-W Statistic	Durbin-Watson Statistic
EEC	European Economic Community
EMH	Efficient Market Hypothesis
EoS	End of Sequence
EPS	Earnings per Share
EU AMD	European Union Accounts Modernisation Directive
EU	European Union
F – ratio/F-statistic	Fisher statistic
FASB	Financial Accounting Standards Board

FRC	Financial Reporting Council
FRS	Financial Reporting Standards
FSA	Financial Services Authority
FT30	Financial Times Index for Top 30 LSE
FTSE All-Share	FTSE Index for All LSE Listed Companies
FTSE Small-Cap	FTSE Index for Non-FTSE350 LSE Listed Companies
FTSE	Financial Times and the London Stock Exchange
FTSE100	FTSE Index for Top 100
FTSE250	FTSE Index for the Next Top 250 LSE Listed Companies after FTSE100 Companies
FTSE350	FTSE Index Combining FTSE100 and FTSE250 Companies
FVE	Fundamental Valuation Efficiency
GAA	Global Accounting Alliance Limited
GAAP	Generally Accepted Accounting Principles
HMSO	Her Majesty's Stationery Office
HPS	LSE Historic Price Service
I/B/E/S	Institutional Brokers' Estimate System
IAE	Information Arbitrage Efficiency
IAS	International Accounting Standards
IASB	International Accounting Standards Board

IASC	International Accounting Standards Committee
ICAEW	Institute of Chartered Accountants in England and Wales
ICAI	Institute of Chartered Accountants of Ireland
ICAS	Institute of Chartered Accountants of Scotland
ICB	Industry Classification Benchmark
IES	Interim Earnings per Share
IFRS	International Financial Reporting Standards
IM	Market Adjusted Returns Model or Index Model
IRH	Incomplete Revelation Hypothesis
ITA	Firm Size by way of Total Assets
KALPHA	Macro for computing Krippendorff's Alpha Reliability Estimate
KPI	Key Performance Indicators
LIFFE	London International Financial Futures and Options Exchange
LSE	London Stock Exchange
MAR	Mean Adjusted Returns Model
MC	Market for Capital
MD&A	Management Discussion and Analysis
MI	Market for Information
ML	Market for Lemons
MM	Market Model

MPT	Modern Portfolio Theory
MR	Market for Regulation
n/a	Not Applicable
NYSE	New York Stock Exchange
OFR	Operating and Financial Review
OLS	Ordinary Least Square
ORH	Over Reaction Hypothesis
PMPT	Post Modern Portfolio Theory
PWC	PriceWaterhouseCoopers
R^2	Squared Multiple Correlation
RCE	Regulation Change Effect
RNS	London Stock Exchange Regulatory News Services
S&P500	Standard and Poor's 500 Index
SAC	Supplementary Amounts and Comparison Attribute
SbS	Step-by-Step
SCPE	Standardised Cumulative Prediction Error
SEC	United States of America Securities and Exchange Commission
SFW	Supplementary Forward -looking Attribute
SGD	Supplementary Good News Attribute
SII	Supplementary Number of Information Items Attribute

SPDR	Standard and Poor's 500 Depository Receipt
SPSS	Statistical Package for the Social Sciences
SRE	Supplementary Reason for Performance Attribute
SSAP	Statements of Standard Accounting Practice
SSAP	Statement of Standard Accountancy Practice
SUP	Supplementary Information Item
TIDM	Tradable Instrument Display Mnemonic
T-statistic/T-test	Test-Statistic
UIH	Uncertain Information Hypothesis
UK	United Kingdom
UKGAAP	UK Generally Accepted Accounting Principles
URM	Unadjusted Returns Model
US	United States of America
VaR	Value at Risk
VIF	Variance Inflation Factor

1 INTRODUCTION AND BACKGROUND TO THE RESEARCH

1.1 Introduction

Extant empirical evidence suggests that narrative information is useful for share pricing. For example, Amir and Lev (1996) found that on a stand-alone basis, financial statements information (earnings, book values and cash flows) is not useful for share valuation. However, narrative information (such as market growth and penetration) is highly relevant. Kanto and Schadewitz (2003) suggested that firms disclosing extensively provide firm-specific information but low disclosures compel investors to use less relevant market level information. They also found that investors perceived companies that provided more narratives as less risky but shareholders increased their risk premium for firms with less information. This reflects that the companies with more disclosures tend to reduce information asymmetry resulting from the agency relationship between investors and the management. Further, Lundholm and Myers (2002), show that disclosures beyond the financial statements are important for prediction of future earnings. Finally, Abrahamson and Amir (1996) provide evidence that narratives (in the president's letter) are used in share pricing because the interaction of narratives with financial statements makes the information useful to investors.

The preceding empirical evidence implies that narratives are incrementally (above financial statements) useful in share pricing decisions. Prior literature (e.g. Abrahamson and Amir 1996; Collins and Kothari 1989; Schadewitz et al. 2002) has provided reasons for this. First, narratives have the potential to inform shareholders on aspects influencing performance that cannot be expressed in financial statements figures. Second, figures fail to provide all necessary information for corporate valuation. For instance, Ball (1992) and Ball and Bartov (1996) found that the underlying value of earnings was not accurately captured by the market participants when a company did not provide earnings specific narrative, leading to under- or over-reaction by financial statements users. In a related manner, Barberis et al (1998) suggest that people pay attention to both subjective strengths and statistical weights of evidence. Third, compared to other internal sources of information, the narratives serve as a source of

information for unsophisticated users because they explain financial statements in an oratory rather than technical language (Clatworthy and Jones 2003). Narratives ensure adequate understanding of performance through flexibility in corporate reporting by providing soft information behind and beyond the figures (Abrahamson and Amir 1996; Botosan 1997). Lastly, the American Institute of Certified Public Accountants (AICPA) argued that narratives are better sources of information about companies compared to external sources, as they are produced by managers involved in the day-to-day business affairs (AICPA 1994).

The evidence above on usefulness of narratives and subsequent response of regulatory and accounting bodies in ensuring sufficient disclosures led to proliferation of narratives in the United Kingdom (UK). For example, the Accounting Standards Board (ASB) issued the Operating and Financial Review (OFR) in 1993 and revised it in 2003. The government's Department of Trade and Industry (DTI) responded by making the OFR mandatory for all listed and large UK companies (DTI 2002, 2004) effective in 2005. Although the OFR was made voluntary in 2006, it remains a statement of best practice and was replaced by the European Union Accounts Modernisation Directive (EU AMD) requiring a business review. The business review includes an analysis of both financial and non-financial key performance indicators, environmental and employee matters. The Companies Act 2006 incorporated the requirements of the directive in UK company law.

There are suggestions that this increase and shift in legislation resulted into growing size of financial reports. For example, Deloitte (2006a) found that annual reports of the top 350 London Stock Exchange (LSE) listed firms (FTSE350) increased in size from an average of 61 pages in 1996 to 108 pages in 2005. In the same reports, the narratives section increased from 49% to 59%. In another survey, Deloitte (2006b) found that pages in annual reports of the top 100 LSE listed firms (FTSE100) increased from an average of 45 in 1996 to 85 in 2006. The finding was attributed to frequent changes in legislation causing uncertainty regarding disclosures. PricewaterhouseCoopers (PwC 2007a) also documents in its survey that FTSE350 companies' annual reports for the year 2007 had more pages compared to 2006. The survey recommended that business managers should concentrate on quality rather than quantity of information to sustain usefulness. In academic research, Beattie et al (2008)

demonstrate that annual report pages increased from 26 pages in 1965 to 75 pages in 2004. They also attributed the increase to regulatory shifts and suggested that increased voluntary narrative information was a way of minimising litigation.

The increased volume of narratives disclosed leads to various undesirable consequences which include cost of disclosure outweighing benefits (Elliott and Jacobson 1994) and information overload (PwC 2007b; The Virtuous Circle 2006). When information costs outweigh the benefit, such information cannot be useful (ASB 1999). Information overload also means that the information ceases to be useful because the users cannot process all the information efficiently. The existence of these problems means that companies need to make choices about which narrative information to disclose depending on the relative usefulness.

To enhance the relevance of disclosures, the Reporting Standard 1 by ASB (2005; 2006) recommended that narratives should complement as well as supplement financial statements. The Standard referred to complementary narrative information as useful financial and non-financial information about the business and its performance *that is not reported in the financial statements* (emphasis added) but which the directors judge might be relevant to the members' evaluation of the past results and assessment of future prospects. The Standard further defines supplementary narrative information as additional explanations of *amounts recorded in the financial statements* (emphasis added) and explain the conditions and events that shaped the information contained in the financial statements. Given that ASB (2005; 2006) recommended that narratives should *complement* as well as *supplement* financial statements, it is both important and timely to investigate the relative information content of complementary and supplementary narrative commentary. It is important because accounting regulators and company management need to know which type of narrative information is more important to the users so that this can be reflected in the amount of each type of narrative information disclosed. The investigation is timely because recent debates are now focusing on how to reduce rather than expand the volume of narrative information disclosed, for example, the Global Accounting Alliance Limited (GAA 2009) and the Institute of Chartered Accountants of Scotland (ICAS 2010). The GAA (2009) suggests that there is a natural tendency to add further elements of disclosure when there is a problem but there is no mechanism on the other

side of the equation to get rid of stuff which no one needs anymore. Similarly, ICAS (2010) argues that a few would disagree with the view that many UK corporate reports have become a lengthy exercise in regulatory compliance but fail to communicate a compelling account of how the business has performed. In other words, they are not obviously decision useful. Knowledge of the relative usefulness of the complementary and supplementary narrative information will be important for regulators should they decide to advise on the elimination of some narrative information currently required on the grounds of relative usefulness.

In turn, ensuring information usefulness of narratives reduces the information asymmetry that arises from agency relationship between the investors and firm management. With reference to Fama's (1970) efficient market hypothesis (EMH), reducing asymmetry arguably increases the potential of the investors to incorporate information in the security prices in an accurate and timely manner. In other words, the situation of reduced asymmetry increases market efficiency.

1.2 Research Objectives

In line with the above introduction, the main objective of the research is to investigate the relative information content of complementary and supplementary narrative commentaries in UK interim reports. Complementary and supplementary narrative commentaries are measured using the disclosure index methodology and the measurement is based on either disclosure variety or disclosure depth. Auxiliary to the main objective, the study examines the relative importance of complementary and supplementary narrative attributes under disclosure depth. These attributes are good news, amounts and comparisons of current with past performance, reasons for performance and forward-looking disclosures.

The subsidiary objective of the study is to investigate whether a model incorporating both complementary and supplementary narratives has more explanatory power compared to models incorporating complementary and supplementary narratives individually.

1.3   Summary Research Methodology and Methods

The research objectives are investigated through positivist approach where quantitative methods are used to measure dependant and independent variables as well as information content.

The sample used in this study consists of 103 companies randomly selected from a sampling frame of 136 firms. The sampling frame met three conditions. First, the companies must be listed on the LSE. Second, they must be consistently constituents of FTSE350 index during the period 2005 to 2007, inclusive. Third, they must be non-financial services sector companies. For all 103 firms, interim reports for 2005, 2006 and 2007 are used to arrive at a sample of 309 firm years.

The event study technique is used to measure information content of complementary and supplementary narratives. The dependent variable used is the daily market adjusted cumulative abnormal returns (CAR) in the window ±5 days around the announcement day for interim results.

The main independent variables investigated are the extent of disclosure of complementary and supplementary information. The disclosure index methodology applied in prior studies (e.g. Beattie and Thomson 2007; Kanto and Schadewitz 2000; Tauringana and Mangena 2006; Wallace and Nasser 1995) was used to measure the extent of complementary and supplementary disclosure. Extent of complementary and supplementary disclosure is measured by either disclosure variety or disclosure depth techniques. Disclosure variety is a dichotomous technique for measuring disclosures that awards a single score for presence of an information item without regard to repetitions. Therefore, the attributes under disclosure variety are complementary [supplementary] number of information items (CII [SII]). Disclosure depth is a technique that recognises various disclosure attributes and repetition of disclosure items and attributes. The disclosure depth attributes considered are complementary [supplementary] good news (CGD [SGD]), amounts and comparisons of current with past performance (CAC [SAC]), reasons for performance (CRE [SRE]) and forward-looking disclosures (CFW [SFW]). The narrative commentary examined includes all disclosures in

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interim reports, excluding IFRS financial statements, notes to the financial statements and audit reviews. Financial statements variables that have been found to have information content are incorporated in the models of information content as control variables. They include annual dividend yield (ADY) (e.g. Fama and French 1988; Kothari and Shanken 1997), interim earnings per share (IES) (e.g. Dimitropoulos and Asteriou 2009; Lennox and Park 2006) and interim total assets (ITA) (e.g. Campbell et al. 2001; Grullon and Michaely 2004).

The study used multiple linear regression analysis to examine information content in line with the objectives stated in section 1.2 above through various models.

Four models are used for the main objective. Each model considers information content of complementary and supplementary narratives individually, where two are grouped under disclosure variety and two under disclosure depth. To estimate relative information content, the complementary narratives models are compared with those for supplementary narratives for the highest significant coefficients. The adjusted coefficient of determination (adjusted R^2) establishes relative information content of complementary and supplementary narratives in pursuit of the main objective. Significance of relative information content is concluded from the results of the Hotelling's t-statistic and Steiger's Z-statistic. The relative usefulness of disclosure attributes under disclosure depth is based on the multiple regression test-statistics (t-statistic), where the coefficients and significance for the variables representing complementary attributes are compared to those of the counterpart supplementary attributes. The mathematical presentation of the notion of relative information content is presented below.

$$\begin{pmatrix} Information\ Content\ of \\ Complementary \\ Narratives \end{pmatrix} \begin{matrix} > \\ = \\ < \end{matrix} \begin{pmatrix} Information\ Content\ of \\ Supplementary \\ Narratives \end{pmatrix}$$

The above expression states that information content of complementary narratives is either greater or less than or equal to the information content of supplementary narratives.

For relative information content of complementary and supplementary narratives based on disclosure variety, results of the models below are compared.

1. Information Content of Complementary Narratives based on Disclosure Variety

$$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$$

2. Information Content of Supplementary Narratives based on Disclosure Variety

$$CAR_{it} = \propto + \beta_1 SII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$$

For relative information content of complementary and supplementary narratives and attributes based on disclosure depth, the results of the models below are compared.

3. Information Content of Complementary Narrative based on Disclosure Depth

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

4. Information Content of Supplementary Narrative based on Disclosure Depth

$$CAR_{it} = \propto + \beta_1 SGD_{it} + \beta_2 SAC_{it} + \beta_3 SRE_{it} + \beta_4 SFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

For the subsidiary objective of the study, models combining complementary and supplementary sets of attributes are considered. The purpose is to establish whether the models combining complementary and supplementary narratives have higher information content than the models that consider complementary and supplementary narratives individually. The significance of incremental information content is based on the F-statistics. The mathematical expression for incremental information content is provided below.

Expression 1:

$$\begin{matrix} Information\ Content \\ of\ Narratives \end{matrix} \begin{pmatrix} Complementary \\ and \\ Supplementary \end{pmatrix}$$

$$\geq \begin{matrix} Information\ Content \\ of\ Narratives \end{matrix} \begin{pmatrix} Complementary \end{pmatrix}$$

Expression2:

$$\text{Information Content of Narratives} \begin{pmatrix} \text{Complementary} \\ \text{and} \\ \text{Supplementary} \end{pmatrix}$$

$$\geq \text{Information Content of Narratives} \begin{pmatrix} \text{Supplementary} \end{pmatrix}$$

The first expression is read as information content of complementary and supplementary narratives is either equal or greater than information content of complementary narratives. The second expression shows that information content of complementary and supplementary narratives is either equal or greater than the information content of supplementary narratives.

There are two information content models combining complementary and supplementary narratives. The first is based on disclosure variety and the second is based on disclosure depth.

5. Model Combining Complementary and Supplementary Narratives based on Disclosure Variety

$$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 SII_{it} + \beta_3 ADY_{it} + \beta_4 IES_{it} + \beta_5 ITA_{it} + \varepsilon$$

6. Model Combining Complementary and Supplementary Narratives based on Disclosure Depth

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 SGD_{it} + \beta_6 SAC_{it} + \beta_7 SRE_{it}$$
$$+ \beta_8 SFW_{it} + \beta_9 ADY_{it} + \beta_{10} IES_{it} + \beta_{11} ITA_{it} + \varepsilon$$

1.4 Main Findings

The findings in respect of the main objective are that neither complementary nor supplementary narratives have significant information content in the pre-event period for both disclosure variety and disclosure depth. In the post-event period, the results showed that supplementary narratives had higher relative information content than complementary narratives for the models based on disclosure variety but the difference is not significant.

However, when disclosure depth is used, complementary narratives have higher relative information content than supplementary narratives and resultant difference is significant.

As an auxiliary to the main objective, under disclosure depth, there was no difference in the information content of complementary and supplementary narratives attributes in the pre-event period. In the post-event period, complementary good news, complementary amounts and comparisons of current with past performance and complementary reasons for performance were associated with returns unlike their respective counterparts in supplementary narratives. Both complementary and supplementary forward-looking attributes were not associated with returns; therefore, their relative usefulness to returns was not different.

For subsidiary objective, the pre-event results show that under either disclosure variety or depth, the model combining complementary and supplementary narratives is not associated with returns, similar to the models that consider complementary and supplementary narratives individually. The post-event period the disclosure variety model combining both complementary and supplementary narratives has slightly higher information content compared to the models that consider the two narrative types individually. However, the incremental information content is only significant when the model combining complementary and supplementary narratives is compared with that for complementary narrative. The disclosure depth model combining both narrative types has a significant improvement in information content compared to both models that consider complementary and supplementary narratives individually. In addition, the model combining both complementary and supplementary narratives based on disclosure depth is the best predictor of returns.

1.5   Contribution of the Research

The study contributes to extant literature in a number of ways. Firstly, the study is the first to provide empirical evidence of the relative and incremental information content of complementary and supplementary narrative information. Despite a number of standard-setting and regulatory bodies (e.g. ASB 2005; 2006; FRC 2009; IASB 2009) stating that narrative information should complement as well as supplement financial statements, no study had investigated the usefulness of these types of narratives to investors. For example, in the

UK, only Firth (1984), Schleicher and Walker (1999) and Schleicher et al (2007) previously investigated the information content of narrative information. Firth (1984) considered disclosure variety and risk explanations, while Schleicher et al (2007) was concerned with performance explanations and forward-looking attributions. Secondly, the current study also makes a contribution because most existing studies on narrative information content in the UK used the annual report (e.g. Firth 1984; Schleicher et al. 2007; Schleicher and Walker 1999). As a result, the UK interim reports narratives remain largely unexamined for information content. Thirdly, the study also contributes by investigating the information content of complementary and supplementary information quality attributes. Only a few studies have previously investigated the information content of quality attributes. For example Firth (1984) considered disclosure variety and risk explanations, while Schleicher et al (2007) was concerned with performance explanations and forward-looking attributions. In Schleicher and Walker (1999) attributed examined included disclosure variety, past and future performance. The current study therefore contributes by investigating quality attributes of quantified narratives and volume that have not been investigated before.

Finally, another contribution of the research is in terms of the method used. From a disclosure extent perspective, studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007) recommend that disclosure extent measurement through content analysis should be in-depth, considering repetitions and where possible manual. In their review of past research, few studies employed the procedure. Therefore, they argued that past disclosure studies on financial reports use disclosure variety measurement schemes that rarely capture various disclosure attributes as well as repetitions. Deriving from this, narrative information content information content studies have the same problem. In this study, relative and incremental information content is based on both disclosure variety and depth measurement techniques. The results are testimony that schemes do not yield similar results of information content despite both measures being used in research as alternative disclosure extent techniques. The results show that the disclosure depth technique is a better technique to capture useful attributes of narrative disclosures compared to disclosure variety.

1.6 Organisation of the Research

The rest of the research is organised as follows: Chapter 2 reviews interim reporting practice in the UK, with particular reference to listed companies. The areas covered include the evolution and regulation of UK interim reporting. Lastly, the chapter describes the structure and content of a typical interim report in the UK. A review of empirical literature on information content of narratives is in chapter 3. Information content literature is reviewed according to the information quality attributes. These attributes are presence of an information item, volume of disclosure, good and bad news, amount, comparison of current with past performance, reason for performance and forward-looking disclosures. The chapter concludes with a summary and conclusion.

In Chapter 4, the focus is the usefulness of interim reports. A number of issues are examined, including the role of interim reporting, justification of investors as prime users of the reports as well as the reasons for their use of the reports. Empirical usefulness of interim reports is also discussed in two dimensions, perceived and actual. The chapter includes a discussion on the unique features distinguishing interim from annual reports. Chapter 5 synthesises evolutionary accounting theories to economic market mechanisms within the investment decision-making context. The accounting theories are mainly proprietary and entity concepts differentiated by agency. The economic market mechanism conceptualised are two. The first is the mainstream mechanism that assumes perfection and homogeneity. The second is the heterodox mechanism presuming imperfections, failures and heterogeneity. Thereafter, the markets in the two streams that explain accounting disclosures' influence on investor decisions are identified and described. For the mainstream, there is the market for capital (MC) while under heterodox mechanism, the market for information (MI) and that for regulation (MR) prevail. In Chapter 6, the theories under the three markets are considered. The main concept under MC is the Efficient Market Hypothesis (EMH). In MI, the theories include Uncertain Information Hypothesis (UIH), Incomplete Revelation Hypothesis (IRH), and Market for Lemons (ML), Signalling Theory and Incomplete Contracting. Theories in MR include Public Interest Theory and Capture Theory.

Chapter 7 develops the hypotheses to test for relative and incremental information content of complementary and supplementary narratives. The six key hypotheses are developed from the information quality attributes discussed under the literature review chapter and their rationale is sought from the theories in Chapters 5 and 6. One hypothesis represents complementary and supplementary information in general and five hypotheses represent the complementary and supplementary quality attributes. In Chapter 8, attention turns to the explanation of the methodology and methods used to examine information content of complementary and supplementary narratives in line with the hypotheses formed in Chapter 7. The discussion includes the explanation on the use of event studies technique in the thesis, description of the sample and measurement of returns. In addition, measurement for the predictors is discussed that include complementary and supplementary attributes of disclosure variety and depth as well as control variables (dividend yield, earnings per share and total assets). Chapter 9 presents the results for the tests of the hypotheses presented in Chapter 7. The tests carried out are in line with the multiple regressions models for relative and incremental information content and sensitivity tests. Lastly, Chapter 10 summarises the thesis. The aspects considered are objectives, background of the research, methodology and methods and results. Research implications, limitations and opportunities for further research are also explained.

2 INTERIM REPORTING IN THE UNITED KINGDOM

2.1 Introduction

This chapter recounts the evolution of interim reporting practice and regulation in the UK. This evolution assists in understanding how and why interim reporting developed in the UK. Given that the study examines information content, the analysis is limited to listed companies. The chapter is organised as follows. The next section presents the evolution of interim reporting, followed by an examination of the regulatory and standard-setting guidance on UK interim reporting narratives. Thereafter, the regulatory guidance for auditor involvement is discussed. Finally, there is a summary and concluding remark.

2.2 Early Interim Reporting Practices in the UK

In the UK, interim reporting regulation was first evidenced in the Regulation of Railways Act (1868) requiring British railway companies to publish financial reports twice yearly (Carruthers and Espeland 1991). However, this is contrary to Holmes (1971) who suggest that Imperial Chemical Industries was the first among the top 100 UK companies to publish an interim report in 1955 and Maingot (1983) who indicates that UK had no regulation compelling managers to publish interim reports until 1964. The requirement to publish interim reports by the London Stock Exchange (LSE) in 1964 was compelled by the need to protect investors' capital and confidence. Atrill (1986) suggested that LSE thought interim reports were a viable disclosure medium for investors since the annual reporting interval was too long for market functioning. The LSE required listed companies to publish interim reports because there was no such provision in company law. Various scholars (e.g. Gordon and Gray 1984; Maingot 1983) acknowledged that disregarding interim reports in UK company law probably resulted from the tendency to emphasise voluntary reporting. Although UK company law did not require interim reporting, the European Union laws emphasised the need for interim reporting for listed companies. In EU (1982), the directive 82/121/EEC was issued mandating all listed companies on official exchanges in member countries to publish half-

yearly reports in acceptable press or gazette. UK responded by issuing Statutory Instrument No. 716 of 1984 by Her Majesty's Stationery Office (HMSO) which became operative effective 1st January 1985. The LSE became the implementing authority for the directive.

2.3 Regulatory and Standard-Setting Guidance on UK Interim Reporting

2.3.1 Combined Code

In brief, the Combined Code required all listed companies to publish half-yearly reports, including balance sheet and cash flow information based on guidelines by FSA and ASB. The reason for interim reporting was openness to shareholders in a fair manner that minimises insider dealing. Half-yearly reports also arguably served as an update to investors on the progress of the company; however, quarterly reports were deemed unsuitable as they undermine the importance of informal announcements and are costly.

2.3.2 London Stock Exchange

Mangena (2004a) found no substantial changes in LSE requirements for interim reporting since the first guidelines issued in 1960s. In the decade starting 1970, LSE only required publication of interim earnings per share. Later, an amendment required disclosure of certain interim current cost information but the condition was repealed due to complications of inflationary accounting. In 1984 a detailed mandatory interim reporting regulation for all listed came into force through the directive 82/121/EEC in EU (1982). The directive considered that for the development of a genuine and liquid European Community capital market to take place, there was need to protect investors through a regular flow of information from the listed firms about performance and activities. The provisions of the directive required that the reports should be published within four months from the end of reporting period and if there was any audit involvement, the audit report was to be published in full. Information required in the interim reports included profits and losses, activities of the

business and an explanatory note thereto. Specific figures required were net turnover, profit and loss before and after tax deductions, declared and paid dividends and comparative figures the corresponding period in the preceding financial year. Explanatory notes were to include useful information that assisted investors to assess the trend of the activities and profitability and reasons for the deviation between current figures and those of the corresponding previous financial year. Forward-looking disclosures in the foreseeable period were also recommended for interim reporting. If there was audit involvement, the audit report and qualifications were required to be disclosed in full. In addition to this directive, requirements in LSE (1999) mandated that UK companies that provided an audit review should have observed APB guidelines.

In the FSA (2009), the prevailing guidelines for listing on the LSE require three sections in the interim reporting: the financial statements, the management report and the statement of directors' responsibilities. FSA (2009) refers to "The Handbook" in which listing regulatory matters are compiled. It was first established in 2001 and undergoes review on a continuous basis. The financial statements must be in accordance with International Accounting Standard (IAS) 34 or at the minimum, they should contain a balance sheet, profit and loss account and explanatory notes. Other disclosures include an audit review or report if the interim report has been audited or viewed; and where there is no audit involvement, the report should disclose the status. A last requirement is the statement of directors' responsibilities whilst issuing interim reports.

In reference to reporting frequency, FSA (2009) requires that it is mandatory for UK listed companies to provide half yearly reports. However, any company that provides quarterly reports either in fulfilment of regulations on another exchange where the firm is cross-listed or as a personal initiative doe not contravene the interim reporting requirements in the UK.

2.3.3 ASB Statement on Interim Reports 1997

To enhance interim reporting practice in the UK, the Institute of Chartered Accountants in England and Wales (ICAEW) published a consultative paper, (ICAEW 1993), which offered a detailed reporting framework (Davies et al. 1999). A further progress in the interim reporting environment was ASB's appointment of a team comprised of the LSE, finance directors of large companies and senior partners in audit organisations to assist in drafting a standard for interim reporting (Mangena 2004a). The resultant was the Statements on Interim Reports in ASB (1997) being the first detailed guidance meant specifically for interim reporting in the UK. The report was based on ICAEW's (1993) recommendations and the consultative discussions in ASB's (1996); thereby incorporating most of the previous developments and conceptions regarding interim reporting in the UK.

Contrary to the recommendation in Cadbury (1992) requiring enactment of mandatory interim reporting guidelines, ASB (1997) stated that the statement was to be regarded as best practice guidance having a persuasive role. This disappointed investment analysts and professional accounting firms whose responses to the consultative discussions in ASB (1996) indicated that they preferred mandatory rather voluntary interim reporting. They argued that, as a listing requirement, Financial Services Authority (FSA) should ensure that all listed companies issued interim reports. Scholars too (e.g. Bagshaw 1999, 2000) considered the position adopted by ASB as detrimental to the interest of investors. Managers still had no instrument mandating them disclose information of specific nature in interim reports.

2.3.4 ASB Statement on Half Yearly Financial Reports 2007

As of the time of this thesis, ASB (2007a) is the most recent interim reporting guideline that replaces ASB (1997) in order to harmonise interim reporting best practices with the mandatory requirements in FSA (2009) termed as Disclosures Rules and Transparency Rules (DTR) as well as IAS 34. The statement provides guidance to companies that are required or voluntarily choose to prepare interim reports, other than those required to apply IAS 34 by DTR. FSA

(2009) mandates the use of ASB (2007a) on condition that whilst applying the statement, the concept of "true and fair" account of affairs is maintained.

As stated above, like its predecessor, ASB (1997), ASB (2007a) is voluntary rather than mandatory. The only exclusion is the requirement that a listed company provides a true and fair state of affairs by applying the guidelines of the statement. The conceptual basis of the statement remained similar to that in ASB (1997) that the objective was to guide investors make informed assessment at a half-yearly stage to counter the long annual reporting interval. The statement also theorised that half-yearly reports provide essential disclosures in the continuing process of operating, financing and investing activities.

2.3.5 EU Transparency Directive (2004/109/EC) and Directive 2007/14/EC

In addition to substituting national standards with IFRS in EU (2002), the EU further issued another directive in EU (2004) termed as the Transparency Directive 2004/109/EC to provide more comprehensive guidelines for interim reporting with the view of enhancing usefulness of the reports. The directive in EU (2004) considered that timelier and reliable disclosures about performance require more frequent reporting. Companies issuing quarterly financial reports were exempted from the directive because they already fulfilled the minimum requirement of semi-annual reporting. In Article 5, the EU (2004) requires that the interim report should have a condensed set of financial statement and an interim management report. Further, where the interim report has been audited or reviewed, the respective reports are to be attached. If the interim report is not audited this should be stated. The directive also requires inclusion of a responsibility statement in the interim report. In comparison with earlier directives, the distinctive new feature introduced by this directive is the responsibility statement.

Another directive, 2007/14/EC in EU (2007) provides detailed rules on implementation of the directive 2004/109/EC in order to provide high-level investor protection, enhance market

efficiency and unify interim reporting practices in member states. Directive 2007/14/EC further stipulates minimum content of the interim reports to avoid misleading disclosures on assets, liabilities, financial position and profit and loss. The directive also gives guidance on its implementation to ensure that interim disclosures are transparent to the investor in a manner that allows regular flow of information about performance and is comparable to the preceding year's performance.

2.3.6 Companies Act 2006

The UK company law, prior to the Companies Act (2006), had no provision for interim reporting. Interim reporting provisions in the Companies Act (2006) part 23 are spelled out under Chapter 2, Section 838. Prior to distribution, the accounts are required to be properly prepared in accordance with prevailing International Accounting Standards, in this case IAS 1 and 34, and the balance sheet signed off. The section also requires usage of English as the reporting language and interim report must have been delivered to the Registrar. Although the Act has provisions for interim reports, it recognises that the reports are not statutory (Companies Act 2006: Part 15, Chapter 10, Sections 441 and 447). The minimal requirements in the Companies Act 2006 mean that much of the guidance for interim reporting is provided for in ASB (1997; 2007a), EU (2004; 2007) and FSA (2009).

2.4 Mandatory and Recommended Disclosure Items in UK Interim Reports

The above section has examined developments shaping UK interim reporting in various aspects such as regulation, standard setting and professional practice. Based on such evidence, this section aims at identifying the disclosures recommended. Given that most items are repetitive, rather than discussion each regulator's or standard setter's contribution, a side-by-side tabular approach is used. Such an approach, whilst recognising the timeline of gradual development of interim reporting disclosures, provides a cross-sectional comparison of the respective references.

2.4.1 Financial Statements Information Items

The prevailing requirements for interim reporting during the study period (2005 to 2007) are provided under IAS 34 that recognises four main interim financial statements. These include the balance sheet, income statement, statement of changes in shareholders equity, cash flow statement. Using IAS 34 as a benchmark, below are comparative tables showing items required or recommended for disclosure in interim financial statements.

From Table 1, the most recommended interim financial reports are the income statement and balance sheet. All regulations after the year 2000 consistently require the two statements. The cash flow statement and the statement of changes in equity are required by IFRS/ IAS, ASB (1997; 2007a) and Companies Act (2006). FSA (2008) and EU (2004; 2007), which are mainly concerned with disclosures of listed companies, do not require the cash flow statement and the statement of changes in equity.

Table 1   Sections of Financial Statements in UK Interim Reports

Required or Recommended Financial Statements	Regulation and Standard Setting										
	A*	B*	C	D	E	F*	G	H	I	J**	K
Income statement	✓	✓	✓	✓	✓	✓	✓		✓		
Balance sheet	✓	✓	✓	✓	✓	✓		✓			✓
Cash flow statement	✓	✓			✓	✓		✓			
Statement of changes in equity	✓	✓			✓	✓					

A = IFRS/ IAS; B = IFRS/ IAS; C = FSA (2008); D = EU (2004) and (2007); E = ASB (1997; 2007a); F= Companies Act (2006); G = LSE (1999); H = Cadbury (1992); I = EU (1982); J = LSE before EU (1982); K = Regulation of Railways Act (1868). ✓   Denotes that the respective regulation required the item to be disclosed; otherwise, the item was not required. * Financial disclosures recommended for first time adoption, effective 1st January 2005. The statements are based on IAS 34 and IFRS 1 and required reconciliation with previous local GAAP as well as IAS 32 and IAS 39 (PwC 2005). The Companies Act (2006), Sections 838, 395-397 and 414 subjects the recommendations for interim reporting to IAS guidelines. Impliedly, the Act recommends all statements required by IFRS and IAS. ** In reference to the discussion in (Mangena 2004a)

Table 2 below shows the items required in the income statement.

Table 2   Interim Income Statement Information Items

Required or Recommended Disclosures	Regulation and Standard Setting							
	A*	B*	C	D	E	F	G	H**
Sales	✓	✓		✓	✓		✓	
Cost of sales	✓	✓						
Gross profit	✓	✓						
Other operating income	✓							
Selling and marketing costs	✓							
Administrative expenses	✓							
Other operating expenses	✓	✓						✓
Operating profit	✓	✓						
Finance costs – net	✓	✓						
Share of profit of associates	✓	✓						
Profit before income tax	✓	✓			✓		✓	
Income tax expense	✓	✓		✓	✓			
Profit from continuing operations		✓		✓				
Profit from discontinued operations		✓		✓				
Extra ordinary items				✓	✓			
Profit for the period	✓	✓	✓	✓				
Profit attributable to equity holders	✓	✓			✓			
Profit attributable to minority interest	✓	✓			✓			
Basic earnings per share	✓	✓		✓	✓			✓
Diluted earnings per share	✓	✓		✓				
Dividend					✓		✓	

A = IFRS & IAS; B = IFRS & IAS; C = FSA (2008) and EU(2004; 2007); D = ASB (2007a); E = LSE (1999); F = Cadbury (1992); G = EU (1982); H = LSE before EU (1982). ✓ Denotes that the respective regulation required the item to be disclosed; otherwise, the item was not required. * Financial disclosures recommended for first time adoption, effective 1st January 2005. The statements are based on IAS 34 and IFRS 1 and required reconciliation with previous local GAAP as well as IAS 32 and IAS 39 (PwC 2005). The Companies Act (2006), Sections 838, 395-397 and 414 subjects the recommendations for interim reporting to IAS guidelines. Impliedly, the Act recommends all statements required by IFRS and IAS. ** In reference to the discussion in (Mangena 2004a)

IFRS first time adoption (column A) and the condensed IFRS statements (column B) offer the most comprehensive list of income statement disclosures. Most regulations recommend the disclosure of sales, profit before income tax, income tax expense, profit after tax and basic earnings per share.

Table 3 below relates to items in the balance sheet.

Table 3   Interim Balance Sheet Information Items

Required or Recommended Disclosures	Regulation and Standard Setting							
	A*	B*	C	D	E	F	G	H**
Assets	✓	✓	✓	✓				
Non-current assets	✓	✓						
Property, plant & equipment	✓							
Tangible and intangible assets		✓						
Goodwill	✓							
Intangible assets	✓							
Investment in associates	✓	✓						
Investments in other companies	✓							
Deferred income tax assets	✓	✓						
Other non-current assets		✓						
Available-for-sale assets	✓	✓						
Derivative financial instruments	✓							
Financial receivables	✓							
Current assets	✓	✓						
Inventories	✓	✓						
Current financial assets		✓						
Financial receivables	✓							
Trade and other receivables	✓							
Available-for-sale financial assets	✓	✓						
Derivative financial instruments	✓							
Short-term securities	✓							
Financial assets at fair value	✓							
Cash and cash equivalents	✓	✓						
Total Assets	✓	✓	✓	✓				
Liabilities	✓	✓	✓	✓				
Current liabilities	✓	✓						
Trade and other payables	✓	✓						
Current income tax liabilities	✓	✓						
Borrowings	✓	✓						
Derivative financial instruments	✓							
Provisions and other liabilities	✓	✓						
Liabilities classified as held for sale		✓						
Non-current liabilities	✓	✓						
Borrowings	✓	✓						
Derivative financial instruments	✓							
Deferred income tax liability	✓	✓						
Retirement benefit obligations	✓	✓						

Required or Recommended Disclosures	Regulation and Standard Setting							
	A[*]	B[*]	C	D	E	F	G	H**
Provisions and other liabilities	✓	✓						
Other non-current liabilities		✓						
Total Liabilities	✓	✓	✓	✓				
Equity	✓	✓						
Capital and reserves attributable to equity holders	✓	✓						
Share capital	✓	✓						
Reserves		✓						
Treasury shares	✓							
Fair value and other reserves	✓							
Cumulative translation adjustment	✓							
Retained earnings	✓	✓						
Minority Interest	✓	✓						
Total Equity	✓	✓						
Total liabilities and equity	✓	✓	✓	✓				

A = IFRS & IAS; B = IFRS & IAS; C = FSA (2008) and EU (2004; 2007); D = ASB (2007a); E = LSE (1999); F = Cadbury (1992); G = EU (1982); H = LSE before EU (1982). ✓ Denotes that the respective regulation required the item to be disclosed; otherwise, the item was not required. * Financial disclosures recommended for first time adoption, effective 1st January 2005. The statements are based on IAS 34 and IFRS 1 and required reconciliation with previous local GAAP as well as IAS 32 and IAS 39 (PwC 2005). The Companies Act (2006), Sections 838, 395-397 and 414 subjects the recommendations for interim reporting to IAS guidelines. Impliedly, the Act recommends all statements required by IFRS and IAS. ** In reference to the discussion in (Mangena 2004a).

The interim balance sheet items are provided by regulations or standards taking effect after 2004. Apart from IAS34 and IAS1, the recommendations by other regulations only require disclosure of the subtotals of assets, liabilities and equity.

In Table 4, the items required for the interim cash flow statement are identified. Like the balance sheet, the cash flow statement items are recognised mostly by regulations taking effect from 2004. These regulations are the IFRS provisions for the first time adoption and condensed interim financial statements as well as ASB (2007a).

Table 4   Interim Cash Flow Statement Information Items

Required or Recommended Disclosures	Regulation and Standard Setting							
	A*	B*	C	D	E	F	G	H**
Cash flow from operating activities	✓	✓		✓				
Cash generated from operations	✓							
Interest paid	✓							
Income tax paid	✓			✓				
Continuing operations		✓						
Discontinued operations		✓						
Net cash generated from (used in) operating activities	✓	✓		✓				
Cash flow from investing activities	✓	✓		✓				
Acquisition of subsidiaries, net of cash acquired	✓	✓		✓				
Purchases of property, plant and equipment	✓	✓		✓				
Proceeds from sale of property, plant and equipment	✓	✓		✓				
Purchases of intangible assets	✓			✓				
Purchases of available-for-sale financial assets	✓							
Proceeds from sale of available-for-sale financial assets	✓							
Proceeds from sales of investments in other companies	✓			✓				
Purchase of short term securities	✓							
Loans granted to related parties	✓							
Loan repayments received from related parties	✓							
Interest received	✓			✓				
Dividends received	✓			✓				
Other investing net cash flows		✓						
Discontinued operations		✓						
Net cash generated from (used in) investing activities	✓	✓		✓				
Cash flows from financing activities	✓	✓		✓				
Proceeds from borrowings	✓							
Repayments from borrowings	✓	✓						
Dividends paid to shareholders	✓			✓				
Dividends paid to minority interests	✓			✓				
Dividends paid		✓		✓				
Issue of convertible bonds		✓						
Other net financing cash flows		✓						
Purchase of treasury shares		✓						
Discontinued operations		✓						
Net cash generated from (used in) financing activities	✓	✓		✓				
Net increase (decrease) in cash and bank overdrafts	✓	✓		✓				

Required or Recommended Disclosures	Regulation and Standard Setting							
	A[*]	B[*]	C	D	E	F	G	H**
Cash and bank overdrafts at the beginning of the period	✓	✓						
Exchange gains (losses) on cash and bank overdrafts	✓	✓						
Cash and bank overdrafts at the end of the period	✓	✓		✓				

A = IFRS & IAS; B = IFRS & IAS; C = FSA (2008) and EU (2004; 2007); D = ASB (2007a); E = LSE (1999); F = Cadbury (1992); G = EU (1982); H = LSE before EU (1982). ✓ Denotes that the respective regulation required the item to be disclosed; otherwise, the item was not required. * Financial disclosures recommended for first time adoption, effective 1st January 2005. The statements are based on IAS 34 and IFRS 1 and required reconciliation with previous local GAAP as well as IAS 32 and IAS 39 (PwC 2005). The Companies Act (2006), Sections 838, 395-397 and 414 subjects the recommendations for interim reporting to IAS guidelines. Impliedly, the Act recommends all statements required by IFRS and IAS. ** In reference to the discussion in (Mangena 2004a)

In Table 5, the main recommended disclosures for the statement of changes in shareholder's equity are net income and expenses recognised directly in equity and profit for the period. The statement of changes in equity, too, is recognised by IFRS and ASB (2007a).

Table 5   Statement of Changes in Shareholder's Equity Information Items

Required or Recommended Disclosures	Regulation and Standard Setting							
	A[*]	B[*]	C	D	E	F	G	H**
Fair value gains (losses), net of tax:	✓	✓						
Available for sales	✓	✓						
Cash flow hedges	✓	✓						
Currency translation adjustments	✓	✓						
Net income (expenses) recognised directly in equity	✓	✓		✓				
Profit for the period	✓	✓		✓				
Total recognised income for the period	✓	✓						
Employees share option scheme:	✓	✓						
Value of services provided	✓	✓						
Proceeds from shares issued		✓						
Purchase of treasury shares		✓						
Dividend	✓							
Convertible bond - equity		✓						

A = IFRS & IAS; B = IFRS & IAS; C = FSA (2008) and EU (2004; 2007); D = ASB (2007a); E = LSE (1999); F = Cadbury (1992); G = EU (1982); H = LSE before EU (1982) . ✓ Denotes that the respective regulation required the item to be disclosed; otherwise, the item was not required. * Financial disclosures recommended for first time adoption, effective 1st January 2005. The statements are based on IAS 34 and IFRS 1 and required reconciliation with previous local GAAP as well as IAS 32 and IAS 39 (PwC 2005). The Companies Act (2006), Sections 838, 395-397 and 414 subjects the recommendations for interim reporting to IAS guidelines. Impliedly, the Act recommends all statements required by IFRS and IAS. ** In reference to the discussion in (Mangena 2004a)

2.4.2 Other Disclosures Related to Interim Financial Statements

Table 6 presents regulatory and standard-setting recommendations for disclosures that exclusively relate to financial statements.

Table 6   Other Recommended Disclosures Related to Interim Financial Statements

Regulation or Standard	Different Section of interim report	
	Notes to Financial Statements	Audit involvement
Regulation of Railways Act (1868)		✓
London Stock Exchange in 1964		
The ASC (1975) – The Corporate Report		
EU (1982) – Directive 82/121/EEC		✓
Cadbury (1992)		✓
Hampel (1998)		
Higgs (2003)		
Smith (2003)		✓
ASB (1997)	✓	✓
IFRS & IAS – IAS 34	✓	
FSA (2008)	✓	✓
EU (2004)		✓
EU (2007)	✓	
ASB (2007a)		✓
Companies Act (1985)		✓
Companies Act (1989)	✓	✓
Companies Act (2006)	✓	

Note:✓: denotes that the respective regulation required the item to be disclosed; otherwise, the item was not required.

Most regulations recommend inclusion of an audit review in interim reports but they all concur that the decision is voluntary. However, where firms have subjected the interim results to an audit involvement, most regulations (e.g. ASB 2007a; EU 2004, 2007; FSA 2008) require that the audit review report be published with interim reports. The notes to financial statements are recommended by a few regulation and standards.

2.4.3 Required and Recommended Narrative Information

Table 7 shows the recommended sections of the narrative commentary recommended for the interim reports.

Table 7   Recommended Sections of the UK Interim Report other than Financial Statements

Regulation or Standard	Different Section of interim report narratives		
	Narrative Commentaries	Summary Financial Information	Statement of Directors Responsibilities
Regulation of Railways Act (1868)		✓	
The ASC (1975) – The Corporate Report		✓	
EU (1982) – Directive 82/121/EEC	✓	✓	
Cadbury (1992)	✓	✓	
Hampel (1998)	✓		
Higgs (2003)	✓		
Smith (2003)			
ASB (1997)	✓		
IFRS & IAS – IAS 34	✓	✓	
FSA (2008)	✓	✓	✓
EU (2004)	✓		✓
EU (2007)	✓	✓	
ASB (2007a)	✓		✓
Companies Act (1985)			
Companies Act (1989)			
Companies Act (2006)			

✓: denotes that the respective regulation required the item to be disclosed; otherwise, the item was not required.

The summary financial information is the oldest section as it the only narrative section recommended by the Regulation of Railways Act (1868) and the LSE in 1964. The most recent part is the statement of directors' responsibilities recommended only after 2004 by ASB (2007a), EU (2004) and FSA (2008). The most widely recommended parts are narrative commentary and summary financial information. Most provisions by regulators and standard setters recommend the presentation of the summary financial information to be in a tabular form.

2.5   Summary and Concluding Remarks

In this chapter, interim reporting in UK is discussed. Among the observations was that there are conflicting suggestions regarding the first evidence of interim reporting. While the first interim reports were from the US in early 1900, UK's first interim reports are suggested to have been published in the 1950s. However, there is proof of regulation for interim reporting in the UK in the 1860s. Another observation is interim reporting is largely justified on the premise of providing updated information to facilitate shareholders' investment decisions given that the annual reporting interval is was too long to leave investors without information. Based on this rationale, most regulation and standards in the UK affirm that interim reporting should be mandatory to all listed companies. In reference to the disclosures therein, a typical interim report, based on prevailing regulations and standards between 2005 and 2007 for listed companies, comprises of the four IFRS financial statements, a management commentary, a statement of directors' responsibilities, footnotes to the financial statements and a voluntary audit review. Although the IFRS financial statements have mandatory guidelines for the information items therein, the management commentary information items were mainly voluntary; the regulations and standards remaining as best practices. Other characteristics include that the mandatory UK interim reporting frequency is bi-annual; however, quarterly reporting is also acceptable.

The regulatory evolution on UK interim reporting has been wide-ranging, influenced by US, EU and UK reporting practices. Although, the UK has largely adopted EU directives within the period study, the tripartite nature is demonstrated in the variety of reporting practices in the UK such as flexible inclusion of audit review, adaptation of a business review or the OFR and reporting frequency. Noticeable, within the period study 2005 – 2007 there is rampant change in regulation. For financial statements, there was only one significant change of replacing UK GAAP with IAS/ IFRS by EU (2002), effective since 1st January 2005. The narratives section of the UK interim report, however faced various changes to include ASB (2007a) as well as EU (2004; EU 2007) on interim reporting; ASB (2005; 2006) and (EU 2003). Also through its handbook, (FSA 2008), the FSA regularly amends disclosures and transparency rules as well as listing rules that affect the interim reporting practices of UK listed companies.

3 LITERATURE REVIEW

3.1 Introduction

There is an extensive body of research examining the usefulness of financial reports narratives information in on market returns. There are two main approaches employed in the literature. One stream studies the relationship between share prices and disclosure themes. For example, Abrahamson and Amir (1996) investigated the information content of the presidents' letter, Bryan (1997) analysed the usefulness of the Management Discussion and Analysis (MD&A) and Kanto and Schadewitz (2000) are concerned with the relative relevance of topics in narratives such as management overview, investments and finance, financial statements narratives and financial analysis. Other studies investigated whether information items disclosure quality attributes are useful to share pricing. For example, Schleicher et al (2007), on forward-looking disclosures, volume of narratives (Schadewitz et al,(2002), Baginski et al (2000) on causal attributions or performance explanations, and Francis et al (2002) on amounts in narratives, good and bad news, future and present attributions. This current study considers both dimensions using complementary and supplementary narrative commentaries information in interim reports as themes. The quality attributes for both complementary and supplementary narrative commentaries are disclosure variety and depth. Disclosure variety is concerned with presence or variety of disclosure items. Disclosure depth has various attributes that include: (1) rhetoric toning that measures the goodness or badness of disclosures, (2) estimating disclosure volume, (3) quantification that assesses the disclosure extent of amounts or enumeration, (4) benchmarking concerned with comparing past with current performance, (5) explanatory, that is, disclosure of reasons for the performance and (6) prospective disclosures relating to forward-looking information. Therefore, the objective of the chapter is to summarise studies that have investigated information content of narrative commentaries so that the potential contribution of the current research is clearly delineated.

The rest of the chapter is organised as follows. The next section presents an examination of disclosure studies with an objective of establishing the various quality attributes in narrative

reporting. This is followed by a review of narrative information content literature categorised according to quality attributes. A tabulation of the reviewed studies is then provided after which, a discussion on the literature follows. Lastly, a conclusion and summary to the chapter is presented.

3.2 Disclosure Quality Attributions

Disclosure measurement literature has suggested various information attributes that are pertinent to investor needs. Wallace and Nasser (1995) suggested that financial disclosure is an abstract phenomenon whose intensity and quality is not easily determined. Regardless of this shortcoming, they propose a number properties affecting disclosure quality. The features include: (1) adequacy for a defined purpose, (2) informative – have an impact on share prices, (3) direction – good or bad, (4) timeliness, (5) understandable/ readable – effective communication with readers, (6) extent of relationship of the information with corporate risk, return and performance, and (7) comprehensiveness – no important information item is undisclosed. Beattie et al (2004), while concurring with the complexity of defining quality in disclosures, the researchers provided a four dimensional structure for estimating quality. Their first dimension is the topical classification, the second is a dichotomous descriptor: historic/ forward-looking. The third and fourth are also dichotomous descriptors, that is, financial/ non-financial and quantitative/non-quantitative. Beattie and Thomson (2007) extend disclosure quality estimation to consider volume. They argue that though management may use the volume attribution for obfuscation, the same ascription may be used to add emphasis or ensure thorough presentation of the business performance and activities. Other attributions in the study are factual and judgemental disclosures where the former are verifiable but the latter are unsubstantiated. Merkl-Davies and Brennan (2007), refer to attributions as strategies adopted by management to either impress or provide incremental information. They identified seven strategies. These include readability/ reading ease, rhetorical manipulation – inclination to good news in a persuasive manner and thematic strategy – inclination to good news by concealment of bad news. Others are visual and structural strategy – use of visual effects such as arrangement and other visual effects, performance comparison – choice of benchmark

numbers, amounts strategy – choice of numbers discussed in narratives and performance attributions – explanation of performance.

Table 8 compares the disclosure quality attributes for investment decision making recommended in the literature discussed above.

Table 8   Summary of Studies on Disclosure Quality Attributions based on Usefulness of Disclosures

Quality Attribution	Standard, Regulation or Study				
	ASB (2005; 2006)	Wallace and Nasser (1995)	Beattie et al (2004)	Beattie and Thomson (2007)	Merkl-Davies and Brennan (2007)
Purpose oriented	✓	✓			
Good or Bad News	✓	✓			✓
Informative to Share returns	✓	✓			
Timeliness		✓			
Understandable/ Readable	✓	✓			✓
Performance Risk and Return		✓			
Comprehensive	✓	✓			
Historical/ Past Comparison	✓		✓		✓
Forward-Looking	✓		✓		
Financial	✓		✓		
Non Financial	✓		✓		
Quantitative/ Amounts	✓		✓	✓	✓
Non-quantitative/ Explanations	✓		✓	✓	✓
Presence of a complementary item	✓				
Presence of a supplementary item	✓				
Repetitions / Volume				✓	
Factual				✓	
Judgemental				✓	
Visual/ Structural Presentation					✓

The table above indicates that both ASB (2005, 2006) and a number of academic scholars recognise various information quality attributes. The following sections will now review

extant literature on the findings of previous research on the information content of the above attributes that are relevant to this study. The literature discussed relate to: presence of information items; volume of disclosure; good or bad news; the amount attribute; comparison with past performance attribute; reason for performance and forward-looking.

3.3   Presence of Information Items

Beattie and Thomson (2007) describe presence of information items as an attribute that verifies whether predetermined information item exist in the narratives. In other words, the attribute is concerned with variety or breadth in disclosure. Therefore, studies under this category either examine the usefulness of the presence of specified topics or information items in financial reports.

Firth (1984), one of the pioneering studies of narratives information content in the UK suggested that provision of information beyond legislative requirements is motivated by management's perception that the disclosures are useful for assessing the risk-return relationship. By arguing that relationship between risk and return is linear, the study further proposed that narratives should influence share returns. Using monthly return estimates from the market-model and a forty-eight item weighted disclosure profile measuring extent of disclosure variety in annual reports, the results were contrary to expectations as risk, the proxy for usefulness, and variety in disclosure were insignificantly associated. The result was claimed to be influenced methodologically where powerful financial statements variables in the model such as leverage and earnings beta might have subdued usefulness of narratives. In Finland, Kanto and Schadewitz (2000) similarly used a weighted technique for importance of various disclosure items in interim reports' narratives by interviewing information stakeholders such as analysts, corporate executives and interest groups. Unlike Firth (1984) who grouped all items in one disclosure profile, the study investigated relative information content of a range of themes. Disclosure topics were regarded important for various reasons. Firstly, shareholders are in pursuit of effective corporate communication from managers rather than aggregated information (Kanto and Schadewitz 2000). Secondly, listed firms are characterised by complex diverse business structures and disclosure themes ease the search for

value relevant information from the usually voluminous financial report narratives. Further, due to the risk that managers may behave in a manner that is not in the best interest of the investors, presenting narratives according to topics was deemed necessary to facilitate a structured flow of events, transactions and performance, thereby reducing obscurity in disclosures. Through the market model generated cumulative abnormal returns, analysis of financial statements components had a nearly instant and continued positive association with returns whilst the management overview had a delayed and negative relationship. The result meant that investors use analytical information in narratives and are sceptical to base their decisions on broad overviews. Another information topic investigated that Kanto and Schadewitz (2000) investigated but found no relationship with returns was narratives on financial statement in general possibly due to insufficiency of financial statements information if not accompanied by an analysis.

Schleicher and Walker (1999) studied the relative relationship between share prices and various components of the UK Operational and Financial Review (OFR). The components examined for usefulness are disclosure of OFR (DOFR), disclosure of Operating and Financial Projections (DOFP) and disclosure of Segmental Reporting (DSEG). The components are assumed to assist investors anticipate earnings changes because they provide a better understanding of business nature, environment and risks. Specifically, DOFR concentrates on the current year performance, DOFP relates to known events, trends and uncertainties in future periods whilst DSEG measures the comprehensiveness of discussions. Disclosure measurement was dichotomous on the basis that a pilot scoring scheme established that weighted and unweighted scores had no influence on results. The most significant result regarding disclosure relationship with share prices was the DOFR confirming that the conceptual framework in ASB (1993) that OFR aids investors to anticipate future cash flows. Bryan (1997) examined the association between various information items recommended by the Securities and Exchange (SEC) in SEC (1980) for disclosure namely the Management Discussion and Analysis (MD&A). In SEC (1987), as discussed by Bryan (1997), numeric financial presentations and accompanying footnotes are considered insufficient in abetting investors to appraise the quality of earnings and the probability that past performance is

reflective of the future. Therefore, the MD&A escalates relevance of financial reporting by providing extra information beyond the figures. Information items of interest included selling price changes, sales volume changes, revenue change explanations, cost change explanations, liquidity position, planned capital expenditure and known future trends as favourable, unfavourable, neutral or missing. OLS regression models showed that market adjusted returns were only associated with planned capital expenditures, possibly because other information items are disclosed in pre-annual report announcements.

Rather than investigating information content of various narrative information items or themes, a large body research has concentrated on specific items or topics. For example, Dumay and Tull (2007) found intellectual capital disclosures having an effect on cumulative abnormal share price returns. Hammersley et al (2008) establish that another disclosure topic, internal controls, was informative to returns in the US. In Warner et al (1988), a US based study, using event studies found daily returns insubstantially associated with management changes but monthly returns were negatively associated with top executive changes. In Netherlands, Cools and Mirjam van Praag's (2007) find forced departures of executives informative to share prices. In a UK study by Collet (2002), where redundancies and new jobs had respectively negative and positive value relevance, the conclusion was that the nature of employment change disclosures determines the association with returns. Other narrative topics or information items that are examined for information content include key performance indicators (e.g. Riley et al. 2003), product line segment disclosures (e.g. Aitken et al. 1994; Buhner and Moller 1985; Karpik and Riahi-Belkaoui 1994)and/ or geographical segment narratives (e.g. Boatsman et al. 1993; Conover and Wallace 1995; Herrmann 1996; Hope et al. 2008; Thomas 2000). Other narrative topics investigated for usefulness in literature are corporate social and environmental responsibility (e.g. Al-Tuwaijri et al. 2004; Bansal and Clelland 2004; Freedman and Stagliano 1991; Herremans and Akathaporn 1993; Lorraine et al. 2004) as well as financial statement narratives (e.g. Baber et al. 2006; Francis et al. 2002).

The studies above, with an exception of Firth (1984) who aggregated their disclosure variety index, portray that investors have dissimilar interest in the various disclosure items or topics. However, because studies have various research strategies, motivations and methodologies, it

is difficult to ascertain a generalisable profile of items that investors find useful. Therefore, the plausible deduction from this evidence is that the presence of different information items or topics in financial reports is largely relevant to investors; despite instances of items or themes that investors find uninformative.

3.4   Volume of Disclosure

Studies under this section investigate the information content of the depth in disclosure. Such depth reflects volume of disclosure which is mostly related to the repetitiveness of information items in financial reports (Beattie and Thomson 2007). Disclosure extent literature considers the disclosure strategy as aimed at either adding emphasis (e.g. Beattie and Thomson 2007) or an impression management phenomenon (Clatworthy and Jones 2003). There is scanty literature regarding information content of volume of disclosure. One possible reason for this is that the diversity of disclosure coupled with capacious nature of narratives makes the analysis of this attribute labour intensive and hence, time consuming (Beattie et al. 2004). The other possible reason for scant literature is the labour intensity nature of disclosure measurement putting into consideration the volume involved in collecting the data (e.g. Abrahamson and Amir 1996; Beattie et al. 2004). As a result, a number of studies on the information content have used various proxies such as subjective ratings, number of pages, and number of words to estimate the usefulness in volume of disclosure, as discussed henceforward.

Schadewitz et al (2002) investigated the usefulness of varying levels of voluntary disclosures in interim reports by way of cumulative abnormal returns. One of the reasons for selecting voluntary information as the proxy for volume of narratives was that non-obligated disclosures reflect management's desire to communicate with investors. The disclosure index scoring technique was applied to measure and classifying interim reports in three disclosure categories namely, disclosures-about-as expected, disclosures-lower-than-expected and disclosures-higher-than-expected. Share return reaction to the disclosures-about-as-expected group indicated absence of pre-announcement leakage in the Finnish Stock Exchange. Share return reaction showed a one-day lag in response to disclosures-lower-than-expected suggested that

investor were in pursuit of more disclosure. Lastly, the three-day extended delayed reaction to disclosures-greater-than-expected showed that investors required more time to apprehend the voluminous information.

Henry (2006) used a keyword count to investigate whether verbal components accompanying earnings press releases improve prediction of market response to the releases. The researcher conjectured that the relationship between topic specific word recurrences and market returns justifies whether increased direct firm-to-investor communications are relevant to shareholders. The topic specific word frequency measures the nature and volume of operating information contextualised in disclosure themes. Using tree-based algorithms, market reaction predictive ability increased proportionately to volume of verbal components accompanying earnings releases. This result showed that numeric information is largely in the public domain by the time of announcement but narratives provide new information. Further, unlike numbers that are rigid, different firms with similar numeric performance can exercise flexibility in narrative reporting. Therefore, regardless of identical financial performance, firms differently inform their investors through disclosure on various aspects with varying degrees of emphasis. Although Henry's (2006) argument above for disclosure volume usefulness is reflective of management's willingness to communicate with investors, Abrahamson and Amir (1996) argued against the efficacy of voluminous narratives. Using a similar content analysis approach of word counts to measure narratives, the study ignored positive statements because they are used for impression management and are normally ritualistic assertions with no value to investors.

Healy et al (1999) used analyst disclosure ratings to investigate information content of disclosure volume. The researchers theorised that disclosure volume aids in correcting misevaluation and amplifies both institutional interest and firm liquidity. The assumption is that there are limited agency costs compelling investors to find disclosures credible and relevant for accurate firm valuation. For example, Skinner (1994) asserts that in case of overvaluation, managers will voluntarily disclose more credible bad news to lower valuation in fear of litigation arising from overvaluation. However, for overvalued firms, Healy et al (1999) argues that the strategy of increased volume of good news for undervalued firms may

not be successful for correcting firm valuation because good news is largely envisaged as flawed. Amplification of institutional interest and liquidity arises from the ability of increased disclosure volume to reduce information asymmetries between firms and outside investors and amongst different investor classes as suggested in Kim and Verrecchia (1994). The transparency thereby improves the efficiency of the market, which in turn exposes the firm to more institutional investors and liquidity (Healy et al. 1999). Irrespective of these merits for increased disclosure volume, Healy et al (1999) critique the usefulness of the volume attribution on various aspects affecting investors' value. Firstly, management may use volume to obscure or provide misleading information. Secondly, voluminous disclosures may reduce shareholders' wealth either through revealing valuable information to competition or exposing the firm to legitimacy risks. Analyst ratings in their study were considered a bona fide measure for disclosure volume as increases in the ratings reflected proportionate increase in disclosure volume. As a weakness, the sample in Healy et al (1999) was biased to disclosure volume increasing firms because AIMR ratings analyse only firms augmenting disclosures but not disclosure volume reducing firms.

Murray et al (2006) examined the information content of disclosure volume by using number of pages dedicated to the topic of interest (social and environmental disclosures). Their results suggest that disclosure volume was not useful. Neither theoretical nor methodological reason was provided for the outcome. However, disclosure literature (e.g. Beattie et al. 2004; Beattie and Thomson 2007) suggest that the number of pages as a proxy for volume is defective as it neither captures the context of the subjects nor does it take into account differences such as text and paper sizes and formats.

Other studies that have considered the attribute of volume include Gelb and Zarowin (2002) and Lang and Lundholm (1993) who confirm information content using AIMR analyst ratings. Elsewhere, through keyword search as a measure for volume, Schleicher et al (2007) establish that the volume of forward-looking disclosures is informative to shareholders for loss-making but not profit making firms. Cools and Mirjam van Praag (2007) count the number of announcements regarding top executive departures and find that simultaneous announcements about the topic affect share prices.

3.5   Good and Bad News

Prior literature examines information content of good and bad news from two perspectives. One perspective investigates the usefulness of the toning that emphasises opportunistic disclosures and the other analyses information content of the strategy to suppress negative narrative commentaries (e.g. Abrahamson and Amir 1996; Davis et al. 2007; Henry 2006).

Abrahamson and Amir (1996) regard positivism in narrative commentaries as a 'sugar coat' and such disclosures have no value other than representing irrelevant and ritualism in disclosures. However, negativity dealt with more important matters about the firm and therefore possessed information content. Using a ratio of negative words to total words in the presidents' letter and market-adjusted returns, the findings suggested that such disclosures were relevant in explaining both past and future performance of the firm. Results also showed that bad news narratives were more important than financial statement performance measures. This affirmed the deficiency of financial statements information that whereas FASB (1978) conceptualised that the statements assist investors in timing, estimating and assessing the risk of the return on investment, their information is historical.   To correct the deficiency, softer information in form of narratives provides an insight into the future direction of the company. However, as noted above, the 'sugar coated' positive narratives, besides the litigation risk attached to them, compels that substantial value in disclosures is inherent in the pessimistic tone.

Lang and Lundholm (2000) took rather an impartial perspective and conjectured that managers disclose information either to reduce information asymmetry or exaggerate their share, depending on firms' disclosure culture and variations in economic conditions. Disclosing to reduce information asymmetry was presupposed to be linked to change in economic condition of the company, whilst share hyping reflected intent to fool the market. By classifying disclosures of 81 firms quoted on the NASDAQ as pessimistic, neutral or optimistic, stock return tests showed that optimistic disclosures were associated with share-hyping which was responded to by negative market reaction. However, firms that increase their disclosure due to a positive change in economic conditions were rewarded by a positive share price return. In

Schleicher et al (2007), the reaction to rhetoric toning in narratives was thought to be affected by the past financial performance of the firm. It was therefore conceptualised that for loss-making firms, bad disclosures about current performance are useful to investors in explaining the incidence of bad performance and good prospective disclosures to assure investors that the loss-making scenario is not perpetual. In profit making firms, such narratives are not relevant as the profits are sufficient evidence of good performance and indicative of a good profitability outlook.

Literature confirming information content of both opportunistic and pessimistic disclosures include Hoskin et al (1986), Lev and Penman (1990), Lundholm and Myers (2002), Lennox and Park (2006) and Anilowski et al (2007) in the US, and Collet (2002) in the UK. In the US, usefulness of good but not bad news was found in Hutton et al (2003). However, results in Baginski et al (2000) and Lee et al (2004) show that most bad attributions are informative. Dumay and Tull (2007) in Australia and Lakhal (2008) in France provide evidence that both good and bad disclosures are associated with share returns but not neutral statements, while Boo and Simnett (2002) in Australia find good news disclosures informative. However, Lorraine et al (2004) found that neither good nor bad news disclosures are useful in the UK.

3.6   Amount Attribution

Within information content research, most studies (e.g. Hayn 1995; Kothari and Shanken 1997; Livnat and Zarowin 1990; Ou and Penman 1989) have used amounts directly from statutory financial statements or accompanying notes. It is possible that simplicity in extracting information from standardized financial statements and structured footnotes or in databases such as I/B/E/S or DataStream influences studies to consider amounts in the statements and footnotes rather than narratives. To this, little research has examined the usefulness of quantification in narratives.

Abrahamson and Amir (1996) are among the first to recognise the importance of the amount attribution. Although not directly referring to amounts in narratives, they contrast the relevance of soft information (narrative commentaries) with hard information (financial statement amounts). Hard disclosures preserve the reliability and objectivity of financial

information because the information can be audited, however, soft information may not be reliable but relevant for investment decision making. Kasznik and Lev (1995) examined management's motivation to provide soft or hard disclosures and the respective influence to share returns. They hypothesise that where unexpected earnings are extraordinary, management will disclose quantified (hard) information to close in on the expectation gap. This would in turn decrease investors' transaction costs, avoid large stock price fluctuations and shield analysts from embarrassment. Otherwise, in cases where the expectation gap is relatively small, managers will be reluctant to provide hard forecast disclosures since the information can be ex-post verified and disparities thereof may lead to reputation damage or litigation. In their findings based on 1988 to 1990 quarterly reports of 565 firms, poor performers with disappointing news provided more quantified information. This confirmed that the nature of news influenced the disclosure strategy. However, investors reacted negatively to such news with a possibility that they are sceptical about the short- and long-term competitiveness or economic justification of the firm.

Research in the US (e.g. Baber et al. 2006; Francis et al. 2002) regard the balance sheet and cash flow as discretionary explanatory disclosures in US quarterly reports, at the time. Only the income statement was the statutory financial statement for interim reporting. Given the voluntary nature of the two statements, they were regarded supplemental and the amounts they possessed were considered to expound information in the statutory income statement. Francis et al (2002) investigated the usefulness of the rising concurrent income components, such as revenues and expenses. They found that the supplemental amounts were informative to share returns. A manual reading and coding technique was applied to estimate disclosure extent of quarterly releases of 30 firms for the period 1980 to 1999. Income statement and balance sheet numbers had highest disclosure levels and had higher association to returns than the cash flow components. The findings showed that the increases in elaborative amount disclosures beyond the mandatory financial statements numbers, especially those relating to income statement, were responded to by increased share returns. The result was interpreted as evidence that the bottom-line income figures have less information to investors and therefore more figures explaining the final figures were required by shareholders. Baber et al (2006)

rather argued that impression management is the underlying reason for the usefulness of the quantification attribute in the supplemental balance sheet and cash flow statement. The amounts provide a justification of the earnings numbers thereby enhancing investors' confidence on the credibility of the disclosures and reducing suspicions of earnings management. The association of the amounts in the discretionary supplemental quarterly balance sheet and cash flow statement with 3-day excessive returns confirmed this conjecture.

Hutton et al (2003) opinionated that the usefulness of the quantification was that amounts in forecasting narratives provide performance targets against which investors may assess managerial performance. The information may take the form of earnings components such as sales, margins, profits, effective tax rates. Over-achieving or failure to meet the target may lead shareholders to be sceptical about credibility of either the forecasts or managerial ability. In light of this possibility, alike Kasznik and Lev (1995), Hutton et al (2003) conceptualise that management is deterred from providing over pessimistic or over optimistic amounts as targets; thereby providing a more precise performance trend useful in share price estimation. Through a manual code for all forward-looking and explanatory statements accompanying earnings forecasts made by 147 firms, the results showed that non-quantified narratives were not informative likely due to vagueness. On the other hand, forward-looking disclosures that had quantitative amounts were positively associated with returns because they were deemed credible. The argument concurs with various studies such as Abrahamson and Amir (1996), Skinner (1994) and Soffer et al (2000) ascertaining that quantified narratives reduce impression management because they are precise and can be verified *ex posit*.

Although most of the studies reviewed above concerning the quantification attribution are based on quarterly announcements, supplemental financial statements and earnings forecasts, there is evidence regarding the information content of narrative commentaries. For example, Berry et al (1998) used high level operating annual disclosures of the US petroleum industry firms to establish what amounts from revenue-based conversion method for oil and gas reserve valuation were more informative than numbers from the energy-based technique. Likewise, Misund et al (2008) concur that amounts of high level operational narratives of annual reports for the international oil and gas industry are value relevant. Amir and Lev (1996) also find

quantified non-financial high-level operational data disclosed in quarterly corporate and analyst reports was useful to share valuation. They suggest that on standalone basis, financial information (earnings, cash flows and book values) are not relevant to share prices, however, if combined with non-financial quantified information, earnings contribute to explanation of the prices. More evidence on the usefulness of the quantification attribution includes Lajili and Zeghal (2006) on human capital disclosures in US annual reports and Smith et al (1984) regarding foreign payments narratives in the 8K forms. Various studies (e.g. Givoly et al. 1999; Hope et al. 2008; Thomas 2000) confirmed that segment analysis of on sales and/or earnings amounts have information content because they stratify earnings and sales performance; however results by Boatsman et al (1993) do not find disclosure of segment amounts useful.

3.7   Comparison of Current with Past Performance

Narrative disclosure extent literature (e.g. Cassar 2001; Guillamon-Saorin 2006; Lewellen et al. 1996; Schrand and Walther 2000) principally assents that managers exercise a biased behaviour on selecting past numeric benchmarks against which current performance is weighted. In a bid to impress investors, normally lowest past performance measures are selected to reflect exceptional current performance. Divergently, information content mostly argues that the attribute of benchmarking provides incremental information on the performance trend of the company; opposing the suggestion that this disclosure strategy is mainly influenced by impression management.

In Bryan (1997), the essence for the comparison attribution in narratives was derived from regulatory insistence on providing benchmarking disclosures in narratives. The conceptual framework in SEC (1980) argued that financial statements were insufficient in estimating future performance from past results. Specifically, the regulation required firms to disclose known trends in performance, liquidity and capital resources in narratives to counter for the shortfall in financial statements. Regulatory emphasis was added in SEC (1989) requiring narrative disclosure for any material change in financial condition of the firms in a bid to protect investors. Using 11-day share price returns and US annual report narratives, past

comparatives for selling price and sales volume was not useful for share valuation. This result reflected that the disclosures were not news because firms have a tendency of disclosing similar information pre-annual reporting announcements. In Schleicher and Walker (1999), the usefulness of benchmarking was investigated using narrative disclosures from a less regulated dataset. At the time then, UK narratives followed guidelines of the OFR in ASB (1993) which were voluntary in nature. Therefore, adoption of the recommendations showed that management perceived the disclosures relevant in assisting investment decisions rather than fulfilling legitimacy obligations. Schleicher and Walker's (1999) disclosure profiling for past and current performance comparisons, showed that the disclosures are useful in anticipating future earnings; however, comparatively they are less powerful than future oriented disclosures. Future oriented disclosures, unlike past performance comparisons, capture known trends and uncertainties relating to the period in which future earnings will be made, thereby explaining the expected earnings. The finding confirmed that if benchmarking information is disclosed with intent to guide investors, such information is regarded credible and useful despite being historical.

More confirmation on the usefulness of the comparison attribute on quantifiable data is in segment reporting. Hope et al (2008) investigated the pricing and mispricing effects on disclosures of changes in domestic and foreign earnings. The disclosures were hypothesised as an indication of improved reporting practices that reduce mispricing. Further, such disclosures reduce the costs of gathering and processing private information by providing computed comparatives that investors use to assess periodic financial outcomes. Regression tests showed that changes in domestic and foreign significantly affected market model annual abnormal returns.

Research on usefulness of the attribute of comparison of current with past performance is extended to narrative disclosures that are non-quantifiable. Riley et al (2003) argue that the seasonality effect in business, for example peak travel seasons as summer months, thanksgiving and Christmas in the airline industry, makes the comparison attribution in narratives relevant for share valuation. The study further conjectured that whilst financial statements data is relevant to investors; performance comparisons of high-level operation

metrics posses more explanation regarding the changes in financial performance. The findings showed that firm-specific disclosures on performance metric changes such as changes in customer satisfaction, revenue load factor, market share, ton-miles were significantly related to share prices returns. Even disclosure of non firm-specific (macroeconomic) performance changes, such as hub changes, large airport changes and number of airport changes were associated with individual firms' returns.

In Warner et al (1988), share price movements in the US did not immediately respond to changes in top management jobs such as chief executive officer, president or chairperson. However, Collet (2002) found an association between returns and disclosures of redundancies and new job openings in the UK. The rationale underlying the result was that redundancies denoted an attempt to change cost base whilst new jobs announcements signified intent to position the firm to take advantage of revenue and earnings opportunities.

Although findings are mixed on the relevance of the comparison attribution, two aspects are derivable from the literature on information content of the attribute for comparison of current with past performance in narratives. Firstly, unlike some narrative disclosure extent studies that conjecture the ascription under impression management, studies of information content almost concur that the attribute incorporates credible information necessary for share valuation. Instances of insignificant information content are influenced by presence of more informative attributes, as in Schleicher and Walker (1999). Secondly, information content for the attribution has been examined in literature relating to both quantifiable and non-quantifiable narratives.

3.8   Reasons for Performance

The Concept Release in SEC (1987)" encouraged performance explanations after recognising that at the time, narratives were substandard. A follow up in SEC (1989) emphasised that material performance changes ought to be explained by providing information that is incremental to financial statements and footnotes for the benefit of investors. Pursuant to this, Bryan (1997) investigated whether explanatory information in financial reports narratives of firms was useful to investors. Among the attributes investigated were reasons for both

revenue and cost changes in 250 MD&As for the year 1990. The insignificant results were thought to have been influenced by prior release of such information in announcements preceding the annual report. In Finland, Schadewitz et al (2002) thoroughly read 573 interim reports of firms listed on the Helsinki Exchange and established that troubled firms were characterised by disclosing more information beyond expectations. However, market reacted negatively to such information suggesting that an endeavour to provide excessive explanatory analysis of bad performance does not pay off. Further, although investors may well be aware of the bad state of affairs through previous announcements, they wait until publication of the financial reports to confirm their suspicions and thereby react negatively on receiving the annual reports. This finding is contrary to, Bryan (1997) who suggests that prior announcements make explanatory attributions in financial reports defunct. In Schleicher, et al (2007), it was posited and confirmed in the results that in a loss making circumstances, investors do not envisage that loss making does not prevail indefinitely for ongoing firms. Since the current performance (losses) is not a good guide for the future performance potential, investors require an explanation to the losses and an assurance of future viability. For profit making firms, however, the good financial performance is evidence for the feasibility of the business; hence, further disclosures may not be relevant for the purpose.

Further evidence on the usefulness of the causation attribution in Hutton et al (2003) suggests that managers enhance the credibility of earnings forecasts by providing further explanatory notes. Such information may be qualitative or quantitative. By classifying forecasts into good or bad news, their findings showed that the tendency to provide more quantitative (verifiable) explanations to good news forecasts enabled positive market reaction. In contrast, qualitative (non-verifiable) explanation, including factors such as macro economic, industry level, firm-specific, long/ short-term prospects and segmental information accompanying bad news forecasts had no impact to share returns because they are vague. Conversely, Lee et al (2004) argue that investors find causal statements for bad news credible especially if bad performance is blamed on internalities since this action shows management's awareness of internal weaknesses and willingness to correct the situation. However, in spite of the reliability investors attach to pessimistic disclosures, business managers tend to exercise bias when

explaining performance. Bad attributions are blamed on externalities but good performance on internal activities. The findings, based on a manually scored Likert scale annual report disclosures, found bad news causal attributions useful but good news explanations were not possibly due to impression management. A comparable argument and finding is echoed in Abrahamson and Amir (1996) concerning relevance of disclosures in the president's letter in annual reports. Similarly, in Staw et al (1983) management was presumed to have a defensive and self-enhancing attitude when explaining performance with intent to influence share returns and other managerial rewards. In order to appease societal demands or expectations, self-justification is achieved through labelling poor performance causes as external factors, threats or uncertainties but good performance as internal strengths, opportunities to implicate any result (good or bad) as a rational response by management. Attributing bad outcomes to external factors but taking credit for good results infers that management pursues only value increasing activities and are only setback by externalities beyond their control. This behaviour is conceptualised to result from day-to-day external reporting systems designed to foster a systematic, formal, consistent and sieved information flow that legitimises organisational actions rather than pursue optimal performance. Correlation results in Staw et al (1983) between the self-enhancing explanations (for good news) as well as defensive explanations (for bad news) with share price changes confirmed both information is considered credible and useful to shareholders.

Alike Lee et al (2004) and Staw et al (1983), the reasoning behind explaining earnings forecast in Baginski et al (2004) is based on agency. Managers will link expected performance on internal actions or third party actions depending on the perceived investor image desired. Good forecasts will be attributed to inward activities whilst bad forecasts to external attributions. In respect to investors' opinion on causal disclosures, results based on a keyword search from 951 forecasts showed that the relationship with returns was predictable. In addition, disclosures of causal attributions were established to be influenced by a set of variables that proxy for cost and benefit where more narratives were provided for large firms, more regulated industries, bad news but less for longer-term forecasts. In an earlier study, Baginski et al. (2000), the provision of more voluntary causal attributions for bad forecasts but

less for good news portrays management's fear for litigation against withholding information. Both Baginski et al (2004) and Baginski et al. (2000) argued that good (bad) news was attributed to internal (external) causes with an aim of maintaining investor confidence. Although an impression management character is in inherent in the causal attributions, 3-day market returns were significantly influenced by the disclosures. This result was assumed to indicate that shareholders find the information credible.

Warner et al (1988) perceived the importance for the causal attribution in disclosures relating to management changes from the intrinsic value investors draw from the reasons provided. Shareholders expect that management is well positioned to deliver good performance after a change and this opinion is confirmed from the reasons attached to the changes. For example, forced departures may implicate poor performance whilst a new recruit may be explained as a positioning strategy for future opportunities.

In conclusion, the provision of reasons for performance are largely informative to share price returns because they provide more information illuminating the circumstances in which performance was or will be achieved. However, the voluntary nature and impracticality of verifying the disclosures presents a prospect for misuse by managers to egoistically tone the information for impression management. It is thus prevalent for studies (e.g. Baginski et al. 2000; Baginski et al. 2004; Lee et al. 2004; Staw et al. 1983) to conjecture that internal outcomes are fond of explaining good news but external factors are reasons for poor performance. In addition, in some studies (e.g. Abrahamson and Amir 1996) investors are considered adequately enabled to distinguish noise from useful causal attribution disclosures.

3.9   Forward-looking Attribute

This is potentially the most discussed attribute of disclosure quality in information content research conceivably due to the high accord regulatory bodies attach to the ascription. For example in the UK, ASB (1993; 2003; 2005; 2006) all agree that among other uses, narrative commentaries help members assess future prospects. Although the EU Accounts Modernisation Directive places less emphasis on forward-looking disclosure, an indication of future business developments is still required (Trucost 2006).

Schleicher and Walker (1999) examined the information content of the OFR following first ever issuance of a guideline for narrative reporting by ASB (1993). The non-mandatory recommendations suggested that managers ought to discuss factors underlying operations and financial performance to provide a better understanding of the nature of the business, its environment and risks it faces. In the process of doing so, investors would be able to evaluate the future prospects of the company more accurately. In the study, forward-looking disclosures were specifically considered due to their capability in predicting future earnings changes. Through a dichotomously scored disclosure index, the variable values for future oriented disclosure were significantly associated with future earnings changes as well as market returns, confirming the hypothesis. Schleicher et al (2007) used computerised text-search to score UK annual report narratives and regression analysis to estimate disclosure level of forecast information and its information content, respectively. Still, even when an updated and bigger sample is applied compared to that in Schleicher and Walker (1999), future oriented information was useful to investors in instances of loss making firm. The prospective attributions confirmed to investors that loss making was not perpetual and the outlook of the business is good. The distinct feature in the study is that prospective disclosures in narratives of profit making firms were not relevant, implying that good profitability was confirmatory of the firm's future earnings potential.

In Australia, both impression management and incremental information have been applied to explain the relationship between returns and forward-looking disclosures. Boo and Simnett (2002) postulate two cost/benefit market scenarios that affect disclosure of forward looking information, the product market (competitive advantage) and financial market consideration (need for financing). When firms are financially distressed (loss making), the domination for financing requirements over competitiveness risks will compel firms to provide good prospective disclosures to attract investors. However, since the firms are loss making, there is a risk of management bias in providing forward-looking information. The fear for management reputation subdues this incitement because future oriented disclosures can be verified *ex post* (Hoskin et al. 1986). Boo and Simnett (2002) manually read annual reports of 140 loss-making Australian Stock Exchange listed firms and classified management

prospective as optimistic or pessimistic. Similar to Schleicher et al (2007), results showed that financially distressed firms that disclosed opportunistic prospective narratives were most likely to succeed. Non-disclosing loss making firms were likely to fail, whilst the likelihood to fail was not different for firms having pessimistic or mixed prospective disclosures. The findings, justifying the reliability of good prospective disclosures, were attributed to presence of an audit opinion as well as potential litigation and reputation costs of misleading disclosures.

Lundholm and Myers (2002) use the AIMR scores for future oriented disclosures to estimate the extent to which prospective disclosures explain current share price returns. They argue that a firm can bring its future forward to the current period by revealing expected earnings changes. Both cross-sectional regression and time-series analyses confirmed the hypothesis where increased disclosure scores were associated with greater share price returns. To the contrary, Lang and Lundholm (2000) find mixed results for information content of changing disclosure patterns prior to equity offering firms on the NASDAQ exchange. A disclosure index method was used to code various information items to include information relating to short-term and long-term future narratives, among other information types and attributions. In the study, the contemplation was that firms use future oriented disclosures either as means of reducing information asymmetry or "hype the share". Based on the disclosure culture of the company, firms that maintained a constant reporting pattern were characterised by significant returns prior to the offering and minor declines post the offer consistent with the hypothesis of reducing asymmetry. For significant disclosure increases prior to the offering, share prices considerably declined suggesting that there was an attempt to exaggerate the share value to which the market corrects itself by devaluation on issuance of the shares. Kasznik and Lev (1995), also consider two motivations for providing future oriented narratives. With the speculation that surprising investors with large unexpected future earnings may negatively influence share prices, managers weigh the risks to warn investors or not. Where the unexpected performance was bad news, firms occasionally warned with highly hard (quantified information) to instil investor confidence. Other variables that affect the propensity to provide more warnings were size of the surprise, existence of earlier prospective

disclosures, membership to the high tech industry and firm size. For highly regulated firms, fewer warnings were provided. Because of the negative impact that the warning was expected to cause, management provided cautionary note in situations where bad news were to prevail for a long future period but for temporal bad news such warnings were not widespread. In turn, investors negatively and significantly reacted to the warnings due to doubt about the long-term competitiveness and economic viability of the firm. It was concluded in the study that the adverse investor reaction to future oriented disclosures of warnings explained the low levels of disclosures relating to future bad news despite risks such as increased investors' transaction costs and litigation.

Another dimension in Lev and Penman (1990) theorises that firms with good prospective news will disclose it to distinguish themselves from poorly performing firms. Such a tendency is explained by the signalling or screening theories. Although this is impression management, information content of such disclosures reflects that the information is verifiable, possibly *ex-post* in audited financial results. The alternative posit is that badly performing firms do not disclose to which investors interpret as a concealment of bad news hence react negatively. A test the theory, the researchers manually read annual earnings forecasts for firms listed on NYSE and AMEX and compared the impact of the disclosures on the cumulative abnormal returns. The results confirmed their hypothesis regarding intent for disclosure of forecast information but not nondisclosure, concluding that the strategy of not providing information does not necessarily mean concealment of bad news. Noticeably, the findings in Lev and Penman (1990), to a certain extent, differ from Schleicher et al (2007) in UK who suggested that forecast information for good performing firms has no relevance to share price returns as the current performance is sufficient to attract investors.

There are a number of other studies that find disclosures of future prospects informative. For example, Hoskin et al (1986), through a regression analysis using two-day excessive returns and a dichotomously scored disclosure profile for all announcements made around the earnings announcement in the period 1979 to 1981. The future attributions in narratives were regarded credible despite being voluntary. Perhaps, in fear of subduing reputation, officers are compelled to provide credible and useful information. Gelb and Zarowin (2002) used AIMR-

FAF disclosure scores and annual share price changes but still find that greater disclosures are associated with positive returns. They suggest that primary objective of disclosures is to create certainty about future cash flows. Therefore, the evidence of information content in enhanced disclosures affirms that the narratives lead to better prediction of the future. Francis et al (2002) and Eiker et al (2000) subscribe to the ability of the forward-looking disclosures to inform on the future performance of the company. Similarly, market tests by Baginski et al (2000) showed that auxiliary narratives to management forecasts were significantly related to three-day cumulative abnormal returns. Investors considered the disclosures as credible conveyance of information from management thereby presenting a potentially useful extension of the financial reporting model. Atiase et al (2005) propose that the usefulness of prospective narratives depends on the investors' perception regarding the information's relevance and reliability. This value of prospective disclosures is deduced from its relationship with past performance as investors weigh it against the verifiable past information on performance.

Largely, the evidence above articulates that forward-looking disclosures are useful to investor although there are instances where the attribution is subjected to impression management. As an addendum to the credibility virtue in future-oriented disclosures Abrahamson and Amir (1996) argue that the attribution bridges the information gap by addressing the deviancy between the purpose of financial reporting (provide information to guide future investment decisions) and the kind of information financial statements contain (historical information). The studies also recognise that impression management in the forward-looking attribute of narratives is constrained by the likelihood litigation and reputation risks; hence augmenting the usefulness of the disclosures.

3.10 Tabulated Summary of Previous Research

Table 9 presents a summary of the studies reviewed. The arrangement of the studies in the table is not according to attribution as it is clear in the discussion above that some studies use multiple attributions in investigating information content of narrative commentaries. Overall, US research represents almost 70% of the studies reviewed, followed by UK, the rest of the studies from various mainland European countries and Australia. The US studies concentrated

mainly on the annual report, quarterly reports and the various announcements, whilst in UK research used the annual reports and other types of announcements other than interim reports. No research was found using the UK interim reports. Apart from US, it is only in Finland that there is evidence of information content of narratives using interim reports. Other countries from which relevant literature was found include Australia, Netherlands, Germany and France.

The commonly used mediums of disclosures used in the literature were press releases, quarterly earnings releases, US filing forms, annual reports and semi-annual interim reports. Only Finnish studies (e.g. Kanto and Schadewitz 2000; Schadewitz et al. 2002) investigate information content of narrative commentaries in semi-annual interim reports.

Most studies base their research or reason their findings largely under incremental information or impression management. Under these two main categorisation of theories, the notable ones used include information asymmetry and semi-strong market efficiency, or impression management, noticeably agency, litigation, intuition theory and weak-form efficiency. UK studies (e.g. Collet 2004; Firth 1984; Schleicher et al. 2007; Schleicher and Walker 1999), mostly use incremental information theory by assuming semi-strong efficiency where disclosures are considered credible and informative of future cash flows. However, in some UK studies (Collet 2002; Murray et al. 2006) impression management is used based on management disposition to self-serve and avoid expected penalty by investors arising from disclosures that may be deemed bad.

Table 9   Summary of Studies on Information Content of Narrative Commentaries

Study	Country, Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Francis et al (2002)	• US • 426 Firms on CRSP • 1980 to 1999	• Quarterly reports • General narratives	• Presence or Non Presence with repetitions	• Incremental Information	• Adjusted R^2 • Market Model CAR • Days (-1 to 1) • Market adjusted and size adjusted returns have similar results	• Current Good News • Current Bad News • Future Good News • Future Bad News	• Unexpected Earning • Presence of Income Statement • Presence of Cash flow Statement • Current Good News • Current Bad News • Future Good News • Future Bad News	• Unexpected Sales • Presence of Balance Sheet • Number of Non-recurring earnings components in narratives •
Gelb and Zarowin (2002)	• US • 891 non-bank firms • 1890 to 1993	• AIMR-FAF	• Classify companies as high or low disclosure based on score coefficient	• Incremental Information	• Adjusted R^2 • Stock price change with dividend	• Volume of Disclosure • Future Earnings Response Coefficient	• Volume of Disclosure • Future Earnings Response Coefficient • Earnings Price Ratio	• Future Price Change • Current Earnings Coefficient Ratio • Asset Growth • Market Capitalisation
Hoskin et al (1986)	• US • 676 firm-years • 1979 to 1981	• Annual Earnings News	• Likert Scale (most negative to most positive on future cash flows)	• Impression Management	• Adjusted R^2 and F values • Market Model using Scholes-William Beta • Days (0 to 1)	• Good News • Bad News • Neutral	• Dividend Change (Good) • Prospective Comments (Good and Bad) • Earnings Components • Prospective Operational Data	• Detailed Itemised Earnings Components • Other Disclosures • Stock Splits

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Henry (2006)	• US • 441 firms • 2002	• Earnings Press Releases	• Computer-Based Keyword Count using Synonym Sets	• Incremental Information	• Classification and Regression Trees • Binary Variable (+ve and –ve) market returns versus S&P 500 returns • Days (0)	• Topics disclosed • Disclosure Volume • Tone (Good/ Bad News) • Readability • Numerical Intensity	• Variables with Prediction Success Rate over 57% (A) • All under (B) and Nature of Operating Data • All above and All Attributions of Disclosure • Firm Data, Operating Data and All Attributes	• Variables with Prediction Success Rate under 57% (B) • Firm Data (Size, unexpected earnings, market performance, profitability, ownership and industry)
Baginski et al (2000)	• US • 2,085 earnings forecast reports • 1983 to 1986	• Management Earnings Forecast for interim and annual results	• Manual Content Analysis: Presence/ Non presence without repetitions	• Causal Attribution: • Impression Management: (Asymmetric and Attribution Theory) • Incremental Information (Attribution Credibility)	• Adjusted R^2 • Market Model CAR • Days (-1 to 1)	• Explanation of Forecast • Internal Causal Explanation • External Causal Explanation	• Unexpected Earnings • Bad News • Presence of Forecast Explanation • External Causal Explanation	• Good News • Internal Causal Explanation
Schadewitz et al (2002)	• Finland • Non-financial firms • 1985-1993	• 256 Interim Reports	• Manual Content Analysis: Dichotomous and Likert Scale	• Incremental Information	• Adjusted R^2 • Market Model CAR • Days (-1 to 5)	• Variety in Disclosure: Volume	• Disclosures about as expected for days (0 to 2) • Disclosures greater than expected for days (0 to 3)	• Disclosures less than expected delayed by one day

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Kanto and Schadewitz (2000)	• Finland • Non-finance and non-insurance firms • 1985-1993	• 380 Interim Reports	• Disclosure Index: literature and interviews • Manual Content Analysis: Likert Scales	• Impression Management: Agency	• Adjusted R^2 • Market Model CAR • Days (0 to 10)	• Variety in Disclosures: Topical	• Unexpected Earnings • Analysis of financial statements • Management Overview	• Information in general in financial statements: all windows • Investments and Finance: all windows
Healy et al (1999)	• US • 595 firms • 1978-1991	• AIMR Annual Reports on Firm Disclosure	• AIMR Annual Disclosure Ratings	• Incremental Information: credibility • Impression Management: Agency/ incredibility	• Adjusted R^2 • Industry Adjusted Monthly Returns	• Variety in Disclosure: • Volume • Topical • Good / Bad News	• Volume of disclosure • Level of earnings • Earnings-Growth (interaction) • Firm's Beta	• Change in Earnings • Change in Earnings-Growth (interaction) • Size (total assets)
Lev and Penman (1990)	• US • 3,420 annual earnings forecasts • 1968-1975	• Corporate Earnings Forecasts	• Manual Content Analysis: Screening Forecasting from Non-forecasting firms	• Incremental Information: credibility • Impression Management: Agency/ concealment	• Market Model CAR for Disclosing and Non-Disclosing Firms • Market Adjusted CAR • 15 Monthly Returns • Days (-1 to 0)	• Future News • Good News • Bad News • Quantified (Hard) forecasts • Qualitative (Soft) forecasts	• Forecast disclosure generality increase share prices (Good News) • Bad News • Higher earning changes	• Non-disclosure does not mean bad news • Size • Quantified or qualitative disclosures • Industry classification

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Kasznik and Lev (1995)	• US • 565 firms • 1988-1990	• Management Discretionary Disclosures prior to Final Results	• Manual reading by classifying firms as good news or bad news firms	• Impression Management (reputation and litigation) • Incremental Information (close in on expectation gap	• Adjusted R^2 • Market Adjusted Daily Returns • Days (-60 to 2) • Days: 5 around warning plus 5 around earnings • Days (-2 to 2)	• Future Good New • Future Bad News • Hard: Quantified • Soft: Qualitative	Good News Firms: • Earnings • Firm Size Bad News Firms: • Earnings • Interactive: Earnings and Quantified Future Disclosures	Good News Firms: • Quantified Future Disclosures • Interactive: Earnings and Quantified Future Disclosures Bad News Firms: • Quantified Future Disclosures • Firm Size
Boo and Simnett (2002)	• Australia • 140 firms • 1990-1991	• Management Prospective Commentary (MPC) in Annual Report	• Manual reading	• Impression Management (reputation and litigation) • Incremental Information: credibility	• Logistic Regression • MPC, Financial Ratios and Firm Size	• Future Good News • Future Bad News	• Future Good News • Current Ratio	• Various Financial Performance Ratios
Schleicher et al (2007)	• UK • 2446 firm years • 1996-2002	• Annual reports	• Computer Based Key Word Search	• Incremental Information	• Adjusted R^2 • Annual Share Returns • Years (0 to 3)	• Future performance • Volume of Future Disclosure	• Forward looking narratives in loss making firms	• Forward looking narratives in profit making firms
Eiker et al. (2000)	• US • 112 firms • 1989	• Annual reports	• Manual Reading and Likert Scale	• Incremental Information	• Adjusted R^2 • Mean Adjusted • Days (-1 to 1)	• Prospective Disclosure • Frequency	• Prospective Disclosures	• Change in Cash flow, Size, Exchange of Listing

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Schleicher and Walker (1999)	• UK • 220 firm years • 1964-1996	• Annual reports	• Manual reading	• Incremental Information	• Adjusted R^2 • Annual Monthly Price Relatives	• Variety in Disclosure • Past, Current and Future Performance • Segment Analysis	• Current/ Past Performance • Future Performance • Segment Analysis	
Lundholm and Myers (2002)	• US • 4478 firm years • 1980-1994	• AIMR Rankings based on annual reports	• AIMR Annual Disclosure Ratings	• Incremental Information: credible	• Adjusted R^2 • Buy-and-hold 12-month returns • Years (1 to 3)	• Variety in Disclosure • Future Attribute • Good News • Bad News	• Disclosure • Industry • Good/ Bad News • Loss Making • Beta • Firm Size	• Firm's Growth • Earning's Persistence
Abrahamson and Amir (1996)	• US • 1,325 firms • 1987-1988	• Annual report MD&A	• Computerised Word (with Synonyms) Search	• Incremental Information • Impression Management (good news, ritualism)	• Adjusted R^2 • Market Adjusted Monthly Returns • Risk Adjusted Monthly Returns • Year (0)	• Bad News • Volume of Disclosure • Explanation of Future, Present or Past Performance	• Changes in Earnings per Share, Earnings • Negativity in Disclosures • Size - Market Value • Systematic Beta	• Book-to-Market Ratio
Bryan (1997)	• US • 250 firms • 1990	• Annual report MD&A (Form 10-K)	• Manual reading, Presence of disclosure items	• Incremental Information	• Adjusted R^2 • Market Adjusted Returns • Days (-5 to 5) • Days (6 to 256)	• Variety in Disclosure • Good News • Neutral • Bad News	• Future Capital Expenditures • Return on Assets	• Financial Performance Changes, Future Liquidity and Known Trends

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Firth (1984)	• UK • 100 firms • 1977	• Annual Reports Voluntary Narratives	• Manual reading using Likert Scale	• Incremental Information	• Adjusted R^2 • Risk Measures • Market Model • Monthly Returns • Years: 1972-1976	• Variety in Disclosure • Importance to risk explanation	• Leverage • Earnings Riskiness	• Disclosure • Firm Size • Dividend Yield
Garsombke (1979)	• US • 100 firms • 1965	• Annual reports • (Form 10-K)	• Manual reading using Likert Scale	• Incremental Information	• R^2 • Risk Measures • Five Year Monthly Returns	• Variety in Disclosures • Importance to investors	• Dividend Pay Out • Leverage • Earnings Variability	• Disclosure • Size (Total Assets) • Asset Growth
Lee et al (2004)	• US • 14 firms • 1975-1995	• Annual Reports	• Manual Reading using Likert Scale	• Incremental Information: credibility • Impression Management: Self-serving	• Autoregressive error structures • Mixed Effect Modelling • Adjusted Share Price Change	• Explanatory Attribute: • Internality • Controllability • Globality • Stability • Nature of News (Good / Bad)	• Negative outcome: • Internality • Controllability • Globality • Short-term Influence	• Negative outcome (Stability) • Positive outcome (Internality) • Controllability • Stability • Globality
Staw et al (1983)	• US • 75 firms • 1977	• Shareholders Letter	• Manual Reading	• Impression Management • Self-Justification	• Correlation • Change in Annual Share Price • Years: 1976-1977	• Explanatory Attribute: Internality/ Externality • Past/ Future • Good/ Bad • Explicit/ Implicit	• Self-Enhancing explanations • Defensive explanations (Negative outcomes attributed to external causes)	

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Davis et al (2007)	• US • 23,443 firm-quarters • 1988-2003	• Quarterly Earnings Press Releases	• Computerised Word Search: DICTION 5.0	• Incremental Information: credibility	• Adjusted R^2 • Size Adjusted Returns • Days (-1 to 1)	• Good/ Bad News	• Good/ Bad News • Unexpected Earnings • Profitability • Asset Turnover • Profit Margin • Book to Market Ratio	• Earnings Surprise
Lang and Lundholm (2000)	• US • 82 firms • 1992	• All Available public disclosures 18 months before and after equity offering	• Manual Reading	• Incremental Information: credibility • Impression Management : hyping shares	• Adjusted R^2 • Continuously Compounded Returns • Days (-2 to 2)	• Volume of all Disclosure • Performance Disclosures • Management Spins • Forward Looking • Others • Good/ Bad	• All Disclosure • Performance Disclosures • Management Spins • Others	• Forward Looking
Schadewitz and Kanto (2002)	• Finland • 37 interviews • 1985-1993	• Interim Reports	• Interviewing and Likert Scale: importance	• Incremental Information	• Adjusted R^2 • Market Model • Days (0 to 10)	• Volume of Disclosure by Presence of Item • Quality	• High Volume of Disclosure • Perceived Quality • Voluntary Disclosure	• Low Level of Disclosure
Mangena (2004b)	• UK • 79 responses • 2002	• Interim Reports	• Questionnaire and Likert Scale	• Incremental Information	• Rank Test • Kruskal Wallis	• Perceived Importance of Items	• Profit and Loss • Cash from operations • Management Commentary • Segment Information	• Audit review • Accounting Policies

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Berry et al (1998)	• US • 399 firm-years • 1990-1993	• Annual Reports	• Arthur Anderson Database for reserve quantities, and cost	• Incremental Information: future cash flows	• Adjusted R^2 • Market Value of Equity • Annual Market Value	• Amount • (high level operating data)	• Past book share value • Earnings Per Share • Energy based reserve valuation	• Current book value per share • Revenue based reserve valuation
Amir and Lev (1996)	• US • 329 Firm quarters • 1988-1993	• Quarterly Reports and Analyst Reports	• Manual Reading	• Incremental Information: future cash flows	• Adjusted R^2 • Market Adjusted Returns • Days (0,1)	• Amount • (high level operating data)	• Growth Potential • Operating Success • Book Value of Equity • Earnings Per Share	
Misund et al.(2008)	• Worldwide • 1482 firm years • 1992-2005	• Annual Financial Reports	• Extraction from J.S Herold Database	• Impression Management: accrual measurement	• Test Statistics and Wald x^2 • Market Value of Equity	• Amount: • (for high level operating data)	• Full Cost Valuation • Income • R&D Cost • Margin per BOE • Change in Reserves • Change in Oil Price • Operational Cash	• Change in Income and Cash • Reserve Replacement Efficiency • Change in Production
Riley et al.(2003)	• US • 10 firms • 1988-1999	• CSRP, Compustat, 10-Ks, Annual Reports	• Manual Reading	• Information Content	• Adjusted R^2 • Market Adjusted Return • Quarterly Returns	• Change (high level operating data)	• Change in: • Revenue Load Factor • Ton Miles • Market Share • Customer Satisfaction	• Earnings • Change in Earnings
Lajili and Zeghal (2006)	• US • 1165 firms • 1995-1999	• Annual Reports	• Extraction from Compustat	• Incremental Information	• Risk Adjusted CAPM • Years (1, 3 and 5)	• Amount: • (for human capital)	• Level of human capital • Firm Size	

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Dumay and Tull (2007)	• Australia • 220 firms • 2004-2005	• Corporate Publication	• Manual and Computer Based - Minitab	• Incremental Information	• ANOVA • Tukey Pair wise • Z-statistics • Market Adjusted Returns • Days: (-3 to 5)	• Good/ Bad/ Neutral • Presence of Item • (intellectual capital)	• Good/ Bad	• Presence of Items • Neutral
Hammersley et al (2008)	• US • 358 items • 2003-2005	• Corporate filings	• Manual reading	• Incremental Information	• Adjusted R^2 • Size-adjusted Returns • Day 0	• Presence of Item • Badness • (internal controls)	• Internal control strength • Auditability • Vagueness • Unexpected Earnings	• Internal control weakness • Auditor finding weakness • Auditor Type • Other disclosures
Smith et al (1984)	• US • 98 firms • 1978	• Form 8K	• Manual Reading	• Impression Management	• Adjusted R^2 • Wilcoxon test • Mean Adjusted Returns • Days (-1 to 0)	• Presence of Item • Amount • (foreign sensitive payments)	• Amount	
Warner et al (1988)	• US • 269 firms • 1962	• Wall Street Journal articles	• Manual Reading	• Incremental Information	• Logit Regression • Market Model • Market Adjusted Returns • Days (-59 to 30)	• Changes in Management • Reason for Change	• Changes in Management • Reason for Change	
Collet (2002)	• UK • 236 items • 1998	• Corporate Publication	• Sequencer Word Search	• Incremental Information • Impression Management	• t-statistic • Market Adjusted • CAPM • Wilcoxon • Days (-30 to 30)	• Bad News • Good News • Changes in Employment	• Changes in Employment • Redundancies (Bad) • Job Openings (Good)	

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Cools and Mirjam van Praag (2007)	• Netherlands • 100 firms • 1991 - 2000	• Corporate Publications, Annual Reports	• Manual Reading	• Impression Management	• t-values • Mean Returns • Market Model • Day (-10 to 1)	• Volume of disclosure • Reason for Change	• Forced Management Departures	
Aitken et al (1994)	• Australia • 33 firms • 1982	• Annual reports	• Manual Reading	• Incremental Information: earnings predictability	• z-scores • Market Model • Mead Adjusted • Market Adjusted	• Presence of Item	• General Segment Disclosures • Segment Revenue and Earnings • Segment Revenue	• Segment Earnings
Buhner and Moller (1985)	• Germany • 24 firms • 1967 - 1973	• Annual reports	• Manual reading	• Incremental Information: risk-return/ EMH	• Paired t-tests • Market Model, API • Week (-12 to 12)	• Presence of Item	• Divisionalisation decision in the long-term	• Divisionalisation in the short-term
Karpik and Riahi-Belkaoui (1994)	• US • 44 firms • 1974	• Corporate Publications	• Past Literature Data	• Incremental Information	• t-values • Market Model • Days (-15 to 15)	• Presence of Item	• Vertical Segment • Related Segments	• Unrelated Segments
Lobo et al (1998)	• US • 76 firms • 1975 - 1978	• Annual reports	• I/B/E/S Database	• Incremental Information	• Parametric z • Wilcoxon z • Price Variability • Days (-2 to 2)	• Presence of Item	• Presence of line-of-business disclosures	
Ettredge et al (2002)	• US • 563 firms • 1996-1998	• Corporate Filings	• Compustat Database	• Impression Management: litigation and competitiveness	• Time series • Adjusted R^2 • Path Analysis • Days (-2 to 2)	• Presence of Item	• Line-of-business disclosures • Firm Size • Industry Type	• Segments - Geographical and Product lines • Major Customer
Conover and Wallace (1995)	• US • 230 firms • 1982	• Annual Reports	• Manual reading	• Incremental Information	• Correlation • Multi Factor Market Model	• Presence of Item	• Number of Geographical Segments	

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Hope et al (2008)	• US • 177 firms • 1992-2004	• Annual Reports	• Compustat Database	• Incremental Information	• Adjusted R^2 • Market Model • Monthly Returns	• Change in Amount	• Changes in Domestic and Foreign Earnings	
Thomas (2000)	• US • 1,912 firm years • 1984-1995	• Form 10-K	• Compustat Database	• Incremental Information	• Adjusted R^2 • Size Adjusted • 5 yearly returns	• Amount	• Geographic Segment Earnings	
Boatsman et al (1993)	• US • 1,086 firm years • 1985-1989	• Annual Reports	• Compustat Database • Manual reading	• Incremental Information	• Adjusted R^2 • Market Model • Days (-10 to 5)	• Amount		• Geographic Segment Earnings
Givoly et al (1999)	• US • 3,710 firms • 1978-1996	• Annual Reports • Form 10-K	• Compustat	• Incremental Information • Impression Management	• Adjusted R^2 • Annual Returns • 12 months	• Amount	• Segment earnings • Segment Sales • Segment Industry Correlation	
Herremans and Akathaporn (1993)	• US • 76 firms • 1982-1987	• Fortune Annual Scores for Corporate Reputation	• Fortune Database	• Impression Management: public image and litigation	• Comparative Analysis • CAPM • Annual Returns	• Presence of item	• Social Responsibility	
Freedman and Patten (2004)	• US • 122 firms • 1988	• Form 10-K	• Manual Reading	• Impression Management	• Adjusted R^2 • Abnormal returns • Days (-1 to 1)	• Presence of item	• Level of Pollution • Extent of environment disclosures	• Industry • Size • Litigation disclosures
Al-Tuwaijri et al (2004)	• US • 198 firms • 1994	• Form 10-K	• Manual reading - Likert	• Incremental Information: EMH	• Adjusted R^2 • Industry Adjusted	• Presence of Item • Amount	• Evironmental Performance • Equity Ratios and Profit Margin	• Earnings • Environmental Disclosures

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Bansal and Clelland (2004)	• US • 100 firms • 1990-1994	• Corporate News Releases • Media Releases	• Manual reading	• Impression Management : credibility and litigation	• Adjusted R^2 • ANOVA • CAPM (beta) • Days (21 to 160)	• Presence of Item • Tone (good, bad, neutral)	• Environmental Legitimacy • Disclosure of Environmental Liability • Firm Size • Profitability	• Industry Membership • Leverage • Ratio of Fixed Assets to Total Assets
Lorraine et al (2004)	• UK • 24 firms • 1995-2000	• Press Releases	• Manual Reading	• Incremental Information: source credibility	• Adjusted R^2 • Market Model • Days (-10 to 10)	• Presence of Item • Tone (good, bad)	•	• Amount of fines • Tone of News (Good, Bad) • Industry Membership
Murray et al (2006)	• UK • 100 firms • 1988-1997	• Annual Reports	• CSEAR scores (Number of Pages)	• Impression Management : managerial disposition	• Adjusted R^2 • Annual Total Returns	• Presence of Item • Disclosure Volume: Pages	• Size	• Voluntary Disclosures • Social Environmental Disclosures
Freedman and Stagliano (1991)	• US • 27 firms • 1981	• Form 10-K	• Annual Reading	• Incremental Information	• Adjusted R^2 • Market Model • Days (0 to 3)	• Current Impact • Amount • Qualitative • Future Effect	• Disclosure of Impact • Non Disclosure of Amount (Adverse effect) • Qualitative but no Amounts (Adverse effect)	• Non disclosure of Impact

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Collet (2004)	• UK • 3,332 statements • 1995-2001	• Corporate Publications	• Manual reading	• Incremental Information	• t-values • Market Adjusted • Days (-5, 10)	• Presence of item • Tone: Good/ Bad • Future • Amount • Explanations	• Trading Announcements • Changes in Margins	• Changes in Sales
Bryan (1997)	• US • 250 firms • 1990	• Annual report MD&A (Form 10-K)	• Manual reading, Presence of disclosure items	• Incremental Information	• Adjusted R^2 • Market Adjusted Returns • Days (-5 to 5) • Days (6 to 256)	• Future • Explanations • Tone: Good, Neutral, Bad	• Future Capital Expenditures	• Revenue Change Explanation • Cost Changes Explanation • Future Liquidity Position
Kanto and Schadewitz (2000)	• Finland • 380 firm years • 1985-1993	• Interim Reports	• Manual Reading: Likert Scales	• Impression Management: Agency • Incremental Information	• Adjusted R^2 • Market Model CAR • Days (0 to 10)	• Presence • Explanations • Changes • Forward Looking	• Analysis of financial statements	• Financial Statements Information • Investments and Finance
Lev and Penman (1990)	• US • 3,420 items • 1968-1975	• Corporate Earnings Forecasts	• Manual Content Analysis:	• Incremental Information: credibility • Impression Management: Agency/ concealment	• Market Model • Market Adjusted • 15 Monthly Returns • Days (-1 to 0)	• Future News • Good News • Bad News • Amount • Qualitative	• Good Earnings Forecast disclosure • Bad Earnings Forecasts	• Non-disclosure • Quantified or qualitative disclosures
Atiase et al (2005)	• US • 627 firms • 1994-2003	• Press Releases	• Manual Reading • Compustat	• Incremental Information: credibility/ factual • Impression Management: not factual	• Adjusted R^2 • Market Model • Days (-1 to 1)	• Past • Current • Future • Amount • Good and Bad	• Future Earnings • Current Earnings • Reliability of Earnings	• Relevancy of Earnings

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Lennox and Park (2006)	•US •6,050 items •1988-2002	•Earnings Forecast Releases	•Manual reading	•Incremental Information: Information Asymmetry	•Adjusted R^2 •Market Adjusted •Days (0 to 1)	•Presence of Item •Forward Looking •Historic •Tone: Good, Neutral, Bad •Amount •Qualitative	•Earnings response Coefficient (ERC) as a proxy for forecast earnings •Historic ERC •Good New •Bad News	
Lakhal (2008)	•France •309 items •1988-2001	•Voluntary Earnings Releases	•Manual reading	•Incremental Information: Information Asymmetry	•T-statistics •Panel data Regression •Market Model •Days	•Forward Looking •Tone: Good, Neutral, Bad	•Good •Bad	•Neutral
Hutton et al (2003)	•US •147 firms •1993-1997	•Management Forecasts for Earnings, Sales, Cash flows, Margins	•Manual Reading •PR Newswire and Dow Jones News Retrieval Service	•Incremental Information: for Good News •Impression Management: for Bad News	•Multiple regression •Market Adjusted •Size Adjusted •Days (-1 to 1)	•Forward Looking •Amounts •Qualitative •Explanation •Tone: Good, Bad	•Good Quantified News	•Bad News
Anilowski et al (2007)	•US •31,230 items •1990-2004	•Management Earnings Forecasts	•Manual reading	•Incremental Information	•Correlation •Market Adjusted •Monthly Returns •Days (-1 to 1)	•Forward Looking •Amounts •Qualitative •Tone: Good, Bad, Neutral	•Good News •Bad News •Aggregate Disclosures with Daily Returns	•Aggregate Disclosures to Monthly Returns

Study	Sample Size and Data	Disclosure Medium and Narrative Types	Content Analysis Type	Theoretic Reason	Information Content Measure	Attributions of Disclosure	Variables Confirmed	Variables not Confirmed
Baginski et al (2004)	• US • 951 items • 1993-1996	• Management Earnings Forecasts	• Manual reading	• Incremental Information • Impression Management : Internal Explanations	• Adjusted R^2 • Market Model • Days (-1 to 1)	• Presence of item • Tone: Good, Bad • Explanation: Internal or External • Value	• Unexpected Earnings • Explanations to Forecasts • External Explanations • Explanation for Maximum Forecast • Explanation for Range Forecasts • Sales Forecast	• Internal Explanations • Explanations for Minimum Forecasts • One time Income Benefit • Other Disclosures

The studies summarised in Table 9 include three UK based studies that have examined information content of all narratives commentaries in a financial report. They include Firth (1984), Schleicher and Walker (1999) and Schleicher et al (2007). In Firth (1984), all attributions were insignificantly related to share price returns. In Schleicher et al (2007), explanations for performance and forward looking attributions were jointly relevant in share pricing for loss making firms. It is only Schleicher and Walker (1999) who considered relative information content of various attributions to include narratives about past performance, future performance and comprehensiveness (segment reporting). Their results showed that all these attributions were informative.

Other studies in the UK consider attributions in specific information topics. For example Lorraine et al (2004) established that rhetoric toning and amount attributions in environmental disclosures had no information content to share prices. Murray et al (2006) alternatively used impression management but still the presence and volume attributions of environmental information were not relevant. Collet (2002) based on both incremental information and impression management to justify the comparison of current with past attribution for employment changes is useful. In another study, Collet (2004) used incremental information but yielded mixed findings on the comparison of current with past performance attribution, where change in sales had no effect on share price but changes in margins had an effect.

3.11 Possible Reasons for Conflicting Results in Prior Literature

The literature reviewed above demonstrates that there is no unanimous conclusion regarding the usefulness of any disclosure attribution to share pricing. There are a number of possible reasons for this. First, the studies are drawn from different countries with divergent reporting cultures and investors' behaviour or perceptions. Bailey et al (2006) suggested the disclosure environment principally influenced variation in investor reaction to disclosures. Second, the summary in Table 9 shows that there is a variety of techniques applied in disclosure measurement, estimation of share price returns and establishment of the relationship between narrative disclosures and share price returns. Third, the use of variables by the various studies may also explain the conflicting results. Fourth, the research reviewed has measured

disclosure from a number of mediums such as analyst ratings, annual, semi-annual or quarterly reports and various corporate announcements. Furthermore, prior research has used a multitude of various theoretical underpinnings for narrative information content, broadly classified under impression management and incremental information. Healy et al (1999) caution that generalisation of results may not be feasible due to variations in statistical techniques and conceptual frameworks. In addition, the periods from which samples were drawn and the constitution of samples could explain the result variations. Beattie et al (2008) confirm that narratives in UK annual reports have increased overtime and the development is thought to degrade the relevancy of the information. Finally, firm characteristics such as firm size (e.g. Kasznik and Lev 1995; Lundholm and Myers 2002) and industry membership (e.g. Ettredge et al. 2002) may have influenced the extent of usefulness of the narrative disclosures. With such a diversity of possibilities that may explain the contradicting results in prior research on information content it is evident that more research is still required before a consistent pattern of results can emerge.

3.12 Gap in Literature

The preceding literature review has discussed previous studies on information content in both the UK and elsewhere. The purpose of this section is to outline the gap in that literature so that the need for further research can be clearly delineated and provide the rationale for the current study. First, it is clear from the previous research that there are only three studies (e.g. Firth 1984; Schleicher et al. 2007; Schleicher and Walker 1999) that have used UK data to measure information content of all narrative information. However, the studies all used the annual report, which means the interim report has not been used in the UK to investigate information content of narrative information. Therefore, a gap exists in establishing information content of the UK interim report narrative commentaries.

Second, previous studies have used dichotomous scoring procedure. The procedure has been criticised because it fails to reveal the disclosure quality attributes in narratives (Beattie et al. 2004; Beattie and Thomson 2007). As a result, a call has been made for more detailed

analysis of information items in narratives considering both disclosure variety and depth attribution as opposed to disclosure variety that only considers presence of themes or topics.

Third, although some research that has considered the information content of interim reports have been undertaken in other countries, e.g. Kanto and Schadewitz (2000) and Schadewitz et al (2002) in Finland, it is important that further research is done using UK data for two reasons. One, the reporting environment may influence the results differently. For example, changes in legislation have influence disclosure extent (Johnson et al. 2001; Rogers and Van Buskirk 2009). Two, the studies by Kanto and Schadewitz (2000) and Schadewitz et al (2002) ignored attributions such as good or bad news, amounts, comparison of current with past performance and forward-looking disclosures.

Fourth, another distinct observation by Beattie and Thomson (2007) and Merkl-Davies and Brennan (2007) is that repetitions are widespread in narrative reporting. No narrative information content research was identified by this thesis found to give a lucid or well-articulated attention to investigate the attribution's information content. Francis et al (2002) give some notice in measuring disclosures with the attribution in mind; however, their analysis and discussion does not deliberate its usefulness. In the review above, some studies (e.g. Schadewitz et al. 2002) give regard to the repetition surrogated as volume of disclosure. However, given that this attribute is not considered in UK literature, this indicates that there is a gap on the relevance of disclosure volume in UK financial reports, specifically the interim report.

Finally, the literature review has also revealed that previous researcher have investigated a number of themes e.g. environmental, intellectual capital. One reason for this is that such themes were thought to be useful. However, since ASB (2005; 2006) suggested that narrative information should complement as well as supplement financial statements there is no available empirical evidence whether such information is useful. As suggested before, this is more critical now given that investors are already suffering from information overload because of the volume of narrative disclosed. Investigating the relative usefulness of complementary and supplementary narrative is therefore important as it may enable information providers to

prioritise what type of information to disclose. Further, there is recent evidence (e.g. FRC 2009; IASB 2009) to show that regulators and standard-setters support complementing and supplementing in financial reports.

3.13 Summary and Concluding Remarks

This chapter has reviewed literature on information content of narrative disclosures in corporate specific releases and financial reports. As indicated in the introduction to the chapter, the review is illustrative and does not assume a comprehensive approach. First, attributes of narrative disclosures quality are identified. Based on the attributes recommended in ASB (2005; 2006), the review of the information content of narrative commentaries literature is classified according to the attributions. These include good and bad news, volume of disclosure, presence of an information item, amount, comparison of current with past performance, reason for performance and forward-looking disclosures.

Although there is no universal theory used in the studies to justify results, as also acknowledged in Merkl-Davies and Brennan (2007), largely, the literature in review used mainly incremental information or impression management to conjecture for presence or absence information content. Generally, despite the vast evidence examining information content of narrative commentaries, there are reasons that substantiate the relevance of this thesis. As evidenced from the literature, there is no study that investigated the relative information content of complementary and supplementary disclosures in UK financial reports. This is in spite of regulatory judgment in ASB (2005; 2006) that both types of narrative commentaries are useful for investment decision making. Secondly, and more specific, there is no research that has documented the relative importance of narrative disclosures in UK interim reports. A few studies (e.g. Opong 1995; Rippington and Taffler 1995; Ryan and Taffler 2004; Wolfe et al. 2009) have documented that announcement of UK interim reports impact on share returns. However, other than announcement impact on returns, there is gap concerning what information in the interim reports narratives do investors use for share pricing. Furthermore, this research addresses the apprehension that prior research has largely neglected comprehensiveness in measuring and establishing information content of disclosure

quality attributes. Beattie et al (2004), Beattie and Thomson (2007) and Merkl-Davies and Brennan (2007) recognise the scantiness of research taking into consideration attributions in narratives. This study also responds to their call for new studies in narrative disclosure extent and narrative disclosures information content that recognise the variety of attributions in narrative commentaries.

4   USEFULNESS OF INTERIM REPORTS

4.1   Introduction

This chapter discusses the usefulness of interim reporting. This chapter assists in illuminating key aspects underlying the medium of disclosure whose narratives are examined for information content. The issues considered include the definition of interim reporting, the purpose, cost-benefit analysis and investors' use of interim financial reports. The discussion is also extended to the importance of features distinguishing interim reports from annual reports. The rest of the chapter is organised as follows. The next section examines the role of interim disclosures. The discussion then justifies investors as the prime user group of interim reports, leading to the identification of type of information required by investors. Empirical evidence on the usefulness of interim information to investors is then examined. The chapter then examines investors' use of the distinct features of interim reporting – voluntary audit involvement and reporting frequency. Finally, a summary and conclusion is provided.

4.2   The Role of Interim Reports

The usefulness of the interim report is derived from the fact that interim reports precede annual reports in the financial year reporting cycle. Green (1964) argues that the most important purpose of interim reports is to forecast annual financial performance thereby reducing uncertainty about the direction of the company. The different techniques of interim reporting or computation of interim results (e.g. discrete, predictive or disclosure), are based on the rationale that interim reports are ancillary to the annual report with an aim of predicting the annual performance (Bollom 1973; Shillinglaw 1961). [1] The American Institute of Certified Public Accountants (AICPA) in AICPA (1973) agrees with this suggestion that usefulness of interim reports is embedded in the ability that the disclosures therein have in reference to anticipating annual

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[1]Discrete approach computes interim income without reference to other interim period; predictive approach requires income to be computed as an approximation for the entire year while in disclosure approach interim results are provided in other means without computation of interim income (Bollom 1973).

results. This role is also recognised in UK guidance on interim reporting found in ASB (ASB 1997) as well as the updated version in ASB (2007a).

Various studies (e.g. Holmes 1971; Lunt 1982; Shaw 1981) find the interim report as a supplement to the annual report because of difference in the length of reporting intervals between interim and annual reports. The interval enables interim reports to capture short-term seasonal, random, scheduled, cyclic and non-recurring financial and non-financial fluctuations in the business (Bollom 1973; Green 1964; Shillinglaw 1961). For example, Shaw (1981) suggests that the timeliness of interim reports pre-empts disclosure of extraordinary fluctuations in financial performance that would have been ignored in annual reports. The short reporting interval facilitates disclosure of such fluctuations yet annual reporting would have them consolidated with the performance for the entire financial year. Holmes (1971) says that a year is a long period to leave investors without information; therefore, interim reports serve to reduce the lengthy interval.

In the study by Courtis (1987), the capacity entrenched in interim reports to disclose the impact of seasonality on financial performance provides an incremental role of the reports, compared to annual reports. Interim information acknowledges that a firm's profit-making potential is not symmetrical across seasons or within halves of the financial year, unlike annual reports. Therefore, the seasonality in profits provides turning points of the business; which information is hardly existent in annual reports and allows a comparative assessment of performance from one period to another. Early UK interim reporting regulation was partly motivated by the distinctive characteristics in interim reports disclosures compared to those in annual reports.

In the Regulation of Railways Act (1868) as well as the Bill preceding the Joint Stock Companies Act of 1884, railway companies and joint stock venture, respectively, were required to provide interim reports (Carruthers and Espeland 1991; Edwards 1989). Enacting of Regulation of Railways Act (1868) was inspired by financial crisis of 1866 that led to the collapse of Watson Overand & Co, a railway contracting company (Edwards 1989). The aim of the regulation was to standardise accounting presentation and assist investors to see at glance the exact financial position of the company. This purpose arguably is similar to that of

annual reports, the only differentiating factor being the reporting interval. Also in ASB (1997), it is stated that interim reports facilitate the monitoring of business development using the preceding annual report as a benchmark. The regulation therefore recognises the reporting interval length and benchmarking purposes of interim reporting. ASB (2007a) further affirms this by suggesting that interim reports shorten the reporting period to acquaint investors with developments affecting trading conditions as well as acting as progress report on the operating, financing and investing activities of the business. In the UK scenario, the interval length argument may arguably be challenged, as the interval between subsequent interim reports is similar to that between annual reports.

However, the roles of interim reporting based on the distinguishing factors between annual and interim reporting have been challenged. Arthur Andersen and Company (1972) and Atrill (1986) argued that it is very limiting to assume that the interim report deduces its relevance from its dissimilarities with the annual report. Arthur Andersen and Company (1972) proceed to suggest the predictive role of interim reports should be determined by the ability of the reports to have such information. Both interim and annual reports may incorporate forward-looking information or historical trends that can aid projection of both the short- and long-term. Therefore, it is misleading to suppose that the forward-looking information or trends that can help predict future performance in interim report make the medium relatively important compared to annual reports. Atrill (1986) was of the view that the short-ranged distinction between the annual and interim report makes the prime purpose of both reports to be financial reporting to be financial reporting for investment decision-making.

Hogarth and Einhorn (1992) adopt another role of interim reports from the psychological concept of anchoring and adjustment. Information is processed in two ways. The first, step-by-step (SbS), requires updating of a belief as each new piece of information is presented; the second, end-of-sequence (EoS), entails updating a belief after all evidence is accumulated. Holding information constant, interim reporting tends to fulfil SbS while annual reports amass both interim and post interim period to fulfil the EoS. Hunton et al (2003) suggests that investors are likely to prefer SbS because of timeliness and likelihood of abating information overload despite the EoS's ability to provide more information.

Like annual reports, interim reports serve as a tool for monitoring of management stewardship. Whittington's (1991) viewed that financial reporting helps in judging agents' performance. Also, Coopers and Lybrand (1992) proposed that interim reports information is reflective of management's actions. In concurrence, Trueman (1986) held that the company's market value is a function of investors' perceptions about management's ability to anticipate and respond to future changes in the firm's economic environment. In disagreement, Atrill (1986) was of the opinion that investors are in pursuit of information relating to the company's performance in interim reports rather than stewardship by management.

From the above discussion, it is arguable that interim reports fulfil the collective roles of financial reporting which may include informing users about the firms' performance as well as aiding in stewardship monitoring. Additionally, the reporting of interim results prior to the annual report empowers interim reports to have predictive abilities about annual performance. Further, short reporting interval enables the interim reports to articulate seasonality effects and extraordinary fluctuations that are largely cumulated in annual reporting. Also interim reporting may posses the benefit of updating investors as and when events occur; thereby reducing instances of information overload. Lastly, like all financial reporting mediums, interim reporting facilitates investors with information to assess the investment's performance for investment decision making as well as stewardship monitoring. However, noticeable, the studies above did not suggest any ordering regarding supremacy of the roles. In this study, given that the aim of the thesis is to examine information content of disclosures; the main role assumed is decision usefulness of interim report disclosures.

4.3   Investors as Prime Users of Interim Reports

Prior literature (e.g. Buzby 1974; Elliott and Jacobson 1994; Gray et al. 1984; Hooks et al. 2002a; Lee 1982; Wallace and Nasser 1995) suggests various users of financial reports. Buzby (1974) recognises the users as current and potential investors, creditors, financial analysts, employees, government, labour unions and socially oriented action groups. Fairly alike, ASC (1975) suggests that anyone who has reasonable right to information of the firm is

classifiable as a user of financial reports and such include investors, creditors, analyst-adviser, employee, governments and the public. The accountability concept in Hooks et al (2002a) and Wallace and Nasser (1995) proposes that companies have a responsibility to report to society without regard to a specific user group. Clarkson (1995) elaborates the accountability concept using a three dimensional framework for stakeholder theory - descriptive, instrumental and normative. The descriptive aspect related to management of the business state of affairs in consideration to stakeholder while the instrumental dimension examines specific links between stakeholder management and corporate performance. The normative aspect relates to the moral obligation of the firm to its stakeholders.

Another outlook of the accountability-reporting framework is Chen's (1975) managerial accountability model in Diagram 1 below.

Diagram 1   Managerial Accountability Model

Employees
Customers
Regulators
Suppliers
Society

Resource Owners

Owners

Right to use and power to control

Management
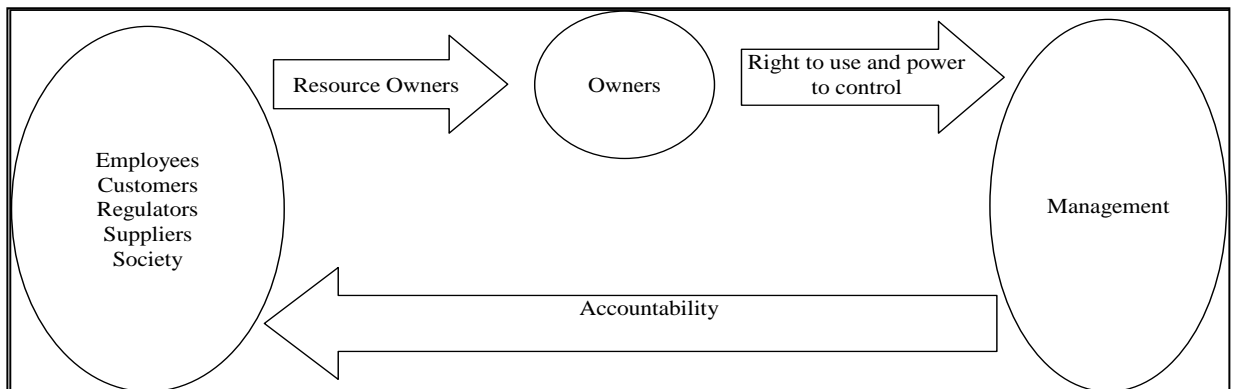
Accountability

Source: Chen (1975, p. 539)

In the diagram, accountability arises from the interaction of the business with its set of stakeholders and the impact of this relationship to disclosures. The model postulates an amalgamation of both accountability and decision usefulness concept underlying disclosure enhances comprehensiveness and effectiveness of the information. In the framework, society and the company affect each other's activities; thereby justifying the accountability concept. However, given that society owns the capital resources used by the firm through its management, the decision usefulness concept for disclosure is pertinent to aid society on

proper allocation of their resources to the firm. In other words, investors, being part of society, are viewed as utilising disclosures from both an accountability view and decision usefulness notion.

Whilst recognizing other users, Elliott and Jacobson (1994) emphasise that the principal users of financial reports are the investors and creditors because they effectively "buy" the information. They argue that when buying corporate equity or bonds, shareholders and bondholders pay for the information; a characteristic that distinguishes them from other users. Beattie et al (2004), Lee (1982) and Gray et al (1984) all have a similar view that investors are the main users of disclosures; although the information ought to embrace needs of all stakeholders.

Regulatory guidelines also assent to this opinion. For example, the Jenkins Report in AICPA (1994) explicitly adopted the opinion in Elliott and Jacobson (1994) while recommending the types of narrative disclosures that reflect comprehensive business reporting. Beattie et al (2004) acknowledged that proposals for financial reports narratives in ASB (2005; 2006) are a reverberation of the Jenkins report.   For interim reporting, regulation in the UK (e.g. ASB 1997; 2007a) follows suit by considering that justification of interim reports draws from idea that annual reporting is too long a period for users, specifically shareholders, to be without information. Even professional accounting bodies are consistent with this opinion. For example, in ICAS (1988) the corporate report was considered to serve various information needs, but investors, creditors, business contacts and employees are primary users. Also PWC (2008, p. 4) suggests "…in difficult economic times, corporate governance disclosures in financial reports are important to investors to guide going concern and liquidity risks of the company." It is for this reason that regulatory bodies, FRC and FSA were in consultation during 2008 to ensure that the Combined Code, Listing Rules and Disclosure and Transparency Rules be amended to require a harmonized Statement of Corporate Governance in line with EU Company Law Directives (4th and 8th).

Within the companies, Gray and Roberts (1989) found that UK finance directors think that the main recipients of disclosed information are institutional investors, potential investors, private investors, financial analysts and the financial press.

A contra argument against the assertion that the information is meant for investors is that some investors are unsophisticated and do not understand the information in financial reports. Nikolaev and Laurence (2005) argue that sophisticated and unsophisticated investors have dissimilar aptitude in analyzing financial reports. Worse still, the discourse of financial reports is very technical that unsophisticated investors at times do not realise tendencies of management impression or intended withholding of information. Therefore, such divergence in interpretation and exploration of the reports pre-empts the notion that the disclosures are not meant for all investors. Stamps (1981) strongly supported this viewpoint on grounds that unsophisticated investors' lack of skill regarding usage of financial information to make good investment decisions, combined with the complexity of financial reports meant that the remedy of such investors is expert advice or managed investment trusts. This position is advocated for in various studies (e.g. Healy and Palepu 2001; Schipper 1991) which suggest that the management disclose is primarily for financial analysts. The justification for this perspective is that financial analysts are the intermediaries that the less skilled investors utilise to identify content relevant for investment decision making from the financial reports. Lee and Tweedie's (1976; 1977; 1981) conform to this argument by their findings that analysts make use of financial reports and have relatively superior understanding of the information than private investors. Further, a large body of literature (e.g. Bercel 1994; Lang and Lundholm 1996; Mangena 2004b; Nielsen 2004; Orens and Lybaert 2007) concurs that the technical knowledge of analysts enables them to use financial reports for forecasting, advising and investment decisions. In contrast, Atrill's (1986) view is that the form and content of financial reporting as required by LSE emphasises that unsophisticated investor should be considered. Similarly, Hammill (1979) studied interim reports and concurred that investors with limited accounting knowledge could easily understand the oration. The evidence above provides mixed argument on the aspect of usefulness of the disclosures to unsophisticated investors.

4.4 Information Needs of Investors from Interim Reports

This section assumes that investors are the principal users of interim reports and discusses the type of information they require from the disclosures. As discussed earlier, interim reports assist investors to predict annual earnings, analyse performance progression, assess management stewardship and identify business turning points or seasonality in profitability. Also indicated before, given the lack of clarity in literature regarding which roles are most crucial, this study adopts the decision usefulness as the essential role based on the aim of the thesis. Therefore, the information needs discussed are intended to meet the decision usefulness function.

The latest regulation on half-yearly reporting, ASB (2007a) and FSA's Disclosure and Transparency Rules (DTR) in FSA (2009) distinguish the content of the interim report into three sections: the financial report, the management report and the statement of directors' responsibilities. The financial report is a reflection of compliance to IFRS recommended financial statements in IASB (2007). These include the profit and loss statement, the statement of total recognised gains and losses, balance sheet and cash flow statement. The financial report should also be accompanied by supplementary disclosures explaining significant events and trends by way of a note or figures in a manner that is concise, consistent and comparable with either previous performance or like companies. Responses of analysts to interim reporting recommendations in ASB (1996) called for more detail underlying interim reported earnings in order to give further explanation to the earnings figures. It may be deduced that the disclosures recommended above are recommended to assist investors understand how the reported earnings were made.

The information required by ASB (2007a) in the management report includes important events within the interim period and their effects on financial performance, together with principle risk and uncertainty expected within the next interim period. The focus should be items that changed within the course of the interim period. Although not required to be as comprehensive as the OFR, ASB (2007a) commends that its recommendations are in

compliance with the DTR; thereby making the recommended disclosures sufficient for use on the financial markets. Further guidance is that the narratives should be balanced while providing reasons for any significant movements to ensure their reliability.

Other disclosures suggested for interim narratives in ASB (2007a) include related party transactions and changes, seasonal activities and their underlying assumptions, explanation of financial statements' figures and the changes thereof and segment disclosures. These disclosures give further justification of the interim financial position and performance. To enable users assess reliability and relevance, ASB (2007a) asserts that interim reports should disclose the reporting period, approval date and extent of interim report audit or review. However, ASB (2007a) did not expect that its recommendation ensure full compliance to Financial Reporting Standards (FRS) and Statements of Standard Accounting Practice (SSAP).

Empirical research observations and remarks demonstrate that there are various interim report disclosures that are relevant to investors. Silhan (1983), showed that information about segmental sales and profit in US quarterly was a better predicator of returns than aggregated turnover and profitability figures. This finding demonstrates that the usefulness of segmental reporting in interim reports. In Davis et al (2007) financial performance ratios in US quarterly releases such as profitability, asset turnover, profit margin and book-to-market ratio were regarded as credible and useful to investors. Amir and Lev (1996) concluded that high-level operation interim reports disclosures provided investors with information underlying the computation of performance measures. Such included statistics about growth potential, operational success, book value of equity and earnings per share. In Baginski et al (2000) it was shown that forecasts and their explanations in interim reports were used by investors in predicting annual performance.

Finnish studies (e.g. Kanto and Schadewitz 2000; Schadewitz et al. 2002) investigated the information content of the entire narrative content in interim reports. While Kanto and Schadewitz (2000) analysed usefulness of a range of themes in narratives, Schadewitz et al (2002) focussed on the association of share price returns with various levels of disclosure.

Kanto and Schadewitz (2000) argued that a structured disclosure of events and transactions narrows the agency problem arising from information asymmetry. Interim reports offer this benefit due to their lower regulatory nature than annual reports, indicating management willingness to voluntarily disclose. Further, interim reports have a character of newness in information since they have no preliminary report as is the case with annual reports. Disclosure by topics also was viewed as important because structured information reflected effective communication with users, simplifies information of listed firms whose structure is complex. In the results, narratives under the financial analysis theme were informative due to their ability to provide explanations for performance. Information under the financial statements section was insignificant in relation to cumulative abnormal returns, suggesting that components in the statements without further analysis are not useful to investors. Overview of performance was negatively associated to returns, a finding accountable to the thought that troubled firms were compelled to providing a broad overview in an attempt to justify performance. Lastly, disclosures under investments and finance had no information content due to distinct nature of industries that require various investment levels.

Schadewitz et al (2002) were interested in why firms have varying levels of disclosure and investors reaction to the different patterns. Their disclosure index comprised of information on governance, business and financial risks, capital structure, stock valuation, growth, growth potential, size and market maturity. The findings showed that when firms disclosed a level equivalent to expected information, investors under reacted because the information was nearly public. In conformity with this hypothesis, is the notion that the investors were interested in new information; an aspect that interim reports tend to fulfil by providing disclosures about changes within the interim period. When disclosures were less than expected, investors were slow to react in pursuit of expected disclosures. Failure to find the disclosures meant insignificant reaction, again conforming to the perspective that lack of new information makes the material in the reports less relevant. The delayed reaction to more than expected disclosures in interim report narratives either inferred a requirement of more time to comprehend the voluminous information or more time to understand performance patterns due to the irregular earnings performance in various quarters.

In the UK, Mangena (2004b) used interviews to establish the perceived usefulness of various types of information that investors regard relevant. Respondents found the profit and loss, cash flow from operations, management commentary and segment information useful. The audit review and accounting policies were not confirmed as relevant. Atrill (1986) also surveyed interim report information needs of analysts. In the findings, 85% of interviewees preferred disclosure of segment analysis of sales and profit, discontinued operations, alongside cost of sales figures; while 78% of analysts required separate disclosure of the depreciation charge to enable proper prediction of future cash flows.

In a Malaysian study, Ku Nor Izah and Chandler (2005), users were asked to rank 38 items disclosed in the quarterly reports. In the narratives section, the most useful items were segmental analysis, breakdown of borrowings, performance review, issuance and payment of debt and equity securities. The less important items were amounts and nature of exceptional and extraordinary items, investments in quoted securities, current year prospects. For financial statements, profits, assets per share, long-term liabilities, cash and earnings per share were more useful whilst current assets and turnover, interest expenses were of lower significance.

Specifically regarding financial statements components, Edwards et al (1972) found that financial analysts required the funds flow and cash flow statements at the interim stage because the statements showed the movement of financial resources during the interim period. Hussey and Bence (1992) established that analysts required cash flow disclosures due to the possibility that the information assists in affirming that the firm can finance its future investment plans as well as reflecting the quality in earnings. ASB (1996) suggests that corporate managers revealed that almost all interviewees were in support of inclusion of a cash flow statement in interim reports. As for the balance sheet, Edwards et al (1972) expressed that the information therein assisted users to estimate risks and anticipate profitability. Seidler and Benjes (1967) conjecture that balance sheets, as a position statement, affirm the credibility of the interim income statement. Mangena (2004a) interpreted Seidler and Benjes' (1967) thinking to imply that the balance sheet checks the possibility that that certain preparers of financial reports do not exercise due care and diligence when reporting income statement

disclosures. The balance sheet thereby acts as control to this shortfall thereby reinforcing the usefulness of the financial statements. In support, Chen et al (2002) advocate that the balance sheet is useful for appraising a firm's performance especially when interim earnings are relatively less informative or when future earnings are relatively uncertain. Participants to the survey in ASB (1996) showed preference for interim balance sheet information such as disclosures on fixed assets, trade debtors, creditors and equity.

As conclusion to this section, prior literature concentrated on investigating useful information items in financial statements disclosures, mainly the income statement, cash flow statement, the defunct funds flow and balance sheet as well as narrative commentaries. Noticeable, with an exception of Mangena (2004b), no attention in literature is given to investigating usefulness of items in the statement of recognised gains and losses. Also, the studies largely did not examine whether investors find disclosures in the statement of directors' responsibilities relevant. In the UK, the responsibility statement is recommended in both FSA (2009) and ASB (2007a). Lastly, most of the studies reviewed in this section based their conclusions on perceived usefulness of the interim reports as opposed to information content research. Despite the use of different research method, most of the studies confirm that both the financial statement components and the narrative information items are required by investors to inform their investment decisions.

4.5   Empirical Evidence on Usefulness of Interim Reports

Mangena (2004a) identified two methodologies that prior studies employed to investigate usefulness, (1) through surveys or questionnaires on respondent perception about importance of interim reports and (2) market reaction to publication of interim reports. Accordingly, this section reviews studies on perceived usefulness as well as market reaction to interim reporting.

4.5.1 Perceived Usefulness of Interim Reports

Taylor (1965) is probably the pioneering study on usefulness of interim reports. By surveying US financial analysts, several conclusions were drawn on the value of the reports. Firstly, interim reports were viewed essential for enlightening on events that may affect share prices

within the interim interval. Secondly, failure to disclose such information would entice management to engage in insider dealing. Among the disadvantages of interim reporting was cost of disclosures; however, respondents largely suggested that the costs are immaterial. The probability of competitive disadvantage by providing information to rival firms was considered an insignificant and the traditional argument was for benefits of the disclosures. Thirdly, the problem that the asymmetrical seasonality effect on interim information would deter comparison was rejected by respondents on the premise that it is based on the misguided assumption of obtuseness of users. The only acceptable problem was that interim income estimation varied across industries, thereby deterring comparability. However, a similar problem was evident for annual income measurement, subduing the argument that the problem is unique to interim reporting. Newell (1969) used a Likert scale to rate perceptions of US financial analysts on the relevance of interim reports. Similar to Taylor (1965) over 80% of the respondents found the reports essential for guiding investment decisions. According to Newell's (1968) doctoral dissertation, analysts perceived the main setback in interim report was that quarterly earnings were prone to measurement inconsistencies, echoing Taylor's (1965) conclusion factors affecting usefulness of interim reporting.

In the UK, Holmes (1971) confirms similarly that respondents in the study viewed interim reports as a relevant tool for informing the investment decision-making process. Lee and Tweedie (1975) used surveys to establish whether private equity holders in the UK considered financial reports informative. Similar to the US studies, over 80% of the shareholders used interim reports. Revisiting their research, but this time using institutional investors, Lee and Tweedie (1981) came to a similar conclusion that interim reports are useful. A significant find in the study was that almost half of the institutional investors ranked the interim report as the prime useful financial reporting medium.

 A number of studies using UK data (e.g. Arnold and Moizer 1984; Bartlett and Chandler 1997) have followed suit of carrying out comparative studies by inquiring participants' perceived ranking of the reports based on usefulness to investment decision making. Arnold and Moizer (1984) analysed responses from 202 financial analysts of companies listed on the London Stock Exchange. The interim report was ranked third, after the annual report income

statement and balance sheet sections. Bartlett and Chandler (1997) sought to establish the extent to which ordinary shareholders read the annual report and other sources of information. Likewise, interim financial statements were rated third after financial press reports and summary annual financial statements. More ranked evidence in Hussey and Bence (1992) showed that interviewees who were equity holders of Wellcome Plc regarded the interim reports as second after preliminary statements. However, Hussey and Woolfe (1994) found a contrary result to the paradigm supporting usefulness of interim reports. The study, based on 50 UK private shareholders, surveyed the readership of the interim and preliminary reports. Their evidence suggested that the interim report was less relevant to investors, even the sophisticated ones. On the contrary, Bence et al (1995) who also studied user perceptions on relevance of preliminary announcements and interim reports found that users regarded both reports as vital. Financial analysts ranked preliminary reports and interim reports first and second respectively, however institutional investors classified them as fifth and seventh respectively. The result from institutional investors may be reflective of Holland's (1997) argument that these users are in a privileged position to get information from firms as opposed to dependence on publicly published sources. In Barker (1998), both financial analysts and fund managers regarded the interim reports essential because the reports provide disclosures relevant for investment decisions.

Elsewhere, Vergoossen (1993) compared the ratings of ten information sources that Dutch investment use. Interim report like various studies above (e.g. Arnold and Moizer 1984; Bartlett and Chandler 1997) took third position after the annual report and investor briefings. Ku Nor Izah and Chandler (2005) found that Malaysian professional investors (that is, fund managers and financial analysts) used quarterly reports for investment decisions. The most significant reasons for use of the reports included prediction of annual results, comparison with prior periods and ascertaining turning points. Other uses included prediction of results beyond current financial year, evaluating management performance and determination of discount and growth rates for evaluating security prices. In comparison with other information sources, the quarterly reports were ranked fifth after visits to companies, communication with management, advisory services, annual reports and prospectus.

4.5.2 Information Content of the Announcement of Interim Reports

This section is concerned with studies that have investigated information content on the event of publishing interim reports. Information content in this case is as defined in Firth (1981), as the movement of share market variable of volume of trade, share price returns, number of trades when the reports are published.

Early information content studies (e.g. Ball and Brown 1968; Beaver 1968) concentrated on annual reports information. Literature on information content of interim reports was prompted by the seminal work in Ball and Brown (1968). In this study, the lack of information content in annual earnings numbers was attributed to either the presence of prior information anticipating the annual results or the relatively less timeliness of annual reports, among other reasons. This evidence compelled researchers to turn to timelier information sources as well as other forms of disclosures other than income numbers.

Firth (1981) provided early evidence of information content of interim reports in the UK. The study used weekly abnormal returns, volume of trade and number of dealings to measure usefulness of various corporate announcements, including interim reporting. Interim reports had information content due to their timelier nature compared to annual reports. Brookfield and Morris (1992) used daily abnormal returns to investigate the information content of various types of firm announcements in the UK. Similar to Firth (1981) they confirmed that investors use the announcements to continuously revise their expectations. Noticeably, interim reports were among the most commonly used reports. Opong (1995) refined this evidence by investigating the influence on daily share price returns on interim report announcement. His argument for using daily prices was that using weekly or monthly prices ignores the precise time of price adjustment to new information. Using the variance method, the evidence confirmed the informativeness of interim reports, mainly on announcement date despite the conjecture that the reports are subdued to unreliability arising from lack of third party authentication. Rippington and Taffler (1995) confirmed the conjecture in Firth (1981) that the interim report was more useful to investors than the annual report. The study,

conducted using London Stock Exchange listed companies, suggested that reports provided important information on firm performance for firms that media and analysts do not consider due to their small size. The reports are small and are more likely to provide information that is precise and concise for the purpose of investment decision making. Ryan and Taffler (2004) commented on prior studies that they consider information events and their usefulness to investors in isolation. They conjecture that incorporating all information events in a study provided a holistic understanding of information content. With data based on FTSE350 firms for the period 1994/1995, they find the interim reports trigger a significant change in trading volume and share prices. Further, analyst advice does not substitute the information there since the analysts do not anticipate the information content of the reports. A more compelling confirmation due to spectrum of study period was by Wolfe et al (2009). The researchers differentiated their study from Ryan and Taffler (2004) by focussing on interim and annual reports only so as have to have a more detailed examination of information content on a longitudinal scale (FTSE 250 firms for the period 1984-2005). Using daily returns from the market model, both interim and annual reports had a high impact on share returns. Despite other announcements having information content, as suggested in Ryan and Taffler (2004), the two reports were regarded as the potential origin of the Parentian-like distribution found in share returns.

For the UK studies, it appears that studies are in conformity that there is information content in the event of announcement of the interim reports. Ryan and Taffler (2004) echo that the possibility of no preliminary report to the interim report underpins the newness of the disclosures therein, hence the usefulness of the report. Opong (1995) advocates that the usefulness of interim reports could be related to the presumption that the reports contain information of investment value and this could be further enhanced by disclosing economic benefits to investors. However, he also connotes lack of third party verification of the interim reports in the UK may subdue their reliability. The study also suggested that disclosures in the interim reports at the time were modest incorporating turnover, profitability, tax, dividends, earnings per share, extraordinary gains or losses. Other disclosures included a brief discussion of past and short-term prospects.

The United States' research on information content of interim reports (also referred to as quarterly reports in the US), was antecedent to that in the UK. The development of literature on information content of interim reports arguably commences in the 1960s with studies (e.g. Brown and Niederhoffer 1968; Green and Segall 1966, 1967, 1968) focussing on the power of interim earnings in predicting annual income. Also in the 1960s as well as early 1970s, research (e.g. Benston 1967; Brown and Kennelly 1972) interest shifted to information content of interim incomes in relation to share price returns. These studies all agree that the interim reports are useful. Specifically, Brown and Kennelly (1972) established that apportioning annual earnings per share into quarterly components improved the predictive ability of the EPS series. The finding led to the conclusion that prior facts about quarterly earnings would result in improved returns than in a situation where only annual earnings were known. Kiger (1972) too followed suit to investigate share price and volume reaction on announcement of interim reports, but provided new evidence on the New York Stock Exchange (NYSE) and narrowed the price reaction interval to a shorter period. Basing on Fama et al (1969), the study argues that markets react to new information immediately; hence using a 3-day and a 5-day observation period is sufficient. Evidence of market price adjustments on publication of the reports meant that investors use interim reports for predicting annual income.

Information content literature examining the impact of mere announcement of quarterly report commenced with May's (1971) study. The research objective was to establish the effect of quarterly announcements on market price changes as an affirmation of the publication's influence on investment decisions. Other goals included the relative information content of quarterly and annual reports and whether the difference in the comparative usefulness reflects investor awareness of the measurement defect of the interim income. The motivation was based on the critique that interview based or questionnaire studies disassociated themselves with actual investment decisions. A further incentive was that price changes, regardless of being imperfect reflections, offer resultant evidence of whether investors' preference of whether to buy, sell or hold at the instance of new information on the market. Using quarterly reports of American Stock Exchange (AMEX) listed companies, the study examined price changes on publication of interim reports by comparing the publication aftermath with price

movements in control periods. The outcome showed that the weeks subsequent to the publication had higher volatility in share prices compared to the control periods. Further, comparative price changes demonstrated that quarterly reports were significantly more relevant to investors than annual reports. Therefore, investors considered the interim reports relevant.

Using NYSE data, Foster (1977) used time-series by applying models to suppress seasonality in quarterly earnings. By comparing information content results of suppressed seasonally models to models having the seasonality effect, the findings suggested that non-seasonal models misclassified a higher proportion of firms than seasonal prediction models. This therefore implied that firstly, interim reports announcement had information content and secondly, the market adjusted for seasonality when interpreting quarterly earnings information. Hopwood and McKeown (1985) used time-series to model interim sales, expenses and earnings. Their approach used market model share price returns to examine information content of the interim sales, expense and earnings. A number of findings were made including the confirmation that interim expenses where informative to earnings but sales where incrementally more informative. Landsman and Maydew (2002) was motivated by concerns raised in prior literature (e.g. Amir and Lev 1996; Lev and Zarowin 1999) that usefulness of accounting information was deteriorating. Using abnormal trading volume and return volatility, evidence from a sample 1000 Compustat showed that there is no decline in information content of quarterly earnings announcements. Contrary, three decades after Beaver (1968), the results suggested that usefulness of financial reports had increased. Relatively updated evidence of information content of quarterly reports is Atiase et al (2005) who used data from 1994 to 2003 on the Thomson Financial Historical Database. They examined market reaction to quarterly announcements involving current and future earnings in order to establish whether investors' preference was towards relevance or reliability. Current information was hypothesised to be more reliable since it was factual, reviewed or audited by external auditors but historical. However, despite the setbacks of unreliability and unverifiable nature of future earnings, the information is more value-relevant. Results showed that future quarterly earnings guidance had more relative information content than current

quarterly earnings. This consequence led to the conclusion that the information is relevant in predictive future earnings. On incremental information content, the outcome confirmed that both current and future earnings were useful; however, current earnings were stronger. This suggested that investors put more emphasis on reliability of information.

Across Europe, various studies with mixed findings have been conducted to examine information content of interim reports. Schadewitz (1996) investigated investors use for Finnish interim reports. The relationship between returns and earnings confirmed the conjecture that the reports are useful. Also using data on the Helsinki Stock Exchange, Vieru et al (2006) disintegrated investors into five classes based on trading activity from most passive to most active, institutional investors being the benchmark. The researchers assumed that investigating information content based on investor classes would give more precise and accurate evidence on which investors need the reports. The outcome showed that interim announcement triggers trading in all classes. Active individuals showed more trading activity in the pre-announcement period. Another finding was that individual investors follow a short-term contrarian rule which notions that on publication of good news activity will be biased to the selling, other than the buying side. More specifically, active investors have a preference to buy (sell) if they envisage good (bad) interim news. Gajewski and Que're'(2001), using data from France, reported that although interim reports had information content, they relatively had less market reaction than annual reports.

International comparative studies have confirmed the information content of interim reports, though exhibiting deviations in degree of informativeness. Etter (1999) applied daily closing prices on the US, British and Japanese markets and daily trading volume on US market when examining whether US investors use British and Japanese annual and interim earnings announcements. The evidence was confirmatory in reference to usefulness of the information on publication as it makes the user more acquainted with business operations. In a recent research, Mensah and Werner (2008) studied whether the differences in frequency of interim reporting regimes of four countries (quarterly: US and Canada; and half-yearly: UK and Australia) affected share price volatility. The underlying assumption was that half-yearly reports would cause less price volatility because they are less timely and their information is

of less predictive value than quarterly reports. Results confirmed this conjecture and further test confirmed that UK and Australia firms with American Depository Receipts experienced more volatility in prices than their counterparts on similar exchanges. This indicated that more frequent interim reporting led to higher price volatility.

4.6   Usefulness of Distinct Features of Interim Reporting

There are characteristics that are specific to interim reports in comparison with annual reporting: (1) voluntary audit involvement and (2) reporting frequency deviation across countries. Firstly, UK guidance on interim reporting (e.g. ASB 1997, 2007a; FSA 2008) does not mandate auditing of interim reporting. Therefore, unlike annual reports, involvement of an external auditor in interim reporting remains a voluntary aspect (Mangena and Tauringana 2008). Secondly, though FSA (2008) requires UK listed companies to provide half-yearly reporting, cross listing, predominantly in the US and mainland Europe stock exchanges, some companies voluntarily provide quarterly interim information to abide listing disclosure rules of the respective countries. Given these voluntary tendencies that are distinct to interim reporting, this section reviews literature on the usefulness of interim reporting audit involvement and reporting frequency.

4.6.1 Usefulness of Audit Involvement in Interim Reporting

There is a compelling evidence to suggest that audit review practice in the UK is increasing. For example, Hussey and Woolfe (1994) found only 1.8% of their sample having involved auditors. Revisiting their results, Hussey and Woolfe (1998) realised that the number of UK companies with an audit review in interim reports had grown substantially to 29%[2]. Likewise, Bagshaw (1999) established that 73% of 30 FTSE 100 companies in their study had involved auditors in their interim reporting. These studies suggest that large UK companies include auditors in the process of preparing their interim results for publication.

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[2] It should be noted that Hussey and Woolfe (1994) sample included both small and large companies. However, the results of the analysis suggest that the practice was prevalent in large companies

Although literature reviewed above suggested that interim reports are useful and there is evidence of increasing audit involvement, there are still studies (e.g. Atiase et al. 2005; Opong 1995) that argue for a case of unreliability in interim reporting due to the lack of mandatory audit edict. Particularly in the UK, Opong (1995) suggests that investor may be apprehensive in using interim information due to concerns of lack of third party authentication. The research (e.g. Atrill 1986; Hussey and Woolfe 1994; Manry et al. 2003) is focused on the argument for a review or full audit report on interim disclosures.

Ettredge et al (1994) criticise the relevance of the audit review from its procedural approach. Their concern was that the review examines neither internal control structures nor corroborative evidence nor balances and transactions. Such a faint analytical approach therefore is less convincing about value-addition of the audit review. Givoly et al (1978) empirically examined the influence of auditor involvement on predictive capacity and income smoothing in interim reporting. A comparative approach between companies with and without an audit review showed no significant variation. This resulted in a conclusion that auditor involvement does not improve the predictive ability of interim reports. Findings by Alford and Edmonds (1981) also rejected the notion that audit involvement increases the quality of interim reports numbers. Even in a later study by Edmonds (1983) there was no difference with the findings from these studies that established lack of predictive ability in interim reporting audit involvement. Fabozzi and Fonfeder (1983) were motivated to examine the predictive ability of audit involvement by the aggressive stance the Security and Exchange Commission in the United States had taken to recommend audit involvement in quarterly reporting. Like the studies above, there was no evidence in the results supporting the conception that audit reviews improve predictive ability of quarterly reports. Further, they advocated that in light of the costs and delays attached to audit involvement, there is need for regulation to alter its position. Studies that are more recent have a similar reverberation that audit involvement has no impact on the predictive power of interim reports. For example, Ettredge et al (2000) suggest that the lack of attention to detail demeans the relevance of interim audit review since investors may not be able to identify significant differences between firms that include the review from those that do not.

Since March 2000, SEC required that US quarterly reports should be audited prior to filing (timely review). Prior to that, firms could have their interim reports reviewed at the end of the financial year (retrospective review). Empirical literature (e.g. Manry et al. 2003; Ready and Rock 2003) shows that timely reviews have more information than retrospective audit reports. Manry et al (2003) established that the timeliness of the audit review influences its reliability and relevancy, thereby degree of informativeness to returns. The study conjectured that when timely reviews are provided, they detect and correct errors that would have waited until the annual report, hence explaining their usefulness. In confirmation, results showed that timely review for each of the four quarters were informative to returns. On the contrary, retrospective reviews had less or no significance to returns, reflecting that they have no economic relevant information due to their reference to historic information. Alves and Teixeira dos Santos (2008) provide a distinctive scenario of examining information content of audit involvement. Their study is based on Portuguese quarterly reports for which the second quarter is subject to a limited audit involvement, the fourth quarter (annual report) requires a full audit involvement but the first and third quarter require no audit participation. The findings suggested that the annual report with a full audit had more information content than the unaudited first and third quarters. To the contrary, the second quarter reports with limited audit involvement were only relatively more informative than the unaudited reports for small firms. This finding arguably is evident to the conjecture that audit involvement in interim reports is not universally relevant to investors. Cornell and Landsman (1989) examination on share price reaction to quarterly earnings established that fourth quarter reports provided had more information content than other interim reports. The reasons were that fourth quarter disclosures provided more information to analysts and it corrected any mistakes in earlier announcements. The capability to correct mistakes was attributed to audit involvement in fourth quarter reports.

Irrespective of the mixed findings on the usefulness of audit involvement in interim reporting, a number of reasons have been fostered to justify the practice. Mendenhall and Nichols (1988) argued that unaudited interim reports present an opportunity for manipulation by management. Manry et al (2003) connote that retrospective audit reviews are economically

detrimental thereby implying that audit reviews accompanying the respective interim reports are beneficial to users. Further, Ettredge et al (2000) asserted that the provision encourages increased frequency and proportion of fourth quarter adjustments. This debatably, makes earlier unaudited interim reports less relevant and a likelihood of more unfavourable fourth adjustment surprises. As a credibility check, interim audit reviews fulfil various functions: useful to investment analysts as a third party authentication (e.g. Ettredge et al. 2000), improve the quality of interim report disclosures (e.g. Mcewen and Schwartz 1992), correct errors and detect fraud (e.g. Bagshaw 1999; Borgia 1991).

4.6.2 Relative Usefulness Content of Interim Reporting Frequency

The basic distinguishing factor between half-yearly and quarterly interim reporting is the frequency of reporting, where the latter refers to reporting every three months and the former on a 6-month's basis (Frost and Pownall 1994). In the UK, both interim reporting prevailing regulation at the time of writing this thesis (e.g. ASB 2007a; Companies Act 2006; FSA 2009) and preceding regulation (e.g. ASB 1997; Companies Act 1985) require listed companies to provide half-yearly reports. However, literature (Frost and Pownall 1994; Mensah and Werner 2008) finds evidence of companies that disclose both quarterly and half-yearly interim reports in the UK, mainly attributed to their cross listing in countries that require quarterly reporting like the US. This therefore compels this research to consider the relative usefulness of quarterly and half-yearly reporting. We restrict this discussion to economies where there is a character of dual reporting regimes that is companies are at liberty to provide either half-yearly or quarterly reports. This form of setting is a replica of UK interim reporting environment, hence arguably analogous. One exception in the discussion is van Buskirk (2005) discussed later on in the section in which monthly and quarterly interim reporting regimes were considered.

Butler et al (2007) compared the speed at which earnings information is reflected in stock prices for firms reporting either quarterly or semi-annually. Using a sample of 28,824 reporting frequencies of firms from 1950 to 1973, they found little evidence supporting the

notion that timeliness is affected by reporting frequencies. However, increased timeliness was observed for firms voluntarily changed there reporting frequencies from semi-annual to quarterly disclosures, unlike for firms compelled by regulation to change. The usefulness of voluntary change was attributed to the benefits that the firm foresaw when making the decision to disclose was also envisaged by investors. However, mandatory increase was considered to crowd out information on the market or had no economic benefit beyond meeting regulatory provisions. Gigler and Hemmer (1998; 2001) are supportive of these findings in their notion that increased mandatory disclosures may reduce a firm's provision of voluntary disclosures as a means of reducing disclosure costs such as production, dissemination, litigation, propriety and agency.

Mensah and Werner (2008) examined the impact of reporting frequencies in various countries on share price volatility. They found that countries with semi-annual interim reporting regimes experienced less share price volatility than those with quarterly announcement regimes. The reason provided was that compared to quarterly reports, half-yearly reports are less timely and have less predictive information. With specific reference to UK and Australia which have semi-annual reporting regimes, companies on these exchanges and cross-listed on American exchanges yielded more price volatility than those only on home exchanges. This finding affirmed the notion of increased priced volatility for quarterly reporting compared to half-yearly reports. However, in comparison to and in line with Alford et al's (1993) argument, increased volatility in share price returns is indicative of lower market efficiency. In their study, Alford et al's (1993) suggested that Australian and UK financial reports were more value relevant than those of US because US financial reports were responded to by higher price volatility. Durnev et al (2003) contends this position by suggesting that higher price volatility is reflective of more informed investment decision making arising from availability of private information on the market. This arguably is supportive of the concept that increased disclosures equip investors with more private information processing abilities resulting in higher returns.

In a US doctoral research, van Buskirk (2005), an investigation on the relationship between increased interim reporting frequency and share prices revealed that monthly disclosures on revenues had information content because the disclosures pre-empted quarterly results. However, the monthly disclosures did not show any evidence that they reduce information asymmetry. On the contrary, the number of periods with information asymmetry increased with the number of interim reporting announcements. The result was that despite market reaction to increased disclosure frequencies, disclosure quality was not a function of disclosure frequency.

Yee (2004) analysed probable relationships between increased interim reporting incidents and market variables. The study showed that among other findings, increased frequency of interim reporting would increase announcements of earnings, in turn increasing liquidity of the security and decreased price volatility on the announcement dates. The conjecture of reduced price volatility increased frequency in interim seems in this theoretical paper in contravention of empirical evidence in studies by Mensah and Werner (2008) and Alford et al (1993) discussed above. This also contradicts Botosan et al's (2004) study that increased disclosure frequency is associated with high price and volume volatility. Worth noting, reading from Botosan et al's (2004) findings, the increase in volatility associated with increased disclosure frequency led to higher cost of capital. This therefore meant that for investors, the disclosures were useful as they reduce asymmetry. However, for the disclosing entities the decision was detrimental since it increased the cost of capital.

4.7   Summary and Concluding Remarks

This chapter was concerned with the usefulness of interim reports. On the purpose of interim reporting, the debate largely centres on stewardship and decision-usefulness, as is the case with annual financial reporting. However, on the superiority of the roles, the issue remains a debate; but in this study, decision-usefulness is considered to synchronise the discussion with the aim of the thesis. In addition, some of roles for the interim report were justified from the distinctiveness of the interim reports compared to annual reports. The second theme of the chapter was the identification of the users of interim reports. Although there are various users,

investors are considered the prime users because they finance the business. On the information needs of investors, it is discussed that contents of both the financial statements and narrative commentaries are required by investors due to the various perspectives they posses in guiding investors when making investment decisions. The last sections reviewed evidence of usefulness of interim reports to include perceived usefulness, information content of the instance of announcement of interim reports, audit involvement in interim reports and reporting frequency.

5 THEORETICAL INTERFACE OF ACCOUNTING WITH ECONOMIC MARKETS

5.1 Introduction

In this chapter, the discussion relates to the evolutionary accounting theories and the respective market setting through which information content of accounting is explained in economic markets. The purpose is to provide a conjectural justification for the relevance of financial reports in the economic market place. Based on this analysis, the theoretical framework of the thesis in chapter 6 is constructed.

In earlier chapters, the discussion suggested that regulation and standard setting (e.g. ASB 2005, 2006; FRC 2009) principally initiated the proposal to have financial statement amounts complemented and supplemented. The main intent for complementing and supplementing was to provide information relevant to investors' decisions of investment and managing the stewardship relationship. Although other users are recognised, the assumption of the regulators and standard-setters was that investors are the main audience for financial reporting. In line with this and the intent of this study, the theoretical considerations of this thesis are limited to investors' use financial disclosures for investment purposes.

Gonedes (1976) conceptualised the usefulness of financial disclosures to investors by interacting the market for capital and market for information. In this study, a similar approach is adopted on the basis that AICPA's (1994) report, which largely influenced the recommendations in ASB (2005; 2006), conjectured that accounting information is a commodity whose buying customers are investors. This presumption considers that investors and firm manager trade in information and capital. Also, bearing the recommendation to complement and supplement is a result of regulatory guidance in ASB (2005; 2006), the economic markets conjectural justification for regulation is incorporated in the theoretical base discussed in this chapter.

The rest of the chapter is presented as follows. The next section discusses the theories underpinning the evolution of accounting disclosure. This is followed by an examination of role of the agency theory in explaining information content in line with the evolutionary accounting theories. Thereafter the theoretical functioning of economic markets in relation to share pricing and returns is analysed to colligate with the thesis' aim of establishing information content of disclosures in the market setting. The next section examines the conditions underlying the functionality of the markets settings (capital, information and regulation) as economic markets that explain the use of financial disclosures for investment decisions. This aligns the general functioning of economic markets with the specific markets concerned with usefulness of accounting disclosures, thereby relating this chapter to the theoretical framework of the thesis discussed in chapter 6. The last section of the chapter comprises of a summary and concluding remarks.

5.2 Evolutionary Accounting Theories on Provision of Financial Disclosures

5.2.1 The Focus of Attention under Proprietary and Entity Concepts

Littleton (1953) defines accounting theory as an examination of beliefs and customs that critically seek to clarify the purpose of accounting work as well as explain the basis of the entire accounting process. Rosenfield (2005) suggested that the rationale for the accounting disclosures is to comprehended through examining the evolution of "focus of attention" or the reporting unit. The commonest, but contradicting, evolutionary accounting concepts are proprietary theory (Gilman 1939; Paton 1922) and entity theory (Hatfield 1909; Sprague 1908). Three other evolutionary theories are arguably derivatives of the two extremes and therefore not considered in this discussion. These include the fund theory (e.g. Stewart 1989; Vatter 1947; Zeff 1961), the consolidation theory by Moonitz (1944) explaining consolidated financial statements and the commander theory by Goldberg (1965) applicable to managerial accounting.

Prior to the formulation of these theories, Pacioli (1494) introduced the double-entry treaties. In the treaties, personal obligations of the business owner as well as transactions of the business were recorded as though they are for one reporting entity. The idea was that the business and its owner are the same. Later on, practice changed by separating personal dealings from business records on grounds that the business is different from its owner. The methodology in Pacioli's (1494) work depicted the proprietary theory where the business owner, as the proprietor, and the firm are unanimous. The focus of attention then was the business owner. This concept was progressively replaced with the entity concept, suggesting that the business is separate from its owner (Skinner 1987). As a result, the entity came under attack with the argument that it was erroneous to mix personal dealings and those of the firm (Paton 1922; Snailum 1910). This changed the focus of attention to the entity (Rosenfield 2005).

5.2.2 The Orientation Postulate of Proprietary and Entity Concepts

In Zeff's (1961) doctoral work, the focus of attention was termed the "orientation postulate" referring to the view the accounting process ought to assume. Zeff's "orientation postulate" had two parts – first is the subject (the unit being accounted for) and the beneficiary (the targeted user of the reported information).

Under proprietary theory, the orientation postulate emphasises that the business owner is both the subject and beneficiary of accounting information (Zeff 1961). In essence, the information in the financial reports relates to the net wealth of the proprietor who doubles as the user of the same information to assess their wealth. Critiques of the proprietary theory (e.g. Previts and Merino 1979) argue that the concept fails to explain current accounting practices. For example, it fails to differentiate going concern of the firm beyond the life of its owners as well as disregarding the firm as a legal being separate from the owner.

The orientation postulate of the entity theory, on the other hand, considers that the firm (reporting unit) and its owner (beneficiary of reported information) are separate (Zeff 1961). Paton (1922) suggested that under entity theory, accounting reports on the stature of the firm for the benefit of the owner but does not report on the aggregated position of the firm and the

owner for the benefit of the owner. Proponents (e.g. Previts and Merino 1979; Snailum 1910) of the concept contend that the theory recognises the capitalistic enterprise in which investors appoint agents to manage businesses while they (owners) concentrate on their investment activities. A further justification of the entity concept is the avoidance of the complexity that would have risen if the proprietary orientation postulate is adopted in the capital markets. All investors' wealth would be recognised in the firm's records and adjustments made every time the shareholding pool changes.

5.2.3 Ideological Orientation for Regulation and Standard-Setting

Riahi-Belkaoui (2004) suggests that whilst proprietary theory views the firm as an arrangement through which the shareholder operates, the entity theory stipulates that the business owns its resources and is only liable to capital providers, such as shareholders. Standard-setting and regulatory guidelines often distinguish the two theories with the postulate that proprietary concept looks at financial reporting from "the eyes of its owners" but the entity concept inclination is to consider financial reporting through the eyes of management (Stamp 1980).

In view of the above, all regulatory guidelines (e.g. ASB 2005; 2006; FRC 2009; IASB 2009) that foster the need for complementing and supplementing financial statements in narratives explicitly state that the disclosures ought to reflect management's view on business performance and prospects. This is in conformity with the entity concept. ASB (2005; 2006) explicitly articulates this orientation by stating that directors prepare the narratives addressing to shareholders the analysis of the business, with a forward-looking direction to assist the shareholders assess the strategies adopted by the entity and the potential of the strategies to succeed.

5.3   Agency Theory

5.3.1 The Role of Accounting Information under Agency Theory

The adaptation of the entity principle by regulators arguably recognises that agency is at the centre of the relationship between the firm and its shareholders. Agency is hastened through adaptation of entity concept that recognises the firm as a separate individual from its owner. Jensen and Meckling (1976, p. 308) define the agency relationship as "a contract in which one or more persons (the principals) engages another person or persons (the agents) to perform service that involve delegating some decision-making authority to the agent." From a business perspective, the agency is concerned with the separation of ownership and control.

Jensen and Meckling (1976) analogised two dimensions of the agency concept: the principal-agent paradigm and the positive-agency paradigm. The principal-agent paradigm, owed to Coarse (1937) ascertains that the conflict of interest problem of agency is controlled by the existence of voluntary contracts amongst the various firm stakeholders. Under the concept, the firm is a "nexus of contracts", in which a set of voluntary contractual obligations amongst parties exists. Fama (1980) expounds the "nexus of contacts" phenomena by including the capital markets and markets for managerial behaviour. The principal-agent relationship is underpinned by the divergence in interest. Whilst the agents (the managers) effort to maximize their fees for management, principals (shareholders) are interested in maximising their returns on investment.

The potential that managers can maximise their interests at the detriment of the business owner is partly facilitated by privileged information that the agent accumulates through greater familiarity with business activities. Eisenhardt (1989) and Fama and Jensen (1983) were of the opinion that the situation created information asymmetry that left shareholders unable to evaluate the extent and quality of the firm and managers' performance as well as that of the firm.   Eisenhardt (1989) further argued that the scenario worsens in periods of poor performance as managers intently indulge in concealment of information.   The resultant is twofold.   Firstly, there is adverse selection problem where the principal cannot make

appropriate decisions because the agent uses private information in a manner that the principal cannot verify the information. Secondly, a moral hazard problem may occur where unacceptable behaviour of the agent regarding provision of information leads conflicts between the two parties and inappropriate choices on the part of the owner.

To reduce these agency problems, Riahi-Belkaoui (2004) suggests that the conflicting interests of the shareholder and managers can be brought into equilibrium through agreed-upon contracts. Baiman (1982) advocates that the contracts compel the parties to consent on a set of behaviours, in spite having self-interest motives. Arguably, provision of information about the firm by the agent to the principal may be adopted to reduce information asymmetry. This mirrors suggestions in literature and regulatory guides (e.g. ASB 2005, 2006; FRC 2009; IASB 2009; Stamp 1980) that the provision of financial disclosures should be provided by the managers to the owners. With reference to this thesis, complementing and supplementing information is considered by ASB (2005; 2006) as narratives the directors of a company expect will aid investors make a judgement on the past performance as well as prospects of the business. This shows that the directors are aware of the agency relationship between them and the investors, therefore, the directors need to reduce the gap by providing complementary and supplementary disclosures. Whilst complementary narratives relate to disclosures on aspects not on the face of financial statements, supplementary narratives explain the figures on the face of financial statements. Therefore, with such information, investors are arguably less affected by information asymmetry that would have led to adverse selection in investment decision-making.

5.3.2 Criticism of Agency Theory

5.3.2.1   Market for Corporate Control Theory

The potency of agency theory relies on the aptitude that agents are self-interested. Critics (e.g. Marris 1964) contend competitive capital market forces reduce the potential for such behaviour to prevail such that aberrance from the profit maximisation goal of the firm leads to decline in share prices. The decline in share prices exposes the firm to take-over threats,

which effectively monitor managerial behaviour through the mechanism of the market for corporate control (Manne 1965). The mechanism of the market for corporate control compels that where incumbent managers act in a manner that leads to adverse firm performance, the share price will fall to a level that induces need for new management to revive the firm's value. Like most markets, the effectiveness of the theorem depends on the efficiency of the market for corporate control as well as the cost of takeover being higher than the gains of replacing management (Davis and Stout 1992). Given that the market for corporate control prevails in enforcing managerial efficiency to reduce agency problems, the need for accounting disclosures as a curb on agency costs is critiqued.

Jensen and Meckling (1976) challenged the market for corporate control concept as an alternative to provision of information, as the idea perceives the firm as a distinct object with a boundary between itself and its environment. Rather, they viewed the firm as a medium where various market players with divergent objectives attain an equilibrium position through contractual obligations. Therefore, the firm's behaviour is synonymous to the market's behaviour and such similarity is attained through the contractual relationships between managers, shareholders, and other stakeholders. Hence, agency theorists extend the realm of their hypothesis to suggest that like manager, all other stakeholders in the firm serve their own interests which are the very premise for their involvement in a contractual relationship with the firm (Davis and Stout 1992). Therefore, participants in the market for corporate control do not operate in mechanisms that subvert agency problems in the firm.

As another criticism for the market for corporate control, Williamson (1963) are of the view that transactions of capital are "too costly" as an enforcer of the profit maximising behaviour. That is, waiting for share price declines to assess whether managers are acting in the interests of shareholders is a dearer price to pay compared to monitoring through disclosures. Further, Singh (1971) and Deakin and Singh (2008) presented evidence that the market for corporate control is at least partially ineffective and may be justified if it operates in parity with other market settings. Deakin and Singh (2008) ascertains that the three fundamental theories that explain the relevance of information to investors rather than acclaiming that the market for corporate control theorem disregards the relevance of disclosures. The theories identified include agency, information

asymmetry and incomplete contracting which all support the argument that managers pursue their own interests. Even when investors try to reduce management discretion through corporate governance mechanism, the mechanisms involve costs of agency nature. For example, aligning investors' needs with managerial interests through pay incentives presents a cost of agency despite the likelihood that the action may reduce management's tendency to marginalise investors' value creation.

Lastly, Scherer (1980) reviewed literature on market for corporate control as a monitoring device for management self-interest behaviour. The conclusion suggested that the assumption of take-overs as a viable deterrent to management's tendency of pursuing their interests is rarely defensible.

Reflecting the arguments for and against the market for corporate control, based on the objectives of this study, the essence for complementing and supplementing may on one side reflect the discussion by Jensen and Meckling (1976). Though management and shareholders have conflicting interests, the contractual arrangement between the two parties compels management in order to provide complementary and supplementary narratives in an attempt to reduce information asymmetry to attract capital from investors. However, the cohorts of the market for corporate control may argue that the reason for management's provision of complementary and supplementary narratives is a self-interest realisation that if investors are not adequately informed, they may reduce their interest in the firm. The resultant fall in share prices may lead to take-over bids and a change in management (Manne 1965). Therefore, the current management prevents the change in management that may arise from take-over bids by ensuring that investors are provided with useful disclosures, such as complementary and supplementary narratives.

5.3.2.2   *Market for Managerial Talent*

Another line of literature (e.g. Alchian 1968; Alchian and Demsetz 1972; Fama 1980) disagrees with the provision of disclosures as a solution to agency costs and proposes that market for managerial talent mechanisms are sufficient to control managerial behaviour. Fama (1980, p. 289) explicitly stated that:

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"…the firm is disciplined by competition from other firms, which forces the evolution of devices for effectively monitoring the performance of the entire team and of its individual members. In addition, individual participants in the firm, and in particular its managers, face both the discipline and opportunities provided by the markets for their services, both within and outside the firm."

However, Fama (1980) subjected the effectiveness of this theory on the ex-post reward of managers for their performance, that is, compensation for their behaviour. For example, management is conceptualised to act in the interest of the shareholders if there are share option plans that compel management as shareholders to align their interests with interests of other shareholders. Empirical evidence that concurs that the market for managerial talent is associated with agency costs shows positive market returns with introduction of (1) long-term managerial plans (e.g. Brickley et al. 1985); (2) short-term executive plans (e.g. Tehranian and Waegelein 1985) and (3) the golden parachute agreements (e.g. Lambert and Larker 1985).

The provision of complementary and supplementary, if explained under the market for corporate control, would arguably be a means through which management communicate their performance to investors to protect their positions or remuneration. However, for the same reason, management may decide not to provide disclosures, such as complementary and supplementary narratives. Nagar (1999) modelled the relationship between disclosures by management and share pricing within the market for managerial talent. In the model, management is privy to the firm's performance and has discretion to disclose. If management discloses, it is uncertain about the investor reaction, which may either be a positive or negative assessment of the management. The uncertainty on the part of management arises from unawareness about the investors' considerations in information assessment, thereby affecting the management's decision to disclose. If management decides not to disclose, the nondisclosure may be interpreted by investors a result of either untalented management or talented management that is afraid of uncertainty arising from disclosure. In either case, nondisclosure aggravates information asymmetry and may lead to managerial welfare losses and adverse valuation of the firm (Nagar 1999). On the other hand, effective information dissemination of investor expectations to management, through corporate governance and reward mechanisms, enhances management's

provision of quality disclosure. The disclosures then reduce information asymmetry and in turn, guide investment decision-making (Nagar 1999).

5.3.2.3 *Theoretical Legal Literature Critique of Agency Costs*

Metzger et al (1986) criticise the role of disclosures based on agency with reference to early foundations of the agency theory in legal literature. Agency was originally a legal concept explaining the contractual relationship between the agent and principal. The legal contract imposed duties of loyalty on the agent. Clark (1985) argued that such an arrangement places a fiduciary duty of loyalty on the part of agent to the principal thereby preventing any sort of abuse of the managerial discretion.

Duska (1992) seemed to agree that the initial premise of the agency concept was loyalty by the agent suggesting that the introduction of the theory to management of the firm was the recognition that loyalty was the basis of any arrangement between owners and stewards. However, the economic theory that humans are egoistic and will act with rationality to maximally benefit themselves debased any argument that retained loyalty as the reason for agency relationship. The self-interest economic theory was long established by Smith's (1776) classical work where he argued that humans are selfish and will not always look out for the interest of others although they are instances in which they compromise their interests to the benefit of others.

The loyalty legal literature concept of agency by Metzger et al (1986) arising from legal literature implies that the premise on which investors and management enter into a relationship is fidelity. Therefore, agency in this context arguably is not the underlying reason for the self-interest pursuit. One can therefore argue that the rationale for providing complementary and supplementary narratives portrays that both management and investors are aware of their agency fiduciary obligations and disclosures serve this awareness by reducing information asymmetry. However, as discussed by Smith (1776) that people pursue their own interests, the existence of the agency relationship between investors and management may have two implications about the motive of complementary and supplementary narratives. Either, management may act in line with the guidelines by ASB (2005; 2006) and provide

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information that eliminates information asymmetry and useful for investment decision-making or management may pursue its own interests by providing disclosures that increase asymmetry and mislead investors.

5.3.2.4   *Utility Maximisation Critique of Agency Costs*

Under utility maximisation, agency would arise where agents tend to maximise their financial benefits from the principal. Critiques of the utility maximisation assumption of the agency theory contain that utility is hardly measurable and it is difficult to prove whether people maximise utility. Simon (1959) argue that most empirical work intended to measure utility are exploratory experiments that assume that participants intend to maximise utility. Davidson and Suppes (1957) further contend that in the experiments that are virtually "unreal" circumstances participants merely tend to act in line with what the theory requires, that is, act as if they maximise utility. Therefore, assuming the results as functional in the real world may be erroneous. Further, May (1954) argues that minor adjustment in the assumptions may lead to a significant change in the outcome. Simon (1959) attributed large shift in outcome arising from the slight alteration of the utility maximisation conditions to the fact that the real world is very complex so that postulation of all choices under utility maximisation is a fallacy.

A simulation of this complexity and dilemma with regard to disclosures may be reflected in management rhetorical choices to report the opportunities arising from a calamity. For example, declaration of a war amongst countries presents a possibility of misplacing of people and increased hygiene and health risks. The situation incorporates utility maximisation opportunities in terms future turnover for pharmaceutical, temporary shelter and power generating companies. However, disclosing the situation as an opportunity may have a dual impact. On one end, it is a utility maximisation opportunity that may be viewed by shareholders as having a positive impact on share returns. Alternatively, investors who are socially conscious may view the company as being socially irresponsible by considering the situation as an opportunity, thereby withdrawing their stake in the firm. Chua (1986) argues that the different roles that accounting disclosures serve leads to augmenting the mainstream utility maximisation concept underlying agency theory with critical and interpretative

viewpoints of the information. ASB (2005; 2006) advised that the paramount importance of information in the operating and financial review, that is, complementary and supplementary narratives, is to serve information needs of investors. In fulfilling this role, other users' needs such as those for creditors, employees, creditors and society ought to be considered as they affect the value of the firm, thereby influencing investors' decisions. This postulate seems to consider that agency between investors and managers alone may not explain the relevance of complementary and supplementary narratives, however, recognising the needs of other stakeholders as well as other needs of investors may explain the relevance or usefulness of the disclosures to investors

5.4   Market Mechanisms and Information Content of Financial Disclosures

The previous sections conceptualise that the orientation postulate of the evolutionary accounting theories and the resultant agency relationship signify the usefulness of accounting disclosures to investors. In the discussion, especially arguments relating to agency, stewardship monitoring is arguably most pronounced. Hitherto, the conceptual use of information for investment decision making is less evident. To introduce the investment usefulness of disclosures, this section extends the discussion by examining role of economic market mechanisms in explaining the relevance of managements' provision of financial disclosures to investors. To examine this, first is an analysis of the reasons why investors need the information in the perspective of the thesis' objective. Second, the broad spectrum on market mechanism is analysed. The third consideration is a discussion integrating the information content of financial disclosures with the broad market mechanisms.

5.4.1 Investors Use of Financial Disclosures

In chapter 4, purposes of financial disclosures to the investors were identified to include investment decision making and stewardship monitoring. Chambers (1955), as one the first theorists for the decision-usefulness paradigm of disclosures conceptualised that rational

management requires information-dispensing mechanism that aids decision making as well as facilitating the review of decisions. Therefore, any disclosures arising from the information mechanism should serve these purposes. In Beaver et al (1968) it was further suggested that the best method for evaluating the importance of information is to establish its predictive ability in relation to the purpose for which it is provided. In essence, since accounting disclosures are aimed at facilitating decision-making, then the information may be justified based on the extent it fulfils the role. Prediction being an inherent part of the decision-making process, financial disclosures may be conjectured to help investors make predictions about the firms' economic performance (Beaver et al. 1968).

5.4.2 Investors Use of Financial Disclosures and the Role of Markets

Riahi-Belkaoui (2004) identified two major streams of accounting information decision usefulness theories namely, the individual-user paradigm (e.g. Bruns 1968) and the aggregate-market-behaviour paradigm (e.g. Fama 1970; Gonedes 1972). The individual-user paradigm is comprised of theories explaining the use of financial disclosures from an individual perspective, that is, behavioural tendencies within the accounting context. Examples include the cognitive relativism, cultural relativism, linguistic relativism, functional and data fixation, information inductance and human information processing models such as the lens model, probabilistic judgement and predecisional behaviour. The aggregate-market-behaviour conjecture deducts usefulness of accounting information from market responses to the disclosures as discussed in studies such as Gonedes (1972) and Fama (1970). Market response may be established using various models such as efficient market model and hypothesis, arbitrage pricing model, capital asset pricing model, market model, beta estimation, Ohslon valuation, event studies and equilibrium theory (Riahi-Belkaoui 2004).

From the argument above, it is tenable to hold that the decision-usefulness of accounting information may be derived from the association of disclosures with share price returns, among other market variables. Gonedes (1972) identified two scenarios against use market mechanisms for share pricing in justifying the decision-usefulness of accounting information. Firstly, is the suggestion that the variability in preparation and presentation of the financial

disclosures leads to variability of market use of disclosures. Secondly, the users of information may be conditioned to react to the information in a particular manner by agents who prepare the reports. However, to counter these observations, Gonedes (1972) advanced the suggestion that if both arguments were true, then preparers of information would always outperform the market, hence the demise of efficiency in capital markets. This therefore meant that economic markets are viable mechanisms for explaining the usefulness of financial disclosures with regard to investments decisions.

5.4.3 Economic Market Mechanisms

In the previous sub-section, the theoretical connection between market mechanisms and usefulness of accounting information is discussed. The discussion in this sub-section examines the main general economic mechanisms to provide the premise from which information content theories are constructed. There are two opposing theories explaining the functioning of economic markets, the mainstream and heterodox market mechanisms.

5.4.3.1   *Mainstream Economic Market Concept*

Mainstream economics, also referred to as neoclassical or orthodox economics, is that school of economics that relates to an efficient market mechanism free from frictions and failures (Guerrien 2004). Kanth (1999) argues that this market setting is characterised with a laissez-faire environment in which economic optimal positions are achieved. The assumption is that the market is in equilibrium because human beings are rational and at anyone time, no one is privy to information in a manner that allows them to benefit above the market from the information (Lawson 2006). Precisely, the assumptions of the ideology are (1) people have rational preferences among outcomes, (2) individuals maximize utility and firms maximize profits and (3) people act independently on the basis of full and relevant information. In this market situation, the argument regarding agency that the separation of management and investors may promote information asymmetry is not sustained. Management, investors and all market participants are rational and have same information and expectations, therefore all market participants use the information at the equilibrium point where none can outperform the market (Kanth 1999). Complementary and supplementary narratives in this case may not

yield above market returns since the state at which the disclosures are disseminated and used at the equilibrium point in the market.

The critiques to mainstream economic markets argue that mutual balance of forces and results are hardly achievable in the real world because the rationality, utility maximization and full information are purely conceptual and not realistic (Kanth 1999). However, developments in mainstream economics arguably have tended to recognise a degree of friction in markets thereby deviating away from the strict adherence of these assumptions to less stringent market mechanisms that recognise purposeful individual behaviour, enlightened self-interest and sustainability (Colander et al. 2004). For example, numerous game theory models have been developed to recognise rationality in the context of other individuals' influence on one's economic decisions (Kirman 1989; Von Neumann and Morgenstern 1944).

Another criticism of mainstream economics is the dependence on mathematical models to explain the world (Bigo 2007; Strassmann 1994). Most models applied in explaining mainstream economic markets are in the form of mathematical equations, statistical inference or computer simulations which are habitually concluded with a definite solution. Mathematical deductive reasoning does not explain forms of societal relations or constructs (Dennis 1995). The approach suggests that market problems have inert solutions, ignoring irregularities in the market. As a contradiction to the assumptions in the mainstream economics market functioning, Strassmann (1994) notes that the criticism of a particular model is presented by another model. However, it may be argued that the use of mathematical models to criticise other mathematical models portrays the mainstream's recognition of variability in the market forces.

5.4.3.2   *Heterodox Economic Market Concept*

The definition of heterodox economics is underlined in the rejection of the inflexible mainstream economics assumptions of market perfection and the application of mathematical models in evaluating economic decisions (Lawson 2006). Various studies (e.g. Arestis 1990; Colander et al. 2004; Lavoie 1992) contain that the widely accepted characterisation of heterodox economics is the rejection of mainstream paradigm.

The heterodox line of thinking views economics from a relational perspective, either internally or structurally (Bigo 2007). Internal relations refer to the capacity in which individuals relate, for example, the investor – management relationship. Structural relations include social structures, processes, human practices, actions or omissions beyond the internal relations. Such may influence or be influenced by the operations of the internal relations, hence having an open system of relations. In this respect, heterodox economics introduces concepts such as uncertainty, evolutionary developments, care for others, institutionalisation of relations and individual behavioural tendencies.

Usefulness of complementary and supplementary narratives under the heterodox economic markets is a realisation that people have diverse expectations, levels of rationality and therefore perceive information differently, hence information asymmetry. Such variations in people and their use of disclosures contradicts the equilibrium position as is in mainstream economic market concept, thereby suggesting the likelihood of earning abnormal (above market) returns through the use of narrative commentaries in financial reports.

As a critique to heterodox economic market mechanism, Lawson (2006) does realise that mainstream economics caters for relations in its closed relation model of independent/dependent variables. For example, uncertainty is termed as risk while evolutionary concepts and institutionalisation are found in game theory or non-linear theory modelling and care for others as a variable in a utility function. Further, the error term commonly incorporated in the statistical models recognise the idiosyncratic characteristics of market constituents.

5.4.3.3 *Integration of Mainstream and Heterodox Economic Market Concepts*

Since there are no unifying concepts for heterodox economics, other than challenging mainstream economics, understanding of both schools is attainable through comprehension of mainstream economics assumptions (Bresser-Pereira 2006; Lawson 2006). In other words, the absence heterodox economics logical explanation detached from mainstream concepts indicates that heterodox economic is dependent on mainstream economics deficiencies

(Lavoie 2006). Therefore, a clear explanation for the functioning of economic markets would integrate the two ideologies. Bresser-Pereira (2006) argues that due to the complexity of markets, it is reasonable to enhance the orthodox (mainstream) thinking with the neoclassical (heterodox) economic concepts. Bresser-Pereira (2006) adds that mainstream economics provides the essential theoretical grounding of the functioning of markets while heterodox economics adopts a pragmatic approach. The two combined provide a holistic explanation on market mechanisms.

5.4.4 Information Content of Financial Disclosures under Market Mechanisms

As discussed above, the construction of the theoretical framework for information content of accounting disclosures concepts is based on aggregate market reaction to disclosures rather than individual investors' tendencies. Whilst formulating the framework, the approach taken is to conceptualise market settings in which accounting information is conceptualised to influence share price returns. There are mainly three markets. While Gonedes (1976) identifies two of the markets as the market for capital (MC) and market for information (MI), Riahi-Belkaoui (2004) adds the market for regulation (MR). The MC has its commodity as firm's capital and information content arises from the desirability or effect of available information on share price returns (Gonedes and Dopuch 1974). Under the MI, accounting disclosures are the commodity and are demanded by users for various purposes to include the potential to influence the share price returns (Allen 1990). Riahi-Belkaoui (2004) argues that the MR is necessitated to ensure fair functioning of the two market (capital and information).

The three markets (capital, information and regulation) when related to the two economic market extremes, the mainstream and heterodox concepts, present a construct that may explain information content of financial disclosures. Under the mainstream extreme, the assumptions of fully informed, rational individuals are reflective of underlying conditions in the MC. The MI recognises that the MI assumptions have flaws in real world application and therefore are classifiable under the heterodox market setting. Gonedes (1976) shows an discrete diversion of the two markets based on market participants' homogeneity with regard to information

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symmetry and expectations. The extreme form in the market for capital argues that there is homogeneity in market participants' knowledge and expectations. This depicts the assumptions in the mainstream school of thought thereby negating the relevance of disclosures in outperforming the market. The alternative school, market for information, contends that there is heterogeneity in market participants' knowledge and expectations, therefore, information (accounting disclosures) are useful and can be used to gain abnormal returns. The market for regulation, as discussed in Riahi-Belkaoui (2004), acknowledges that as free economic markets, there is a likelihood of inequitable allocation of resources in the markets of capital and information, hence the need for regulating. The recognition of inequitable functioning may be considered as a realisation of market failures. The market for regulation may be classifiable under the heterodox economic market concept.

5.5 Market Conditions Necessary for Information Content of Financial Disclosures

To provide further insight into the classification of the markets for capital, information and regulation under the two economic market extremes (mainstream and heterodox) in section 5.4.4 above, this section discusses the conditions underlying the three markets. First, conditions for the market for capital are discussed, followed by those for the market for information. Lastly, the conditions for the market for regulation are examined. This section is also intended to guide the identification of market settings in which the various theories discussed in chapter 6 explain the usefulness of financial disclosures to investment decisions.

5.5.1 Conditions for the Market for Capital

As earlier identified, the commodity traded in this market is comprised of corporate shares. Usefulness of disclosures is therefore conceptualised from the ability of the information to influence share prices and returns thereto (Fama 1965). The conditions presume that prices include all available information and any new piece of information is instantaneously reflected in the share prices in an unbiased manner. To facilitate such functioning, all market participants are assumed have homogenous expectations of maximising returns and minimise

losses. Information is also freely available to all market agents. The participants are price –
takers because the market is free from bias and friction. Therefore, share price returns are
unanimously agreed by market agents at an aggregated market basis, thereby being equivalent
to the market return.

In such a setting, there is perfect equilibrium reflecting the Walrasian general equilibrium
model described in Vahabi (2002).   The Walrasian model stipulates that all market
transactions take place at an equilibrium position which is attained through tâtonnment and
recontracting (Walras 1874).   The process of tâtonnment relates to market mechanism in
which market prices are determined by an invisible hand, also known as an auctioneer (Arrow
1959; Jaffe 1967).   The auctioneer calls out a price and the market agents reveal their
intentional or notional demand and supply. Effective transacting only takes place when the
auctioneer declares the equilibrium price. However, there is no deviation between notional
and effective demand and supply, that is, a complete harmonious amongst individuals where
intent is in parity with actions or a state of perfect foresight (Vahabi 2002). Recontracting
recognises that even in the state of disequilibria, the Law of Indifference sets in through
arbitration where market agents agree and transact at an equilibrium position by aligning their
expectations to the prices indicated by the auctioneer (Vahabi 2002). The Law of Indifference
works in a manner that allows a feedback mechanism in which where mispricing of shares is
successively corrected by reference to the disequilibria it generates (Arrow 1974). However,
the mispricing in this case is arguably conceptual as market agents only exercise effective
trading at the equilibrium price.

In brief, such a market setting is characterised with rational participants who have
homogenous expectation as well as a frictionless mechanism of operation. Consequently, all
available and new information is instantaneously reflected in the share prices in a manner that
does not present an opportunity for any participant to earn more or less than the market return.
So, there is no benefit or information content in using information, including financial
disclosures.

5.5.2 Conditions of the Market for Information

Under the MI, disclosures are the commodity being traded amongst market agents (Gonedes and Dopuch 1974). As discussed earlier, the heterodox economic market mechanism justifies its efficacy from the inadequacy of the mainstream market concept with regard to real world operation of markets. Likewise, the MI ideology rejects the effectiveness of the MC propositions in explaining the relevancy of information in share price determination. In other words, Gonedes (1976) termed conditions underlying the MI as implicit, as they are derived from the disagreement with the MC assumptions. He states that inconsistency between available evidence and capital market efficiency construes that the true source of the inconsistencies is from the nature of the market for information rather than that of the market for capital.

The conflicts arise from the assumptions of homogeneity in expectation, exclusivity and costless use of financial disclosures. In the market for information, these notions are relaxed based on the perception that the demand and supply for financial disclosures arises from the impact that information has on share pricing (Gonedes 1972). Secondly, given that information production has a cost, there should be some value that justifies the provision of such disclosures. Gonedes (1975) further suggests evidence of value relevance of financial disclosures to share pricing reflects that there is exclusivity in the use of the disclosures. This is opposed to the market for capital postulate that information is uniform in reference to availability and interpretation for all market participants.

5.5.3 Conditions for the Market for Regulation

Broadly, the hypothesis for regulating of free economic markets results from the comprehension those markets may fail to efficiently or equitably allocate resources due to inconsistencies between their underlying assumptions and the real world operations. Riahi-Belkaoui (2004) suggests that there are two broad thoughts on the market for regulation in relation to usefulness of accounting disclosures for capital market use. They include the deregulated market concept and the regulated market theorem.

The unregulated market ideology relies on agency theory to foster market deregulation. The existence of agency incentivises managers to voluntary disclose financial information to shareholders because financial reports are used to appraise both managerial and firm performance. The instance of not disclosing may be perceived as a concealment of bad news, which is penalised through share price deterioration. In addition, the strategy of concealment may not be successful as there are numerous sources from which investors may obtain information about the performance of the firm and its prospects.

The regulated market concept is applicable where market failures exist, thereby forcing government intervention in operations of free economic markets. Among the earliest proponents of this phenomenon is Pigou (1932, p. 173) who viewed that, "…the differences between marginal private and marginal social values would deter a free economic market system from achieving the maximum national dividend." To counter this inclination of the free economic market system to maximising mostly private values, other than national dividend, government intervention was necessary. To amplify this argument, Weimer and Vining (1992, p. 30) noted that, "…the justification of government intervention in private affairs in the US has always been market failures in allocation of societal resources whilst pursuing private interests."

In the case of firms, market failures often arise from expropriation where managers assume possession of investors' wealth (La Porta et al. 2000). This points towards the agency cost which Jensen and Meckling (1976) conjectured to occur when insiders (agents) enrich themselves at the expense of the shareholders (principals). Considering the possibility of agents to prioritise their interest over duty in agency contracts, Jensen and Meckling (1976) argued that laws and government bodies such as courts and police are vital to ensure reliance and enforce execution of the contracts. La Porta, et al (2000) consider such government intervention as a protection of investors' rights which include the right to disclosures that provide investors with information necessary to make investment decisions. Market failures arising from non-disclosure of information may be a consequence of various instances such as mere reluctance to disclose as the firm is monopolistic supplier of information about it, fraud, or underproduction of information as a public good (Riahi-Belkaoui 2004). The propensity of

market failures resulting from insufficient production of relevant accounting information therefore is the main condition for the viability of the regulated market concept.

5.6   Schematic Impression for Financial Disclosures Usefulness in Economic Market Settings

Diagram 2 presents a flow chart outlining the theoretical network describing the usefulness of financial disclosures with regard to investment decision making in relation with economic market mechanisms.

The usefulness of accounting disclosures in the market place for investment decision making is traceable to the evolutionary accounting theories by reference to their focus of attention. While the proprietary theory recognises that the firm and the owner are synonymous, the entity theory recognises the two are separate.   For the proprietary concept, the focus of attention is the owner of the business as disclosures are about the proprietor's property where the firm is only part.   The focus of attention under the entity concept is the firm where disclosures are about the firm and disclosed to the shareholders in their capacity as business owners.   The separation of the firm from its shareholders in the entity concept introduces the agency concept thereby resulting in the need for information from the agents who run the firm, to the principals who own the firm.   Shareholders may use the disclosures then either as a means of monitoring stewards or for investment decision making.

Diagram 2   Theoretical Flowchart for Usefulness of Disclosures under Market Mechanisms

```
                    ┌─────────────────────────────────┐
                    │  Evolutionary Accounting         │
                    │  Theories of a Firm              │
                    └─────────────────────────────────┘
                                    │
   ┌──────┐                    ◇ Is Entity              ┌──────┐
   │  No  │◄──────────────    Separate from     ───────►│ Yes  │
   └──────┘                    Proprietor? ◇            └──────┘
      │                                                    │
      ▼                                                    ▼
┌──────────────────┐                            ┌──────────────────┐
│ Proprietary      │                            │ Entity Theory    │◄───
│ Theory           │                            └──────────────────┘
└──────────────────┘                              │            │
      │                            ┌─────────┐     ▼            ▼
      ▼                            │ Entity  │  ┌──────────────────┐
┌──────────────┐   ┌──────────────────────────┐│ Proprietor       │
│ Proprietor   │──►│ Focus of Attention in    │◄┘                 │
└──────────────┘   │ Accounting Disclosures   │◄─────
                   ├──────────────────────────┤
   ┌──────┐        │ Preparer of Accounting   │◄─────
   │  No  │◄───────┤ Disclosures              │
   └──────┘        ├──────────────────────────┤
      │            │ User of Accounting       │◄─────
      ▼            │ Disclosures              │
┌──────────────┐   └──────────────────────────┘
│ Proprietor is│                                          ┌──────┐
│ the user,    │       ◇ Is there Agency          ───────►│ Yes  │
│ preparer and │        Relationship? ◇                  └──────┘
│ focus of     │                                             │
│ attention in │                                             ▼
│ disclosures. │                               ◇ Is there Need
└──────────────┘                                 to Trade in
                                                 Information? ◇
                    ┌──────┐                      │        │
                    │  No  │◄────────────────────┘        ▼
                    └──────┘                           ┌──────┐
                       │                               │ Yes  │
                       ▼                               └──────┘
             ┌──────────────────┐                         │
             │ Mainstream       │                         ▼
             │ Economic Market  │              ┌──────────────────┐
             │ Mechanism        │              │ Heterodox Market │
             └──────────────────┘              │ Mechanism        │
                       │           ◇ Is there   └──────────────────┘
                       ▼             Need for              │
             ┌──────────────────┐    Regulation? ◇         ▼
             │ Market for       │      │              ┌──────────────────┐
             │ Capital          │      │              │ Market for       │
             └──────────────────┘      │              │ Information      │
                       │               │              └──────────────────┘
                       ▼               ▼                       │
             ┌──────────────────┐  ┌──────┐              ┌──────┐
             │ No need to trade │  │  No  │              │ Yes  │
             │ in information:  │  └──────┘              └──────┘
             │ Perfect Market   │      │                       │
             └──────────────────┘      ▼                       ▼
                            ┌──────────────────┐    ┌──────────────────┐
                            │ Need to trade in │    │ Market for       │
                            │ information:     │    │ Regulation       │
                            │ Heterogeneity in │    └──────────────────┘
                            │ markets with no  │              │
                            │ market failures  │              ▼
                            └──────────────────┘    ┌──────────────────┐
                                                    │ Need to trade in │
                                                    │ information:     │
                                                    │ Heterogeneity in │
                                                    │ markets with     │
                                                    │ market failures. │
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For the investment decision role, the discussion in the chapter interfaces the exchange of disclosures and investment capital between investors and the firm by aid of economic markets. Two main economic markets under which this interface is explained are identified as the mainstream and the heterodox market mechanism. The exchange of investment capital is conceptualised under the mainstream market mechanism as the market for capital. The underlying concepts in the market for capital are that there is information symmetry in market players and despite the agency relationship between market players (investors and managers), all parties are rational and have homogeneous expectations (Fama 1965). In this market too, information is costless (Fama 1965). The markets for information and regulation, which are classified under the heterodox economic market, recognise that the agency relationship between management and investors results into information asymmetry because neither are all market players rational nor have homogeneous expectation (Gonedes and Dopuch 1974). Also, information may have a cost due to the variability in market players' use of the information. The exchange of information, as a counter to the deficiencies in the mainstream market mechanism, is conceptualised in the market for information. Arguably, as free economic markets are subject to failures, the need for the market for regulation is also considered under the heterodox market mechanisms as a monitor ensuring equitable allocation of resources in both the market for capital and the market for information (La Porta et al. 2000). Riahi-Belkaoui (2004) adds that where the market for regulation is not necessary, the agency relationship plays a pivotal role in ensuring that managers act in the interest of shareholders with regard to provision of information for investment decision making.

5.7   Summary and Concluding Remarks

In this chapter, the discussion focussed on the founding theories of accounting disclosures and how the information befits the investment decision-making process. The first consideration was to the focus of attention of the two evolutionary accounting theories, the proprietary and entity concepts. Central to the arguments, the agency relationship created by the separation of the entity from its owners and the resultant information asymmetry necessitates the role of financial information in economic markets where shareholders engage in share trading activities. One extreme is the mainstream economic market mechanism that assumes

disclosures do not play any role in aiding investors' decisions as all market participants are rational and have homogeneous expectations and act similarly in the market place. Information is costless in such a mechanism. The alternative extreme is the heterodox economic market mechanism that recognises market imperfections and failures, therefore, fosters the usefulness of disclosures. However, considering that in the real world there are no extremes, in line with Gonedes (1972), the usefulness of accounting disclosures for investment decision making is conceptualised by integrating the two mechanisms. Under the mainstream economic market mechanism, the study identifies the market for capital (MC) concept, while under the heterodox economic mechanism, the discussion considers the market for information (MI). Based on the fact that the recommendation to complement and supplement financial statements in order to aid shareholders in the investment decision process resulted from regulatory guideline (e.g. ASB 2005, 2006), the market for regulation (MR) is also included in the discussion. Theoretically, the MR is considered herein under the heterodox economic market mechanism to correct market failures in the MC and MI.

As highlighted above, three markets are identified through which information content of narrative commentaries may be explained. They include market for capital, market for information and the market for regulation. The next chapter analyses the various theories operating in the three markets of capital, information and regulation.

6 MARKET BASED THEORIES FOR INFORMATION CONTENT OF FINANCIAL DISCLOSURES

6.1 Introduction

In this chapter, the theoretical framework for the information content of complementary and supplementary narrative commentaries is discussed with relation to theories under the market for capital (MC), market for information (MI) and market for regulation (MR). The three markets are classified in the two broad economic market streams discussed in chapter 5, that is, the mainstream (for MC) and heterodox economic market streams (for MI and MR). Complementing and supplementing have only been recently introduced to the financial reporting domain by provisions in ASB (2005; 2006). Therefore, it is open to discussion that there are no theoretical underpinnings in accounting and finance literature specifically meant to explain the worthiness of complementary and supplementary narratives to share valuation. This argument is further supported by the review of literature in chapter 3 above where no study was found to have empirically examined the usefulness of either classification of narratives to investors. In brief, it is deductable that there is a lack of theories that exclusively explain information content of complementary and supplementary narrative commentaries. Therefore, this thesis is compelled to draw from concepts that account for investors' usefulness of accounting disclosures in general for investment decision making.

The next section presents theoretical underpinnings in the market for capital (MC). Thereafter, theories in the market for information (MI) are discussed, followed by theories relating to the market for regulation (MR). The last section is a summary and conclusion to the chapter.

6.2 Market for Capital Theories

6.2.1 Efficient Market Hypothesis

Some of the literature (e.g. Ball and Brown 1968; Holmes 1971; Lunt 1982; Rippington and Taffler 1995; Shaw 1981) advance the hypothesis that interim reports have information content because they are timelier, compared to annual reports. With reference to agency theory, disclosures in interim reports, such as complementary and supplementary narratives, alleviate information asymmetry and thereby posses information that can be used to earn abnormal returns in the market for capital. The implication of this postulate is a rejection of the efficient market hypothesis (EMH) in the semi-strong form to suggest that one may use the disclosures in interim reports to outperform the market.

The EMH, in its most conformist construct, disagrees with any suggestion that information can be used to outperform the market (Fama 1970). EMH functionality requires that in addition to utility maximisation, individuals are rational and have homogenous expectation and information is costless (Fama 1970). Therefore, these assumptions of EMH reflect that in the agency relationship between investors and managers, there is no information asymmetry. In turn, the only returns that can be earned on the market are normal market returns that incorporate all available information instantaneously and accurately, leaving no opportunity to earn above normal returns by using this information. Though EMH is largely categorised under the mainstream economic school of thought, it recognises a degree of imperfection in the market. Fama (1991; 1998) recognised that when new information gets to the market, some participants may over- or under-react. However, the general trend is that the movement in prices is random and normally distributed such that the net effect is that no one can make abnormal profits from the information. Fama (1970) theorised market efficiency under three information types based on their availability on the market. The types included (1) information in past share price trends (2) all publically available information and (3) all publically and privately available information. The efficiency of the market conditioned to the information types are referred respectively as (1) weak, (2) semi-strong and (3) strong forms of efficiency.

6.2.1.1 *Weak Form Efficiency*

Under weak form efficiency, one cannot profit from predicting future prices by way of analysing past share prices. In other words, technical analysis as an investment strategy for modelling future returns through trend analysis of past share prices does not result into future excess returns. Malkiel (1996) affirmed the randomness of share prices both sophisticated and unsophisticated have the same chance to make excessive returns and this chance is independent of the security's past performance on the capital market.

Empirical evidence on the random walk theory is divergent. Using stochastic dominance, Dickens and Shelor (2003) confirmed Malkiel's (1996) conception that expertly identified stocks could as well be picked randomly on the S&P 500, DJIA, Nasdaq and the Russell 2000 indices. A contradiction to the weak form or the random walk hypotheses is by Saad, et al. (1998) who found that market prices tend to trend from intervals as short as a week. However, Clive and Oskar (1963), though the short term price movements supported the random walk theory on the NYSE, the long term price movements did not conform to the weak form efficiency.

In the UK, Kendall (1953) examined the presences of weak form efficiency through an estimation of the correlation coefficients between price changes of shares prices at different periods on the Actuaries Index of Industrial Share Prices for the London Market. The results suggested a random walk that concurs that there is no pattern in share price movements as the changes seemed irregular. Following Kendall's findings, various studies (e.g. Brealey 1970; Cunningham 1973; Dryden 1970) empirically confirmed the random walk theorem using UK trading data. However, tests for random walk on UK FTSE indices by Opong, et al (1999) showed that FTSE All Share, 100, 250 and 350 FTSE differed from the random walk theorem. The study's tests for independence based on correlation showed that the indices did not exhibit an independent and identically distributed pattern. Given that cycles occurred more frequently than would have been in a true random pattern, the conclusion was that the movements on the indices were not purely random. Using both parametric and non-parametric tests, Belaire-Franch and Opong (2005) provided further evidence suggesting that UK FTSE indices do not follow a

random walk. However, for the FTSE 100, there was a relatively lower level rejection of the random walk than other indices. This was attributed to the high analyst following and high liquidity levels for the FTSE 100 compared to other indices. Mills and Jordanov (2003) also provided evidence on the size effect with regard to the random walk on the London Stock Exchange. Largest securities, rather than the smaller ones, had the highest potential to reject the random walk hypothesis. However, they qualified the results that they may not be generalised to a different market setting or other periods outside the sample period.

6.2.1.2   *Semi-Strong Efficiency*

The semi-strong form efficiency is mainly concerned with the speed and accuracy of the market in incorporating new public announcements about a firm in its share prices such that no abnormal returns are attributed to the information. In this state of the market, neither can technical analysis nor fundamental analysis be used to outperform the market (Fama 1970).   It is under this form of efficiency that the publication of information in interim reports is expected not to influence share price abnormal returns. Opong (1995) argued that if the market is efficient, the publication of interim reports would result in a share price return equal to zero. With relation to this study, semi-strong efficiency would lead to two deductions. Firstly, both complementary and supplementary narrative commentaries would have an abnormal share price returns equal to zero. Secondly, because of the same share price return, there would be no difference in the return attributed to investors' use of either complementary or supplementary narrative commentaries.

Healy and Palepu (2001) discussed the role of disclosures in the capital markets using the agency concept and information asymmetry. They argued that agency arises when savers invest in a business venture in which they relegate role of utilising the funds to management. However, the management at times makes self-interested decisions that expropriate investors' funds through high executive pay packages and other decisions that devalue the investors' equity. Top reduce these instances, Healy and Palepu (2001) suggest that one alternative is the signing of optimal contracts between the two parties. Such contracts require management to reduce information asymmetry by providing information on the firm's performance so that

the investors can assess the management's performance. Alternatively, the shareholders may use corporate governance mechanisms such as board of directors who have the role to monitor and discipline management on behalf of investors. Similarly, for this role to be executed, the management has a responsibility to reduce information asymmetry by reporting on its performance to the board of directors. The other option for reducing the agency problem is that investors may use services of information intermediaries, such as financial analysts and rating agencies who engage in private production of information to uncover any misuse of funds by management (Healy and Palepu 2001). This may at times be enhanced through regulation. To protect their positions, management will influence their appraisals through reducing information asymmetry by providing disclosures that reduces instances that may lead to wrong judgements.

In all the solutions that Healy and Palepu (2001) provide, which are based on a review of prior empirical and theoretical work, the key element is that disclosures, such as complementary and supplementary narratives in interim reports, help to reduce information asymmetry between investors and management. This is either directly by the two parties engaging with each other through optimal contracts or use of proxies, such as boards of directors and financial intermediaries. Even in a semi-strong efficient market, Watts and Zimmerman (1978; 1986) argued that management might prefer to provide accounting disclosures to reduce information asymmetry and agency costs, as there are significant costs in writing and enforcing contracts as well as political costs in regulatory processes. Emphasising this, studies (e.g. Barry and Brown 1985; Healy and Palepu 2001) consider that managers who engage in capital market transactions have an incentive to provide disclosures, such as complementary and supplementary narratives to reduce the information asymmetry problem and associated cost of capital.

The earliest empirical work on semi-strong efficiency is documented by Fama, et al (1969), examining the impact of information implied by stock splits on share prices in the US. The results showed that the information was spontaneously incorporated in share prices on its release such that there were no abnormal returns accrued to the announcement. Among early tests of semi-strong efficiency in the UK is Franks et al (1977) in which information about

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mergers was predicted three months to the event. This indicated presence of semi-strong efficiency because abnormal returns did not accrue to the publication of information about the merger due to the anticipation of the news. In addition, the possibility of any miniature returns was ruled out, as they would be absorbed in transaction costs. In a related study, Firth (1976) established presence of abnormal share price movements prior to announcement of take-over bids. The tendency was ascribed to information leakage rather than prediction, thereby associating the market with inefficiency. The magnitude of occurrences being limited to a few firms obliterated the thesis that the market is inefficient.

Contrary to the studies above, another line of literature (e.g. Ball 1978; Bernard and Thomas 1989) observe post-announcement drifts in share prices after a new piece of information is published. Ball (1978) envisaged that either such drifts are a result of the researcher's misspecification of the market equilibrium by omission of a component in computational model or a failure of market efficiency in incorporating new information into share prices. The failure to include new published disclosures into share prices was conjectured as a result of either the high cost of using the new information or information-processing frictions that deter the market's ability to capsulate the predictive potential of the news. Ball (1978) was inclined to suggest that market inefficiency was more likely to be the cause of the post-announcement drifts. Bernard and Thomas (1989) found it hard to suggest the cause of the drifts and assumed that the market does not understand the autocorrelation between quarterly returns. Fama (1991) discard the presence of post-announcement drifts as evidence of semi-strong form market inefficiency by suggesting that the drifts could be a result of misspecification in measuring abnormal returns. Also, in response to Bernard and Thomas (1989), size could have been the explaining factor since small firms are susceptible to unrelated price movements. Fama (1991) disagreed with the direct attack on market efficiency that participants do not understand earnings movements. He rather argued that analysts closely follow share price movements such that drifts cannot simply indicate inability to understanding movements.

6.2.1.3   *Strong Form Efficiency*

Under strong form market efficiency, all information whether publicly or privately available is already impounded in the share prices, not even insider trading would yield abnormal returns. Similar to semi-strong efficiency, financial reporting has no impact on share price returns in strong form efficiency. An assumption for the effectiveness of strong form efficiency is that there are no legal barriers impounding the public disclosure of private information. Therefore, the market operates at optimal efficiency without market failures such that there is no need of regulation. However, in the real world, regulation of public disclosure of private information undermines the effectiveness of the strong form efficiency (Huddart et al. 2001).

Various studies (e.g. Jaffe 1974; Lorie and Niederhoffer 1978) have tested for strong form efficiency through the presence of abnormal returns from insider trading and confirmed that largely markets are inefficient. This finding means that individuals can privately use price sensitive information to outperform the market. The results in the study by Jaffe (1974) furthered an argument that even after insiders have profited from the use of their private information, public use of the insider information made public could still accrue abnormal returns for months thereafter. Though Seyhun (1986) concurred that private use of insider information may profit the individual, they found no evidence supporting Jaffe's (1974) position that public use of insider information earns abnormal returns. Seyhun (1986) argued that Jaffe's (1974) findings could have been influenced by the methodology. Seyhun (1986) further argued that insider trading was affected by the size effect. Larger securities were more prone to insider selling while small securities showed greater proportion of insider buying reflecting the notion that large securities have lower average returns than small securities.

In the UK, Pope et al (1990) examined the pattern of returns resulting from trading based on the action of directors' share dealings. Save for bid-ask spreads and transaction costs, the findings reflected that a trading strategy based on news of directors share dealings had abnormal returns. The evidence concurs with Jaffe (1974) that stock exchange is strong form inefficient.

6.2.2 Criticism of Efficient Market Hypothesis

The critics are broadly characterised into two – behavioural or psychological and market mechanism. As discussed earlier, given that this study inclines to the market mechanisms, the main concern is the market-based critique of EMH. However, behavioural and psychological based rejections of EMH are briefly considered to provide a holistic discussion on the instances of ineffectiveness of the hypothesis.

6.2.2.1   *Behavioural and Psychological Critiques*

Behavioural psychology emphasises the external behaviour and reaction of people to a circumstance rather than the internal, mental, rational state of mind for those people (Burnham 1994). Therefore, behavioural and psychological argue against theories that consider rationality as a prerequisite of market functioning by suggesting that cyclic patterns of share price trends are evidence of irrational behaviour. The recurrence of patterns on the capital market shows a violation of EMH because it is possible to predict the market trends and thereby presenting a possibility of earning abnormal returns by following the trends.

Malkiel (2003) examined alternate theories reflecting the behavioural and psychological influences on share pricing rather than rationality. The theories in this category include short run momentum due to under reaction (e.g. Lo and Mackinlay 1988); long run return reversals arising from over reaction (e.g. Debondt and Thaler 1985) and seasonal or day-of week effect (e.g. French 1980). Another class of such theories are those based on patterns from macro economic variables, for example short term interest rates (e.g. Fama and Schwert 1977). Irrationality in the market place is also reflected in the trending of equity risk premiums, for example Ibbotson data between 1926 and 2001 showed that US common stocks returned on average 10.5% and high grade bonds returned approximately 5.5% (Malkiel 2003). Firm specific characteristics conjectured to influence share pricing, such as sample size effect (e.g. Fama and French 1993b) are evident of psychological traits. Value stocks based on financial performance ratios have also been established as predictors of share prices, for example price earning (e.g. Ball 1978), dividend yield (e.g. Campbell and Shiller 1998), earnings per share (e.g. Patell 1976) and price-to-book value (Fama and French 1993a; 1997).

There are ongoing debates suggesting that behavioural influences on share pricing are reflected in events such the October 1987 market crash, the internet bubble of 1990 (Malkiel 2003). However, evidence of rationality in the market may be interpreted from the evidence of the failure by professional investment managers to outperform the market despite being remunerated for abnormal profits (Jensen 1968).

6.2.2.2   *Market Mechanism Based Critiques*

6.2.2.2.1   Efficient Capital Markets II

Fama (1991) revisited the assumptions of the original EMH by Fama (1970). The assumptions suggested that for a market to be efficient there should be no costs for obtaining and using information on the market. However, practically, such a situation was envisaged as unattainable. Therefore, given that information and trading costs are prevalent in the market place, the original EMH is a fallacy (Fama 1991). The new position assumed is that EMH is realisable with consideration of respective information and trading costs in the market.

The second consideration is that EMH is not an isolated phenomenon explaining market functioning, therefore cannot be proven in isolation. The modification of EMH by Fama (1991) considers that presence of efficiency can be confirmed through an asset-pricing model such as the market equilibrium model. Any empirical findings about EMH ought to be judged based on both EMH and the effectiveness of the respective market equilibrium model to correctly specify efficiency.

Based on these amendments to EMH, Fama (1991) posits that the cleanest tests of EMH are event studies, particularly if based on daily returns. The studies precisely map the event to the date the information becomes public and estimate abnormal returns around the announcement date. This modelling allows the testing of both the impact of the event on the share prices as well as speed of the market to reflect the information in the firm's share prices.

6.2.2.2.2   Market for Information

The critique of EMH by the market for information (MI) has been discussed earlier in chapter 5 and its respective theories are discussed later on in section 6.3. Suggested by Gonedes and

Dopuch (1974), the MI hypothesis assumes that the prevalence of frictions in the market for capital (MC) incapacitates EMH as the absolute explanation for share price movements. In other words, the assumptions of EMH are considered to be unrealistic given that the market players are human actors, some of whom may not behave rationally and have diverse expectations. The actors too have various levels of access to information and different information assessment abilities. Therefore, the presence of agency between investors and managers, alongside the above diverse characteristics of human actors creates information asymmetry in the market for capital. This argument reflects the discussion by Gonedes (1976) that inadequacy of EMH arises from heterogeneity in market participants' expectation and the resultant exclusive and costly use of financial disclosures. Disclosures, for example complementary and supplementary narratives, are needed in the market for capital to compensate for these EMH shortcomings. The exclusive and costly use of information postures the disclosures as a commodity demanded and supplied due to its ability to influence share prices on the MC (Demsetz 1970; Gonedes 1975). Hence leading to the inapplicability of the conventional semi-strong form EMH suggestion that all available information is spontaneously and correctly reflected in share prices at no cost by market participants having homogenous expectations such that no abnormal returns accrue to such information (Gonedes and Dopuch 1974). Resultantly, as management supplies information in form of accounting disclosures to investors in the market for information, they (management) expect that these disclosures will reduce agency costs and therefore encourage investors to supply capital in the market for capital.

6.2.2.2.3   Market for Corporate Control

In Parkinson's (1993) study, it is explained that the effectiveness of the market for corporate control relies on efficacy of EMH. Under the market for corporate control, any managerial underperformance will be accurately and promptly incorporated in share prices leading to a decline in share prices. The fall in share prices is interpreted as managerial failure and will entice new management to control the firm as a replacement for inadequate managers. Because of the fear of replacement, the existing management will ensure optimal performance.

Deakin and Singh (2008) based on market crashes of the 1987 US stock market crash, late 1990s crash of the Asian exchanges and the 2001 bubble bursts of the technology securities to reject EMH due to the ineffectiveness of the market for corporate control. If the market for corporate control, which relies on EMH, was effective during the crash periods, the causes of the crashes would have been identified and the crashes would not have occurred.

Tobin (1984) suggests that for market efficiency to occur, two steps (types of efficiency) are adhered to. The first is the information arbitrage efficiency (IAE) requiring that information is immediately disseminated to and decoded correctly by all market participants without bias. The second is fundamental valuation efficiency (FVE) ensuring that the same disclosures are correctly and suddenly incorporated into the firm's share prices by the homogenously expectant participants such that no abnormal return from this information can be obtained by any of them. Deakin and Singh (2008) and Singh (1999) suggest that although it is largely assumed that developed markets exhibit IAE, the market crashes above disapprove the argument for presence of FVE. The past bubbles, the 2008/9 bank and market crises and subsequent government bailout of US and UK banks affirm this line of reasoning. The 2008/9 bank crises and capital market failures has been largely blamed on corporate governance mechanisms which reflect the impact of the market for corporate control on capital markets (Kirkpatrick 2009).

In relation to this thesis, the first concept of the market for corporate control by Tobin (1984) that information arbitrage efficiency in the market place requires dissemination and decoding of information reflects the entity concept, the resulting agency relationship and information asymmetry. To this, complementary and supplementary disclosures are disseminated by management to investors who are expected to decode the information. The second concept of fundamental evaluation efficiency that the investors incorporate this information accurately and instantaneously into share prices aligns with EMH semi-strong form efficiency where complementary and supplementary narratives can only yield normal market returns. However, Deakin and Singh (2008) and Singh (1999) argument that though markets may comply with information arbitrage efficiency, hardly is fundamental evaluation efficiency achieved shows that complementary and supplementary narratives m ay yield abnormal returns. The failure to

achieve fundamental evaluation efficiency may imply that there is information content in complementary and supplementary disclosures. Therefore, management may provide the narrative disclosures to avoid adverse effects within the market for corporate control.

Another observation is that the two forms of efficiency in the market for corporate control (information arbitrage efficiency and fundamental valuation efficiency) mutually explain the role of disclosures for investment decision making. Arguably, this is a realisation that the market for capital and market for information jointly explain the usefulness of complementary and supplementary narratives as earlier conceptualised in chapter 5.

6.3   Market for Information Theories

Given that the objective of this thesis is to analyse the information content of narrative commentaries, it is posited that the most suited alternative to EMH for the study is the market for information (MI). Various scholars (e.g. Allen 1990; Barker 1998) consider the MI as a suitable theory for explaining the usefulness of accounting disclosures for share price determination. One significant observation in Barker (1998) is that although EMH presumed that markets are efficient in incorporating all available information in share prices, both in speed and accuracy, the theory did not mention the quantity and quality of disclosures it referred to. The MI therefore suffices to provide conceptions that consider the attributions of disclosures whilst explaining the mechanism through which share pricing and information interact.

In this section, the first part explains the mechanisms through which the MI operates. Secondly, the relevant theories under the MI are discussed. As suggested in chapter 5 that the MI is an implicit rejection of the MC no consideration is given to the critiques of the MI.

6.3.1 Mechanisms of the Market for Information

Gonedes (1976) uses two postulates to explain how the MI operates. They include the game theory in the MI credited to Gonedes (1975) and the private production of financial disclosures as a public good by Demsetz (1970). The two modi operendi are explained below.

6.3.1.1   *Game Theory*

Using game theory, Gonedes (1975) provides a simulation for equilibrium in the MI. Like in EMH, there is costless and uniform access and use of information. Further, no participant is forced to produce or use information. However, without any restriction, participants may enter a contract for information at terms agreeable to all parties of the contract. Through contracting and recontracting, information is produced and disseminated to the contracting parties. The equilibrium is reached upon when there is sameness between individual and group rationality and Pareto optimality (Gonedes 1976). In other words, at equilibrium it makes no difference in returns to enter a contract of information with a subgroup of the market or acting as an individual player in the market. Therefore, private use of information by a subgroup or an individual does not yield returns above the market equilibrium value of that information. The resultant of this assumption of similar equilibria for individual agents and subgroups or coalitions is that collusion in the MI does not result into above market returns from the disclosures. This concept of collusion and equilibrium is the premise on which the various forms efficiency under EMH are constructed (Gonedes 1976).

Given the above state of the market, game theory further stipulates that markets for economic factors of production (for example labour and finances) are used by both information-producers and the capital market in a perfect and frictionless manner. New information in the MI is conjectured to assist investors to appraise the distributive patterns of returns on assets, thereby facilitating the optimal portfolio decisions. Therefore, information produced to influence investors' decisions regarding allocation of their capital will influence the information production-investment decision as the disclosures have an influence on share pricing. This cyclic causal relationship of investor's need for information, management's production of disclosures postulates information as a commodity. To produce this commodity, management has to use the firm's resources with an expectation that the disclosures will attract more resources from investors to the firm.

The presence of coalitions in the game theory is aimed at distinguishing financial disclosures from private goods where the use of the good by one participant prevents another from using it

(Gonedes 1976). Since financial disclosures are published in a manner that one's usage does not prevent others from using them, each coalition or grouping will have an equilibrium position and through Pareto optimality, a singular competitive equilibrium position on the use of disclosures will be reached. The groupings may take the form of institutional investors, security analysts or classes of securities. To enhance this mechanism, Demsetz (1970) simulates the MI with the theory of private production of public goods.

6.3.1.2 *Private Production of Public Goods*

The public goods model by Demsetz (1970) assumes that accounting information is a public economic good produced for investors' use. The model is based on the premise that private production of public goods is characterised by the ability to exclude non-purchasers, as is the case with cable television. The supplier produces the goods for a group of consumers, however, the consumption of the good by one consumer in the group does not affect other members' consumption. Therefore, a new member is able to consume the good at no extra cost to the supplier and without affecting other members' consumption.

Compared to other types of goods, public goods such as financial disclosures have a distinctive character. Whilst in the case of collective goods, it is not possible to exclude non-buying users, financial disclosures are mainly purposed to aid investors (purchasing users) in their decision making process. For private goods, allocation to consumers is determined by a price mechanism in which goods are apportioned to the highest bidding price. The rationale is that the opportunity cost of disallowing other consumers is lowest with the highest bidder. However, in the case of the public good, such as financial disclosures, that are associated with a group of users, the good is available to all purchasing clientele and thereby it is unnecessary to use price to allocate the good. Given that one user's consumption does not deter other users from using the good, it is unlikely that allocation of goods is determined by price discrimination.

Both models, the game theory and private production for private goods are related to Pareto optimality (Gonedes et al. 1976). The Pareto Optimality implies that social preference of the information will determine its usefulness or desirability so that no subgroups of the market

agents can use the information to benefit outperform the market by not cooperating with other market participants. The general assumptions for the MI are that there is costless and unrestricted bargaining among market participants in the process of information production and usage. Secondly, there is no participant acting under duress to produce or purchase information, and any participants is under freewill to enter into the contract for information at mutually agreed terms. The assumptions depict that the production and usage of information is influenced by contracting and recontracting amongst of groups of stakeholders in information. Unlike in EMH, the contracting and recontracting and the production of disclosures is based on the value that information has in respect to illuminating the investment decisions.

6.3.2 Market for Information Theories

The MI hypothesis is an assemblage of various theories explaining the market usefulness of disclosures for share pricing rather than EMH. Gonedes (1976) argued that by not considering the relevance of the MI may lead to an overlook of some theoretical concerns explaining the relevance of information in share price determination. Given the copiousness of theories that have developed over the years, the discussion hereunder is not comprehensive but rather illustrative of conceptions under the MI.

6.3.2.1 *Uncertain Information Hypothesis and Over-Reaction Hypothesis*

The uncertain information hypothesis (UIH), first tested by Brown et al (1988), evolves from the suggestion that markets at times misprice information due to investors risk averseness. The origin of this school of thought is Fama (1965) where it was discussed that large share price changes are often followed by random irresolute responses. This observation counters the EMH rational and instantaneous response assumption in a case of an important information surprise on the market. To refine EMH, Brown et al (1988) proposed the UIH which too assumes rational investor behaviour. Under UIH, when a sudden substantial piece of information gets to the market, the first reaction does not reflect that full price of the event's value. Thereafter, as the market begins to understand the effects of the event, prices adjust accordingly until the true price of the event is established. It may be argued that despite

investors being rational, there is information asymmetry in the market, possibly arising from the separation of the firm from its owners (entity concept). As a result, semi-strong EMH is unattained leading to traces of over- or under-reaction to information, showing uncertainty in the impact of the disclosures. Dependant on the value of the disclosures, such as complementary and supplementary narratives, and ability of investors to fully and rightly interpret the event, the post-announcement drifts are intended to rectify the price to the true price of the announcement.

Brown, et al (1989) exemplify UIH with a sudden arrival of a piece of unexpected bad news on the market about the firm, say, a sudden demise of an executive. Investors will quickly mark down the value of the firm's shares. However, given that the only true assessment of the event can only be possible on announcement of a replacement, investors can only have subjective assessment in the interim about the long-term effect of the event. The result therefore is a double-effect on the firm's share value where the first impact is the event itself and the second is the magnitude of the event. Similar reaction, though in opposite direction is expected for good news.

As a cohort to this theorem, DeBondt and Thaler (1985) through their Over Reaction Hypothesis (ORH) concur that markets habitually over react to new information and have to persistently revise their original pricing of the news. However, the two theories differ as far as good news is concerned (Brown et al. 1989). Rather than over reaction, good news leads to an under reaction where the first reaction attributed to the sudden good news is a share price increase and the second reaction based on the magnitude is reacted to by further price increase. Diagram 3 shows a simulation by Brown, et al (1989) of share price adjustment under EMH, UIH and ORH on receipt of a new piece of information on stock exchange.

Diagram 3   Stock Price Changes in Response to Bad and Good Uncertain Information
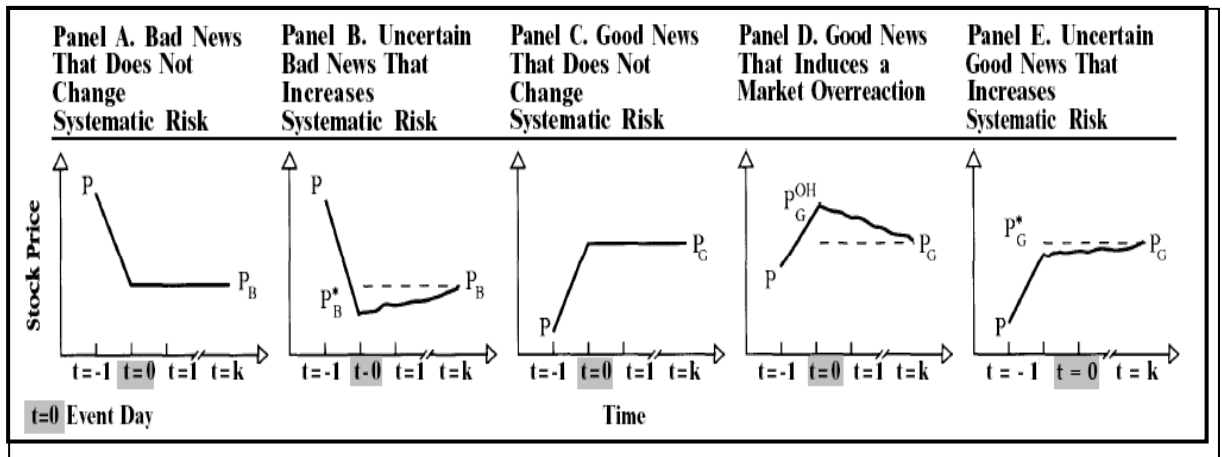
Source : Brown, et al (1989, p. 49)

Panel A shows a price adjustment under EMH when bad news in announced. There reaction is an instant downgrading of prices and accurate such that no further price movement as a result of the news is experienced. Panel B presents a reaction to bad news under UIH and ORH. There is an instant overreaction due to the systematic risk embedded in the uncertain event. Thereafter, as investors understand the full impact of the event, they revise pricing upwards to the true value of the event. Panel C shows the perfect pricing scenario for good news. Panel D shows the reaction to good news under ORH. In this case, the new leads to an overreaction and as investors comprehend the influence of the news, they revise the prices downwards to the true value. Panel E shows the reaction to good news under UIH. In this case, the uncertainty in the good news will compel investors to under react at the announcement time and later revise their prices upwards. In summary, the UIH presupposes that the average (or aggregated reaction to major uncertain events will be an increase in share price returns variability. The instant reaction for bad news is a downward over reaction while for good news it is an upward under reaction. Therefore, for both cases, then revised position in the post-event period is an upward trend in price variability due to reduced uncertainty and risk averseness; as well as the expectation by investors that they will benefit from the news/ event.

Evidence of uncertain information on the capital markets and the subsequent impact on share pricing has been tested in a number of countries for various events. For example, Vuchelen

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(2003) tested the effect of political election results on the Brussels Stock Exchange. Further, Ajayi and Mehdian (1994) used data from stock exchanges in Canada, Germany, France, Italy, Japan, Netherlands, UK and the US to test for evidence of EMH, UIH and ORH by way of post-event volatilities, cumulative abnormal returns and the risk/return relationship. The results confirmed that when the strict certain information assumption by EMH is relaxed, rational investor behaviour was explained by UIH. Also the study showed that the preposition by UIH that markets generally under react to favourable and over react to unfavourable news was more prevalent than the suggestion by ORH that markets over react to new information regardless of whether it is good or bad. Yu, et al (2009) tested for the UIH on the S&P500 and its SPDR using 5 days' returns. Before the introduction of the SPDR (1963 – 1993), the return on the S&P500 showed a persistent one-day pattern. This contradicted both UIH and EMH since the result was both predictable and persistent. In the post-SPDR period (1994 – 2003), there was strong evidence for presence of UIH as investors showed an overreaction to bad news as the 5-day post event returns were a result of a series of positive upward price revisions. However, irrespective of the vast evidence of UIH, Brown et al (1989) contend the efficacy of rejecting the EMH and its assumptions in favour of alternative theories that have not fully developed as EMH with regards to explaining finance theory.

Relating to evidence presented on the pattern of reaction to the announcement of interim reports in the UK and the discussion above on UIH, EMH and ORH there are various conclusions. In Rippington and Taffler (1995), the pattern seems to support the argument for good news under ORH as there is sharp increase in average absolute abnormal returns on the event day followed by a sharp decline in the two days after the event. Based on the frequency ranking of abnormal returns for 5 days around the interim report, results in Opong (1995) may be supportive of the ORH as there is a sharp rise on the interim date followed by a gradual decline in abnormal returns on the following days. Likewise, recent evidence in Wolfe et al (2009) where abnormal return dispersions were used for FTSE350 companies, the pattern for good news under ORH was observed.

Commenting on the UK interim report information content studies reviewed above, the peculiar observation is that although good news under ORH is reflected, the studies do not

refer to interim reports as good news but rather consider the information highly impactful. It may then be concluded that though the studies observe that announcement of UK interim reports is a major event having an immediate upward thrust on share price returns and a downward trend in the post-event days, there may be an indication ORH for good news for event of interim reporting announcement.

Given that all the literature above on information content of UK interim reports have no mention about narrative disclosure attributions in interim report information, in this thesis the shortfall is considered. UIH is justified on attributions of good and bad news. In fact, the suggestion by Brown et al (1989) that UIH is a two-impact phenomena (first – the shock of the news and two – the true value established through reduction of uncertainty), narrative disclosure attributions arguably take a pivotal role on the second degree of impact. As conjectured in disclosure extent literature (e.g. Beattie et al. 2004; Beattie and Thomson 2007; Hooks et al. 2002a; Wallace and Nasser 1995), attributions may be considered to exhibit quality in disclosures. This quality arguably explains their role in affecting share price returns.

Another observation is that UIH and ORH are only associated to good and bad news attributions. Since the good and bad news attribute is only part of the set of attributions that are found in interim reports narrative commentaries, this study conjectures that the two theories may be applicable to other attributions that possess qualitative properties of information. The application of UIH and ORH to these other attributes is discussed in the hypothesis development in Chapter 7. However, since the researchers on UIH (e.g. Brown et al. 1988) and ORH (e.g. Debondt and Thaler 1985) only subjected their theories to instances of good and bad news, there is need to consider other market for information theories that may apply other disclosure attributions with regard to information content of complementary and supplementary narratives. These theories are discussed below.

6.3.2.2 *Incomplete Revelation Hypothesis*

The Incomplete Revelation Hypothesis (IRH) considers two market characteristics: (1) rational and homogenous expectation of participants and (2) quantified and non-quantified information. Proposed by Bloomfield (2002), IRH criticises the rational expectation

assumption of EMH in two ways. Firstly, in spite EMH asserting that neither technical nor fundamental analysis can yield above market returns in its weak and semi-strong form, respectively, there is substantial empirical evidence suggesting that investors and financial analysts engage in the activities. Secondly, it is also evinced that despite regulators endeavour to impede obscurity in disclosures, managers engage in concealment habits, for example by information in footnotes. However, even in such situations, EMH upholds that all information is reflected in prices regardless of attempts to conceal it.

To moderate the perfect market in EMH to a more real world mechanism, IRH replaces the rational expectation assumptions with the noisy rational expectation. The preposition recognises that in the market place, there are two types of agents, the noisy and rational traders. Whilst the rational traders chose to trade based on analysing information, the noisy traders choose to trade randomly. Since, noisy traders do not analyse information on the market, there is a possibility of mispricing which the rational investors exploit through their information advantage to make above normal profits. The equilibrium position of the noisy rational expectation model is at the point where there are just enough rational traders to make the economic gains of analysing information equal to the costs of the collected information. If rational traders are so many, the costs of collecting information will outweigh the profits from the information. In a case of few rational traders, more traders that are rational are attracted to the market since the benefits of analysing information are greater than the costs.

Pertaining to interim reports announcement, it may be considered that initial price adjustment to the news is a result of mixed reaction based on early perceptions about the information in the reports by both rational and noisy traders. However, the post-announcement drifts ensue from further analysis by rational investors for price sensitive interim reports' information that was previously mispriced by noisy traders. The relationship of this theory to IRH is the recognition that an event's full valuation on the market is gradual in the post-event period and not instant. The presence of both rational and irrational investors under IRH and the resulting variability in interpreting disclosures denotes the prevalence of the entity concept. The entity concept stipulates that the management and investors are separated and this may result in information asymmetry. Theorising under IRH that information is perceived differently by

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rational and irrational investors is a manifestation that the information is provided by a third party (management). Further, the argument in IRH that investors' initial reaction to the disclosures is reflection of either rational or noisy trading stipulates that the disclosures can either reduce or reduce information asymmetry. In addition, the post-announcement drifts to which IRH suggests that is an attempt by the market to correct the mispricing show that investors use disclosures, such as complementary and supplementary, to reduce the information asymmetry. The initial reaction and post-announcement reaction show that the disclosures, such as complementary and supplementary narratives in interim reports, have information content. This in turn is contrary to EMH semi-strong form, which stipulates that the disclosures cannot yield abnormal returns.

Another assumption of IRH is that information is in two forms: data and statistics. Data is all information about the firm and statistics are useful financial information extractable from the data. Whilst the data is publicly available, statistics (for example financial ratios, profitability, and turnover) are hard to extract. Given the costly exercise in computing statistical information, few investors base their trading on statistics thereby providing an opportunity to more investors to benefit from such information. A caveat to IRH is that market inefficiency does not necessarily mean irrationality as there are cases where the cost of obtaining statistical information is higher than the abnormal profits accruing from the use of the information. In such scenario, it is rational not to trade on such information; even though there is no full ramification of all available information.

There is a large body of literature (e.g. Cheng et al. 1996; Francis and Schipper 1999; Hodgson and Stevenson-Clarke 2000) that concur that statistical data contains information content. Further, studies such as Ball and Brown (1968) and Barberis, et al (1998) contend that although financial statement information has information content, other non-statistical disclosures are useful to investors.

6.3.2.3   *Market for "Lemons"*

Initiated by Akerlof (1970), the market for lemon (ML) theory is concerned with quality and uncertainty in a market in which many goods with varying valuation are traded. The

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presumption is that buyers will use statistics to evaluate their prospective purchase. Consequently, sellers are inclined to deceptively convince the buyers to buy their poor quality goods. This theory is closely linked to the moral hazard phenomena widely explored in the works of Arrow (1963; 1965; 1971). The moral hazard occurs when a well-informed party deliberately misinforms the other contracting party with intent of benefiting from the information asymmetry.

Using the automobile market, Akerlof (1970) illustrated the ML with the decision to sell a car. In the initial periods of owning the car, the seller has a hazy estimate of whether the car is good or bad (lemon). However, after owning and using the car for some time, a clearer judgement of whether the car is good or a lemon is formed. At this point, there is information asymmetry between the seller who now has more information about the car and the buyer who virtually knows nothing about the car. Due to the information asymmetry, the quality of car does not affect its value as the buyer cannot tell the difference between a good car and a lemon. Hence, the buyer receives less quality for the amount he invests because of deception on the part of the seller. The likelihood that a lemon can trade for a similar value to a good car creates adverse selection for the buyer as there was no incentive to trade in good cars for the seller. There are more returns to deceptively sell bad cars for the price of good ones.

Interpreting this scenario in reference to accounting disclosures, Kane (2004) argues that mangers can and actually inflate the firm's value and productivity by concealing unfavourable information and providing news that is more positive. Watchdog agents are often either fooled or coerced to co-operate with the managers. The recurrent capital market collapses in the 1990s, 2001 and 2008 reflect the difficulty in identifying the lemons in the financial reports.

Akerlof's (1970) solution to the perpetual disequilibria in the market place caused by information asymmetry between buyers and sellers is regulation. Regulation will compel both parties to provide full information on the market, thereby eliminating adverse selection that arises from misinformation. In addition, litigation may require sellers to repossess their goods in circumstances of failing to meet buyers' expectations. However, Anderson (2001) criticised

the ML on four grounds. One, the proposition ignores the fact that buyers can seek information from alternative sources other than the seller. Two, the ML disregards the sellers' craving for repute. Three, perpetual disequilibria is more of a myth than reality. Economic market mechanisms operate in a manner that any instance of market imperfection creates entrepreneurial opportunities that correct the market deficiencies. Four, regulation cannot solve all market problems and may even deter the free will of providing information that may result into litigation risk to the informant.

As rhetoric toning (good and bad news) is prevalent in narrative reporting, the suggestion that investors may be misled to trade shares based on deceptive disclosures may indicate that these attributions in interim reports posses information content. Secondly, the recognition of regulatory influence on information dissemination to rectify the delusion and provide investors with useful disclosures assents with the original intent for complementing and supplementing disclosures as expressed in ASB (2005; 2006). A further note on the applicability of the market for lemon theory to this thesis is the observation in Anderson (2001) that the theory disregards the possibility of investors rectifying their positions when they realise that they were manipulated. This observation may be considered to recognise post-event price movements that arise from further insight in disclosures which arguably are deduced from the level of attributions in the information. Prior literature (e.g. Abrahamson and Amir 1996; Hope et al. 2008) regard attributions as indicators of precision having a propensity to provide investors with more useful revelations about the firm.

The key conceptual foundation of the study in chapter 5 is agency that arises from the entity concept of the firm. The agency relationship, if interpreted in terms Akerlof's (1970) market for lemons, stipulates that information asymmetry may be exploited by management to provide disclosures that mislead investors. Hence, disequilibrium is experienced in the market for capital due to misleading disclosures that are supplied through the market for information. The market for regulation thereby supplies regulation to moderate the supply of information, such as complementary and supplementary narratives, and the usage of the disclosures for investment decision making. This exhibits the connection of the three markets, that is, market

for capital, market for information and market for regulation with reference to usefulness of complementary and supplementary narratives.

6.3.2.4   *Signalling Theory*

Signalling theory also capitalises on information asymmetry. However, rather than concealment of information as in the ML, the signalling theory suggests that market agents with comparatively higher information advantage will maximise their returns by disclosing to less informed agents. Initiated by Spence (1973; 2002), signalling requires the informed party in a contract to alleviate information asymmetry by giving signal to the other party. The incentive to give the signal arises from the assumption that previously uninformed party will offer a better price for the commodity that would have otherwise offered in absence of the signal. Although Spence (1973; 2002) illustrated signalling theory using the labour market, Morris (1987) argued that the phenomenon is extendable to any market where information asymmetry is prevalent. Signalling theory arguably reflects the entity theory of a firm where the separation of the firm from its management creates information asymmetry. Disclosures, such as complementary and supplementary narratives, therefore are provided to signal the performance of the business to investors who in turn use the information to make investment decisions.

An example of signalling theory is where Ross (1979) explained that the voluntary provision of good forward-looking disclosures to the capital markets by managers is consistent with the signalling conjecture. As managers are aware that the capital market evaluates their performance through share pricing, they provide information to avoid any under-pricing. The shareholders, through the capital market, will accordingly base their decisions on the information to assess management's performance and prospects. It is therefore advantageous for managers to provide good forward-looking disclosures. Likewise, in instances where firms have no news or constant level of performance, managers are incentivised to signal their vacuity lest it may be misinterpreted as bad news.

The querying of signalling theory arises from its failure to explain why managers conceal information. Okcabol and Tinker (1993) contend that signalling falls short of justifying the

suppression of certain information such as bad news and competitively sensitive information. Thus, the meaning of the signal can be ambiguous in that investors would have no way of telling whether containment of disclosures is good or bad. Even, in instances of good news in an inefficient market, strong form EMH provides an alternative motivation for concealing of information (Fama 1970). According to EMH, strong form inefficiency compels insiders who have information that is potentially viable to posses above normal market returns to withhold with anticipation of profiting from it.

6.3.2.5   *Incomplete Contracting Theory*

Contract theory is construed to introduce the concept of agreement between parties. Arrow and Debreu (1954) pioneered economic theory regarding completeness of contracts. The researchers presented a model for competitive equilibrium based on finite properties, for example the number and specifications of commodities traded, the location at which each commodity is traded, the time of trading for each commodity were considered fixed. The fixing of physical properties, location, price and time in an economic setting presented a case of perfect informativeness in a contract for sale of commodities. This may alternatively be termed as a complete contract classifiable under mainstream economics contract theory (Masten 1999). This type of contract assumes that contracting parties are symmetrically informed and there is no motivation for either party to strategically withhold or signal to the other party or even alter behaviour to unfairly gain by reducing the joint gains. This contractual setting is synonymous to Grossman and Stiglitz (1980) standard economic theory of the information market. The theory considers market agents to have rational expectations and the information which the participants acquire at a fixed specified cost can be accurately assessed by all market participants. Another reflection of complete contracting is Walrasian tâtonnment. Vahabi (2002) and Arrow (1959) discuss the Walrasian tâtonnment as a market mechanism in which all participants are price takers. An invisible hand in the economy, acting as an auctioneer "announces" market prices and the individual traders react by revealing their demand and supply plans but do not make any transactions until the auctioneer announces the equilibrium price. Tâtonnment implies that the notional and actual demand or

supply do not defer, thereby no need to reconsider positions and no one can outperform the market.

The complete contract theory, in relation to usefulness of complementary and supplementary narratives, may be traced to the entity concept explained in chapter 5, but in a situation where there is no information asymmetry. In such a situation, the underlying assumptions of market perfection exhibit properties of EMH under semi-strong efficiency where accounting disclosures can only yield abnormal returns; therefore, the disclosures have information content equal to zero.

The main deficiency of the mainstream thoughts on information economics from a contracting perspective is the assumption of symmetrical, rational interpretation of information amongst market participants. Chen (2005) discusses various criticisms of the assumption. First, information asymmetry is inevitable in the market place since information-processing abilities are imbalanced amongst people because each has unique background knowledge. Worsening the asymmetry concern is the argument the uneven level of equivocation. Equivocation is a measure of information asymmetry measured by the correlation between the source of information and receiver of information. Given that the same financial report is produced for a variety of investor types, it would be impractical to assume a perfect correlation. Third, the value of information is often inversely proportional to the number of people who understand it. Chen (2005) illustrates this by suggesting that an investor who buys shares of a company before it becomes popular will normally earn a higher rate of return when the company becomes a blue chip on the market. Warren Buffet hinted information asymmetry when he once suggested that while a few bought shares for the right reason in 1925, so many got it wrong in 1929 (Buffet 2001).

The asymmetry in the market, therefore presents an alternative contract theory that may explain the usefulness of disclosures for share price determination, the incomplete contract. Hart and Moore (1988) ascertain that it would be extremely costly and impractical to have a complete contract between or amongst individuals. The law often provides simplistic rules to supplement the incomplete contracts that often reflect normal transacting behaviour. By

relaxing the rationality assumption, the incomplete contract hypothesis supposes that people have unlimited forecast and cognition, therefore departing from the ideal symmetrically informed contractual arrangements proposed in Arrow and Debreu (1954). Another argument for incomplete contracts is the presumption that transaction costs deter parties from including all aspects of future into the current contract *ex ante* thereby allowing parties to contract on such issues *ex post* (Segal 1999). There are two main results from the incomplete contracts, either non-renegotiable positions or renegotiable scenarios (Masten 1999).

In the case of non-renegotiation, agency problems are common. In these circumstances, the agent uses the information asymmetry to benefit from their superior informed position at the cost of the principal. In a capital market setting, the execution of a non-renegotiable incomplete contract would occur when investors trade or do not trade their shares based on financial reports disclosures characterised with either deception or concealment. The consequence would tantamount to the moral hazard or adverse selection problems.

An alternative incomplete contract is the stance of renegotiation if disequilibria caused by information asymmetry posit an opportunity of *ex post* gains. The conditions for the practicality of this contract are that the unrealised gains justify renegotiation and the contracting terms allow renegotiation if parties mutually consent (Masten 1999). On realising such *ex post* gains, the market participants will continuously renegotiation their positions and recontract until the point when there are no returns associated with further recontracting. This contracting phenomenon is similar to Edgeworth's recontracting theory. Vahabi (2002) explains the Edgeworth's recontracting theory to be comparable to the Walrasian tâtonnment. However, rather than being price takers, the market participants are price makers and that there is actual contracting positions before agreeing on a final settlement. The interim contracting positions reflect renegotiations arising from market players' use of free information flows by making and breaking contractual positions. From a market for information perspective, such alteration of market positions reflects investors' revision of their prior positions after having more insight into intrinsic value in disclosures (Gonedes 1976). However, Fama (1998) disregards the idea that such price adjustments are an attack on EMH as such evidence of anomalies in empirical studies may reflect methodological errors.

Alternatively, if the anomalies occur on the capital markets, they are chances in a short term correctible in the long-term returns.

In relation to this thesis, a case where there is non-zero information content of complementary and supplementary narratives, the incomplete contracting theory may be applied to recognise that information asymmetry exists because of the entity concept of the firm. In such a scenario, the agency between investors and management contradicts EMH semi-strong form. This is similarly discussed by Gonedes (1976) that disclosures posses intrinsic information that can be used to gain above market returns.

6.4   Market for Regulation Theories

This study largely relies on regulation and standard setting as the recommendation to complement and supplement financial statements owes its origin to ASB (2005; 2006). The market for regulation, as discussed in chapter 5, is a realisation that there are market failures in the markets for capital and information. These failures arise from agency costs that accrue from management's pursuit of self-interests, which are not in line with investor interests. In turn, the information provided to investors may be misleading, therefore, as argued by Seligman (1983), regulation is suffice to monitor the equitable operation of the markets for information and capital. The regulations thereby are an assurance to the investors that the information, such as complementary and supplementary narratives, is reliable for the purpose of investment decision-making. This is because regulation tends to reduce the information asymmetry that arises from the agency relationship between investors and management. It is thus imperative to consider the market based theories regarding the effectiveness of regulation and standard setting to influence share prices through disclosures.

Posner (1974) suggested two broad categories of economic markets based theories for regulation and standard setting, the public interest theory of regulation and the capture theory of regulation. Riahi-Belkaoui (2004) put forward broad assumptions underlying the market theories of regulation. Firstly, the theories assume that accounting information is a commodity subject to forces of demand by users and supply by the preparers. The resultant is the provision of the optimal information at an optimal price. If the market requires

information and offers the right price for it, the suppliers will offer the information if the cost of the disclosures does not exceed the price. However, for an ideal mechanism, regulation and standard setting will complement the free market such that the right types of information are produced for the recipients. The rationale for regulation is that both the suppliers and users of information want to maximise their profits from the information and there is need to protect either party in circumstances where the interests are in contention.

6.4.1 The Public Interest Theory of Regulation

This theory bases on the presumptions that economic markets are apt to inefficient or inequitable transacting and that government intervention is both almost costless and better alternative to self-monitoring concept of the markets (Posner 1974). The demand of regulation is from the public and implementation of the regulation is for the public good.

The cardinal critiques of this theory is that it is practically arduous to achieve a good result for the entire public and there is evidence that government agencies have not always been successful in achieving their objectives (Posner 1974). Enrlich and Posner (1974) further criticise the public interest theory of regulation because of cost. The output of public regulation is highly costly because the process of negotiating with stakeholders involves dealing with various bodies each with different motivations. In the case of accounting disclosures, apart from investors, there are numerous stakeholders such as employees, environmentalists, and various industry agencies that may have to be consulted prior to formulating the regulative framework for the information.

Since the regulatory motivation for complementing and supplementing were specifically intended for the interest of investors, the applicability of public interest theory of regulation may be doubtable to this research. A contrary postulate that may support this theory is the adoption of the managerial accountability concept by Chen (1975) presented in Diagram 1 on page 100. The concept considers investors as part of the entire society as owners of resources which are provided to the firm. Based on this, regulatory requirement of accountability to society is implies disclosure to investors for investment decision making.

6.4.2 The Capture Theories of Regulation

The capture theories provide an alternative to the public interest theory by proposing government agencies to act in the interest of the special interest groups whilst formulating regulation for those groups (Levine and Forrence 1990). From this research's perspective, these theories ought to emphasise regulation of accounting disclosures to protect the interests of investors as opposed to protecting the interests of the entire public. For example, ASB (2005; 2006) suggested that the need to complement and supplement financial statements was to aid investors understand the statements for the purpose of aiding their investment decisions. In Jenkins report (AICPA 1994), narratives are argued to be intended for investors as they are the "buying" consumers of accounting information.

One way of viewing this capture phenomenon is the argument in Laffont and Tirole (1991) that special interest groups have a role in formulating public policy or regulation. The alternative view is the Marxist thinking that big businesses control the institutions of society, including regulation (Posner 1974). Capture theories are mainly supported in Olson's (1965) suggestion that businesses, whether big or small, can collectively act as building blocks to foster regulations for the industry to collectively benefit rules. Conflicting interests amongst various special interest groups, for example suppliers and consumers, are arbitraged through government intervention (Laffont and Tirole 1991).

Posner (1974) criticised the capture theories on the basis of lack of theoretical underpinnings. Firstly, the theories ignore the justification for the interaction between the regulated firm and the regulating agencies and resultantly, the regulation process is viewed as an outcome of bargaining between the two parties. Secondly, no reason is provided to propose that special interest groups can efficiently regulate the firms. The theory further ignores that often it is the interest of the customers or other interest groups that are fostered by the regulating agencies but not necessarily those of the firm.

Capture theories may explain the regulation set by bodies such as SEC in the US (e.g. Benston 1985). However, Hussein and Ketz (1980) examined and rejected the applicability of the capture theory regarding FASB's accounting regulation activities. Seligman (1983) supports

regulation on the ground that there is potential for management to conceal information that may adversely influence investor decisions. Further, the likelihood of insider trading, the deterioration of public confidence in capital markets and the resulting slowdown of economic growth all offer a case for regulation.

Benston (1969) generally disregards the relevancy of regulation on the basis that with or without regulatory bodies, evidence of capital market failures have emerged over time. Secondly, competitive market mechanisms are efficient in protecting investors through allocation of capital to deserving firms. Third, regulation has failed to end the debate regarding the timeliness and materiality of accounting disclosures.

6.5   Schematic Diagram for Theoretical Framework

The theoretical structure of the study is market based to reflect the principal aim of the study of establishing the usefulness of narrative disclosures to investors. The stance adopted is that there are two markets in which information content of narratives is explained. They are the market for capital and market for information where the respective products are capital and accounting disclosures. In other words, the interaction of the markets is that there is an agency relationship between shareholders (principals) and managers (agents). Whilst the principals supply capital to the agents to manage the company, they are in quest for information about the firm from the agents. Elliott and Jacobson (1994) ideates this relationship between the two markets with the suggestion that investors are *buying* customers of accounting disclosures when they intend to or effectively trade based on the information.

However, as earlier discussed, the main motivation for regulation is the existence or propensity of market failures. Therefore, the market for regulation is augmented by the interaction between the two markets (that for capital and that for information) to control free market deficiencies. The inclusion of the economic theories of regulation in this thesis' theoretical framework recognises that the regulatory and standard-setting instruments, ASB (2005; 2006), recommend complementing and supplementing.

Diagram 4 provides a sketch of the thesis' theoretical setting.

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Diagram 4   *Theoretical Framework for Usefulness of Complementary and Supplementary Narratives*
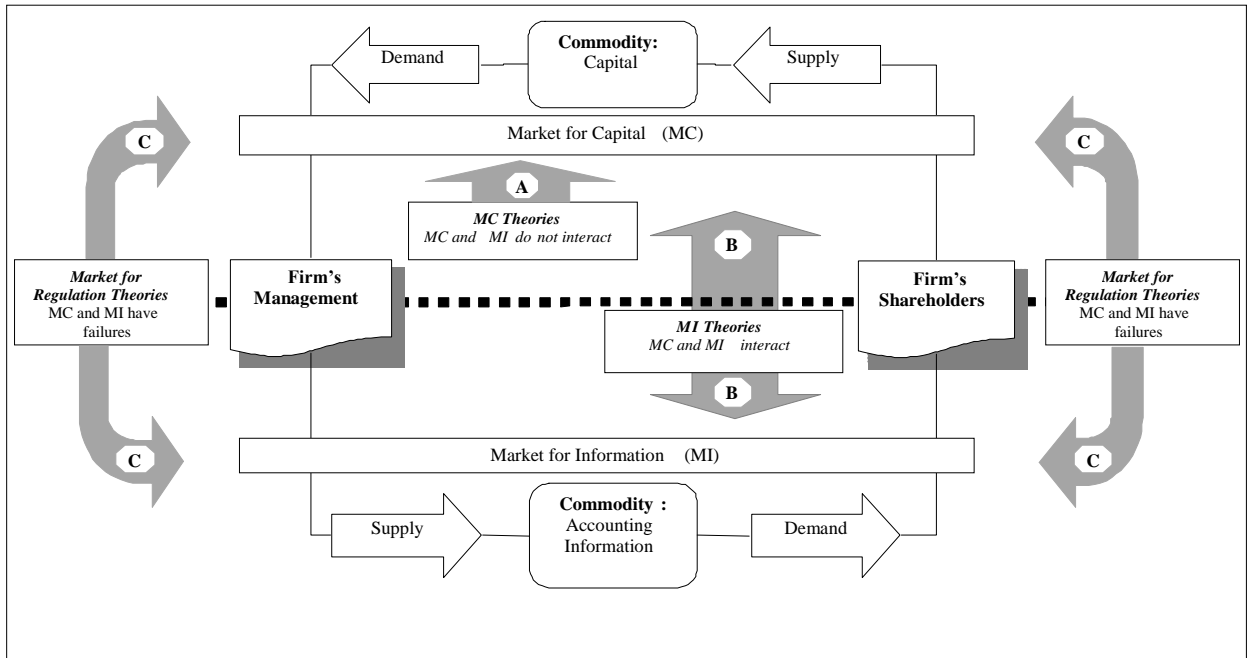
The framework above provides an illustrative impression for the theoretical framework explaining the essence of complementary and supplementary information to investors using an economic market based approach. The first consideration is identification of the markets involved, that is, the market for capital and the market for information, distinguished above by the thick dotted line. The upper section of the structure relates to the market for capital while the lower relates to the market for information.

In the MC, the commodity traded is capital, supplied by the firm's shareholders and demanded by the entity's management.   In the MI, the commodity is information, in this case complementary and supplementary disclosures, supplied by management to the shareholders.

The theories for the MC assume the mainstream economics perspective that the capital market is efficient and therefore all available information is correctly priced.   Therefore, since accounting disclosures are a form of information, they are accurately reflected in the share price and have no abnormal returns. For reference, the irrelevance of accounting narrative commentaries for share pricing is explained by Fama's (1970) semi-strong form efficiency of

EMH. Since accounting information has no value in informing share pricing, the MC theories do not have any regard for the disclosures as visualised in the diagram above with the arrow symbolised as A .

The theories for the MI reflect the heterodox economics, which consider inefficiency in markets. The MI in reference to accounting disclosures realises that there is an agency relationship between shareholders and the firm's management, reflecting Jensen and Meckling's (1976) agency theory. Therefore, for investors to make prudent investment decisions, they will require information to assess both the firm and management's performance. Investors will demand information which in return they will use to supply capital to the capital market. The theories under here consider that the two markets, MC and MI, interact as denoted with the arrows B. Most crucial to the study is the UIH and ORH which considers disclosure attributions and post-event price adjustments to news. Other augmenting theories include IRH, ML, signalling and incomplete contracting.

The third group of theories is the market for regulation (MR) which is based on the possibility that free economic markets may fail to equitably or efficiently operate. Regulations or standards by either government to protect the public in which markets operate or special interest to protect interests of their members are enforced on to the free economic markets. Jensen and Meckling (1976) as well as Watts and Zimmerman (1979) opinionated that existence market failure justifies the consideration of regulations and standard setting to correct the market inefficiencies. More related to this study, complementing and supplementing as the fundamental information types of concern are a result of a regulation and standard-setting documented in ASB (2005; 2006). Arrows C above stand for the MR theories that may impact on either the functioning of the MC or the MI or their interaction. The theories under this category include the public interest and the capture theories of regulation.

6.6 Summary and Concluding Remarks

Given that the objective of the study is to investigate information content of narratives, a market-based theoretical approach is adopted since information content relates to market valuation of an event. The purpose of this chapter was to discuss the theories that explain the

relevance of accounting disclosures to investment decision-making. The discussion related to chapter 5 where the entity concept of the firm underlines the essence of accounting disclosures for the purpose of investment decision-making through which information asymmetry may be alleviated. By way of the mainstream and heterodox economic mechanisms assumptions explained in chapter 5, the theories justifying information content of complementary and supplementary narratives are explained in this chapter. The discussion is done by classifying the theories under the market for capital (mainstream) and the markets for information and regulation (heterodox).

Under the mainstream stance, markets are efficient and the market agents have homogenous expectations as well as being rational. This would suggest that no market participant can profit from new information on the market above the market return. Concerning accounting disclosures, such a setting is reflective of the efficient market hypothesis in its semi-strong form which suggested that the information cannot be used to make abnormal profits. Hence, in the market for capital narrative commentaries accompanying financial statements have no value.

Alternatively, the heterodox mechanism recognises that there are market imperfections such as diversity in expectations and irrationality that result in market inefficiencies. With regard to the relationship between accounting disclosures and capital markets, this setting presents the market for information. Ideally, the theories under this stream intend to conjecture that accounting information affects share pricing in the market for capital. The basis for this postulate is the existence of the agency relationship between shareholders and the firm's management arising from the contracting of managers to run the business on behalf of the shareholders. Due to heterogeneous expectation, irrationality or other market inefficiencies, shareholders depend on information from managers to make investment decisions. Thereby, management will reduce information asymmetry in attempt to attract capital from shareholders. By providing accounting disclosures, management alleviates the risk of adverse selection on part of the shareholders. However, another stream of market for information theories, there is an argument that would compel managers to mislead investors through

concealment and deception. In such cases, information asymmetry leads managers to beget a moral hazard scenario through accounting disclosures.

The realisation that free economic markets may not function efficiently or equitably largely due to inconsistencies between their assumptions and the real world applicability, the market for regulation theories are also considered in the theoretical milieu of the study. A further problem is that integrating two markets, that for information and capital, results in conflicting assumptions and the posture regarding relevance of accounting disclosures in the investment decision-making process. These problems may result in market failures that are presumably correctible through regulation. Further, given that complementing and supplementing was introduced in the UK accounting environment through regulative instruments (e.g. ASB 2005; 2006), it is suffice to consider the market for regulation and standard setting in the study. There are two broad regulatory theories, the public interest and the capture theories. The public interest regulation theory in which regulation intends to control free economic markets for the good of the society. However, with criticism such as the inability to have a common good for the entire public and high costs involved in negotiating regulation for the entire public, the capture theories of regulation are fostered. The capture theories arise from special interest groups who formulate regulation or standards for the benefit of their members. The cardinal critic of capture theories in Posner (1974) is that they have no definite theoretical underpinning. Benston (1969) disregarded the broad relevancy of regulation on the ground that the presence and absence of regulation did not deter slumps in capital markets. In addition, free markets can exhibit the potential to efficiently allocate resources without government intervention.

7 HYPOTHESIS DEVELOPMENT

7.1 Introduction

In the previous chapters 5 and 6, various theories explaining the information content of narrative commentaries were discussed. This chapter, which builds on preceding chapters, identifies the variables in disclosures and discuss theoretical and empirical underpinning regarding their importance to market returns. Zimmerman (1987) recommended that relating research to theory enables the researcher to identify and explain variables that ought to be considered in pursuit of the objectives of the study. Baiman (1990) supported this opinion and added that relating theory to the research question guides and focuses the analysis. Gibbins, et al (1992) also agrees that synthesising of theoretical structure to variables provides a logical and synchronised linkage amongst variables.

The independent variables in this research are in three broad categories: complementary narrative attributes, supplementary narrative attributes and control variables that include financial performance variables. This structure is guided by the statement in ASB (2005; 2006) that narrative commentaries need to complement and supplement the financial statements in order to assist investors understand the financial performance, position and direction of the company. In other words, investors' comprehension of firm's financial performance is aided through financial statements and the accompanying narratives that ought to include complementary and supplementary commentaries. As a recollection, in chapter 1, complementing and supplementing are defined in accordance to ASB (2005; 2006). Complementary narrative information refers to useful financial and non-financial information about the business and its performance that is not reported in the financial statements but which the directors judge might be relevant to the members' evaluation of the past results and assessment of future prospects. Supplementary narrative information is defined as additional explanations of amounts recorded in the financial statements and explains the conditions and events that shaped the information contained in the financial statements.

It is worth noting that not all attributions of narratives are considered. Wallace and Nasser (1995) argue that attaining a comprehensive disclosure profile for narratives is difficult due to various functions and stakeholders that accounting disclosures serve. In line with the objectives of this study, that is to establish the information content of complementary and supplementary narrative commentaries, the focal reference for attributions is ASB (2005; 2006). In addition, prior literature (e.g. Beattie et al. 2004; Merkl-Davies and Brennan 2007) that considered accounting narrative disclosure attributes for investment decision making is referred to.

To avoid subduing the statistical significance of the model, the number of attributions considered is also guided by recommendations in literature (Field 2005; e.g. Green 1991) on relationship between variables and sample size in regression analysis as discussed in section 8.3 of this thesis. Other considerations include the argument by Lorek and Willinger (1996) that too many or too few number of independent variables may lead to weak predictive performance. In addition, Kvalseth (1985) suggested that the most influential independent variables should be considered. Similarly, Cramer (1972) suggested each variable should have an independent contribution to ensure high predictive power of the model, thereby reducing the risk of multi-collinearlity.

However, in spite of the arguments above, the selection of the variables was not entirely based on the strength of the variable. In prior studies (e.g. Firth 1981; Francis et al. 2003; Wilson 1986), relative information content has been applied to investigate the dominance of a variable or a set of variables over variables or group of variables in reference to explaining returns. Therefore, the ability to classify the variables into particular sets with a purpose of comparing the groupings' power in explaining share returns is a determining factor in this thesis to include variables in the models.

In the hypotheses developed in this thesis, either a single or a combination of the theories explains relationship of the independent variables to share price returns. The variables are categorised under complementary narrative attributes, supplementary narrative attributes and control variables. For complementary and supplementary narratives, the attributes are

grouped according to two alternating techniques of measuring narratives through content analysis. The techniques are disclosure variety and disclosure depth. Disclosure variety has one attribute, that is, number of information items. Disclosure depth has four attributes, including (1) good news, (2) amounts and comparison of present with past performance, (3) reasons for performance and (4) forward-looking disclosures. Control variables are financial performance metrics. The selection of the financial performance metrics was aimed at reflecting the nature of information that ASB (2005; 2006) stipulate that complementing and supplementing provides to investors: the financial performance, direction and position of the company. The financial performance variables include the dividend yield and earnings per share, both as indicators of investment performance and direction, and total assets as a measure of position.

The rest of the chapter is arranged as follows. The next section provides a diagrammatical impression of the hypothetical model relating the dependent and independent variables. This is followed by the discussion on the hypotheses for the relative information content of complementary and supplementary narratives. Thereafter, the hypotheses for the relative usefulness of the complementary and supplementary attributes under disclosure depth are considered. Next, are hypotheses for the information content of the financial performance variables. Lastly, the summary and concluding remarks to the chapter is provided.

7.2 Relationship between Dependant and Independent Variables

The objectives of the study are centred on the information content of complementary and supplementary narratives. Therefore, the dependant variable reflects investor reaction to information, in this case, share price return. Complementary and supplementary attributes of disclosure, either individually or in combination, are the independent variable, alongside financial performance measures.

Diagram 5 shows the model construct for the study. In the illustration, two sections of interim reports information are considered, the narrative commentaries and the financial statements. The narrative commentaries are disintegrated into complementary and supplementary disclosures, which are further dissection into disclosure quality attributes. The attributes form

the complementary and supplementary narrative commentary independent variables. The control variables are financial performance variables that are derivable from financial statements and/or metrics arising from financial market trading data

Diagram 5   Hypothetical Information Content Model

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                    ┌─────────────────────┐
                    │    Interim Report   │
                    │      Narrative      │
                    │    Commentaries     │
                    └─────────────────────┘
              ┌──────────────┐      ┌──────────────┐
              │ Complementary│      │ Supplementary│
              └──────────────┘      └──────────────┘
```

Complementary Attributes (Independent Variables)
- Disclosure Variety
  - Presence of Information Items
- Disclosure Depth
  - Good News
  - Amount and Comparison with Past Performance
  - Reason for Performance
  - Forward-looking Disclosures

Supplementary Attributes (Independent Variables)
- Disclosure Variety
  - Presence of Information Items
- Disclosure Depth
  - Good News
  - Amount and Comparison with Past Performance
  - Reason for Performance
  - Forward-looking Disclosures

Dependent Variable
Returns

Control Variables (Independent Variables)
- Dividend Yield
- Earnings per Share
- Total Assets

Financial Performance Measures

Financial Statements Information

7.3 Usefulness of Complementary and Supplementary Narratives

The main topics in disclosures with reference to this study are complementary and supplementary narratives. To discuss the relative importance of complementary and supplementary narratives to share returns, this section examines a number of issues. First,

usefulness of financial reports' narratives in general is examined in relation the three markets under the theoretical framework, that is market for capital (MC), market for information (MI) and market for regulation (MR). Next, is a discussion about the importance of complementary narratives for investment decision making. This is followed by a discussion of investors' use of supplementary narratives. Lastly, relative usefulness of complementary and supplementary narratives is discussed to formulate the respective hypothesis.

7.3.1 Usefulness of Narrative Commentaries to Investors

7.3.1.1 *Market for Capital and Market for Information Justification*

The initial position is to consider ASB (2005; 2006) view which generally states that the narrative commentary provides information useful to investors in assessing the present and future performance of the business and the progress towards the achievement of future objectives. The regulatory guide also requires that the disclosures are a reflection of the view of managers about the business performance and future prospects and these views are presented in a manner that captures the relevant aspects to investors. This discourse reflects the discussion in chapter 5 where, under the entity concept of a firm, the agency concern created by separation of investors and management may lead to information asymmetry, thereby necessitating disclosures to aid investors make informed investment decisions.

In Abrahamson and Amir (1996), narrative commentaries were considered to alleviate the discrepancy between the objective of financial statements and the ability of the actual content of the statements to fulfil this function. Whilst financial statements are aimed at aiding investors in timing and valuing future cash flows and dividends, the information therein is purely historical. However, management posses the information that can be helpful in explaining current performance and forecasting but such data cannot be expressed within the financial statements. Therefore, narratives provide the platform for the disclosures. Another argument for narratives is the ability to reduce information asymmetry as explained by Barberis, et al (1998) with regard to causes of under and over reaction to earnings figures. In the case of under reaction, investors assume that figures have a large temporally component.

The reason is that investors may depend on the earlier earnings that may be too low to justify current earnings. In the circumstance of over reaction, investors erroneously assume that past good performance is reflective of future good performance. In such cases, more information is required to justify current earnings.

To the contrary, although Ball and Brown (1968) recognised that other disclosures published with financial statements (for example, narratives) may have an influence on returns, they upheld that the income number captures nearly all information about the firm. Also, Kanto and Schadewitz (2000) argued that due to the agency relationship, managers can successfully use narratives to mislead investors. Further, some studies (e.g. Ali and Pope 1995; Ou and Penman 1989) conclude that financial statement figures arguably undermine the relevance of narratives. Other studies take an indecisive opinion (e.g. Healy et al. 1999; Lev and Penman 1990) and suggest that the association between abnormal returns and narrative disclosures reflects agency but explained as either a case of impression management or management's willingness to subdue information asymmetry.

From the above discussion, the insufficiency of financial statements to provide all information required by investors as well as the presence of agency may be the underlying reasons why investors need narratives. Given that investors need the information to make investment decisions, agency arguably creates two postures for providing the information. The first is the reduction agency problems by providing disclosures that reduce information asymmetry, thereby a state of incremental information. The second is a state of management impression where agency allows managers to increase information asymmetry. Interpreting this with reference to the theoretical framework, a mixed theoretical paradigm drawn from the MC and MI seems to explain share price returns due to narrative commentaries. The paradigm consists of efficient market hypothesis (EMH), uncertain information hypothesis (UIH), over reaction hypothesis (ORH) and incomplete revelation hypothesis (IRH). The other theories include market for lemons (ML), signalling and incomplete contracting.

Under EMH, when narratives are published, the market instantaneously reflects their value in share prices correctly to the level of market returns such that abnormal returns are nil. So, if

the disclosures are bad, an accurate downward and immediate share price slump is observed. Alternatively, an exact positive and instant valuation of shares is experienced for good news. A nil effect will be realised immediately and rightly for narratives that are neither bad nor good. In all cases under EMH, the return that accrues to investors on publication of narratives is the market return or nil abnormal returns.

For UIH and ORH, the perfections that cause accurate share price reactions to narratives are relaxed. However, the right direction of movement is sustained but is only over or under reacted to and the right value of the information is achieved with time. This could imply that the disclosures have information content, however, full comprehension of the disclosures is realised with time. The delay may be argued be caused by either the degree of rationality in investors or extent to which the effect of the information in the narratives is easily understood. The easiness in understanding disclosures could possibly be embedded in the level of attributions in narratives. This line of reasoning is drawn from disclosure extent studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007; Hooks et al. 2002a; Wallace and Nasser 1995) which suggest that the level of attributions enhances the quality and preciseness of information. To relate to UIH and ORH, therefore, it is inferable that the level of attributions in narratives enhances investors' understanding of disclosures.

Under IRH, the market is comprised of both irrational and rational investors. This possibly signifies that some investors can understand the impact of disclosures but others may not. Therefore, narratives serve two roles, either impression management (to misled investors) and incremental information (to non-misled investors). As the rational investors rightfully interpret the narratives and correctly value them in the share prices, the misled investors fail to rightly value the disclosures. The rational investors later realise an opportunity to profit from the mispricing and take advantage of it to earn abnormal profits. A number of deductions could be made from this mechanism. Firstly, unlike UIH and ORH, share prices could move either direction, regardless of whether the information is good or bad due to the influence of irrational trading by some investors. Secondly, the theory recognises that the agency relationship and the presence of both rational and irrational investors may create an opportunity for both incremental information (reduction of uncertainty) and impression

management (increase of uncertainty). The rebounding of rational investors to make abnormal returns from the decisions of irrational investors suggests that the true valuation for the narratives is not instantaneous but rather gradual.

The ML and signalling theories, as well incomplete contracts may be considered to suggest that the rhetoric or discourse and the selection of information provided in narratives may influence investors' decisions. For example, under ML, the main concern is selection of information where the concealment strategy is adopted. For signalling theory, managers may use the disclosures to either mislead or direct investors about the important aspects of performance. In incomplete contracts, attributions in disclosures play a key role to enhance the completeness of the contract between firm managers and investors with regard to information dissemination.

7.3.1.2 *Market for Regulation Justification*

Given that the objective of this study is to investigate the information content of complementary and supplementary disclosures, it is imperative to relate to the theoretical perspectives in the market for regulation. Complementing and supplementing arise from the regulatory guidelines by ASB (2005; 2006) where it was conceptualised the disclosures should reflect management's view of performance with an aim of aiding investors understand the performance for investment decision-making. This implies that Accounting Standards Board recognised the entity concept thereby necessitating the disclosure from management about performance through complementary and supplementary narratives to investors. In turn, the Board expected that such disclosures would alleviate information asymmetry and help investors make decisions about their investment. This reflects the arguments in chapters 5 and 6 that the entity concept of the firm is prone to information asymmetry due to the agency relationship between investors and management. To reduce the asymmetry, the mechanisms of the mainstream economic market (market for capital) and heterodox economic market (markets for information and regulation) make the disclosures relevant for investment decision-making. Whilst the market for capital (mainly based on EMH semi-strong efficiency) and the market for information (based on criticism of EMH semi-strong efficiency)

mutually interact, the market for regulation plays the role of ensuring equitable resource allocation within the two markets. This role of regulation theories with respect to usefulness of accounting disclosures is acknowledged by Riahi-Belkaoui (2004) by the suggestion that agency is the main realm fostering the debate between regulating and deregulating accounting disclosures for investment decision-making. The reasons for regulating disclosures arise from the impression management perspective of agency, including concealment, misinformation and underproduction of accounting information. The reasons indicate free economic market failures, correctible through regulation by monitoring the nature of information provided to investors and penalising management for incompetence or intent to provide reliable disclosures.

These market failures are either explicit or implicit. Gonedes and Dopuch (1974) suggested that the explicit market failure arises from the disparity between quality or quantity of a commodity produced in an regulated market and the benefits or costs derived or arising from the commodity. Given that accounting information is a public good by nature, if not regulated, it may be impossible to reduce the benefits of non-purchasers. This possibility to gain from information without paying for it presents the non-Pareto equilibria. Secondly, the likelihood of disparity between the quality or the quantity of disclosures and the value paid (in form of share pricing) justifies the need of regulation (Riahi-Belkaoui 2004).

The implicit arguments for regulating accounting disclosures are various. Ball (1972) suggests that managers have a monopolistic advantage regarding information about the firm which they may inappropriately use to impress investors. Regulation therefore deters the occurrence of such behaviour. Riahi-Belkaoui (2004) explains four implicit market failure hypotheses arising from accounting methods variety, that is, naive investors, functional fixation, misleading numbers and procedural diversity. The naive investor concept claims that unsophisticated investors may be fooled through various accounting methods and performance measure terminologies. Functional fixation recognises that some investors, whether sophisticated or non-sophisticated fail to change their processing of accounting disclosures in relation to changes in accounting technique changes or types. Impliedly, the change in accounting techniques may result into change in accounting numbers and may mislead

investors due to naivety or functional fixation. Even without change in accounting techniques, the diversity in accounting procedures may makes it difficult for investors to make adequate investment decisions amongst firms on a cross-sectional basis. Leftwich (1980) attributes the longitudinal and cross-sectional incomparability of accounting disclosures to the lack of objective criteria that management may use to select an accounting technique or discourse.

Hammersley, et al (2008) expounded that the requirement by the Sarbanes-Oxley Act 2008 to provide disclosures of internal controls in the US was intended to warn investors on the potential financial statement problems resulting from controls. Resultantly, the information asymmetry problem would be curbed. The results of their study supported this hypothesis with share price returns were impacted by the disclosures. Results in Greenstone, et al (2006) were in agreement that mandatory disclosures have information content. The provisions in the US Securities Act of 1964 were amended to require audited financial reports, informative proxies, insider trading disclosures and over-the-counter trades to big firms. Firms affected by the disclosures had statistically significant abnormal returns in the period the laws were passed compared to the unaffected firms on the NYSE and AMEX. The study argued that there are high costs contained in formulating and enforcing complete contracts; therefore regulation through mandated disclosures is sufficient to monitor the private contracts. The mandatory disclosures eliminate any ambiguity regarding what ought to be disclosed and provide shareholders with certainty on the information expected from managers. A demonstration of the irrelevance of regulation is arguably in evidence of information content of voluntary disclosures. Lev and Penman (1990) argue that non-mandated disclosures substantiate the conjecture that management are willing to reduce information asymmetry by providing information that screens or signals their firms as viable investment ventures in comparison to those that do not provide discretionary information. This screening or signalling is an indication that the firm is undervalued and the information will aid correction of the firm's price. However, Lang and Lundholm (2000) had mixed findings regarding the provision of voluntary disclosures prior to equity offering. Firms that maintained a constant level of disclosure suffered minimal price declines on equity issuance; suggesting that their pre-offer disclosures reduced asymmetry. Firms that substantially increased their disclosures in the pre-

offer period faced significant price decline on declaration of their intent to issue equity manifested adverse selection.

7.3.2 Complementary Narrative Commentaries

ASB (2005, para 14; 2006, para 14) conceptualised that complementary narratives help investors in evaluating past results and future performance to inform their investment decisions. In IASB (2005, para 41), complementary narratives are argued to help users interpret financial statements or improve users' ability to make economic decisions. Both perspectives would arguably indicate that complementary narratives are associated with share returns. In the academic realm, only Tauringana and Mangena (2006) distinguished between complementary and supplementary. They argued that complementary disclosures are essential for aiding the investment decision-making process. Flostrand and Strom (2006) discussed that investors are becoming more inquisitive in the non-financial statements value factors affecting of the firm. They exemplify this conjecture with the attempt of the balance sheet to include intangible items such as goodwill. However, the figures are inadequate in explaining the entire intrinsic value of the firm. Their results confirmed that analysts use the non-financial statement information in financial reports, particularly forward-looking disclosures. The finding indicated investors' preference for leading rather than lagging financial statement information. In relation to the conceptual framework of the study, the discussions by Tauringana and Mangena (2006) and Flostrand and Strom (2006) tends to be suggestive of a scenario criticising EMH where the agency between investors and managers necessitates the provision of complementary narratives by managers. The disclosures in turn are value relevant because of the information asymmetry they reduce, therefore are useful in the investment decision-making process.

7.3.3 Supplementary Narrative Commentaries

Under ASB (2005, para 15; 2006, para 15), supplementary narratives are considered to provide explanations of the amounts in the financial statements as well as explanations of events and conditions that shape the financial statements. However, the regulatory guides provided no reason to justify the usefulness supplementary disclosures to investors.

Tauringana and Mangena (2006) provided various incentives for supplementing. Firstly, explanations for changes in financial performance figures are crucial for informing the investors' judgement with regard to investing in a firm. For unsophisticated investors, the supplementary information provides an illuminating narration about the financial statements disclosures, making them easier to understand. Prior literature (e.g. Bartlett and Chandler 1997; Courtis 1986; Lee and Tweedie 1976) all agree that unsophisticated investors find financial statements difficult to understand. Beaver, et al (1989) argued that mandatory supplementary disclosures in banks financial reports provide explanations of the financial statement figures. The results in their study indicated that the information content of supplementary disclosures about default and interest rate risks showed that the narratives were important to investors. Hutton, et al (2003) suggested supplementary narratives provide a "soft-talk" alternative that increases the credibility of earnings as they provide further detail about the figures. Secondly, in case of good news about financial performance, the supplementary narratives also serve a credibility role by eliminating scepticism about the figures. Lev and Penman (1990) expound on the credibility perspective of supplementary disclosures with the conjecture that they are verifiable by reference to financial statements or *ex-post* in case of forward-looking disclosures. The justification for supplementary-type disclosures highlighted by most studies (e.g. Bartlett and Chandler 1997; Courtis 1986; Hutton et al. 2003; Lee and Tweedie 1976; Tauringana and Mangena 2006) is to illuminate on the figures in the financial statements. This line of reasoning arguably shows that due to agency, managers are superiorly informed, compared to investors, and reduce this gap with regard to financial statements information, supplementary narratives are warranted. If the reduction of asymmetry interprets into information content, as most of these studies imply, then this contradicts EMH and fosters the market for information theories such as UIH and IRH.

Alternatively, supplementary narratives in interim reports may not have information content. Ahmed and Ian (2005) argues that institutional investors and analysts often hold briefings with management, for instance monthly or quarterly. Further, various studies (e.g. Abarbanell and Lehavy 2000; Barber et al. 2003; Bozzolan et al. 2009; Jegadeesh et al. 2004; Orens and Lybaert 2007) recognise that analyst use disclosures to obtain the most accurate forecast of

earnings. Therefore, it is likely that they would be keen to get information that relates closely to profitability to arrive at the best estimate of earnings. Arguably, such information if disclosed in interim reports may be more reflected in supplementary narratives than complementary narratives since it is closely linked to earnings. Therefore, it may not have information content as it was already disclosed in the briefings and does not present new information to the market. In other words, the information asymmetry about earnings and related narratives would have been reduced at the briefings and not at the time of releasing the interim reports.

7.3.4 *Relative Usefulness of Complementary and Supplementary Narrative Commentaries*

From a regulatory perspective, neither ASB (2005; 2006) nor IASB (2005) provide a theoretical comparative rationale for complementary and supplementary narratives. However, Tauringana and Mangena (2006) argued that since supplementary narratives refer to the specific amounts in financial statements, the disclosures are easier to regulate unlike complementary commentaries. In the perspective of the investor protection incentive for government intervention in the markets of capital and information, simplicity in regulation enhances the efficacy of the market for regulation which is to minimise free economic market failures. This conforms to auxiliary theoretical underpinnings for regulation, such as the adjunct role of regulation in incomplete contracts, alleviation of information asymmetry and adverse selection. Further, the feasibility of regulation for supplementary disclosures may correct the markets failures identified in Riahi-Belkaoui (2004) that include naive investments, functional fixation, misleading numbers and procedural diversity. Secondly, the closeness of supplementary disclosures to the highly regulated financial statements which at times are audited fosters the argument that the disclosures are verifiable (Hutton et al. 2003). The comparatively low level of verification for complementary disclosures, the credibility concern becomes apparent in narratives that are not easily traceable to financial statements (Stocken 2000). Also in support of supplementary disclosures could be the argument in Modigillian and Miller (1958) that when adjusted for errors, the earnings figure is the most important

explanatory factor for the value of the firm and its common stock. Inferably, this would arguably indicate that narrative commentaries intended to explain financial statement figures are more valuable than other narratives.

Complementary narratives may be justified by the deficiency in financial statements which arguable affect narratives that are directly linked to financial statements. Firstly, accounting numbers fail to timely reflect economic events and therefore may not explain share price movements (Beaver et al. 1980). Secondly, earnings are prone to measurement errors and do not possess the intrinsic value of the firm that may not be expressible in quantifiable terms (Hayn 1995). The flexibility of complementary disclosures in providing information about the various aspects of the organisation other than financial statements may explain the relevance of the disclosures. Complementary narratives are argued to be useful since they are able to reduce information asymmetry while expounding on the intrinsic value of the firm in the various aspects undisclosed in financial statements. Such evidence includes Bukh, et al (2005) and Dumay and Tull (2007) with reference to intellectual capital disclosures; Hammersley, et al (2008) on internal controls; Warner, et al (1988) and Collet (2002) regarding management changes; and Milne and Chan (1999) on social disclosures.

Given the lack of particular reasons for distinguishing between complementary and supplementary narratives in ASB (2005; 2006) and IASB (2005), there seems no motivation to suggest that either of the narrative types is more important with reference to share returns. Both complementing and supplementing are justified on ground that they aid investors in making investment decisions in the regulatory guides. In support of this neutral position is Wilson and Allison-Koerber's (1992) argument that the integration of qualitative and quantitative perspectives of data enhances the predictive power of information. For these reasons, the following hypothesis is formulated:

H 1:   There is no difference in the information content of complementary and supplementary narrative disclosures

7.4   Relative Usefulness of Attributes under Disclosure Depth

Under disclosure variety, one attribute (number of information items) is used to measure narratives. The attribute's hypothesis for relative information content of complementary and supplementary narratives is implicit in hypothesis H 1 above. For disclosure depth, complementary and supplementary narratives are estimated using a set of four attributes. The attributes are good news, amounts and comparison of current with past performance, reasons for performance and forward-looking narratives). To this effect, the hypotheses below relate to the relative information content of complementary and supplementary narratives for each disclosure depth attribute.

7.4.1 Good News

Abrahamson and Amir (1996) consider good news in narrative commentaries as an attempt by managers to "sugar coat" performance or impress investors, whereas bad news have information content. For good news, this argument aligns with notion that managers exploit information asymmetry arising from agency by misleading investors. For bad news, however, managers adopt a contrary strategy of eliminating information asymmetry by disclosing factual past or future events that affect performance. Likewise, results in Lee, et al (2004) suggested that investors are interested in bad news as the disclosures portray management's openness and willingness to take responsibility of controllable events. However, Lang and Lundholm (2000) consider a double-faced conjecture for good news by relating the firm's performance to its economic environment. If there is no change in the economic conditions, good news disclosures were considered as an endeavour to hype the share and thus reflected negatively to share pricing. Alternatively, where positive economic changes prevailed, good news reduced information asymmetry and thus positively affected share returns.

Another view explaining the effect of rhetoric toning on share price returns are the signalling and adverse selection theories. Lev and Penman (1990) explained that firms with good performance will disclose in an attempt to distinguish themselves from poor performing ones.

They further conjecture that firms with bad news would conceal the information to avoid affecting their share prices. The results affirmed the proposition for disclosing good news on ground that such information aids in correcting misevaluation if its credibility is verifiable either *ex ante* or *ex post* the reporting date. Concealment however did not result into negative share price returns; thereby not reflecting the view that investors consider non-disclosure as bad news. Arguably, the lack of information content may have reflected either that the disclosures do not reflect managerial opportunistic tendencies or management success in misleading the market.

These arguments for and against the usefulness of good and bad news which mainly base on verifiability of the disclosures owe their origin to the information asymmetry arising from the agency relationship between investors and managers. Impliedly, this reflects principal-agent paradigm between investors and managers discussed by Jensen and Meckling (1976) and Coarse (1937) which Fama (1980) uses to explain working of capital markets and markets for managerial behaviour. The relationship creates a divergence in interest where the agents (the managers) try to maximize their fees for management whilst the principals (investors) are inclined to maximise their returns from the investment. Therefore, in a bid to bargain higher management fees, managers may emphasise good news and de-emphasise bad news reflecting either Akerlof's (1970) market for lemons in instances where the disclosures are misleading or show signalling of good performance as theorised by Spence (1973; 2002). Alternatively, willingness to emphasise bad news and underplay good news in periods of bad performance, as discussed by Lee, et al (2004), may show that management's enthusiasm to reduce information asymmetry arising from agency. With reference to the market for information and regulation theories, this can be explained by Akerlof's (1970) solution to the market for lemon that regulation deters management from misleading investors.

With regard to comparative usefulness for complementary and supplementary narratives, rhetoric toning may be explained based on verifiability. Tauringana and Mangena (2006) argued that supplementary disclosures are easily confirmed than complementary narratives through cross-examination with the regulated, and at times audited, financial statements. Therefore, it is assumable that the complementary narratives are more prone to opportunistic

behaviour than supplementary disclosures. Contrary, studies (e.g. Abrahamson and Amir 1996; Lev and Penman 1990) justify the usefulness of rhetoric toning through the ability of the attribute to provide an insight into the future. In this respect, good/ bad news in supplementary disclosures is less relevant to investors. The complementary attribute for good/ bad news is therefore more useful, despite being unverifiable. Lev and Penman (1990) contend that verifiability for forward looking information is possible *ex ante*. Therefore, the usefulness of the rhetoric toning in complementary disclosures may be comparatively above that in supplementary narratives. Another argument in favour of rhetoric toning in complementary narratives may be drawn from the possibility of the disclosures to provide intrinsic value that cannot be expressed in supplementary information. As earlier discussed, studies (e.g. Bukh et al. 2005; Dumay and Tull 2007; Hammersley et al. 2008; Warner et al. 1988) finding information content in themes of complementary nature explain their result by the limitation that financial statements are fixed on financially measurable business aspects. Since supplementary disclosures are anchored to financial statements, they suffer the inherent restraint of inflexibility. Good/ bad news in supplementary disclosures can only be interpreted from absolute values on the face of financial statements and changes thereof.

The mixed arguments about the comparative usefulness for good or bad news in complementary and supplementary narratives lead this research to hypothesise that:

H 2   There is no difference in the information content of complementary and supplementary attribute of good news

7.4.2 Amount and Comparison with Past Performance

7.4.2.1   *Disclosure of Amounts*

Quantification in narratives refers to the disclosure strategy of using statistics or numbers in commentaries. Abrahamson and Amir (1996) argued the use of amounts preserves the credibility of disclosures since it is verifiable, particularly if the amounts relate to the financial statements. In essence, quantities in narratives provide more precision to the non-quantified disclosures, thereby providing investors with more specific parameters to use for decision-making. Kasznik and Lev (1995) provide a conditioned hypothesis for usefulness of the

quantification attribute. If there is a large divergence between actual performance and investor expectations, management will provide statistical attributions to reduce the expectation gap. However, where the expectation gap is relatively small, managers have less motivation to disclose amounts because factual verifiable attributions may excite investors' into scrutinising the information. Consequentially, risks of managerial reputation loss and litigation may escalate. The arguments are in line with the incremental information effect of disclosures arising from agency that presumes that managers have superior informed position about the firm and will avoid mispricing by reducing information asymmetry. However, where the risk of mispricing is minimal due to low information asymmetry, there is no motivation to provide attributes that are more precise. The degree of attribution based on information asymmetry also closely relates to uncertain information hypothesis (UIH) and incomplete revelation hypothesis (IRH). As discussed in section 7.3.1.1 above, the level of uncertainty in goodness or badness of disclosures is based on scale of preciseness. Therefore, to positively influence share price returns, uncertainty or bad news under UIH needs to be alleviated through extended preciseness. In IRH, quantified disclosures are considered to provide a higher degree of exactitude that lessens incomplete information relevant for share pricing.

Another reason explaining the usefulness of the amount attribution is the signalling theory. Schadewitz, et al (2002) and Penno (1996) discuss that firms that have performed badly or have large performance surprises will prefer to provide attributes that are more exact. It is anticipated that this strategy deters investors' dependence on the current performance but rather on expected future performance and an extended analysis of the poor performance. This disclosure strategy was termed as back-to-the-wall strategy, which may result into delayed share price returns as investors seek for intrinsic value from the precise detail provided. Alternatively, in cases of good performance or expected performance, companies adopt the don't-rock-the-boat strategy where they chose to signal with less precision. As a result, investors are aware that there is no surprise and will correctly value the firm based on the less precise disclosures.

With reference to complementary information, studies that confirmed the association between the quantification attribution and share price returns include Berry et al (1998) and Misund et

al (2008) who used high level operating data in the petroleum industry. More evidence on the usefulness of the amount attribute in complementary narratives includes Lajili and Zeghal (2006) on human capital disclosures, Smith et al (1984) regarding foreign payments and various studies on segment analysis (e.g. Givoly et al. 1999; Hope et al. 2008; Thomas 2000). For supplementary narratives, studies confirming information content of the quantification attribute include Francis et al (2002) and Baber et al (2006).

There is a complexity in judging the relative information content of the quantification attribution between complementary and supplementary disclosures from prior literature. Studies (e.g. Baber et al. 2006; Francis et al. 2002) use the quantification attribution from supplementary disclosure to cover most of the bottom line themes of financial statements. However, complementary studies, as the ones above, only concentrate on a single theme such as human capital, segmental analysis or high operational data. With reference to theoretical conclusion on the usefulness of the attribute, the arguments are mixed. This may be aggravated by the concern raised in Beattie, et al (2004) and Tauringana and Mangena (2006) that whilst all narratives based on financial statements are quantifiable, some narratives of complementary nature are non-quantifiable.

7.4.2.2   *Comparison of Current with Past Performance*

In addition to quantification, in most cases narratives offer a comparison of current with past performance for the respective information item. This is especially in most aspects of financial statement based narratives (supplementary disclosures) as well as segment analysis and high level performance data (complementary disclosures). One explanation to the usefulness of performance comparisons is the incremental information concept through signalling. The notion presupposes that managers will signal positive progress of the company to investors as an indicator of a good direction of the business. Collet (2002) exemplified this notion with positive association of returns to disclosures of redundancies and new job openings in the UK indicating that the redundancies meant an attempt to reduce cost base whilst new jobs announcements positioned the firm to take advantage of revenue and earnings opportunities.

Another incremental information perspective through which the comparison attribute may be useful to investors is the closure of the information gap about past performance and the effect of such performance affecting future outcomes. SEC (1980), suggests that financial statements are insufficient to assist in projecting future performance by inference from past performance. Therefore, narratives can provide extensive comparatives from which investors can make predictions. ASB (2005; 2006) also noted that the relevance of disclosing past performance trends is in the ability of the information to have implications on future performance. Specifically, the regulation required firms to disclose known trends in performance, liquidity and capital resources. Riley et al (2003) argues that seasonality is one of the instances in which comparison with past performance can be reflective of future performance; affirming the importance of the longitudinal benchmarking in narratives.

Hope et al (2008) view the relevance of the comparison attribute from the relationship between information asymmetry and cost of capital. Given the computation work involved in arriving at comparatives and then appraising the result into future cash flows, it is likely that investors will incur less information cost if comparatives are provided in financial reports. Otherwise, investors would employ more resources for the computations. This relationship between disclosures and cost of capital is articulated in Botosan, et al (2004). If there is more precision in private information (in this case private computation of comparisons) then the cost of capital will be high, thereby investors will demand higher share price returns. However, higher precision in public information (in this study relating comparatives in interim report narratives), investors will demand less returns or lower cost of capital due to less asymmetry. These arguments align with incomplete revelation hypothesis, which suggested that quantification in narratives present, more precision in disclosures that may help in attaining abnormal returns. Given that most of the comparative information, especially for supplementary disclosures, is numeric in nature, the benchmarking attribute may be considered to yield abnormal returns under IRH.

A contrary view on the relevance of comparatives is also assumed from the information asymmetry problem inferred from the agency relationship between managers and shareholders. Under this standpoint, disclosure literature (e.g. Cassar 2001; Guillamon-Saorin

2006; Lewellen et al. 1996; Schrand and Walther 2000) considers that managers selectively choose past benchmark figures that portray better current performance. Two notions under the market for lemon hypothesis may explain this biasness. First, the adverse selection envisages that managers intentionally use their advantaged informed positions to manipulate information in a manner that is self-suiting. This line of reasoning is augmented by observation in Riahi-Belkaoui (2004) that performance comparability in financial reports is made difficult by the variability in accounting techniques and the firms' autonomy in selecting operating performance measures. Second, the moral hazard postulates that management use the diversity in accounting methods and performance measures to choose benchmarking figures that conceal bad news. For example, Guillamon-Saorin (2006) found that most of the comparative disclosures in press releases were used to emphasise positive figures.

In hypothesising for the relative information content of the comparison of current with past performance attribute in complementary and supplementary commentaries, three factors are considered. As discussed in subsection 7.4.2.1 above, unlike supplementary disclosures, not all complementary narratives are quantifiable, therefore comparable.[3] Secondly, possibly related to the quantification problem, most literature on usefulness of comparison attribution in narratives has concentrated on supplementary type of narratives, and the few studies on complementary narratives have concentrated on a few themes. Thirdly, the theoretical explanations of the attribute's usefulness to returns are divergent.

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[3] In this study, to reduce the dependence of the comparison of current with past performance attribute on the disclosure of amounts, comparison are recognised as a rhetoric through which firms mention about past performance and current performance within an information item with or without reference to amounts.

From the discussions above on the relative usefulness complementary and supplementary information with regard to the attributes of disclosure of amounts and comparison of current with past performance, this study hypothesises that:

H 3   There is no difference in the information content of complementary and supplementary attributes of disclosure of amount and comparison of current with past performance

7.4.3 Reasons for Performance

The relevance of the explanatory attribution lies in the ability of the ascription in reducing information asymmetry arising from the agency relationship between investors and managers, thereby providing incremental information. One aspect of this argument is the realisation that explanations can provide further detail on a firm's performance and plans used by investors to value the firm, hence rejecting the applicability of EMH under semi-strong efficiency. Regulatory guides have adopted this position in justifying the attribution. ASB (2005; 2006) argue that entire operation and financial review provides main factors underlying the development, performance and position of the company both in the reporting and future periods.   The essence is to assist shareholders examine the corporate strategies and the capability of the strategies to function. Similarly, SEC (1987; 1989) and Baginski, Hassell et al. (2002; 2004) suggested that material performance changes need explanations to make disclosures useful to investors when estimating future cash flows. This discourse directs to the incremental information postulate for explanatory attribution with a view that explanations weaken incidences of information asymmetry, especially when conjecturing future performance from past and present performance.

 Another tenet for the usefulness of the causal attribution is the signalling theory arising from agency based on the credibility of the disclosures, leading to either impression management or incremental information. Managers are well aware that their performance and the firm's performance may be interpreted from disclosures in financial reports (Staw et al. 1983). This compels them to adopt a selective self-servicing expression style language while explaining performance given that they have an information-advantaged position. Instances of this biased behaviour include Clatworthy and Jones' (2003) argument that successes are attributed to

internal factors but failures to externalities. Further evidence is in Hutton et al (2003) where more quantitative and verifiable explanations were provided for good news. However, qualitative and non-verifiable justifications, including factors such as macroeconomic, industry level, firm-specific, long/ short-term prospects and segmental information accompanied bad news. Whilst the verifiable and more precise disclosures were useful to investors, the qualitative disclosures were not relevant to share returns due to their vagueness. Arguably, Lee et al (2004) concur by suggesting that if causal attributions for bad news are credible, especially by management taking blame, investors would find them useful. Accepting responsibility for bad performance is a realisation that management is knowledgeable about the weakness of the business and may be keen in taking corrective measures.

Construing the relevance of the explanation attribution based on the goodness and badness of the news arguably leads this study to incorporate UIH and ORH in the theories that justify the influence of the attribution on share prices. Credible disclosures may be considered as good news as they are trustable and hence increase certainty, leading to upward share price movements. However, self-serving explanations could be indicating bad news as they may cause doubt about the disclosed information, thereby causing uncertainty and fall in share prices.

Alternatively, the relationship between the explanatory attribute with qualitative and quantitative disclosures suggested by Hutton et al (2003), compels this research to include IRH as one of the theories that substantiate usefulness of the causal attribute. Quantification of good news provides more precise and relevant information that can be priced favourably while the bad news that is generally qualitative and unverifiable reduces revelation in disclosures.

Comparatively, ASB (2005; 2006) consider that complementing and supplementing are essential for enhancing the overall corporate disclosure. Inferring from this, the regulation adopts a discourse that considers the two themes of disclosure as a mutual integral part of financial reporting rather than being mutually exclusive to each other for usefulness. In

addition, the conceptual rationales for the casual attribution are inconsistent. Therefore, this study hypothesises that:

H 4   There is no difference in information content of complementary and supplementary disclosures of reasons for performance attribute

7.4.4 Forward-Looking Disclosures

From a regulatory perspective, ASB (1993; 2003; 2005; 2006) all agree that among other uses, narrative commentaries help members assess future prospects in a bid to estimate the firm's future cash flows. In the European Union, the EU (2003) requires disclosures of future business developments to assist investors in assessing future performance. Even professional accounting bodies (e.g. AICPA 1994; CICA 2002; ICAEW 2003) concur with this rationale for the forward-looking attribute. FASB (1978) conceptual framework of financial reporting in the US interprets the relevance of forward-looking attributes from the inconsistence between the purpose of accounting and the ability of financial statements to provide the relevant information. The accounting function in an organisation is charged with the responsibility of providing information useful to investors' economic decision-making. Since the function of accounting is to aid decision-making as an imminent action, it is necessary for the information to possess an anticipatory outlook. Regulated financial statements can only accommodate historical information but narratives minimise this through the ability to include forward-looking disclosures. The premise of regulation concurs with incremental information school of thought that management provide disclosures to reduce information asymmetry. Given that financial statements information is historic in nature, managers use narratives to provide future opportunities and risks of the business that investors use to value the business (e.g. Abrahamson and Amir 1996; Schleicher and Walker 1999).

Another theoretical setting explaining the usefulness of forward-looking disclosures is signalling effect on information asymmetry. Studies (e.g. Boo and Simnett 2002; Schadewitz et al. 2002; Schleicher et al. 2007) argue that in a period of bad financial performance or financial distress, managers have a motivation to provide credible forward looking disclosures to appeal to investors. Good financial performance either is indicative of a self-explanatory

current feasibility of the firm without need for more precise future narratives or characterised by insignificant requirement for external financing since the performance may lead to sufficient internal financing. Interpreting this argument in relation to UIH and ORH, in cases of current news, managers realise that the share prices are bound to be negatively impacted. To reduce this impact or even reverse the effect of bad news to share price returns, managers provide forward-looking disclosures that assure investors on the future viability of the investment.

The argument in Bozzolan, et al (2009) about information content of the prospective attribute could be considered to be related IRH. They maintained that information content of forward-looking attributions is embedded in the verifiability of disclosures such that credible disclosures are useful but unverifiable disclosures are not. The reason is that the ability to avoid adverse selection by accurately estimating future cash flows is construed on reliance on credible and verifiable information. IRH views usefulness of disclosures from the ability to provide complete revelation. Credibility and verifiability of information may be regarded as characteristics that reduce incompleteness, as the respective disclosures are considered reliable.

It is certain that the above arguments for the usefulness of forward-looking disclosures in narratives are owed to the presence of information asymmetry between investors and managers. Relating to the discussion in chapter 6, information asymmetry arises from the agency concept where managers, due to their duty of day-to-day involvement in the business, have an information advantage over investors. Therefore, it is arguable that they (management) are better placed than investors to know the direction of the business and disseminating the same to investors reduces the information gap. This situation aligns with the market for information theories that consider usefulness of forward-looking narratives. However, the situation contravenes EMH that presupposes that both management and investors are symmetrically informed about the direction of the business.

There are several complexities for hypothesising for the comparative information content of the forward-looking attribution in complementary and supplementary narratives. Firstly, ASB

(2005; 2006) ascertains that the entire narrative commentary (regardless of whether complementary or supplementary) is to assist investors assess the current performance and estimate future performance of the firm. Inferably, the prospective attribute has a similar function in both themes. Secondly, like other disclosure attributions, the theoretical underpinning the forward-looking attribute is mixed. Although regulatory guides reviewed above agree that the attribute provides incremental information for share pricing, evidence from empirical research in section 3.9 is divided as there are questions raised on the credibility and variability in usefulness depending on performance. For complementary disclosures, verifiability would arguably constrain the usefulness of the forward-looking attribute due to the qualitative nature of the disclosures. For supplementary narratives, verifiability of prospective disclosures may be achieved *ex ante* through future financial statements. However, supplementary prospective information is incapacitated to provide insight into intrinsic value of the firms in aspects such as future opportunities, strategies and risks because it only relates to information on the face of the financial statements. Although complementary prospective narratives may disclose on aspects of intrinsic value, the usefulness of such disclosures is challenged by the argument that investors are only interested in predicting future cash flows and earnings (e.g. Ajinkya and Gift 1984; Waymire 1984). This is supported by the observation that nearly all the firm's value is entrenched in the earnings number (e.g. Ball and Brown 1968). Given the theoretical inconsistencies, this thesis hypothesises that:

H 5   There is no difference in the information content of complementary and supplementary disclosure of forward-looking attributes

7.5 Financial Statement Performance Attributions

In section 7.1 above, it is discussed that the reason ASB (2005; 2006) recommends complementing and supplementing the financial statements is to assist investors understand the financial performance of the company for investment decision making. Deductively, a disclosure structure comprising of complementary, supplementary and financial statements information offers a complete set of information relevant for illuminating investors' comprehension of current and future performance.

As control variables, performance ratios based on financial statements information are included in the hypothetical model of the study. Ball and Brown (1968) recognised that the power of their studies could have been improved by including other information that accompanies financial statement figures. Arguably, they realised that both financial statements and narratives improve share returns as opposed to considering a biased model with narratives or financial statement performance measures only. Various studies on information content of narratives (e.g. Abrahamson and Amir 1996; Boo and Simnett 2002; Firth 1984; Kanto and Schadewitz 2000; Lundholm and Myers 2002; Schleicher et al. 2007) have included financial statement performance measures as controls in their models.

Abrahamson and Amir (1996) argue that the recognition of quantified information in models is based on the ability of the numbers to provide more precision to the non-quantified information thereby enhancing credibility of the entire disclosure profile.

To further augment the decision to include financial performance metrics in the model for examining information content of narrative commentaries, reference is made to the discussion in Johnson (1970). The study discussed various constraints that deter financial metrics from having information content if used without regard to narrative commentaries. Firstly, the metrics, on their own, fail to predict failure or success because the information they provide is historical and does not incorporate strategies and intervening economic conditions that managers and investors face. Secondly, although comparable both cross-sectionally and longitudinally, the financial metrics contain an incomparability problem arising from measurement errors and variability and different regulation and standards for accounting. Third, financial performance figures are not a true measure for comparison across firms because they fail to consider firm uniqueness. For example, analysts use the burden coverage ratio to measure riskiness. This ratio cannot measure differences in business life cycle or business seasonality, which are unique to firms regardless of being in the same industry or having similar age or rate of financial performance. Contrarily, narratives can be used to identify such individuality in firm characteristics. Fourth, ratios are static as they measure performance over fixed predetermined periods yet a firm's propensity to succeed or fail is a dynamic process involving timing or mistiming of cash flows, opportunities and risk. Worse

still, ratios may not be easily calibrated to relate to the diminutive detail of operations. Narratives, on the other hand, can be used to relate to any organisation function to the tiniest degree of specificity. From a behavioural perspective, Griffin and Tversky (1992) considered that investors preferred the subjective strengths of evidence to statistical weight. This suggests that investors are inclined to use narratives over financial ratios. Other literature (e.g. Tauringana and Mangena 2006) argues that unsophisticated investors are more likely to use narratives to inform their investment decisions due to the complexity in interpreting financial statement information and ratios.

In line with the discussion in the theoretical framework, under section 6.3.2.2, IRH considers statistical information more precise compared to qualitative disclosures, therefore having greater potential of influencing share prices. A number of reasons may be deduced from the discussion in Bloomfield (2002) concerning IRH and the comparative usefulness of statistical and qualitative disclosures. Firstly, the definite nature of quantified disclosures compared to qualitative information aids users to make clear decisions about the respective investment. Secondly, qualitative disclosures, unlike financial statements figures, are often published in other forms of media therefore lack newness when disclosed in financial reports. Another argument for usefulness of financial statement figures under IRH is the fact that the statistics are not easily understood. Therefore, investors with the skills of interpreting financial statement figures are likely to earn abnormal returns when they discover the hidden meaning of the figures.

As discussed in section 7.1 above, three financial statement performance measures are selected. These include dividend yield, earnings per share and total assets.

7.5.1 Dividend Yield

In an efficient market, free of imperfections, trading costs and consisting of rational agents, Merton and Modigliani (1961) advocate that dividend yield has no information content. Dividend policy is conjectured to be affected by the integration of financing and investment decisions. The firm may either adopt the strategy of high dividend payout and finance investment activities through externally (debt or equity issuance) or pay out low dividends and

use the retained earnings to meet investment obligations. In a rational and perfect economic environment, the two strategies cancel out, as they are illusionary financial engineering schemes, hence having no incremental information transferable to share price returns. Investors rather rely on the real earnings power of the firm's assets and its investment policies but not on the packaging of earnings for distribution. This argument seems consistent with the information asymmetry notion that the agency relationship allows managers to exploit the less informed investors by structuring disclosures in a self-serving manner. In this case, dividends may be used to mislead investors that the firm is performing well yet the underlying performance is contrary to the trend of dividend payout.

In instances of uncertainty, Merton and Modigliani (1961) still conjecture that dividends may not be relevant for share valuation. In this respect, they introduce the assumptions of imputed rationality and symmetrical market rationality. An individual investor assumes that all other investors are rational, that is, preferring more wealth regardless of the form in which the wealth is packaged. Secondly, symmetric market rationality sets in when all investors in the market assume similarly by imputing rationality to all other investors. Therefore, as in the case of the perfect market, investors will not be compelled to be manipulated through wealth packaging but rather will base their investment decisions on real asset and investment strategy performance. However, the researchers realised that using personal judgement and extrapolating the same to overall market behaviour may critic the imputed rationality and symmetric market rationality as some investors may behave contrary by presuming that other investors are irrational.

However, Merton and Modigliani (1961) agree that there are instances when the dividend yields communicate information relevant to share pricing. For example, a stable or increased dividend pay may be perceived by investors as management's view that the firm's performance outlook is sturdily good or based on future growth opportunities. This viewpoint is in conformity with the conjecture that dividend yield has incremental information. Alike, studies (e.g. Campbell and Shiller 1988; Fama and French 1988; Kothari and Shanken 1997) found the dividend yield being associated with share price returns as it had predictive power about the firm's future earnings and cash flows.

Although Sadka (2007) agrees that dividend yield carries information about future cash flows; dividend amounts or growth as a parametric of dividend yield has no association with share price returns. The reason for the insignificancy of the relationship between dividend growth and share price returns is that it is susceptible to manipulation. Nevertheless, the usefulness of dividend yield is embedded in its ability to change in line with business conditions and change in profitability (Fama and French 1989; Sadka 2007). As earlier discussed, there are studies (e.g. Fairfield and Yohn 2001; Watts and Zimmerman 1990) suggesting that profits too are vulnerable to management impression. Therefore, it may be inferred that dividend yield is informative as one of its parameters (dividend amount) as well as variable it is able to predict (profitability) are subjected to manipulation. Likewise, Watts (1973) rejected the hypothesis of information content of dividends on the basis that the proportion of future earnings that can be communicated by unexpected dividend changes is trivial.

From the above analysis, there seems theoretical impasse as to whether dividend yield has information content. In addition, the empirical studies relating to the association of share price returns and dividend or measures of dividend yield have mixed findings regarding the relationship. For these reasons, the study hypothesises that:

H 6   There is no association between dividend yield ratio and share price returns

7.5.2 Earnings per Share

There are several reasons that have been suggested to support the usefulness of earnings per share (EPS) ratio. For example, Ball and Brown (1967; 1968) contend that the information content of earnings per share is entrenched in the ratio's association with macro economic factors affecting the firm's performance. Secondly, Opong (1996; 1997) established that the EPS ratio interacts with dividend for the reason that both are disclosed jointly and thereby have a joint signalling effect regarding the information they convey to investors. In case of increased EPS and dividend investors will perceive that the firm is performing well. In case of increased dividend but decreased EPS, managers signal to investors that the decreased EPS is temporary. Opong (1996) augmented this argument with the supposition in Allen (1992) and Lintner (1956) that management increase dividends at a level they are confident is sustainable

in future and is defensible. Thirdly, on a reporting frequency basis, Brown and Kennelly (1972) suggested the interim EPS enables investors to predict the annual earnings performance. This argument may be considered to imply that the interim EPS incorporates the seasonality factor in earnings. The coefficient of the interim EPS can then be used to estimate the earnings in the next interim periods based on the season's impact on the firm's performance. Foster (1977) illustrated this through time series where each quarter's earnings had a seasonal component in them. Further, Opong (1995) argued that it may be useful to provide quarterly reports for a more precise view of the seasonality effect on the outcome of the year.

Arguments against the usefulness of EPS rely on susceptibility of earnings to manipulation. Through the earnings smoothing hypothesis, Barnea, et al (1975) suggest that management use earnings to undermine GAAPs, arguably the principles of prudence and periodicity. They report earnings in a manner that signals optimistic expectations about performance of the firm. Hand (1989) supplements this argument with the contention that management compute and present EPS in a way that conforms to capital market expectation as well as signalling that the good outlook of EPS is sustainable in future. The schemes used include presentation skills include longitudinal graphical presentations (e.g. Beattie et al. 2008; Beattie and Jones 2002). Bartov (1993) identifies several accounting earning smoothing methods such as timing of asset sales to create other incomes, early debt retirement to reduce interests and timing as well as selection for sale of marketable securities in a manner that a security with high unrealised gains is sold to boost reported earnings. Another theoretical explanation arising from impression management explaining the irrelevancy of earnings is the debt-equity hypothesis. Watts and Zimmerman (1986; 1990) and Smith (1993) explore this proposition by way of debt covenants or implied investor covenants. The covenants are either affirmative or negative. The affirmative covenants compel managers to attain specific accounting performance measures such as working capital, return on investment or interest coverage. The negative covenants restrain activities relating to investment or financing such as soliciting financing from other sources, dividend payments on condition that certain accounting ratios are achieved. The obligations relating to accounting performance ratios enthuse management to

manipulate EPS to meet the contractual debt holder or implied equity holder expectations (Bartov 1993).

Various studies have investigated the information content of EPS measures but with mixed findings. Confirming the information content of EPS is Patell (1976) considering the ratio being necessary for firm valuation as affirmed in asset valuation models such as the integrated model combining the Asset Pricing Model by Sharpe (1964) and Lintner (1965) and the Miller-Modigliani model by Hamada (1969). Similarly, Foster (1973) found information content in EPS estimates at both individual investor and aggregate market levels. More recent studies (e.g. Dimitropoulos and Asteriou 2009; Lennox and Park 2006) find a association between EPS and share price returns on the basis that the EPS strength signalled to investors on future performance of the firm.

To the contrary, Said, et al (2008) found an insignificant association between returns and EPS underlined that by the argument that investors seek for economic rather than accounting measure performances. Given that EPS is prone to impression management schemes, investors resort to cash flow measures, which are closely related to economic performance to base their judgement about the future viability of the firm. Similarly, Collins, Li et al (2009) compared the information content GAAP EPS and Street EPS. Whilst GAAP EPS include nonrecurring or noncash items such as restructuring costs, write-downs, asset impairments, costs and gains on sale of assets, mergers and acquisitions, goodwill amortisation as well as research and development expenses; Street EPS do not. Street EPS is the actual reported EPS as recorded on I/B/E/S. The results showed that whereas there was an improving association between market measures of information content and Street EPS over time, there was a decline for GAAP EPS. This was partially attributed to resilience of street EPS as far as manipulation is concerned. This therefore meant that street EPS was relatively more related to the future firm's economic value and cash flows than GAAP EPS. However, Bartov (1993) questions the argument of impression management with regard to EPS since the market is comprised of many sophisticated investors who can detect such manipulative tendencies.

EPS has earnings component that makes it disposed to management tendencies of impression management. On a divergent note, EPS has also useful information about the performance of the investment, which information may be extrapolated to future performance. Due to the irreconcilable arguments regarding the information content of EPS, this thesis hypothesises that:

H 7   There is no association between interim earnings per share ratio and share price returns

7.5.3 Total Assets

In recommending complementing and supplementing, ASB (2005; 2006) suggested that the extent narrative discussions should be commensurate to size and complexity of the business. Various studies have argued for the relationship between narrative disclosures with size and complexity. Cooke (1991) argues that the larger a company is, the more susceptible it is to complexity due to the diversity in segments, both product wise and geographical locations. The study adds that such complexity requires sophisticated management information systems for effective managerial control and ability to meet information needs of investors. Such settings would therefore implicate more disclosure compared to small firms that are less complex. In contrast, Wallace (1987) argues that the relationship between disclosure level and firm size or complexity is bi-directional. It could be positive where the company expects that by disclosing more about the high profits (or losses) that big firms normally make, the likelihood of political action is lessened. On the other hand, large firms may minimise the level of disclosure if the information is likely to increase the cost of combating effects of political pressure.

Tauringana (1997) identified the common proxies for company size as total assets, turnover, the number of shareholders and market capitalisation. Through a review of disclosure studies, Tauringana (1997) finds that the most popular surrogate for company size that is significantly associated with disclosure level being total assets, followed by turnover. Number of shares and market capitalisation were less popular. Due to its popularity in prior literature as an influential variable on disclosure as well as being a variable from financial statements, total assets is selected in this research as a control variable.

Grullon and Michaely (2004) found significant negative association between total assets and returns. They argued that large firms have lower investment opportunities than small firms. This is worsened by the tendency of smaller competing firms to eat into the market share of these companies. Grullon and Michaely (2004) further suggest that reduction in reinvestment opportunities leads to a build-up of excess free cash flows for these firms which will be demanded by shareholders in either share re-purchases or dividends. Hence, with the declining investment opportunities, higher total assets values may signal to investors that there are lesser returns. Even in cases where there are investment opportunities, the negative relationship between returns and total assets is evidenced. Campbell, et al (2001) examine the association between cumulative abnormal returns and the method of payment in mergers. Total assets as measure of size was negatively associated with returns for acquirer firms postulating the possibility of overpayment by big firms.

Bamber (1986) found firm size (measured by total assets, total equity and market capitalisation) having an inversely significantly inverse relationship with trading volume when financial results are announced. The result was attributed to less availability of information on smaller firms, thereby exhibiting higher unexpected earnings than bigger firms do when financial results are released. The most informative surrogates of firm size were total assets and total equity. However, Jermakowicz and Gornik-Tomaszewski (1998) found market capitalisation as a measure of size more powerful in explaining the information content of earnings than either total assets or revenues on the Warsaw Stock Exchange.

From the above discussion, there is mixed evidence regarding the usefulness of total assets as a measure of size in explaining share price returns. Therefore, it is hypothesised that:

H 8   There is no association between interim total assets and share price returns

7.6 Summary and Concluding Remarks

The purpose of this chapter was to develop a set of hypotheses in line with the literature review and theoretical framework. The hypotheses developed are used to identify the variables described in the methodology chapter. The variables will be subjected to tests of information content in the result and analysis chapter. The first hypothesis, H 1, considers the

relative information content of complementary and supplementary narrative commentaries in general. Hypotheses H 2, H 3, H 4, and H 5 are concerned with the relative information content of complementary and supplementary narrative attributions when disclosure depth is used to measure narratives. The attributions are presence of information items, good news disclosures, disclosures of amounts and comparison of current with past performance, reasons for performance and forward looking disclosures, respectively. The underlying theorem for relating the attributes to share price returns is the entity concept of the firm, from which the agency concept and the resultant information asymmetry commend information content of the narrative disclosure attributes. Taking this point of view, contravenes semi-strong form EMH that the publically available information (in this case complementary and supplementary narrative attributes) is accurately and instantaneously reflected into share prices. However, the arguments suggest that the market for capital works in partnership with the markets for information and regulation to reflect the disclosures in share prices. Under the market for capital, the dominating theory used in the hypothesis chapter is the semi-strong form EMH while the market for information theories are UIH, ORH, IRH, market for lemons, signalling theory and incomplete contracting and the market for regulation theories are public interest and capture theories.

The next set of hypotheses, H 6, H 7 and H 8 attributions refers financial performance measures used as control variables and include dividend yield, earnings per share and total assets, respectively. The basis for inclusion of financial statement ratios in the hypotheses is that ASB (2005; 2006) recommends complementing and supplementing for the purpose of aiding investors understand the financial statements. Additionally, there is empirical evidence that finds the ratios informative to share price returns. Further, in line with the theoretical framework of the study, IRH considers that statistical information in financial reports enhances information content of the qualitative disclosures.

8 RESEARCH METHODOLOGY AND METHODS

8.1 Introduction

This chapter presents the methodology and methods used to estimate information content of complementary and supplementary narratives. The rest of the chapter is organised as follows. The first section discusses the research philosophy applied in the thesis. This is followed by an explanation of the sample. The suitability of the event study technique to measure information content and the steps adopted to apply the technique are discussed. The key steps considered include the method used to measure the dependent variable and the estimation of the predictors. Models for measuring information content are then described. Sensitivity tests for checking robustness are then explained. The last section is a summary and concluding remark to the chapter.

8.2 Research Philosophy

Research philosophy refers to development of knowledge and its nature and can be thought of in three main dimensions, namely: epistemology, ontology and axiology (Saunders et al. 2003). The three dimensions are regarded as a paradigm where a paradigm is a set of basic beliefs that represent a worldview that defines, for its holder, the nature of the world, the individuals placed in it, and the range of possible relationships to that world and its parts (Guba and Lincoln 1998). Epistemology concerns what constitutes acceptable knowledge in a field of study while ontology refers to the nature of reality characterised by objectivism and subjectivism and axiology studies judgements about personal value (Guba and Lincoln 1998). Under ontology, objectivism depicts the position that social entities exist in reality external to social actors whilst subjectivism maintains that social phenomena are created from the perceptions and consequent actions of social actors (Guba 1990).

Collis and Hussey (2003) suggest two main research philosophies. First are positivist (quantitative) who believe that the objects they are studying are unaffected by their research activities and will persist even when the study is completed. The second is phenomenological or qualitative research inclines to an interpretive approach. In Table 10, quantitative and

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qualitative research is distinguished along the aspects of ontology, epistemology, axiology and rhetoric.

Table 10   Assumptions of Quantitative and Qualitative Research Paradigms

Assumption	Question	Quantitative	Qualitative
Ontological	What is the nature of reality	Reality is objective and singular, apart from researcher	Reality is subjective and multiple as seen by participants in a study. Researcher interacts with that being researched
Epistemological	What is the relationship between researcher and the researched	Researcher is independent from that being researched	Researcher interacts with that being researched
Axiology	What is the role of values	Value-free and unbiased	Value-laden and biased
Rhetorical	What is the language of research	Formal	Informal
		Based on set definitions	Evolving decisions
		Impersonal voice	Personal voice
		Use of accepted quantitative words	Use of accepted qualitative words

Source: (Collis and Hussey 2003)

Given that this study is concerned with information content of narratives, that is, the relationship between disclosures and share prices, the quantitative approach is based suited. The nature of this research is more inclined to both mainstream and critical accounting research which reflect characteristics of the quantitative methodology suggested by Collis and Hussey (2003) in Table 10. To substantiate this, reference is made to Hopper and Powell (1985) and Chua (1986) explanations of mainstream and critical accounting research. Hopper and Powell (1985) suggest that mainstream accounting research is concerned with functionalism where the researcher is concerned with regulation and objectivism seeking to understand the creation of order in society and how society is held together. Critical

accounting research is partially concerned with radical change and objectivism where the researcher is interested in order change or facilitating discussions about the trend of change (Ryan et al. 2002). Chua (1986) provides the ontological, epistemological, axiology and rhetoric aspects of mainstream and critical accounting research that are reflective of this thesis approach. Table 11 summarises these positions.

Table 11   Mainstream and Critical Accounting Research Philosophy

Mainstream Accounting Research
Beliefs about knowledge:

Theory and observations are independent of each other, and quantitative methods of data collection are favoured to provide a basis for generalisations

Beliefs about physical and social reality:

Empirical reality is objective and external to the subject and the researcher. Human actors are essentially passive objects, who rationally pursue their assumed goals. Society and organisations are stable, and dysfunctional behaviour can be managed through design of control systems.

Relationship between accounting theory and practice:

Accounting is concerned with means, not ends: it is value neutral, and existing institutional structures are taken for granted.

Critical Accounting Research
Beliefs about knowledge:

Criteria for judging theories are always temporal and context bound. Social objects can only be understood through a study of their historical development and change within the totality of relations

Beliefs about physical and social reality:

Empirical reality is characterised by objective, real relations, but is transformed and reproduced through subjective interpretation. Human intention and rationality are accepted but have to be critically analysed because human potential is alienated through false consciousness and ideology. Fundamental conflict is endemic in society because of social justice.

Relationship between accounting theory and practice:

Theory has a critical imperative, in particular identification and removal of domination and ideological practices.

Source: Chua (1986)

Designing this study's objectives to suit the quantitative methodology exposes the research to the criticism of the methodology. For example, conventionalists argue that there is no reality except that agreed by convention but such conventions are caused to occur by human actors (Easton 1998). On the hand, constructivists argue that reality is socially constructed, that is, people cause reality to occur and describe how this reality is created (Easton 1998). However, positivists consider that there is a reality "out there" waiting to be discovered and that reality is independent of us (Easton 1998). To discover this reality, the positivist approach relies on analysis of event regularities or correlation, in closed or close-able systems through isolation and control of variables (Ryan et al. 2002). Many studies in business and industry embrace a positivistic paradigm, which attempts to reduce the study of a phenomenon to something that can be measured by focusing on large-scale empirical hypothesis testing and deductive reasoning (Gibson 2004). Another disadvantage of quantitative research is reflected in Chua (1986) where the objectivist approach is concerned with predictions but the subjectivist approach emphasises describing and understanding phenomena. The resultant of these positivist approach shortcomings lead to two further limitations discussed by Tsoukas (1989). First, its evaluation of knowledge claims lacks an explicit backward link with ontological assumptions of what the world must be like if our knowledge claims are true. Second, it lacks a forward link with the sociological arrangements of the social relationships in which the scientific adequacy of knowledge claims is ascertained.

8.3   Sample for the Study

8.3.1 Presentation of the Sample

For a security to be included in the sampling frame, it met three conditions. Firstly, it was constituent of the FTSE350 in the period from 4th January 2005 to 31st January 2008. Second, it was consistently listed on the FTSE350 throughout the period above. Lastly, it was not classified under industrial classification benchmark (ICB) 8000 representing financial services industry. Table 12 summarises how the sample used was arrived at.

Table 12   Sampling Frame

Condition	Companies
Constituents of FTSE 350 from 4th January 2005 to 31st January 2008	479
Less: Companies not on FTSE 350 consistently throughout period	- 267
Total Companies meeting conditions 1 and 2	212
Less: Financial services Industry (ICB 8000) meeting conditions 1 and 2	- 76
Total companies meeting all three conditions – The sampling frame	136
Sample of the study (approximately 76% of sampling frame)	103

From the sampling frame of 136 firms, a sample of 103 firms was selected. Sampling from the frame was considered appropriate since the discussion justifying the sample under section 8.3.2 below confirms that a sample of 103 was sufficient for a reliable statistical inference study. The main reason underlying sampling from the sampling frame was to arrive at the sufficient number of constituents suitable for reliable statistical inference. Considering all 136 firms would be time consuming as the disclosure measurement technique was labour intensive, yet a sample of 103 was sufficient for the study. The method applied in selecting the sample was the unrestricted sampling technique. The firms were coded 1 to 136 and a random sample for 103 firms was generated through a computerised run. Under the technique, all firms had an equal probability to be selected. The method offers the least bias and hence provides the most generalisable statistical inferences (Sekaran 2000). The sample constituents are presented in Appendix 3.

The FTSE350 was selected for four reasons. The FTSE350 constituents include those in FT30, FTSE100 and FTSE250 which, according to FTSE International Limited (2008a; 2008b), aggregate to 96.67% of UK's market capitalisation. It is therefore arguable that FTSE350 is representative of UK's capital market. Secondly, large samples lower the risk of statistical errors (Saunders et al. 2003). In comparison to FT30, FTSE100 and FTSE250, the FTSE350 provides more constituents for analysis. However, FTSE International Limited (2007) indicates that the FTSE All-Share has 683 companies. The downside of the FTSE All-Share is that almost half of the listed companies are part of FSTE Small-Cap aggregating to

only 2% of UK's market capitalisation, thereby likely to bias the data towards small-cap companies.

Third, although the Operating and Financial Review (OFR) applied to all UK listed companies, the Business Review that replaced it only applies to large and medium companies (Trucost 2006). Therefore, FTSE350 is suitable for the study since the regulations in reference apply to FTSE100 and FTSE250 that make up the FTSE350 index.

Financial sector firms are exposed to more reporting regulation unlike other service or industrial firms (Tauringana and Mangena 2006; Wallace et al. 1999). Their exclusion in the study enables analysis of results of companies with similar regulatory disclosure requirements. Prior information content studies, such as Schadewitz et al (2002), adopt the same approach.

8.3.2 Justification for the Sample

There are several propositions in literature that provide a guide on a representative sample. The Economist (1997) recommends a minimum of 30 in every category within the overall sample as a rule of thumb. Sekaran (2000) suggests a rule of thumb of between $30 - 500$ samples depending on sampling design and research question. Qualitative research uses smaller samples due to intensiveness of the study (Sekaran 2000). Field (2005) in reference to sample size in regression analysis indicates the most common rules of thumb being 10 or 15 cases per each predictor in the model. However, the text qualifies the rules as pervasive and in harmony MacKinlay (1997) suggests the size of the sample depends on the strength of the relationship required for the study; but the bigger the sample the better. Green (1991) provides two rules for the minimum acceptable sample size. The first is based on the model's overall fit, which is the R^2, where the minimum sample is given by:

$$S_{min} = 50 + 8k$$

Where, S_{min} is the minimum sample size and k is the number of predictors.

Alternatively, if the intent is to examine the importance of each predictor, the minimum sample is determined by:

$$S_{min} = 104 + k$$

When both the model's fit and importance of each variable are necessary, Green (1991) recommends that both formulae be used and the decision is based on the largest sample.

Field (2005; 2009) however views the technique as inadequate to solving the problem and recommends use of graphs for sample size variation in relation to power, different effect sizes and number of predictors in Miles and Shevlin (2001). Basing on Cohen's (1988) high level of power, that is 0.8, and the recommendations Miles and Shevlin (2001), the conclusion is that:

1. For a large effect, a sample of 80 with a maximum of 20 predictors is necessary; with fewer predictors, the sample may be revised downwards.

2. For a medium effect, a sample of 200 with a maximum of 20 predictors is sufficient; the minimum sample being 60. For less than six predictors, a sample of 100 is adequate.

3. For a small effect, a minimum of 600 cases suffices for six predictors; with increasing sample size as predictors increase.

The above recommendations by Cohen (1988) are graphically presented in Appendix 1.

From all above guidelines with a maximum of 20 predictors, a sample of 309 cases is well specified for a parametric statistical case. As discussed later in the chapter, there is no model used to estimate information content that exceeds 10 predictors. Based on population size, Sekaran's (2000) sample size tables in Appendix 2 suggest that for a sampling frame between 130 and 140, a sample of 97 to 103 is adequate. Given that the sampling frame in this study is 136 companies, the sample of 103 firms conforms to the guidance.

8.3.3 Database for Compilation of the Sampling Frame

FTSE350 daily closing share data sheets published by FTSE International Limited at the end of each trading day were used to compile the sample constituents. The data sheets, obtained through correspondences between the researcher and officials at FTSE International Limited, clearly indicate companies that traded on the FTSE 350 for each day. Therefore, new entries

and exiting firms for each day are easily identified and eliminated in pursuit of the first and second conditions. Further, the data sheets indicate the sub sector industrial benchmarks for each firm. This enabled the researcher to identify the industrial classification of the sample firms in pursuit of the third condition.

The daily data sheets used were selected on an interval basis of one sheet per 3 days of FTSE 350 trading days from 4th January 2005 to 31st January 2008. The interval was used to allow symmetrical number of data sheets throughout the study period. Due to cost and time implications, it was impractical to use all data sheets in the period. In 2007, when the sample was being developed, each year's file of index values cost £50 whereas each full constituent's file cost £150. It would require extensive time as well as financial resources to compile the sample from the 775 trading data sheets available in the study period. In total, 260 daily share data sheets analysed representing, 33.5% of the datasheets available and an average of one data sheet for every three trading days. This is in line with the recommendation in Sekaran (2000), as shown in Appendix 2 that for a population of 800 members, a minimum sample of 260 is representative.

The method applied for selecting the days is the stratified probability sampling. The method is applied in cases where the researcher aims to ensure a more representative sample since each strata is represented (Saunders et al. 2003). The reason for applying the method was to ensure that each stratum (every three days) of trading was equally represented. The days were labelled from 1 to 775 (for 2005: days 1 to 253, for 2006: days 254 to 502, for 2007: from day 255 to 753 and for 2008: days 754 to 775). Unrestricted random sampling using SPSS was used to select a random number (day) for each three trading days. The resultants days are the dates for which the daily trading data sheets were requested for from FTSE International Limited. The technique ensures that all days in the sampling frame had an equal chance to be selected (Saunders et al. 2003).

For days that the research did not obtain FTSE350 daily closing share data sheets, entry and exit were checked by scanning the continuity of historical share price and trading volume activity. Daily historic share price and trading volume were obtained from various sources

that included FT.com Market Data, UK Yahoo Finance and the LSE Historic Price Service (HPS). These market data services are considered credible by ICAEW (2010). Further checks confirmed that none of the sampling frame constituents had splits, suspension and re-listing status.

Furthermore, there is a systematic way in which companies are included and excluded in FTSE350 membership that reduces the uncertainty regarding the entry and exit of firms. The process of entry and exit of firms to and from FTSE350 membership is governed by rules published by FTSE International Limited. At the time of writing the thesis, the prevailing ground rules were version V10.6 June 2009 in FTSE International Limited (2009). Prior to that, V9.7 January 2006 in FTSE International Limited (2006) prevailed. The two versions do not differ substantially. To this effect, checking for entry and exit of firms to and from the FTS350 was made with reference to V9.7 January 2006 in FTSE International Limited (2006) that related to the period of study.

8.4 Event Studies Technique for Estimating Information Content

8.4.1 Justification of Event Studies Technique

This section explains the means by which the information content of complementary and supplementary narrative commentary to investment decision making is determined in the study. The event study method was used to measure information content. The method is widely used and acceptable in market-based accounting research. Kothari (2001) reviewed information content studies and found a considerable number of them to have applied the technique. Two forms of event studies evolve from prior literature: (1) market efficiency studies that examine speed of market reaction to information (e.g. Brown and Warner 1980; Fama et al. 1969) and information content studies as in Ball and Brown (1968) studying the existence of abnormal returns attributable to the piece of information.

A number of reasons compelled this study to use event studies. First, the study meets the conditions of the technique. Event studies are suitable for scenarios where the incident of information publication is identifiable, the disclosures are measurable and can be related to

their impact on shareholders' wealth through statistical measures (Brown and Warner 1980). Second, event studies provide a platform for understanding corporate policy decisions because the magnitude of abnormal performance upon the occurrence of the event implicates the impact or importance on the returns to shareholders (Kothari and Warner 2007).

Third, in relation to the theoretical framework, capital markets efficiency theory in Fama (1965) explains that intrinsic values of new information is reflected in actual share prices shifts and speed of reflecting the information in share prices. From a positive theory approach, Watts and Zimmerman (1978) argue that capital markets will estimate the variability of share prices around the event. This therefore establishes the usefulness of new information from the event about the amount, timing and or uncertainty of future cash flows (Kothari 2001). The event study technique is suitable in establishing these effects on returns from complementary and supplementary narratives.

From the perspective of market for information, event studies possibly substantiate and explain the alternative arguments to market efficiency inconsistencies. The inconsistencies in the market for capital theories are termed as "error" term but market for information theories provide a conceptual explanation about markets reaction to information (Gonedes 1976). Event studies are key means in identifying and estimating this error term due to an event as well as providing the explanatory influences on the relationship (Brown and Warner 1980, 1985).

8.4.2 Guideline for the Event Studies Procedure

Enhancement of precision in an event study depends on the validity of assumptions underlying the choice of the method and research design used to implement the study (Mcwilliams and Siegel 1997). Precision is aimed at avoiding Type I and Type II errors (Kothari and Warner 2007). Type I error occurs when the null hypothesis is falsely rejected whereas Type II error occurs when the null hypothesis is wrongfully accepted. The two properties to prevent the errors are embedded in the correctness and adherence to the assumptive requirements for the test-statistic and its power (Mackinlay 1997). The probability that a correctly specified statistic can lead to type I error is equal to the assumed size of the test. The power of the test

statistic is in its ability to detect abnormal performance when it is present. The power of the test statistic is therefore one minus the probability Type II error occurring. While comparing test statistics, the degree of precision or reliability is attributed to the most well specified (correct) statistic with higher power (Kothari and Warner 2007).

Therefore, to ensure reliability, it is worth considering the appropriate steps for the event study. This is possible through a review of various procedures recommended for reliable event studies and selecting the most appropriate. Three methodological studies (Mackinlay 1997; Mcwilliams and Siegel 1997; Strong 1992) are reviewed in this respect. The review is aimed at identifying the most appropriate steps for the study. Table 13 summarises the steps in the studies.

Table 13   Event Study Procedures

Procedure Reference	Procedure	Order of steps in the studies		
		Strong (1992)	McWilliams and Siegel (1997)	MacKinlay (1997)
P.1	Define the event providing new information to the market	-	1	1
P.2	Outline the theory that justifies a financial response to the new information and likely relationship	-	2	-
P.3	Identify firms that experience the event and the event day: selection criteria. Provide appendix for firm names and event dates	-	3	3
P.4	Choice whether to use discrete or logarithmic metrics	1	-	-
P.5	Definition of measuring intervals – intraday, daily, monthly, annual	2	-	-
P.6	Determination of model for computation of abnormal returns – CAPM, APT, MAR, IM, MM, etc	3	-	5
P.7	Selection and justification of event (and estimation) period for abnormal return calculation	4	4	2
P.8	Treatment and justify for firms that experience other relevant events during the event window - confounding	-	5	-
P.9	Choice of Market Index (for some models) for normal returns estimate	5	-	4
P.10	Model for computation of abnormal returns, compute and accumulate abnormal returns over event period	6	6	6

Procedure Reference	Procedure	Order of steps in the studies		
		Strong (1992)	McWilliams and Siegel (1997)	MacKinlay (1997)
P.11	Provide regression model, outline of independent variables and measure of association (regression analysis). Tests for Type I and Type II errors (arising from statistical measurement) Report on test statistic specification both sign and magnitude	7	7	-
P.12	Control for errors arising from data characteristics (non-synchronous, cross-sectional dependence and cross-sectional heteroscedasticity) Report on biasness in small samples and impact of outliers	8	8 and 9	7
P.13	Control for extra-market characteristics and their justification in model	9	-	-
P.14	Discuss findings	10	-	8

Following the order of presentation in the table, procedure P.2 was discussed in the hypothesis development chapter and procedure P.3 is explained in the previous section of this chapter. Therefore, the rest of this chapter is concerned with procedures P.1, P.4 to p.10 and part P.11. The results chapter will address part of procedure P.11 and rest of the procedures.

8.5   Method for Estimating the Dependent Variable

8.5.1 The Event and Event Day

The objective the thesis is to establish the relative information content of complementary and supplementary narrative commentaries in UK interim reports. Therefore, the event under study is reaction of investors to complementary and supplementary disclosures in interim report around the release date. The reaction is depicted from the variability in share price movement within the period surrounding the announcement date.   The release or announcement date refers to the date the interim report becomes available to the public. The definition is consistent with prior studies (e.g. Kanto and Schadewitz 2000; Opong 1995) investigating information content of disclosures in interim reports.

The announcement date was either indicated on the face of the interim report or on the signing off the interim report narratives and/or balance sheet by management or signing off the audit review where applicable. In a few cases, where there was no mention of the release date, the financial calendar in the preceding year's annual report was used and/or obtaining the information from the respective company's website. Further the dates were checked with the interim dividends announcement dates for companies that issued an interim divided and perfectly coincided with the interim reports announcement date as was the case various studies using UK data (e.g. Opong 1995; Wolfe et al. 2009). The dates on these primary sources were verified for consistence with London Stock Exchange Regulatory News Services (RNS) archives accessed on www.londonstockexchange.com. The crosschecking exercise did not find any inconsistencies. However, this thesis also realises that some studies using UK based data (e.g. Rippington and Taffler 1995) at times used the day following the announcement as the event day, but in only cases where the announcement was considered to have been made after the official closing time of the day's trading activity. This study followed a similar approach. As the LSE official time trading time between 0800 and 1630 hours, the time of the announcement is indicated in the RNS database. Therefore, where a report was published after 1630 hours, the event date was considered to be following day. For reports published before or after 0800 but before 1630 hours, the announcement date was the event date since closing returns are the basis of computing returns, as explained in section 8.5.3. Further, referring to the regulation, the provision DTR 2.3 in FSA (2008) requires that all price sensitive information by LSE listed companies should be provided at the company's website by close of the business day following the day of the announcement. Therefore considering the event day as either the announcement day when the announcement is made before 1630 hours or the following day for announcements after 1630 hours concurs with the regulatory provision. There was no case where the researcher failed to obtain the announcement date. The announcement dates for firm years are shown in the list of companies in Appendix 3.

8.5.2 Return Estimation Interval

Intervals for return estimation include intraday, daily, weekly, monthly, and annual. The choice is determined by the possibility of attaining highest test power compared to

alternatives. MacKinlay (1997), Brown and Warner (1985) and Dyckman et al (1984) all find daily returns better than monthly returns as monthly returns are long and can be influenced by other events. MacKinlay (1997) argues that intervals shorter than one day may be misspecified. However, information content based on hourly returns has been established (Opong 1996; 1997). Apart from this, daily returns are criticised for thin trading (Scholes and Williams 1977). The problem arises from the use of closing prices commonly adopted in event studies using daily returns which do occur at different times of the day or even in cases where a security does not trade for the entire day (Fisher 1966; Mackinlay 1997). Empirically, Jain (1986) find the influence of thin trading on distribution of abnormal returns being minimal. Likewise, in Brown and Warner (1985) daily returns were less destabilised by nonsynchronicity. A second problem with daily returns is the influence that the day of week effect. For example, the Monday effect in the USA in French (1980), the negative Tuesday effect in Australia in Ball and Bowers (1988) and Finn et al (1991). In the UK, Spyrou et al (2007) showed that the weekend effect (Friday and Monday week of the day effects) were statistically insignificant on the FTSE 250 and FTSE Small-Cap.

Daily closing returns are used in this study as there are mixed findings about the criticisms. Secondly, various studies in the literature review as shown in Table 9 have used daily closing prices.

8.5.3 Computation of Returns

Strong (1992) provides two methods for computing returns, discrete and continuously compounded return computation. The formulae for the two methods are provided below

1. Discrete Returns

$$R_{it} = \frac{(P_{it} + D_{it}) - P_{it-1}}{P_{it-1}}$$

2. Continuously Compounded Returns

$$R_{it} = ln\left(\frac{P_{it} + D_{it}}{P_{it-1}}\right)$$

Where,

R_{it} is the observed return for security i at end of period t

P_{it} is the market price for security i at end of period t

$P_{it\text{-}1}$ is the market price for security i at end of period $t\text{-}1$

D_{it} is the net dividend paid on security i during period t.

Strong (1992) suggests that both theoretically and empirically continuously compounded returns preferable. Theoretically, they are analytically more manageable when linking sub-period returns while empirically they conform to standard statistical technique assumptions since they are more normally distributed. Thus, continuously compounded returns have an incremental ability to increase number of time intervals as well as reducing the impact of outliers.

However, regardless of the merits of the continuously compounded technique, returns have characteristics that deter them from following a normal distribution. Fama (1976) suggested that daily returns are leptokurtic. Brown and Warner (1985) argued that non-normality tends to reduce as the sample size increases but much pronounced in individual data. Both daily returns and abnormal daily returns in their study were highly non-normal for both discrete and continuously compounded techniques. Dyckman et al (1984) rather finds that non-normality is less prevalent with regard to the choice of an event study method using daily data. While some UK studies (e.g. Rippington and Taffler 1995; Ryan and Taffler 2004) use daily continuously compounded returns, there is also evidence that studies, such as Spyrou et al. (2007) use discrete daily returns based on UK data.

Given that both discrete and continuously compounded returns are susceptible to non-normal distribution, this study does not assume superiority of either technique. The discrete method was used in the study because transforming returns into logarithmic values also yielded a non-normal distribution.[4]

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[4] The results are presented in the descriptive statistics of the dependent variable.

8.5.4 Computation of Abnormal Returns

In MacKinlay (1997), abnormal returns refer to the appraisal of the event's impact above the normal returns. The normal return represents the expected return of the security in absence of the event. In other words, abnormal returns isolate the returns attributed to the event from the normal performance of the security and are derived using the formula below.

$$AR_{it} = R_{it} - E(R_{it}|X_t)$$

Where,

AR_{it}	is the abnormal return on security i at end of period t
R_{it}	is actual return on security i at end of period t
$E(R_{it}|X_t)$	is normal return on security i at end of period t
X_t	is a conditioning term for the normal return at end of period t.

To arrive at abnormal returns, a choice was made regarding the method to compute normal returns. The options include the Unadjusted Returns Model (URM), Mean Adjusted Returns (MAR), Market Adjusted Returns or Index Model (IM) and Market Model (MM). Others are Capital Asset Pricing Model (CAPM), Arbitrage Pricing Theory (APT). More options are drawn from the Modern Portfolio Models (MPT) that emerge from adjustments to the above models. These include industrial classification factor loading model by Sharpe et al (1995) and size factor loading. Modifications to the market model also present more models, predominantly based on the estimation of the systematic risk, the beta. The mainstream method, credited to Markowitz (1959) and Sharpe (1962) uses Ordinary Least Squares for beta computation. Extensions based on need to allow for nonsynchronous trading problems in daily returns include Scholes-William Beta Model in Scholes and Williams (1977) and the Dimson Beta Model in Dimson (1979). Several others have evolved such as Generalised Least Square and the Maximum Likelihood (Mcdonald 1985). Sharpe (1964) and Markowitz (1959), also advocate Post-Modern Portfolio Theories (PMPT) in place of MPT.

For this study, the method selected is the market-adjusted returns model or index model. IM assumes that the ex-ante expected return for all securities are similar at anytime and is equal to the expected market return at the respective time. The equation for the technique is given as:

$$E(R_{it}) = E(R_{mt})$$

Where,

$E\ (R_{it})$ is expected return for security i at any time t

$E\ (R_{mt})$ is mean return of the market m as well as all securities i at any time t

The ex-post abnormal returns of the security i at end of period t is therefore computed with the model below as:

$$AR_{it} = R_{it} - E(R_{mt})$$

Where,

AR_{it} is the abnormal return on security i at end of period t

R_{it} is actual return on security i at end of period t

$E\ (R_{mt})$ is mean return of the market m as well as all securities i at any time t

A number of reasons justify the choice of the IM over other models. The choice of the method depends on its ability to specify the returns attributed to the event; thereby avoiding Type I or Type II errors (Kothari and Warner 2007). The ideal decision therefore depends on the relative fitness of the assumptive properties of the respective model and its incremental ability to detect abnormal returns compared to other methods.

The unadjusted and mean adjusted return models are naive since they fail to account for market wide factors. Further, Brown and Warner (1985) found that the market adjusted return outperformed the models and attributed their low power to the presence of clustering in the data. However, simulation studies (e.g. Brown and Warner 1980, 1985; Dyckman et al. 1984) conclude that there is no compelling evidence to assume that more complicated models perform better than single factor models.

In comparison to MM, the market adjusted returns require neither an estimation period nor process, hence easy to compute (Henderson 1990). However, Ritter (1991), considers the IM appropriate in cases of no prior information on the security performance such as initial public offers. Henderson (1990) too prefers the market model on the basis that the market adjusted return model, as is with the naive models fails to manage clustering. Dyckman et al (1984) found the market model is more powerful than the market adjusted return in detecting abnormal returns. Irrespective of this finding, they suggest that though significant, the result was not important to warrant superiority of the market model over the market adjusted return

model. Brown and Warner (1985) also established that IM performs as good as the market model.

CAPM has a number of deficiencies that deter this study from considering the method. MacKinlay (1997) ascertains the declining use of CAPM due to subjecting results to its specific restrictions. Fama and French (1996) suggest that empirical failures of the CAPM are caused by bad proxies for the market portfolio. That is, the true market is mean-variance-efficient, but the proxies used in empirical tests are not. Further doubt on the CAPM is documented in Fama and French (1992) where such variables as firm size, book-to-market equity, financial leverage, earnings-price (E/P) ratio, dividend yield and stock price are related to return; hence beta alone is not sufficient for return estimation.

Reaction to the Fama and French (1992; 1993b) three factor model, as alternative to CAPM, is varied. Kothari et al (1995) rejected the model when statistically significant results on the ability of beta in explaining returns were still evident. Kothari et al (1995) thereby suggested that the three-factor model validity was due to survivorship bias. Contrarily, Chan et al (1995) dispute the explanation. Another case of disagreement with the three-factor model is the data mining assertion (Black 1993; Lo and Mackinlay 1990). However, the evidence of the book-to-market ratio in other markets established in Chan et al (1995) questions the assertion. Lastly, the three-factor model is criticised because of irrationality in markets by Lakonishock et al (1994) in which investors are over cynical on distressed securities while overly sanguine on value securities. More recent empirical evidence against the three-factor model is in Daniel and Titman (1997) but refuted in Davis et al (2000) by a reinstatement of workability of the model. Daniel et al (2001) reinstate the findings by Daniel and Titman (1997) with further empirical evidence against the three-factor model in Japan.

Concerning the APT, its major concern is to eliminate the CAPM shortcomings. However, since the statistical models are sufficient in eliminating the biases, they dominate the research environment (Mackinlay 1997).

The multifactor models as the industrial classification and or size factor loading techniques have less benefit compared to IM. The additional factors are only relevant if the data is to a

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particular to industry or of similar size (Mackinlay 1997). In relation to this thesis, the data is from different industries as well as of different weight to the FTSE350, making such techniques inappropriate.

Models that modify the market model, that is, the Scholes-William and Dimsom Beta Models base their argument for applicability on the nonsynchronous nature of daily returns to criticise the market model. However, Brown and Warner (1985) find no evidence of different results between the results of the OLS market model and of the two modifications, Scholes-William and Dimsom Beta Model.

The PMPT models were not considered for two reasons. First, this study found no prior UK studies that have used the models in estimating information content of narratives. Therefore, comparability of the study to previous literature would be compromised if the PMPT models were considered. Secondly, the subjectivity of the target would arguably make it impractical to establish the target coefficient for investors' investment decision at the incident of interim results' announcement.

8.5.5 Selection of the Event Window

Henderson (1990) defines the event period as the days, weeks or months around the event date when the sample securities experience unusual returns. The event window is used to capture all returns that result from the event. To do so, it is normal practice to assume that for short-term returns, the event window is distributed in the period around the event, considering the pre-event and post-event period (Kothari and Warner 2007).[5] To moderate the researchers' subjectivity, consideration is given to studies that have measured information content using daily returns using UK data. Table 14 summarises the studies.

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[5] Kothari and Warner (2007) provide a theoretical underpinning for the event window. If the event is expected, some return behaviour will be experienced within the pre-event period. The post-event period is a test of market efficiency as nonzero abnormal returns after an event are inconsistent with efficient market hypothesis.

Table 14   Summary of Studies on Event Window Selection

Study	Data	Model of Abnormal Return	Event Date	Event Window
Opong (1995)	237 firm years of LSE listed firms: 1983 - 1987	Market model adjusted for non-synchronous by lead and lag betas	Interim Report announcing	Event date ± 5 days
Rippington and Taffler (1995)	337 LSE listed firms 1979 - 1981	Market Model, Market Adjusted returns and CAPM[6]	Preliminary report, Annual Report, Annual General Meeting and Interim Report	For Interim report: -9 days, event day, +4 days
Ryan and Taffler (2004)	215 FTSE 100 and FTSE 250 firms 1994 - 1995	Market adjusted returns with Market model	Date of economically significant price and volume movement	Event day, - 1 day and + 5 days
Spyrou et al (2007)	FT30, FTSE100, FTSE250 and FTSE Small-Cap	Market Model	Shock on Market	20 days after event

Opong (1995), who investigated information content of interim reports in the UK used an event window of ±5 days around the event. To allow for comparability, a similar period is used in this study.

All studies in Table 14 confirm evidence of information content within the three days after the event and little information content in the pre-event period. Therefore, the event window of ±5 days around the event is arguably sufficient to capture most returns attributed to narratives in the interim window. Longer windows may expose the study to events other than the announcement of interim reports.

The days in the window exclude all non-trading days on the LSE that include all Saturdays, Sundays, bank holidays in England and Wales and days that had no trading data. The bank holidays excluded from the window are listed in Appendix 4. Where such days were within the window, they are disregarded and the next trading day is incorporated within the window

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[6] Study reported only market model results because all three models yielded similar results. Justification of similarity in results was attributed to the likelihood of results being less sensitive to the magnitude of beta when using daily returns since the impact of the event will overwhelm any systematic reaction to very small market reactions.

until a window of ±5 days was realised. Below is diagrammatic impression of the event window.

Diagram 6   Timeline indicating the event window
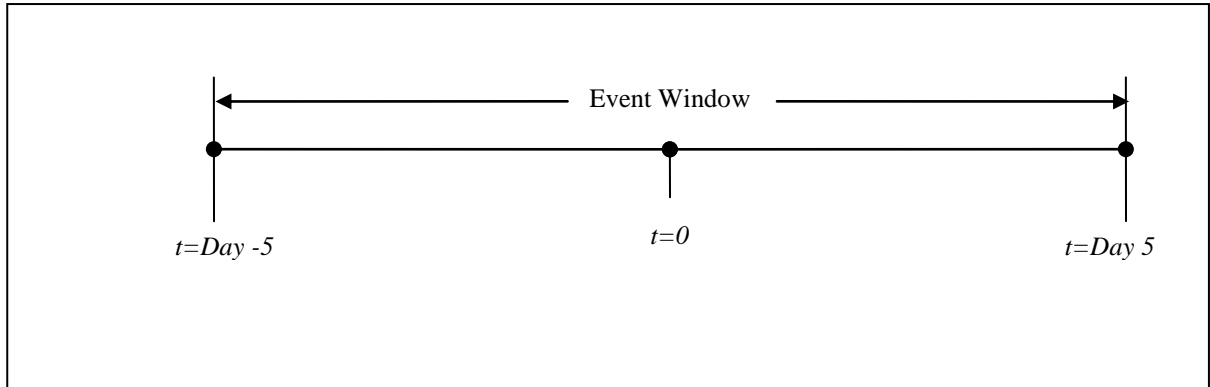
The event window used in the study is the five days prior and five days after the announcement of the interim report. The day of announcement of interim reports is day 0.

8.5.6 *Market Index for Estimation of Normal Returns*

Market adjusted returns require computation of the market returns in the event period. It is common to use the market indices for computing market returns (Mackinlay 1997). The FTSE350 index is selected because all firms of the sample were constituents of the FTSE350 index. The index is also suffice in the market under study as its constituents represent almost 97% of the market capitalisation in the UK (FTSE International Limited 2008a, 2008b). The daily closing values of the FTSE350 within the event window of each firm are used to compute the market returns. Daily closing values are used for the index returns because daily returns were used for estimating the securities' returns. This enables the study to use the same basis of returns to estimate abnormal returns.

8.5.7 *Aggregation of Abnormal Returns*

The aggregated abnormal returns are the dependent variables used in the thesis. Strong (1992) provides two motivations for aggregating returns of the event window. Firstly, the procedure aims at fully capturing all information attributable to the event. Secondly, if there is

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uncertainty over the exact event date, the procedure eliminates the uncertainty effect. In this study, all event days are known. Kothari and Warner (2007) argue that event studies focus is to establish any residue (abnormal returns) around the event. Therefore, aggregating abnormal returns in the period prior to the event will show market anticipation whereas post-event abnormal returns will test market efficiency. In addition, the coefficient of the aggregation will indicate the wealth valuation of the event.

Henderson (1990) provides three accumulation methods: cumulative abnormal returns (CAR), abnormal performance index (API) and the standardised cumulative prediction error (SCPE). The API is assumed not to be a true statistics test.[7] CAR, alternatively has been widely applied and has stood to the test of time (Henderson 1990). Strong (1992) provides further distinctions between the two techniques. While computing returns in continuous time, CAR is appropriate as it rebalances abnormal returns hence giving equal weighting to each security in the portfolio. Alternatively, in discrete time computations, API assumes an initial equal investment in each portfolio constituents and then holds securities over the aggregation period.

CAR is considered appropriate for this study because it is a truer statistic. Further, the wide appreciation of CAR in prior studies allows comparability of the results in the study. The equation for CAR is

Equation 1   Market Adjusted Cumulative Abnormal Returns

$$CAR_{it} = \sum_{t=-4}^{5} AR_{it}$$

Where,
CAR_{it} Market Adjusted Cumulative Abnormal Returns for security *i* at end of period *t*

8.6   Method for Measuring Independent Variables

The independent variables are comprised of disclosure quality attributes for complementary and supplementary narratives and control variables based on financial performance measures.

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[7] Winsen (1977) suggest some alterations to ensure the API conformity to a test statistic

The disclosure quality attributes are disclosure variety that is estimated dichotomously and disclosure depth set of attributes whose measurement considers repetitions in narratives. The disclosure depth attributes include good news, amounts and comparison of current with past performance, reasons for performance and forward–looking disclosures. The financial performance measures include annual dividend yield, interim earnings per share and interim total assets.

The first section explains the disclosure measurement techniques and the second section explains the source for financial performance measures.

8.6.1 Measurement of Complementary and Supplementary Narratives

Complementary and supplementary narratives are measured using the disclosure index technique. The prime reason for using disclosure index is the ability to transform textual information into quantitative scores (Cerf 1961). Disclosure indices are widely accepted in disclosure measurement (Hooks et al. 2002a). Chavent et al (2006) provide vast evidence on empirical studies that employed the method to measure accounting narrative information.

Four considerations were made while measuring disclosures. The first is the identification and justification of the skeletal framework and disclosure indices. Secondly, the process used to profile disclosures is explained. Third, the rules and equations for estimating disclosure extent are accounted for. Lastly, validity and reliability of the techniques used to measure narratives is discussed.

8.6.1.1 Skeletal Framework and Disclosure Indices

Marston and Shrives (1991) advises that the validity of a disclosure profile should be confirmed. To ensure validity of the disclosure skeletal framework and indices, both past literature and regulatory guidelines are referred to as explained in the sections below.

8.6.1.1.1 Skeletal Framework

The Jenkins report in AICPA (1994) is viewed in literature as a commendable guide into informative disclosure (Beattie et al. 2004). A number of disclosure studies (e.g. Barako et al. 2006; Beattie et al. 2004; Hooks et al. 2002b) developed disclosure frameworks with topics identical to those in Jenkins report. Further, Beattie et al (2004) suggested that report was instrumental in formulating regulation (e.g. ASB 2005; 2006) that governs UK narrative reporting during the sample period of this study. Therefore, the Jenkins report is used to explain the contents of the disclosure index used in the thesis. In addition, ASB (2005; 2006) are considered for developing the disclosure framework to relate to the regulatory and standard-setting guidelines for narrative disclosures during the study period. Similarly, the guidelines EU (2003), referred to as the EU Accounts Modernisation Directive, that replaced ASB (2005; 2006) in 2006 are also considered in formulating the disclosure index. Another regulatory guide used is IAS 1 and 34 that govern interim financial statements are especially applied in developing the supplementary narrative commentary skeletal framework.

In addition, past literature that has developed disclosure indices (e.g. Beattie et al. 2004; Wallace and Nasser 1995) are referred to. Particularly, studies (Mangena 2004a; e.g. Mangena 2004b) that developed disclosure indices for UK interim reports' narratives are considered.

Disintegration of narrative disclosures into complementary and supplementary information was first presented in Tauringana and Mangena (2006) based on the inscriptions by ASB (2005; 2006), FASB (2001) and IASB (2005). In their study, Tauringana and Mangena (2006) used a dichotomous decision rule that if information was visible on the face of the financial statements (balance sheet and income statement); it was classified as supplementary; otherwise, it is complementary information. The reason for the rule was that it avoided ambiguity in distinguishing the two types of information (Tauringana and Mangena 2006). Having no other reference in prior literature, this study finds the rule a reliable basis for determining complementary and supplementary narratives and is in conformity with guidelines by ASB (2005; 2006).

For supplementary disclosures, Tauringana and Mangena (2006) investigated disclosures for the two financial statements while their subsequent research (Mangena and Tauringana 2007a) extended to the cash flow statement. This study extends their indices to include disclosures required in the statement of changes in equity. Financial reporting in the UK, with effect from 1st January 2005 became regulated under IFRS (Fearnley and Hines 2007). The primary interim financial statements under IFRS (IAS 1 and IAS 34) include the profit and loss statement, balance sheet, cash flow statement and the statement of changes in equity (IASB 2007). Therefore, in compliance with ASB (2005; 2006), FASB (2001) and IASB (2005), supplementary information in this study refers to disclosures relating to amounts on the face of the respective four financial statements.

Prior literature has neither a skeletal framework nor disclosure index for complementary information topics or items. Schadewitz et al (2002) and Mangena and Tauringana (2007a) tended to distinguish complementary and supplementary disclosures in accordance to titles used in narratives. However, both studies did not provide complete profiles of information items in the respective sections as they intended to investigate voluntary disclosures. Other studies (e.g. Barako et al. 2006; Beattie et al. 2004) with comprehensive profiles had the same predicament as they disregarded mandatory disclosures. Studies including both mandatory and voluntary in their profiles were subjected to the specific disclosure practices of their samples. For example, Wallace (1987), Wallace and Nasser (1995), and Mangena and Tauringana (2007b) adjusted their indices to portray reporting characteristics in the respective country, while Hooks et al (2002a; 2000) customised their index to reflect performance measures in the electricity industry.

Diagram 7 presents the skeletal disclosure profile for the study. To ensure that the profiles are fit for this study, the first category topics are complementary and supplementary disclosures, and then the Jenkins report categorisations are classified under the two main topics.

Diagram 7   Skeletal Disclosure Profile

Narrative Disclosures in interim reports

Supplementary

Complementary

Financial statements and related information

Financial statements and related information

Income statement

Balance Sheet

Cash flow statement

Statement for changes in equity

Financial ratios from the financial statements

Financial performance measures not from financial statements information

Segment information

High level operational and performance measures used internally by management

Opportunities and risks, including those from key trends

Objectives, strategies and management plans, including critical success factors

Management and shareholders information

Scope and description of the business and reporting characteristics

Industrial structure information

Other disclosures not in Jenkins report

KEY

| A | All narrative disclosures |

| | Main category - ASB (2006) Reporting Standard 1 recommendation: complementary and supplementary |

| A | Second level subcategory – Jenkins report 1994 types of information |

| A | Third level subcategory – IFRS financial statements and ratios for supplementary and Jenkins report for complementary |

As the Jenkins report is dated over 10 years since its publication, rather than strict adherence to its topics, the study adjusts the indices to include items not in the Jenkins report. Another shortcoming of the Jenkins report is that it was not concerned with complementing and supplementing financial statements and therefore may not include all disclosures that are considered in ASB (2005; 2006). The modifications are justified in prior disclosure studies (e.g. Barako et al. 2006; Beattie et al. 2004; Wallace and Nasser 1995) that it enables the index

to relate to the objectives of the study. Boyatzis (1998) argues that such alterations confirm the validity of the disclosure profile. Therefore, the topics in Jenkins report form the second level category for the profile. The Jenkins report topic "financial statements and related disclosures" was the only one found with both supplementary and complementary information, therefore appeared at the second level category of both main categories. The third level category for supplementary information category was with reference to the four IFRS financial statements (profit and loss Statement, balance sheet, cash flow statement and the statement of changes in equity) and key financial ratios that are derived from financial statements. Any other financial related disclosures not in reference to financial statements are considered as complementary third level category. They include other financial performance measures and segment information. All other Jenkins report topics have no supplementary information; therefore, they are considered as second level category under complementary disclosures. These include high-level operational data and performance measures used internally by management; opportunities, risks, including those from key trends; and objectives, strategies and management plans, including critical success factors. Others are management and shareholders information; scope and description of the business and reporting characteristics; industrial structure information; and other disclosures not in Jenkins report.

The framework was in agreement with the framework in ASB (2006) Reporting Standard 1 described under paragraphs 27 – 74. This confirms the suitability of the profile for estimating disclosure level of complementary and supplementary information items.

8.6.1.1.2   Disclosure Indices

From the skeletal framework, two disclosure indices were developed, one for complementary and the second for supplementary disclosures, each comprising of 50 disclosures items. The items are based on past disclosure literature, regulatory and standard-setting guidelines. No specific theoretical rationale was found in prior literature to give advice on the number of information items in an index. In Hooks et al (2001), a note was only made that while judging the number of items to consider, regard should be given to the notion that enormous lists compromise focus while too few items lessen impartiality. Given no guidance in this respect,

50 items for each index was selected on three grounds. Most studies (e.g. Beattie et al. 2004; Mangena 2004a; Tauringana and Mangena 2007) that construct disclosure frameworks based on UK financial reports have their indices containing about 50 to 100 items. Secondly, all information contained in the interim narrative commentary feasibly classified in the information items developed for the disclosure indices in the study. Having 50 items for each index arguably lessens the risk of biasing the research tool where one disclosure profile has more information items. The information items selected conformed to the framework in ASB (2006) under paragraphs 27 – 74 for narrative commentaries. The full list of disclosure items in the two indices is presented in Appendix 5.

8.6.1.2   *Measurement of Disclosure Extent*

8.6.1.2.1   Attributes for Measuring Disclosure Extent

The attributions used in measuring disclosures are drawn from the definition of complementary and supplementary disclosures. In complementing financial statements, ASB (2005; 2006) suggested that the narratives should provide financial and non-financial information that is not reported in the financial statements but relevant to evaluation of past results and future prospects. In supplementing financial statements, the narrative commentary should provide additional explanations of amounts in the financial statements; explain conditions and events that shaped the information contained in the financial statements in a manner that helps investors evaluate past results and future prospects. In the principles guiding narratives, ASB (2005; 2006) also require the disclosures to reflect comprehensiveness and neutrality.

From the discussion above, the sets of attributions selected to represent extent of disclosure for complementary and supplementary narratives are aimed at reflecting either disclosure variety or disclosure depth. Disclosure variety is an attribute that reflects breadth in number of information items disclosed without considering repetitions. Disclosure depth shows various attributions in information items, taking into consideration repetitions. Therefore, the attribute under disclosure variety is the presence of information items in narratives. Disclosure depth is a set of attributes (good news, amounts and comparison of current with past performance,

reasons for performance and forward-looking attributes). Good news represents neutrality; amount and comparison of current with past performance tenet recognise quantification, both financial and otherwise, as well as the principle of comparability. Reason for performance is in reference to explaining the results as well as ensuring understandability. Lastly, the forward-looking attribute is in pursuit of identifying disclosures on future prospects. All the disclosure depth attributes consider repetitions. The attributes are justified in the literature review and hypothesis development chapters.

8.6.1.2.2   Description of Disclosures Scoring Technique

Jones and Alabaster (1999) identifies two techniques of scoring disclosures as shown in Appendix 6. First is the categorical (or qualitative) and the second is the numerical (or quantitative). The qualitative variable attaches non-numeric tags or labels to assign meaning to information whist the quantitative is numeric. Under the categorical, either the nominal or the ordinal scores are used, while the numeric applies ratios or interval scores. In this study, the method used was a mixed method, each technique having a role to fulfil the attainment of the final scores that were in form of either a scale or a ratio. Beattie et al (2004) adopted a similar approach.

Firstly, an ordinal label was attached to each information item to identify it with the respective category, either supplementary (SUP1, SUP2, up to SUP50) or complementary (COM1, COM2, up to COM50) as shown by the disclosure indices in Appendix 5. In other words, total information items investigated were 100, equally distributed between complementary and supplementary information items.

In Appendix 7, the application of the scoring technique is shown using the interim report of Davis Group for 2006. For each interim report, the narrative section was coded based on paragraphs, diagrams or tables. The codes were used for ease of reference whilst scoring. Under Panel A of Appendix 7, the hand written codes A1, A2, …, B1, B2, …, C1, C2, ..., D1, D2, … and X1 represent the reference for a particular grouping of text, say paragraph or diagram or section. The letters on the codes represent the page referred to and the numbers code for the text, section, diagram or table. These codes were used to identify the narratives

from which information items and respective tenets were extracted. In Panel B of Appendix 7, information items and respective tenets are grouped in accordance to the codes. This provided ease of reference between the interim report and the scoring sheets.

Information items and respective tenets of disclosure were then scored based on a disclosure unit. A disclosure unit is the smallest piece of disintegrating the narrative commentaries from which context or meaning could be obtained. The unit was either a word, text string, a cell in a table, a picture, a symbol or a number provided the unit was disclosed in such a manner that meaning or context could be decoded by the coder.

To illustrate scoring of disclosures, reference is made to Panel B of Appendix 7. An extract of the scoring results for the Davis Group 2006 interim report narrative text coded B1 and B2 is presented in Diagram 8.

Diagram 8   Extract for Disclosure Scores for Davis Group 2006 Interim Report
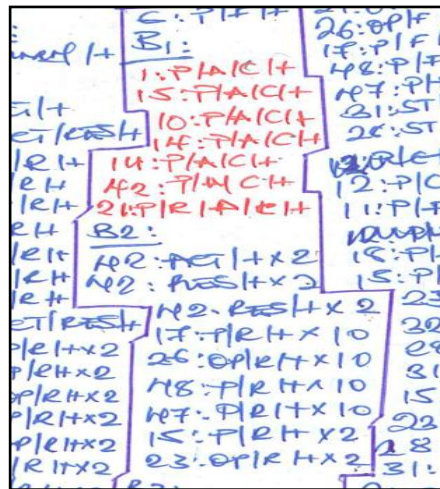
Whenever an information item was identified (without consideration of repetitions), it was denoted by its corresponding number from the ordinal scores above. For example, SUP1 or COM1 was denoted by 1 while SUP2 or COM2 were denoted 2; however, these scores were still regarded ordinal.   Complementary and supplementary information items were distinguished by the use of different pen colour when scoring. For example, for code B1 are items (1, 15, 10, 14, 14, 42 and 21) all in red ink, denoting that they are supplementary items.

While under code B2, there are items (42 x2, 42 x2, 42 x2, 17 x10, 26 x10, 48 x10, 47 x10, 15 x2 and 23 x2) all in blue ink, showing that they are complementary.

8.6.1.2.3 Scoring and Estimating of Disclosures based on Attributes

8.6.1.2.3.1 *Presence of Information Items*

Each present ordinal score was awarded a score of one to represent that the respective information item at least appeared once in the interim report. The total score was the summation of either complementary items or supplementary items identified in the respective interim report which could be at the minimum of zero (for no disclosure at all) to a maximum of 50 representing disclosure on all information items. Under B1, item 14 appears twice, indicating that SUP14 had two appearances in the respective section of the interim report. However, since repetitions are not considered for disclosure variety, the item is only given a score of 1. Other items appear once and are also awarded 1. Therefore, the total score for disclosure variety score for supplementary narratives in section B1 is 6. For complementary items under section B2, item 42 appears three times, while the rest of the items appear once. For each item in the example, there is a figure, preceded by "x". This expression also represents repetition where the respective information item appeared more than once in a unit of disclosure. The figure preceded by "x" is the number of times the information item was scored from the text unit. However, for the disclosure variety attribute, repetitions are disregarded. Therefore, the total number of information items for disclosure variety under section B2 is 7 complementary information items.

Therefore, the formulae below are used to compute disclosure variety

Equation 2   Measure for Complementary Disclosure Variety

$$CII = \sum_{COM\,1}^{COM\,50} \left(\begin{array}{c} Ordinal\ Values\ for\ Information\ Items \\ without\ Repeatitions \end{array} \right)$$

Where,

CII   Presence of Complementary Information Items

COM1 and COM50   Ordinal   code   for   complementary   information   items   1   and   50, respectively

Equation 3   Measure for Supplementary Disclosure Variety

$$SII = \sum_{SUP1}^{SUP\ 50} \begin{pmatrix} Ordinal\ Values\ for\ Information\ Items \\ without\ Repeatitions \end{pmatrix}$$

Where,
SII   Presence of Supplementary Information Items
SUP1 and SUP50   Ordinal   code   for   supplementary   information   items   1   and   50, respectively

8.6.1.2.3.2   Good News Attribute

Whilst considering repetitions, each information item was denoted by a sign either positive (+) or negative (-) for good or bad news, respectively; as illustrated in Diagram 8. The decision of good or bad news was determined by the toning of the information item. A similar approach was used in Abrahamson and Amir (1996). For example, on page 2 under section C6, the statement, "… the reduction in net interest charge…" was considered good news under supplementary disclosures   while "Amortisation of acquired customer contracts amounted to £2.4 million (2005: 0.9 million)." under section C7 was considered bad news.   For complementary items, under section C3, the phrase "The UK market continued to face more significant challenge from increased cost and competition." was denoted as bad news. While under the same section, the statement: "We expect to see benefit of the acquisitions we have made in the *UK …"* was regarded as good news.

In reference to example used above (Sections B1 and Sections B2) of Davis Group 2006 Interim Report, at the end of each information item scored or before the squared brackets where applicable, there is "+" or "-". However, in both sections of the interim report, B1 and B2 only "+" was awarded for the information items suggesting that only good news was reported in the sections. The signs were counted for all appearances of the respective information items, including all repetitions. The total sum of the sign, "+" or "-" was grouped for complementary and supplementary disclosures respectively. Under section B1, since all information items are supplementary and are all denoted with "+", the conclusion is that there

are 7 good news and 0 bad news supplementary information items. While for B2, all items are complementary signifying 50 good news and 0 bad news complementary information items. The extent good news disclosure is then expressed as a ratio of the total of good and bad news disclosures for either complementary or supplementary nature. The formulae used are:

Equation 4   Measure for Complementary Good News Score

CGD

$$= \sum_{COM1}^{COM\,50} \binom{Ordinal\ Values\ for\ Plus\ "+"\ Signs}{with\ Repeatitions} \Big/ \sum_{COM1}^{COM\,50} \binom{Ordinal\ Values\ for\ Plus\ "+"and\ Minus"-"\ Signs}{with\ Repeatitions}$$

Where,
CGD   Complementary Good News
"+"   Ordinal proxy for Good News
"-"   Ordinal proxy for Bad News

Equation 5   Measure for Supplementary Good News Score

SGD

$$= \sum_{SUP1}^{SUP\,50} \binom{Ordinal\ Values\ for\ Plus\ Signs\ "+"}{with\ Repeatitions} \Big/ \sum_{SUP1}^{SUP\,50} \binom{Ordinal\ Values\ for\ Plus"+"and\ Minus"-"Signs}{with\ Repeatitions}$$

Where,
SGD   Supplementary Good News

Supposing the B1 and B2 represented the entire interim report narratives in Davis Group Interim Report 2006, complementary good news score, using Equation 4, would be $\frac{50}{(50+0)} = 1$; while, applying Equation 5, the score for supplementary good news would be $\frac{7}{(7+0)} = 1$.

8.6.1.2.3.3   *Amounts and Comparison of Current with Past Performance Attribute*

The two tenets of amounts and comparison of current with past performance were transformed into one variable for suitability to include both attributes in the study. On recommending complementing and supplementing, ASB (2005; 2006) requires both attributes. However, due

to methodological issues, a decision was taken to consider the variables as one.[8]   The relationship between the two attributes also warrants their combination to increase precision of the single variable other than disregarding one of them.

The amount and comparison with past performance attribute has four dimensions: an information item could disclose either amounts only or comparisons of current with past performance without regard to amounts or disclose both attributes or disclose neither of the attributes. First, amounts and comparison of current with past performance are denoted by ordinal score of "A" and "C", respectively. Whenever an amount is sighted in the information item, "A" is awarded; likewise, identification of comparison of current with past performance is awarded "C". If both tenets are seen, then "A/C" is awarded; however, absence of both is not awarded any mark. Repetitions were recognised under this attribute to portray the extent to which the tenet is disclosed in the interim reports.

For example: the statement under section C6 of the Davis Group Interim Report 2006, p2, "Revenue from continuing operations in the period was £348.8 million (2005: £328.1 million)." was awarded "A/C" under supplementary information items. However, on the same page under section C2, the statement, "The group grew its revenue by 6%" was awarded "C". Similarly, under C3, p2, "In Continental Europe, we have seen benefits of this additional revenue…" was awarded "C" under complementary narratives as the item disclosures on revenues of complementary information. Likewise, under C8, p2, "our gearing level was 64%" was awarded "A" under supplementary items as no comparison was provided.

The tallying process converted the ordinal scores into nominal scores by awarding one mark for an "A" or a "C" and two marks for "A/C" was awarded. The total score was then determined by summation of the tallies. The tallying procedure was done by way of tallying templates, a sample of which is presented under Appendix 7 Panel C.

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[8] The results of correlation and regression analysis considering the amounts and comparison with past performance are not reported in here. However, the regression model having both variables as independents showed a high VIF coefficient and low coefficient for the tolerance. Subjecting the model to sensitivity tests whilst removing either variable reduced the exposure to colinearity; however, regression tests were not better than the model that considers the variables as one.

The formulae for amounts and comparison with past performance are provided below:

Equation 6   *Measure for Complementary Amounts and Comparison with Past Performance*

$$CAC = \sum_{COM1}^{COM\,50} \binom{Ordinal\,Values\,for\,"A"}{with\,Repeatitions} + \sum_{COM1}^{COM\,50} \binom{Ordinal\,Values\,for\,"C"}{with\,Repeatitions}$$

Where,
CAC   Complementary Amounts and Comparison of Current with Past Performance
"A"   Nominal proxy for amount
"C"   Nominal proxy for comparison of current with past performance

Equation 7   *Measure for Supplementary Amounts and Comparison with Past Performance*

$$SAC = \sum_{SUP1}^{SUP\,50} \binom{Ordinal\,Values\,for\,"A"}{with\,Repeatitions} + \sum_{SUP1}^{SUP\,50} \binom{Ordinal\,Values\,for\,"C"}{with\,Repeatitions}$$

Where,
SAC   Supplementary Amounts and Comparison of Current with Past Performance
The example used above for sections B1 and B2 of the Davis Group interim report of 2006 shows that under B1, the total number of "A" is 7 and "C" is also 7. As all information supplementary, the total score for SAC is under section B1 is 7+7, equalling to 14 but nil for CAC. Under B2, the total number of "A", which includes repetitions expressed by squatted brackets or otherwise, is nil; likewise, the tallies for "C" are nil. Given that all information under B2 is of complementary nature, the score for CAC is 0+0, which is nil and also SAC is also nil.

8.6.1.2.4   Reasons for Performance Attribute

Whenever the reason for performance attribute was identified in an information item, an ordinal score "R" was awarded; repetitions too being awarded. The decision rule to award the score was based on presence of causal or explanatory disclosure units elaborating a particular situation. For example, under section C13, page 2 of Davis Group Interim Report 2006, the phrase: "The business held up well following the strengthening of senior management and restructuring we managed last year", an explanation to why the business held up well was awarded "R" under complementary information. Likewise, under the same page, section C8, the statement, "Free cash flow of £24.2 million was generated …, which included £1.8 million

from the Elliot business" was awarded "R" under supplementary disclosures as the contribution of the Elliot business partially explained the amount of free cash flows. For tables where narratives disclosed figures and respective totals, the figures leading to the summations, subtractions or any other computation were regarded as reasons, as illustrated below:

Table 15   Illustration of the Reason for Performance Attribute in Tabulated Narratives

£ millions	2006	Base Business	Acquisitions/ Disposals	Business Improvement Cost	Exchange	2007
Revenue	2,296	140	-	-	(110)	**2,326**
- year-on-year change		*+6%*	*-*	*-*	*-5%*	***+1%***
Underlying Profit from Operation	192	6	-	(12)	(18)	**168**
- year-on-year change		*+3%*	*-*	*-6%*	*-10%*	***-13%***
Underlying Operating Margin	8.4%	8.1%				**7.2%**

Source: Cadbury Schweppes Interim Report 2007, page 2

In Table 15, the figures for underlying operating margin for the columns 2006 and 2007 are derived by dividing the respective figures of underlying profit from operations by revenue amounts. Such computations are regarded as a reason for performance for underlying profit margin as they show how the margins were reached at.

After awarding "R" to reasons for performance attribute in all information items, the ordinal scores were converted into nominal scores by assigning 1 every time "R" was identified through the use of the tally sheets illustrated in Appendix 7. Then all scores of 1 arising from the ordinal scores of "R" were summed to give the total score for reason for performance of either complementary or supplementary information items. The models used for estimating the scores for the attribute are:

Equation 8   Measure for Complementary Reasons for Performance

$$CRE = \sum_{COM\,1}^{COM\,50} \begin{pmatrix} Ordinal\ Values\ for\ "R" \\ with\ Repeatitions \end{pmatrix}$$

Where,
CRE   Complementary Reasons for Performance

"R"   Nominal proxy for reasons for performance

Equation 9   *Measure for Supplementary Reasons for Performance*

$$SRE = \sum_{SUP\,1}^{SUP\,50} \binom{Ordinal\ Values\ for\ "A"}{with\ Repeatitions}$$

Where,

SRE   Supplementary Reasons for Performance

To illustrate this process reference is made to Diagram 8. Under code B1, only one "R" was awarded in all information items under the section. Given that all the items under the section are supplementary, it is concluded that B1 had a total score of 1 for the SRE and nil for CRE. For B2, the total number of "R" awarded were 44, including repetitions. Given that all information items were complementary, CRE is equal to 44 and nil for SRE.

8.6.1.2.5   Forward-Looking Attribute

The decision rule for awarding an information item for presence of the attribute of forward looking disclosures was based on the incidence of reference to the future. Such information was either prospective, or in other words anticipatory. For example, under section A5 of Davis Group Interim Report 2006, page 2, "… and these create opportunities to win new business contracts …" was considered complementary text unit with information items with forward looking attributes. Likewise, in section D6, page 2 of the same interim report, "These purchases are expected to result in a small enhancement to 2006 earnings per share" is a text unit that has a prospective attribute under supplementary information.

Equation 10   Measure for Complementary Forward-looking Attribute

$$CFW = \sum_{COM\,1}^{COM\,50} \binom{Ordinal\ Values\ for\ "F"}{with\ Repeatitions}$$

Where,

CFW   Complementary Forward-looking
"F"   Nominal proxy for forward-looking attribute

Equation 11   Measure for Supplementary Forward-looking Attribute

$$SFW = \sum_{SUP\,1}^{SUP\,50} \begin{pmatrix} Ordinal\ Values\ for\ "F" \\ with\ Repeatitions \end{pmatrix}$$

Where,

SFW   Supplementary Forward-looking

The procedure for scoring and tallying forward-looking attribute was similar to that used for reasons for performance, but, the presence of the attribute in an information item was awarded "F" as illustrated in Appendix 7. In sections B1 and B2 of Davis Group Interim Report 2006, Diagram 8 there is no award of "F" under both sections. Therefore, both CFW and SFW are equal to nil.

The scores for all attributes by company are provided in Appendix 8 and Appendix 9 for the respective year of the interim reports.

8.6.1.3   *Scoring Technique Shortcomings and Remedies*

Given that the context of the information item is the basis for scoring, the decision rules explained above are subject to the researcher's interpretation; thereby exposing the techniques to researcher's subjectivity. However, the degree of subjectivity is lessened as the researcher can only award equal scores for any attribution identified and only exercises the discretion to identify and classify attributes (Chau and Gray 2002; Meek et al. 1995). Another solution to avoid the subjectivity of the researcher was to refer prior disclosure studies (e.g. Beattie et al. 2004; Meek et al. 1995; Schadewitz et al. 2002; Tauringana and Mangena 2006; Wallace and Nasser 1995; Watson et al. 2002) on their application of techniques.   To sustain reliability of the scoring technique, inter-coder reliability tests were carried out for both scoring and tallying of the scores.

Another flaw of the technique used is the assumption that attributions carry equal weight. For example, in segment analysis, disclosure of any amount is all is scored as one regardless of the value disclosed. Likewise, where narratives described a change as either substantial or favourable, such degree of variation was disregarded. If both changes were good, they were all attributed a score for good news and another for disclosure of comparison of current with

past performance. One way of recognising such variation in degree of value is use of interval scores rather than ordinal scores for mere presence of an attribute. However, Marston and Shrives (1991) argue that the disclosure index technique may achieve more reliable ordinal measures unlike the calibration of the scores into intervals, such as Likert scales that are prone to a higher level subjectivity. Further, studies (e.g. Beattie et al. 2004; Wallace and Nasser 1995) recognise that rather than subjecting information items to subjectivity scores (for example: less important to most important, worse to best) it is better to score narratives based on the attributes within the narratives that are less vulnerable to subjectivity. Another support for awarding a similar score for each attribute identified is the argument that different scores for each attribute negates rationale that the decision to disclose an information item is a recognition that each respective item is useful for decision making (Chau and Gray 2002). In other words, each attribute disclosed is considered to aid investors make decisions and arguably, all attributes are intended for the same purpose.

Lastly, the scoring and tallying process demonstrated under Appendix 7 were time consuming. Studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007) acknowledge that consideration of attributions in measuring extent of disclosure is a time consuming process. Given the variability in the size of interim reports across firms or over time, it was not possible to exactly estimate the time consumed by the processes for each report. From Table 16, the average number of pages of scoring sheets (illustrated in Appendix 7, Panel B) per interim report were 6; and typically, approximately 18 hours were required to generate the pages. Transforming the ordinal scores in the scoring sheets into the nominal data in Appendix 7 Panel C and Panel D consumed an average of 6 hours per interim report. After the two processes of scoring and tallying, the tallies were entered into statistical data computer software for analysis, a process that required an average of 20 minutes. In all, the attainment of the processes involved approximately 7,516 hours or 895 eight-hour days.

Table 16   *Time Approximation for Disclosure Measurement*

	Number of Interim Reports	Average Pages of Score Sheets from Scoring	Hours for the Process per Page	Hours for the Process per Interim Report	Total Hours for Process
Scoring	309*	6	3	18	5,562
Tallying	309*	6	1	6.00	1,852
Data Entry : (for computerised analysis)	309*			0.33	102
Total Time Required					7,516
Number of days based on an 8-hour work day					895

Note: * Interim reports for 103 firms over a three-year period (2005, 2006 and 2007), leading to 309 Interim reports

To moderate the time constraint, outsourcing of the tallying was applied for approximately half of the sample. Using a research firm, 68 individuals were trained on the tallying process and were required to tally the information from the score sheets of 147 interim reports to the tally sheets. The process of tallying is not exposed to interpretive subjectivity since the requirement is to award one to an attribute under an information item on the tally sheet where corresponding ordinal score for the attribute was awarded on the score sheet. However, human error could arise from misreading, misallocation, omission, lack of concentration and fatigue. To lessen the occurrence of such error, ample training was provided prior to an individual taking on the task. Secondly, part of the team was charged with the responsibility to crosscheck every tally sheet from the tallying team. Thirdly, approximately 10% of the tallied reports were randomly selected for reliability re-tallying. The group that repeated the tallies was also randomly selected from the entire group of 68 individuals and the allocation of the reports for the second tallying was also random. The results of this reliability check are discussed in section 8.6.1.4 below. Health and safety concerns were also considered to avoid fatigue. Such included breaks, no work overload, refreshments, to mention a few.

8.6.1.4   *Reliability for Disclosure Measurement*

Marston and Shrives (1991) recommends that it is essential to subject disclosure scores to a reliability test. The purpose for reliability is to assure research quality; otherwise, high

degrees of variation amongst coders may indicate weaknesses in research methods, poor organisation, definition of the research tools or inadequate training of the coders (Kolbe and Burnett 1991).

The Krippendolff Alpha (K-α) inter-coder agreement reliability test, whose computation process is diagrammatically shown in Appendix 10, is used for various reasons. First, inter-coder reliability shows consistence based on third parties and is suitable in the absence of standard-coding (Beattie et al. 2004). Second, Tinsley and Weiss (2000) argues that inter-coder agreement is a more defensible strategy for reliability testing since the measure is theoretically more oriented to comparable exactness between the scores as opposed to variation between the scores. Krippendorff (2004) provides other merits that include ability to allow any number of coders, applicability to various levels of measurement (nominal, ordinal, interval and ratios), complete or missing data as well as large or small samples. The K-α is also customisable to suit data sets with different characteristics unlike other techniques are highly specialised and restricted. The main draw back of K-α is that its computation is complicated. However, as advised in Krippendorff (2007), the SPSS macro (KALPHA) developed in Hayes and Krippendorff (2007) was used in this thesis.

For acceptable levels, Neuendorf (2002) reviewed various content analysis literature and found that regardless of the technique used, a rule of thumb was to accept levels between 0.70 and 1.00 as reliable. Likewise studies (Beattie et al. 2004; Boyatzis 1998; Guthrie and Matthews 1985) are in agreement with the range of 0.70 to 1 for a content analysis technique to be regarded reliable.

The sections below provide the results of the reliability tests for the scoring and tallying techniques.

8.6.1.4.1   Reliability Tests for the Scoring Technique

To conduct the disclosure scoring reliability tests, three coders with accounting and finance background were identified. The inter-coders included (1) Mr Aylwin Yafele, reading for a doctorate at Bournemouth University on disclosure extent in UK listed and non-listed companies; (2) Mr Faisal Batiibwe, a certified chartered accountant (ACCA) with a London-

based accounting and audit firm; and (3) Mr Robert Mpagi FCCA, formerly with PwC and currently a World Bank consultant in West and East Africa. Prior studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007) concur with the use of professionals in the subject area for inter-coder reliability to enhance consistence in the output.

The three coders were briefed on the background and objectives to the study. Thereafter, they were trained on the scoring technique and decision rules using illustrations. A pilot exercise was conducted with the three intercoders prior to commissioning the process. Through random selection, three reports were sent to the inter-coders along with disclosure indices, decision rules and tally sheet templates. The results for the attributes were compared with those of the researcher. The summary of the results of the tests are shown in Appendix 11[9]; the table below reports on the K-α estimate. The results show a high level of reliability.

Table 17   Krippendorff's Alpha Reliability Results for the Scoring Technique

Interim Report	Type of K-α Test	Reference for Detailed K-α Results	K-α Value
Millennium & Copthorne 2006	Two-coder ratio data	Appendix 11, Panel B	0.9989
Barratt Developments 2005	Two-coder ratio data	Appendix 11, Panel C	0.9955
Kesa Electricals 2006	Two-coder ratio data	Appendix 11, Panel D	0.9909

8.6.1.4.2   Reliability Tests for the Tallying Technique

Neuendorf (2002) suggested that one of the merits of reliability confirmation is the ability to distribute the coding work to various people. The tallying technique made use of the advantage by outsourcing for the exercise for almost half of the sample. The tallymen and women were given score sheets that had complementary and supplementary attributes ordinal scores and tally sheet templates. Training of the tally technique was made and pilot exercise conducted prior to commissioning the exercise. This thesis found no prior literature documenting the process of reliability testing for tallying of scores. To this effect, a custom process based on the same procedure used reliability testing for the scoring technique.

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[9]The coincidence and delta matrices have been excluded because of the enormous data they present

Table 18 provides the K-α values and a summary of the SPSS KALPHA macro is provided in Appendix 12.[10] The results show that there is a high level of reliability.

Table 18   Krippendorff's Alpha Reliability Results for the Tallying Technique

Interim Report	Type of K-α Test	Reference for Detailed K-α Results	K-α Value
Arriva 2007	Two-coder ratio data	Appendix 12, Panel B	0.9993
Berkeley 2007	Two-coder ratio data	Appendix 12, Panel C	0.9980
GlaxoSmithKline 2006	Two-coder ratio data	Appendix 12, Panel D	0.9613
Findel 2007	Two-coder ratio data	Appendix 12, Panel E	0.9986
Euro Money Institutional Investor 2006	Two-coder ratio data	Appendix 12, Panel F	0.9890
Euro Money Institutional Investor 2007	Two-coder ratio data	Appendix 12, Panel G	0.9771
Carpetright 2005	Two-coder ratio data	Appendix 12, Panel H	0.9905
Carillion 2007	Two-coder ratio data	Appendix 12, Panel I	0.9985
SSL 2005	Two-coder ratio data	Appendix 12, Panel J	0.9705
Unilever 2005	Two-coder ratio data	Appendix 12, Panel K	0.9941
Redrow 2005	Two-coder ratio data	Appendix 12, Panel L	0.9992
United Business Media 2005	Two-coder ratio data	Appendix 12, Panel M	0.9935
United Business Media 2006	Three-coder ratio data	Appendix 12, Panel N	0.9897
Persimmon 2006	Two-coder ratio data	Appendix 12, Panel O	0.9979
Smith and Nephew 2005	Two-coder ratio data	Appendix 12, Panel P	0.9988

8.6.2 Financial Performance Measures

The control variables are financial performance measures of annual dividend yield (ADY), interim earnings per share (IES) and interim total assets as a measure of firm size (ITA). ADY is the annual average dividend yield based on previous and current years' dividend yield from DataStream. IES is interim earnings per share is the basic earnings per share in £ pence extracted from the interim reports. ITA is firm size and position measured as the log values for interim total assets (current assets and fixed assets) drawn from the interim reports.

The association of the financial performance variables with share price returns is established in past literature. For example, studies (e.g. Campbell and Shiller 1988; Fama and French 1988; Kothari and Shanken 1997) found the dividend yield relevant to returns. Recent studies (e.g. Dimitropoulos and Asteriou 2009; Lennox and Park 2006) find a association between

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[10] The coincidence and delta matrix are not included as they are voluminous

EPS and share price returns. Bamber (1986) and Grullon and Michaely (2004) find a significant relationship between total assets and returns.

8.7 Models for Measuring Information Content

This section discusses the tests used to measure information content, the basis for information content decisions and the models used to estimate relative and incremental information content.

8.7.1 Tests for Information Content

Parametric statistical tests are used in the study to establish information content. To confirm that parametric tests are the suited technique for the study, a number of considerations are made. First, Field (2005) suggests that parametric tests require measurement of information to be interpreted into interval or ratio scores. In the discussion regarding the methodology for measuring dependent and independent variable, all variable measures suit the properties of intervals or ratios. The properties are described in Appendix 6.

Another assumption of the parametric test is the requirement that the data should follow a normal distribution. As discussed above regarding the normality of returns, there is consensus in literature that daily returns are non-normal but this does not affect their predictive power. In the results chapter, the descriptives show that transforming returns by using continuously compounded returns does not normalise returns. For the independent variables, Field (2005) argues that it is not necessary for predictors to be normally distributed.

While comparing parametric to non-parametric tests, Field (2005) argues that parametric tests are more precise in capturing all the effects of the predictors. In event studies, parametric tests were found to be better specified than non-parametric tests for measuring information content based on daily share returns (Berry et al. 1990).

To supplement the parametric tests, the one-way analysis of variance (ANOVA) is used. Saunders et al (2003) suggests that the normal distribution requirement in ANOVA may not be necessary provided the sample is large enough (30 cases and above); however, Field (2005)

argues that such a suggestion is still subject to debate. ANOVA is used when the regression model consists of more that one categorical independent variables and a normally distributed dependent variable. The aim is to test for variance of the dependent variable partitioned by the levels of the independent variable (Schipper and Thompson 1985).

8.7.2 Basis for Information Content Decisions

The parametric test used in the study is multiple regression models, supplemented by ANOVA. Two considerations are made prior to make conclusion about the results of the models. First for each model, serial correlation and multicollinearity for each set of results are considered to confirm that the models are well specified. Second, the coefficients, signs and significance of the model and predictors are used to confirm information content.

The statistic used to determine serial correlation is the Durbin -Watson (D-W) statistic. Presence of serial correlation indicates that the variables in the model violate the assumptions of regression (Anderson et al. 2007). The D-W test results range from zero to four, with a value of two indicating no concern about serial correlation. However, perfect lack correlation may not be easily attained as Field (2005) argues that each variable in a set of independent variables tends to have a relationship with the dependant variable may be partially due to correlation in the independent variables. Therefore, D-W test perfect result of two may not be attained. The rule of the thumb is to consider values are nearer to two to accept absence of multicollinearity, where less than one or greater than three calls for doubt in the model.

To test for multicollinearity, Variance Inflation Factor (VIF) and the tolerance are used. The guidelines to determine presence of multicollinearity are discussed in Field (2005). If in the model there is any value of a predictor's $VIF \geq 10$, then the level of multicollinearity is high and if on average, VIF is substantially greater than one, then the regression may be biased. Tolerance coefficients with values below 0.1 indicate the model is highly exposed to multicollinearity and below 0.2 may subject the model to the problem. Anderson et al (2007) argues that it would be extremely assumptive to avoid interdependence of predictors in any statistical sense and some degree of correlation is expected in independent variables.

The squared multiple correlation (R^2) is used determine the information content of the independent variables. The R^2 states the degree to which changes in the group of independent variables will lead to a change in the dependent variable. However, R^2 is not the best estimator of information content as inclusion of variables largely increases the coefficient, even useless variables. The adjusted coefficient of determination (adjusted R^2) is more stable in avoiding this problem of increasing coefficient of determination as independent variables increase (Anderson et al. 2007). Adjusted R^2 is considered to give an idea of how well the model may be generalized and reduces the overestimated impact in R^2 arising from adding independent variables (Field 2005). To test for the significance of the relationship between the dependent variable and the set of independent variables, the F-Ratio is used. The ratio measures overall significance or goodness of fit (Anderson et al. 2007). On specifying the tests for the significance of the information content models, this paragraph discusses the test for information content of the predictors used in the models. Relative information content in the study is determined by comparing the coefficients of the adjusted R^2. Comparison of coefficients is one the techniques of relative information content determination recommended in Hotelling (1940). Incremental information content is determined by comparing the adjusted R^2 of relative information content and those of incremental information content.

The test-statistic (t-statistic) is used to measure the null hypothesis that a unit change in the coefficient of the independent variable (normally referred to as unstandardised β) does not result in a unit change of the dependant variable. Therefore, the t-statistic value of the unstandardised β is zero; if the t-statistic is significant, then the null hypothesis that unstandardised β is equal to zero is rejected. To this effect, the alternative hypothesis that the predictor's unstandardised β coefficient is different from zero is accepted implying that the independent variable contributes significantly to predicting the dependant variable. In this study, the t-statistic is used. Field (2005) identifies that a major problem with the unstandardised β is the coefficient being based on measurement unit, regardless of the significance of the predictor to the dependant variable; yet units may be different for each predictor. Therefore, the standardized β, which is not based on unit measures for predictor is reported in this study alongside the t-statistic. The standardized β are comparable as they are

all measurable in standard deviations. They show the number of standard deviations that the dependant variable will change as a result of one standard deviation change in the predictor; hence the extent of importance of the predictor to the dependant variable.

8.7.3 Models for Relative Information Content

As applied in prior relative information content studies (e.g. Berry et al. 1998; Firth 1981; Wilson 1986), the relativity is measured through separate regression models, one for each set of classification being examined for higher information content.   Relative information content therefore assesses whether one measure (set of measures) provides greater information content than another (Biddle et al. 1995).   In the context of this study, relative information content establishes the greater of the two narrative types, complementary and supplementary, in terms of usefulness to investors. Below is a mathematical expression of this argument.

$$\begin{pmatrix} Information\ Content\ of \\ Complementary \\ Narratives \end{pmatrix} \begin{matrix} > \\ = \\ < \end{matrix} \begin{pmatrix} Information\ Content\ of \\ Supplementary \\ Narratives \end{pmatrix}$$

The equation above states that information content of complementary narratives is either greater than or equal to or less than the information content of supplementary narratives.

Relative information content is established using four models, two based on disclosure variety and two based on disclosure depth. In both disclosure variety and disclosure depth, relative information content is established by comparing the results of the model for information content of complementary narratives with that of supplementary narratives.

For relative information content based on disclosure variety, the models compared are information content of (1) complementary narratives based disclosure variety and (2) supplementary narratives based on disclosure variety. The models are provided below.

Model 1   Information Content of Complementary Narratives based on Disclosure Variety
$$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$$

Model 2   *Information Content of Supplementary Narratives based on Disclosure Variety*

$$CAR_{it} = \propto + \beta_1 SII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$$

For relative information content based on disclosure depth, the models compared are (1) complementary narratives based on disclosure depth and (2) supplementary narratives based on disclosure depth. The models are given below.

Model 3   *Information Content of Complementary Narrative based on Disclosure Depth*

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

Model 4   *Information Content of Supplementary Narrative based on Disclosure Depth*

$$CAR_{it} = \propto + \beta_1 SGD_{it} + \beta_2 SAC_{it} + \beta_3 SRE_{it} + \beta_4 SFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

Where,

CAR	Market Adjusted Cumulative Abnormal Returns computed for the days *t=-4* to *t=5* computed using Equation 1
CII and SII	Complementary and Supplementary attribute of presence of information items without repetitions in interim report of narratives measured by use of Equation 2 and (Equation 3), respectively.[11]
CGD and SGD	Complementary and Supplementary attribute of good news in interim report narratives measured by Equation 4 and Equation 5, respectively.
CAC and SAC	Complementary and Supplementary attribute of amount and comparison of current with past performance in interim report narratives measured by Equation 6 and Equation 7, respectively.
CRE and SRE	Complementary and Supplementary attribute of reasons for performance in interim report narratives measured by Equation 8 and Equation 9, respectively.
CFW and SFW	Complementary and Supplementary attribute of forward-looking disclosures in interim report narratives measured by Equation 10 and Equation 11, respectively.
ADY	Annual average dividend yield based on previous and current years' dividend yield from DataStream
IES	Interim earnings per share is the basic earnings per share in £ pence extracted from the interim report

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[11] As CII and SII have a known denominator, ratios may be used. In this study, absolute values are used for consistence with other variable measures when disclosure attributes are considered. In results not presented in this study, ratio values are highly correlated for supplementary and perfectly correlated for complementary absolute scores. The regression results were also similar and therefore there is no substantial benefit in transforming the absolute scores into ratios

ITA	Firm size and position measured log values for interim report current assets and fixed assets
$\beta_{1, 2, 3}$	Coefficients for the independent variables
i	Security i
t	For the dependent variable, t refers to the day for which the CAR is computed and for the independent variables, t refers to the interim period announced for day $t=0$

Relative information content compares *competing* models that are mutually exclusive (Said et al. 2008). Therefore, the significance of the difference between the information content of complementary and supplementary narratives is estimated using the significance tests for non-nested models. The significance of the difference is the determinant for the judgement for relative usefulness (Pesaran 1982). One of the tests applied in this thesis is the Hotelling's t-statistic (Hotelling's t) developed by Hotelling (1940). The test is selected because it is widely accepted in empirical research as the pioneer and traditional standard for comparing models (Efron 1984). However, the Hotelling's t has some problems for example the test fails to address confidence in one or other models as a positive departure can have opposite implications depending on the location of the mean vector (Fraser and Gebotys 1987). Secondly, the Hotelling's t in some instances overestimates the t-value because it uses multiple correlation coefficients that are not normally distributed R-values, subjecting the test to Type 1 error. Also, Steiger and Lind (1980) found that Hotelling's t is at times not suitable for some social sciences research. To counter these concerns, this thesis complements the Hotelling's t with the Steiger's Z statistic developed in Steiger and Lind (1980). Various studies (e.g. Klehe and Anderson 2007; Lee and Koubek 2010; Park et al. 2008) have used both the Hotelling's t and Steger's Z for comparing non-nested models. The computation is done using the FZT computator, an online program to compute both Hotelling's t and Steger's Z as applied in prior literature (e.g. Raboyeau et al. 2009).

8.7.4 Models for Incremental Information Content

Statistically, Tauringana (1997) recognizes that models having more variables in a study are better specified for reducing Type II errors because the risk of erroneously rejecting the hypothesis due to neglecting important variables is minimized. Including an unimportant

variable does not bias results but exclusion of a relevant variable misspecifies results. However, the reliability of a model may be affected when it is comprised of many unimportant variables. Therefore, a model having more relevant variables is well specified to avoid Type I errors.

On establishing relative information content, Biddle et al (1995) suggests that there is need for examining incremental information content as both relative and incremental usefulness are related mathematically. The relationship between relative and incremental information content is illustrated in Appendix 13. The incremental information content model assesses whether combining complementary and supplementary disclosures in one model provides better information content than the relative information content models. If this is the case, then both narratives have incremental information content, otherwise, the narratives with less relative information content have no incremental information content. To align with this study, incremental information is recognition of synergy between complementary and supplementary narratives. In ASB (2005; 2006), the recommendation was to complement *and* supplement but not *either* complement *or* supplement. Whilst relative information content is arguably concerned with the *"either...or"* scenario, incremental information content extends the argument to the "*....and...*" scenario. Therefore, incremental usefulness establishes the relevance for the use of disclosure types as one piece of narrative commentaries as opposed to two pieces of narratives to investors' understanding of financial statements while making investment decisions.

The mathematical expressions below illustrate incremental information content.

Expression 1:

$$
\begin{array}{l}
\text{Information Content} \\
\text{of Narratives}
\end{array}
\begin{pmatrix}
\text{Complementary} \\
\text{and} \\
\text{Supplementary}
\end{pmatrix}
$$

$$
\geq
\begin{array}{l}
\text{Information Content} \\
\text{of Narratives}
\end{array}
\begin{pmatrix}
\text{Complementary}
\end{pmatrix}
$$

Expression2:

$$\begin{aligned} \text{Information Content} \atop \text{of Narratives} \begin{pmatrix} \text{Complementary} \\ \text{and} \\ \text{Supplementary} \end{pmatrix} \\ \geq \ {\text{Information Content} \atop \text{of Narratives}} \begin{pmatrix} \text{Supplementary} \end{pmatrix} \end{aligned}$$

Expression 1 states that information content of complementary and supplementary narratives is greater or equal to information content of complementary narratives. Expression 2 demonstrates that information content of complementary and supplementary narratives is greater or equal to information content of supplementary narratives.

Based on the above expressions, the models combining complementary and supplementary narratives are two. They include information content of complementary and supplementary narratives based on (1) disclosure variety and (2) disclosure depth. The models are given below

Model 5   Model Combining Complementary and Supplementary Narratives based Disclosure Variety

$$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 SII_{it} + \beta_3 ADY_{it} + \beta_4 IES_{it} + \beta_5 ITA_{it} + \varepsilon$$

Model 6   Model Combining Complementary and Supplementary Narratives based on Disclosure Depth

$$\begin{aligned} CAR_{it} = \propto &+ \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 SGD_{it} + \beta_6 SAC_{it} + \beta_7 SRE_{it} \\ &+ \beta_8 SFW_{it} + \beta_9 ADY_{it} + \beta_{10} IES_{it} + \beta_{11} ITA_{it} + \varepsilon \end{aligned}$$

The definition of variables is similar to that for the relative information content models.

Incremental information content evaluates whether one measure contributes information *in addition* to that of one or more measures (Said et al. 2008). The approach used in this instance is the analysis of variance comparing nested linear models with normal error (Fraser and Gebotys 1987). The comparison of nested models applies the difference between the squared multiple correlation coefficient (R^2) of the models in question to establish the significance of the F-test (Mendenhall and Sincich 2003). One way of testing the significance of nested models is by forward or backward stepwise method and the all-subset method (Fraser and

Gebotys 1987). This can be through a statistical computer program such as SPSS by changing from one model to another and computing the resulting R^2 change significance change. Alternatively, the F-statistic part of the FZT computator may be used. In this study, the FZT computator F-test is used. The F-test is widely acknowledged in empirical research (Mendenhall and Sincich 2003).

8.7.5 Reliability of Regression Models

The reliability of regression models depends on the conformity to the conditions of regression analysis. Apart from the normality assumptions and multicollinearity conditions already discussed in this chapter and examined in the results chapter, Field (2005; 2009) suggest testing for the impact of outliers and externalities.

To test for linearity and homoscedasticity of the models, the regression-standardised plots were examined for each of the models for the event day as shown in Appendix 14.[12] In this respect too, the descriptive statistics in the results and analysis chapter discusses the distributive characteristics of the dependent and independent variables. Outlier cases were removed from the sample but the results did not differ substantially, therefore, were retained in the results.

Externalities relate to variables outside the regression models but may influence power of the predictors to have information content. Sometimes these predictors are included in the regression model as the error term. However, it may be hard to establish all externalities and their respective impact, but their association with predictors may mispecify the model. To investigate the reliability of the results of the regression analysis, sensitivity tests are conducted. The tests carried out in the study include regulation change and audit review effect

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[12] In the results and analysis chapter, the discussion shows that the event has the highest coefficients of determination for most models. Due to the enormous data from the event studies, as the models are tested for each day in the event window, the most significant event day is selected for the plots in the Appendix.

based on results of the event day for all models.[13] The F-statistic part of the FZT computator will be applied to compare the main results and the result of the models that include the sensitivity test dummy variables.

8.8   Summary and Concluding Remarks

In this chapter, the methodology for the study was discussed. To conduct the study, a random sample 103 firms was selected from a sampling frame of 136 UK listed firms. The sampling frame constituents had to be consistently members of the FTSE350 for the period 2005 to 2007 and non-financial services sector firms. The event study technique was considered most appropriate for the study.

Cumulative market adjusted daily returns ±5 days around the announcement of interim reports are used to estimate the dependent variable.

The predictors comprised of measures of narrative disclosures and financial performance measures.   The disclosure index technique was applied to estimate the extent of complementary and supplementary disclosures. Two indices, one for complementary and one for supplementary were used. A manual content analysis technique was used. Disclosures were measured considering both disclosure variety and disclosure depth. Disclosure variety was measured dichotomously, leading to one attribute, the presence of information items. Disclosure depth considered various attributes (good news amounts and comparison of current with past performance, reasons for performance and forward-looking attributes) and repetition there in. The financial performance measure include annual dividend yield, interim earnings per share and interim total assets.

Multiple regression analysis is used for estimating information content. Both relative and incremental information content are estimated using disclosure variety and disclosure depth.

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[13] An attempt to carry out sensitivity tests based on industry classification was deterred by the presence many industry classes for the Industrial Classification Benchmark. Also, other classifications in literature (e.g. Gray et al. 1995) had a similar shortcoming.

The sensitivity tests considered in the study include regulation change effect and audit review effect.

9 RESULTS AND ANALYSIS

9.1 Introduction

In this chapter, the researcher presents the results of the study. First, the descriptive statistics are examined. Second, the correlation of the independent variables is analysed. Third, results of relative information content of complementary and supplementary narratives are discussed. The fourth consideration is the incremental information content of complementary and supplementary narratives. Fifth, the robustness of the results is examined through sensitivity tests. Lastly, a summary and concluding remark are provided

9.2 Descriptive Results

In this section, a description of the variables used to estimate information content of complementary and supplementary narrative commentaries in interim reports is discussed. The presentation is in two sections. The first section examines the descriptive characteristics of the dependent variables, that is, the daily market adjusted cumulative abnormal return (CAR) for each day in the window ± 5 days around the interim reporting date. The second section discusses the descriptive results of the predictors. These include complementary and supplementary narrative attributes and the financial performance variables.

9.2.1 Descriptive Results for the Dependant Variables

The CARs were computed for each day in the window period based on closing share price returns. Table 19 presents the descriptive statistics for CARs. Reading from the mean, median and 75th percentile, returns for the period before the announcement of the interim report, CAR (-5,-4) to CAR (-5,-1), shows very slight changes in CAR. Both mean and median values range from 0.001 to 0.005. At the 75th percentile, CAR in the pre-event period ranges from 0.009 to 0.021. The increasing trend of returns from CAR (-5,-4) to CAR (-5,-1) is a result of accumulation. The low values of CAR in the pre-event period may indicate that investors have very low anticipation of the contents of the interim report. The event date returns, CAR (-5, 0), show a sharp increase in returns compared to pre-event period. For days

+1 to +3, there is a gradual decline in returns while for days +4 and +5, returns fall substantially.

Previous studies based on UK data (e.g. Opong 1995; Rippington and Taffler 1995; Wolfe et al. 2009) report similar patterns despite using different estimates for returns. Opong (1995) argues that the instant jump in returns on the day of the interim report announcement suggests that the reports have information that is relevant for investment decision making. Such information includes progress in the yearly reporting cycle, pre-emption of insider trading and an update on the firm's changing fortune. Wolfe et al (2009) attributes the trend to high impact interim reports have on share price returns as a source of new and useful information. For interim reports, such information may include dividend policy changes, ex-dividend date and seasonality effect on performance.

Table 19   Descriptive Statistics for the Dependent Variable

Dependant Variable	Min. ψ	Percentiles ψ			Max. ψ	Mean ψ	Mode ψ	Std ψ Dev.	Skew-ness*	Kurto-sis**
		25	Median	75						
CAR(-5,-4)	-0.050	-0.007	0.001	0.009	0.107	0.001	0.006	0.015	1.195	8.345
CAR(-5,-3)	-0.086	-0.008	0.001	0.012	0.089	0.003	0.008	0.021	0.169	3.182
CAR(-5,-2)	-0.089	-0.011	0.003	0.018	0.121	0.004	-0.017	0.025	0.310	2.586
CAR(-5,-1)	-0.118	-0.012	0.005	0.021	0.104	0.005	0.004 [1]	0.028	-0.266	2.206
CAR(-5,0)	-0.070	2.127	4.311	7.990	38.068	6.062	0.011	6.023	2.138	6.613
CAR(-5,1)	-0.090	2.119	4.297	7.990	38.092	6.066	-0.090 [1]	6.024	2.137	6.609
CAR(-5,2)	-0.078	2.127	4.286	7.987	38.117	6.068	-0.078 [1]	6.024	2.138	6.612
CAR(-5,3)	-0.130	2.126	4.280	7.959	38.155	6.051	-0.130 [1]	6.034	2.133	6.582
CAR(-5,4)	-0.181	1.887	4.122	7.285	38.165	5.631	-0.181 [1]	5.805	2.303	8.160
CAR(-5,5)	-0.146	1.207	3.970	6.796	38.173	5.272	-0.146 [1]	5.806	2.370	8.568

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, ψThe coefficients CAR were multiplied by 100 as the values were minute to aid a substantive discussion, *Standard Error of Skewness = 0.139 **Standard Error of Kurtosis = 0.276, [1] Multiple Modes exist, the smallest value is shown, n=309 and missing = 0

To examine normality distributive characteristics of returns, the Kolmogorov-Smirnov and the Shapiro-Wilk test are used. The tests are conducted for both discrete and continuously compounded cumulative abnormal returns. The results in Table 20 show that for all tests, a significance of $p<0.05$ for the statistic is attained. Therefore, for both discrete and continuously compounded techniques, CARs do not follow a normal distribution.

Table 20   *Normality of Distribution Tests for Discrete and Continuously Compounded Returns*

| Dependant Variable | Kolmogorov-Smirnov[1] | | | | Shapiro-Wilk | | | |
| | Discrete CAR | | Continuously Compounded CAR | | Discrete CAR | | Continuously Compounded CAR | |
	Statistic	Sig.	Statistic	Sig.	Statistic	Sig.	Statistic	Sig.
CAR(-5,-4)	0.087	0.000	0.086	0.000	0.915	0.000	0.922	0.000
CAR(-5,-3)	0.086	0.000	0.089	0.000	0.946	0.000	0.946	0.000
CAR(-5,-2)	0.071	0.001	0.072	0.001	0.967	0.000	0.969	0.000
CAR(-5,-1)	0.054	0.032	0.056	0.022	0.975	0.000	0.973	0.000
CAR(-5,0)	0.162	0.000	0.066	0.002	0.805	0.000	0.931	0.000
CAR(-5,1)	0.162	0.000	0.059	0.011	0.806	0.000	0.963	0.000
CAR(-5,2)	0.162	0.000	0.055	0.023	0.806	0.000	0.966	0.000
CAR(-5,3)	0.161	0.000	0.061	0.007	0.806	0.000	0.957	0.000
CAR(-5,4)	0.158	0.000	0.056	0.020	0.797	0.000	0.965	0.000
CAR(-5,5)	0.175	0.000	0.056	0.023	0.784	0.000	0.974	0.000

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, [1]Lilliefors Significance Correction, n= 309

Although the dependent variables are exposed to non-normality distribution, the study uses parametric tests based on discrete returns for a number of reasons. First, as shown above, transforming CARs through continuously compounded returns fails to normalise the returns. Secondly, there is evidence in prior studies that returns follow a non-normal distribution. For example, Fama (1976) observed non-normality in US monthly and daily returns while Alles and Spowart (1995) a similar pattern for Australian monthly returns. Third, as argued in Field (2005), the ranking used in non-parametric techniques fails to detect the power of tests although the technique is assumption free about distribution. Therefore, using non-parametric tests in this thesis may expose the study to Type II error by accepting that there are no differences in information content of complementary and supplementary narratives yet the variations may exist.

9.2.2 Descriptive Results for the Independent Variables

Table 21 relates to the descriptive results of the independent variables.

Table 21   Descriptive Statistics for Independent Variables

Predictor	Min.	Percentiles			Max.	Mean	Mode		Std Dev.	Skew-ness*	Kurto-sis**
		25	Med.	75							
Panel A: Complementary Attributes											
CII	25.000	38.000	40.000	42.000	47.000	39.463	39.000	[1]	3.744	-1.203	2.274
CGD	0.673	0.847	0.902	0.940	0.998	0.889	0.892	[1]	0.065	-0.823	0.394
CAC	56.000	378.000	647.000	939.500	6,307.000	798.214	678.000		698.054	3.410	18.205
CRE	18.000	279.000	538.000	821.000	4,638.000	642.712	384.000	[1]	556.265	2.853	13.637
CFW	17.000	144.000	257.000	486.500	2,357.000	370.560	64.000		352.972	2.279	7.294
Panel B: Supplementary Attributes											
SII	6.000	17.000	22.000	27.000	35.000	22.045	22.000	[1]	6.227	-0.081	-0.828
SGD	0.340	0.617	0.708	0.811	1.000	0.709	0.589		0.140	-0.208	-0.469
SAC	13.000	53.000	89.000	148.500	484.000	109.049	60.000		73.115	1.381	2.275
SRE	0.000	23.000	41.000	70.000	260.000	51.871	38.000		38.685	1.450	3.039
SFW	0.000	6.000	10.000	18.000	80.000	13.893	8.000		12.230	1.893	4.958
Panel C: Financial Performance Measures											
ADY	0.000	0.016	0.024	0.033	0.057	0.024	0.000		0.012	0.012	-0.131
IES	-19.530	6.050	14.700	28.450	254.430	22.358	6.300		27.082	3.337	19.654
ITA	2.104	2.814	3.222	3.750	5.074	3.291	2.731		0.614	0.402	-0.412

Notes: CII (SII) = Complementary (Supplementary) Number of Information Items, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) = Complementary (Supplementary) Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, *Standard Error of Skewness = 0.139 **Standard Error of Kurtosis = 0.276, [1] Multiple Modes exist, the smallest value is shown, n=309 and missing = 0

Panel A presents results for the variables related to complementary information while Panel B is relates to predictors based on supplementary information attributes. Panel C is for descriptive results for financial performance variables.

There are substantial differences in the distributive characteristics of complementary attributes (Panel A) compared to supplementary attributes (Panel B). For disclosure variety attribute, that is number of information items (CII and SII), complementary information items were disclosed more than supplementary information items. For CII, majority of the firms disclosed approximately 40 items compared to just above 20 items for SII. Tauringana and Mangena (2006) discussed that there are few chances of manipulating supplementary disclosures. Therefore, for the purpose of impression management, managers are likely to concentrate on the less verifiable complementary disclosures. In the same study, it is

recognised that while supplementary narratives are only limited to information on the face of financial statements, complementary narratives report on all other aspects of the organisation. Therefore, the results may reflect the fact that complementary narratives have a wider range of topics for discussion unlike supplementary narratives that discuss only financial performance.

Under disclosure depth, the four attributes are good news, amounts and comparison of current with past performance, reasons for performance and forward-looking attribute.

Both median and mean coefficients are approximate at 90% for CGD and about 70% for SGD, therefore complementary narratives have more instances of good news compared to supplementary disclosures. Abrahamson and Amir (1996) made a similar observation that most narratives are oriented towards good news, most notably for complementary narratives. They attributed the pattern to management's intent to impress investors by emphasising good news. Similarly, Beattie et al (2008) noted the growth of narratives in UK financial reports overtime with the probable reason being the transformation of reports to more public relations tools than financially-oriented reports. In addition, Tauringana and Mangena (2006) suggest that supplementary narratives are easily reconcilable to the audited financial statements. Arguably, therefore, it is difficult to emphasise good news over bad news in supplementary narratives unlike in complementary narratives where there is no authenticated reference.

The mean value for CAC is about 800 items, supplementary narratives (SAC) score is 109. The disclosures relating to reasons for performance attribute have a mean value of 643 items for complementary narratives (CRE) and 52 items for supplementary items (SRE). The higher rate of disclosure for complementary disclosures about the attributes, compared to supplementary disclosures, reflects the argument by Tauringana and Mangena (2006) that supplementary attributes are limited to only financial statements. On the other hand, complementary narratives disclose on all other aspects of the company such as intellectual property, customer relations, segment analysis, management and shareholders, key performance indicators and social responsibilities.

The forward-looking attribute, (CFW and SFW), was the least disclosed attribute under disclosure depth attributes. Bozzolan et al (2009) theorised that under Incomplete Revelation

Hypothesis (IRH) forward-looking disclosures would only be useful if they accurately estimate future cash flows and verifiable. However, given that the forward-looking disclosures are estimates, it may be hard to argue a case for their effectiveness in eliminating adverse selection since the future is largely unclear. Therefore, management are not willing to bind themselves through forward-looking attributes. Lev and Penman (1990) seem to support this perspective through the argument that forward looking disclosures based on financial statements are verifiable *ex ante* by reference to future financial statements. To this effect, managers are deterred to provide such explicit prospective disclosures that may lead to questioning management's credibility and litigation when prospects are not attained (Kent and Ung 2003).

For financial performance ratios, there are several observations. For annual dividend yield (ADY), the minimum and mode values of 0.000 suggest that the number of companies that did not issue a dividend exceeds one. The minimum of a negative value for earnings per share (IES) indicates that there are cases where companies had a loss, however, a positive value at the 25th percentile shows that over 75 percent of the firms reported an interim profit. For interim total assets (ITA), the median is 3.222 and mean is 3.291. The small difference between mean and median for ITA may show that values for the sample are almost evenly distributed around the mean.

Table 22   Distribution Normality Tests for the Independent Variables

Independent Variable	Kolmogorov-Smirnov[)1]			Shapiro-Wilk	
	Statistic	Sig.		Statistic	Sig.
CII	0.128	0.000		0.918	0.000
CGD	0.091	0.000		0.948	0.000
CAC	0.176	0.000		0.715	0.000
CRE	0.146	0.000		0.774	0.000
CFW	0.164	0.000		0.785	0.000
SII	0.078	0.000		0.980	0.000
SGD	0.039	0.200*		0.990	0.027
SAC	0.133	0.000		0.878	0.000
SRE	0.134	0.000		0.887	0.000
SFW	0.176	0.000		0.820	0.000
ADY	0.041	0.200*		0.989	0.016
IES	0.179	0.000		0.731	0.000
ITA	0.059	0.012		0.976	0.000

Notes: CII (SII) = Complementary (Supplementary) Number of Information Items, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) = Complementary (Supplementary) Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, [1]Lilliefors Significance Correction, *Lower bound of the true significance. Valid Cases = 309

The results show that only CGD and ADY are normally distributed under the Kolmogorov-Smirnov test with a significance of $p>0.05$. However, under the Shapiro-Wilk test all variables follow a non-normal distribution. The non-normal distribution may reflect variability in reporting culture and financial performance of organisations. However, Field (2005) argues that the independent variable may not follow a normal distribution for parametric tests. Therefore, despite most variables having a non-normal distribution, parametric tests are appropriate for the thesis.

9.3   Correlation Analysis for Independent Variables

The purpose of correlation analysis is to identify independent variables that are highly correlated. A high correlation between the predictors leads to the problem of multicollinearity (Anderson et al. 2007; Saunders et al. 2003). When the correlation coefficient is positive, both variables increase and decrease in the same direction and for a negative value, one predictor increases as the other declines. Multicollinearity leads to misspecified test results of the regression where unrealistically high standard errors on the partial coefficients may yield a

smaller t-statistic compared to the critical t-statistic. To this effect, a problem of wrongfully accepting the null hypothesis that the partial regression coefficient is effectively zero arises. This would imply that the true predictive power of the variable in question is lost and the results of the regression are misspecified.

Tauringana (1997) suggested that one way of checking for multicollinearity is through visual scanning of the correlation matrix, as the one in Table 23, for high values and the significance of the coefficients. However, there is inconsistent guidance on determining a high value. Among the suggestions on the coefficient for considering presence of high correlation are values around and above ±0.60 (Eastman 1984), ±0.70 (Saunders et al. 2003), ±0.80 (Judge et al. 1985), and ±0.90 (Field 2005; Field 2009). Given the vast number of suggestions, this study assumes the most update rule of thumb and assumes high correlation existent at ±0.90. Table 23 presents the results for Pearson correlation.

Table 23   Pearson Correlation between the Independent Variables

	CII	CGD	CAC	CRE	CFW	SII	SGD	SAC	SRE	SFW	ADY	IES
CGD	-.022											
CAC	.489**	.038										
CRE	.466**	.226**	.803**									
CFW	.434**	.210**	.727**	.839**								
SII	.574**	-.093	.494**	.433**	.357**							
SGD	-.281**	.283**	-.231**	-.209**	-.294**	-.308**						
SAC	.430**	-.088	.565**	.435**	.372**	.737**	-.238**					
SRE	.473**	-.102*	.548**	.471**	.352**	.761**	-.273**	.854**				
SFW	.379**	-.007	.269**	.263**	.258**	.528**	-.122*	.500**	.647**			
ADY	.101*	-.028	.025	.022	-.009	.060	-.069	-.109*	-.068	-.017		
IES	.006	-.160**	-.063	-.056	-.064	.074	.134**	.037	.052	.140**	-.004	
ITA	.297**	-.298**	.385**	.287**	.230**	.453**	-.164**	.429**	.386**	.316**	.081	.174**

Notes: CII (SII) = Complementary (Supplementary) Number of Information Items, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) Complementary (Supplementary) = Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, **Correlation is significant at the 0.01 level (1-tailed), *Correlation is significant at the 0.05 level (1-tailed), n=309 and missing = 0

Scanning through the correlation matrix, there is no coefficient to the magnitude of ±0.900; therefore, there is no high risk of correlation.[14]

Observed from the correlation matrix, the correlation coefficients between complementary narrative attributes and financial performance measures seem to be lower than the correlation results between supplementary narratives and financial performance measures. For example, the highest coefficient for complementary narratives is between CAC and ITA at 0.385 whereas the highest coefficient for supplementary narratives is between SII with ITA at 0.453. Possibly, the reason for the higher coefficients of correlation between supplementary attributes and financial performance measures, compared to complementary attributes, is that supplementary attributes explain financial statements.

The highest correlation coefficients between complementary and supplementary attributes are 0.574 for CII with SII, 0.565 for CAC with SAC and 0.548 for CAC with SRE. The probable reason for this may be the use of geographical and product-line segment analysis in explaining overall sales and profitability performance.

For the correlation between complementary attributes, the highest coefficients were 0.839 for CRE with CFW and 0.803 CAC with CRE. The results may indicate that where management provided amounts, comparisons or forward-looking information, the disclosures were frequently accompanied with justifications.

For supplementary attributes, the highest correlation coefficients were between SAC and SRE at 0.854, showing that reasons for performance are most of times provided for disclosures of amounts and comparisons. Other high coefficients include 0.737 for SII with SAC and 0.761 for SII with SRE. Supplementary number of information items (SII) is a measure for narratives under disclosure variety while SAC and SRE are measures of the same

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[14] Correlation was also tested by reducing the cut-off point for high correlation to ±0.80. Excluding the variables above the coefficient of ±0.80 from the information content models did not change the results compared to the simulations that incorporated the variables. Further tests, that is, serial correlation (Durbin-Watson statistics) and multicollinearity (Variance Inflation Factor and tolerance) are discussed in the Result and Discussion chapter for each model.

supplementary disclosures under disclosure depth. Therefore, the correlation between SII with SAC and SRE may indicate that disclosure variety and depth are alternate measures of disclosures.

9.4   Relative Information Content of Complementary and Supplementary Narratives

9.4.1 Results

The main objective of this is to examine relative information content of complementary and supplementary narratives. Analysing relative information content is attained based on two techniques of measuring disclosures, disclosure variety and disclosure depth. Therefore, results are in two parts. Firstly, relative information content is examined based on disclosure variety by comparing results of Model 1 to those of Model 2. The only attribute of complementary and supplementary narratives under disclosure variety is number of information items, where mere presence on an item, with no regard to repetitions is the measure for disclosures. Secondly, relative information content is examined by comparing the outcome of Model 3 and Model 4, where extent disclosure is estimated by disclosure depth. Under disclosure depth, complementary and supplementary narratives are represented by sets of variable, which are measured with regard to repetitions. For each type of narratives (complementary and supplementary), the variable set is comprised of four attributes: (1) good news, (2) amounts and comparison of current with past performance, (3) reasons for performance and (4) forward-looking attribute. In addition to the main objective, results of usefulness of the disclosure depth attributes for complementary narratives is compared with the counterpart disclosure depth attributes in supplementary narratives.

9.4.1.1   *Relative Information Content based on Disclosure Variety*

Table 24 shows results of the relative information content of complementary and supplementary narratives measured by disclosure variety. Relative usefulness is judged by comparing the adjusted R^2 results of Model 1 and Model 2, representing complementary and supplementary narratives, respectively.

The pre-event period results are presented under Panel A. For the complementary narratives model, the adjusted R^2 coefficients range from -0.011 to 0.010, while for the supplementary narratives model, the least value was -0.003 and the highest was 0.013. Based on the significance of the F-ratios, neither the complementary nor the supplementary model was significant in the period. The measures for complementary number of information items (CII) and supplementary number of information items (SII) had no significant t-statistics. Similarly, no financial performance variable (ADY, IES and ITA) was associated with cumulative abnormal returns (CAR) in the period. For CAR (-5,-4) to CAR (-5,-1), the D-W statistics of the complementary range between 1.959 to 2.066 while all tolerance values range within 0.80 and 0.99 and the highest VIF value is 1.137. For the supplementary model, also the D-W statistics do not differ much from 2.000, tolerance values are all above 0.200 and VIF values are way below 10.000. The D-W statistics show that no model is exposed to high serial correlation while the VIF and tolerance indicate low exposure to multicollinearity in the pre-event period.

The post-event period results in Panel B show that the adjusted R^2 for the complementary model are highest for CAR (-5,0), CAR (-5,1) and CAR(-5,2) at 0.390. On day +3, there is a slight decline in adjusted R^2 to a value of 0.389. Thereafter, adjusted coefficient of determination consistently declines to 0.252 for CAR (-5, 5). For the supplementary narratives model, a similar pattern is observed where for CAR (-5,0) to CAR (-5,2), the adjusted R^2 is constant at 0.397. A small fall is observed for day +3 where the adjusted R^2 value is 0.396. For days +4 and +5, the adjusted coefficients of determination are 0.301 and 0.267, respectively. All F-ratios within the post-event period are significant at $p<0.01$ level. The t-statistics show that, CII had no significance for any day, the SII was negatively significant for CAR (-5, 4) and CAR (-5, 5). All financial performance measures (ADY, IES and ITA) had at least an instance of significant t-tests in the complementary narratives model. In the supplementary narratives model, while annual dividend yield and interim earnings per share were significant for all days, total assets as a measure of firm size had no significant value in the post-event period. Based on the D-W statistics, VIF and tolerance values, Model

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1 and Model 2 were not affected by serial correlation and multicollinearity as the cut-off points are met.

Table 24   *Relative Information Content based on Disclosure Variety*

Panel A.   *Pre-event Period*

	$CAR_{it} =\propto +\beta_1 CII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$						$CAR_{it} =\propto +\beta_1 SII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$					
	R^2 [Adj. R^2] {F-Ratio} (Sig.) \<D-W Stat\>	Const [t-Stat.] (Sig.)	CII Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ADY Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	IES Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ITA Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	R^2 [Adj. R^2] {F-Ratio} (Sig.) \<D-W Stat\>	Const [t-Stat.] (Sig.)	SII Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ADY Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	IES Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ITA Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>
CAR(-5,-4)	0.011 [-0.002] {0.849} (0.495) \<1.959\>	[1.541] (0.124)	-0.040 [-0.673] (0.502) {0.904} \<1.106\>	-0.053 [-0.918] (0.359) {0.987} \<1.014\>	-0.025 [-0.423] (0.672) {0.967} \<1.034\>	-0.057 [-0.939] (0.348) {0.880} \<1.137\>	0.011 [-0.002] {0.817} (0.515) \<1.963\>	[1.691] (0.092)	0.037 [0.571] (0.568) {0.795} \<1.259\>	-0.057 [-0.989] (0.323) {0.992} \<1.008\>	-0.023 [-0.389] (0.697) {0.970} \<1.031\>	-0.086 [-1.319] (0.188) {0.772} \<1.295\>
CAR(-5,-3)	0.002 [-0.011] {0.188} (0.945) \<2.051\>	[0.170] (0.865)	0.010 [0.158] (0.874) {0.904} \<1.106\>	-0.010 [-0.179] (0.858) {0.987} \<1.014\>	0.048 [0.825] (0.410) {0.967} \<1.034\>	-0.019 [-0.311] (0.756) {0.880} \<1.137\>	0.010 [-0.003] {0.785} (0.536) \<2.050\>	[0.250] (0.803)	0.099 [1.552] (0.122) {0.795} \<1.259\>	-0.012 [-0.208] (0.835) {0.992} \<1.008\>	0.048 [0.829] (0.408) {0.970} \<1.031\>	-0.061 [-0.940] (0.348) {0.772} \<1.295\>
CAR(-5,-2)	0.015 [0.002] {1.180} (0.320) \<2.013\>	[0.139] (0.890)	0.059 [0.993] (0.322) {0.904} \<1.106\>	-0.056 [-0.980] (0.328) {0.987} \<1.014\>	0.072 [1.240] (0.216) {0.967} \<1.034\>	-0.094 [-1.551] (0.122) {0.880} \<1.137\>	0.020 [0.007] {1.574} (0.181) \<2.010\>	[1.518] (0.130)	0.102 [1.594] (0.112) {0.795} \<1.259\>	-0.054 [-0.946] (0.345) {0.992} \<1.008\>	0.069 [1.205] (0.229) {0.970} \<1.031\>	-0.122 [-1.892] (0.059) {0.772} \<1.295\>
CAR(-5,-1)	0.023 [0.010] {1.759} (0.137) \<2.066\>	[-0.123] (0.902)	0.054 [0.913] (0.362) {0.904} \<1.106\>	-0.101 [-1.776] (0.077) {0.987} \<1.014\>	0.104 [1.806] (0.072) {0.967} \<1.034\>	-0.040 [-0.656] (0.512) {0.880} \<1.137\>	0.026 [0.013] {2.000} (0.094) \<2.070\>	[0.951] (0.342)	0.085 [1.333] (0.183) {0.795} \<1.259\>	-0.099 [-1.745] (0.082) {0.992} \<1.008\>	0.102 [1.774] (0.077) {0.970} \<1.031\>	-0.062 [-0.957] (0.339) {0.772} \<1.295\>

Panel B.   *Event Day and Post-event Period*

	$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$						$CAR_{it} = \propto + \beta_1 SII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$					
	R^2 [Adj. R^2] {F-Ratio} (Sig.) \<D-W\>	Const [t-Stat.] (Sig.)	CII Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ADY Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	IES Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ITA Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	R^2 [Adj. R^2] {F-Ratio} (Sig.) \<D-W\>	Const [t-Stat.] (Sig.)	SII Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ADY Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	IES Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ITA Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>
CAR(-5,0)	0.398 [0.390] {50.243} (0.000) \<1.926\>	[0.187] (0.852)	0.005 [0.108] (0.914) {0.904} \<1.106\>	0.285 [6.365] (0.000) {0.987} \<1.014\>	0.570 [12.607] (0.000) {0.967} \<1.034\>	-0.036 [-0.766] (0.444) {0.880} \<1.137\>	0.405 [0.397] {51.675} (0.000) \<1.974\>	[0.913] (0.362)	-0.092 [-1.860] (0.064) {0.795} \<1.259\>	0.288 [6.476] (0.000) {0.992} \<1.008\>	0.570 [12.678] (0.000) {0.970} \<1.031\>	0.007 [0.136] (0.892) {0.772} \<1.295\>
CAR(-5,1)	0.398 [0.390] {50.196} (0.000) \<1.926\>	[0.204] (0.839)	0.004 [0.093] (0.926) {0.904} \<1.106\>	0.285 [6.366] (0.000) {0.987} \<1.014\>	0.570 [12.600] (0.000) {0.967} \<1.034\>	-0.036 [-0.768] (0.443) {0.880} \<1.137\>	0.405 [0.397] {51.646} (0.000) \<1.975\>	[0.923] (0.357)	-0.093 [-1.871] (0.062) {0.795} \<1.259\>	0.288 [6.477] (0.000) {0.992} \<1.008\>	0.570 [12.673] (0.000) {0.970} \<1.031\>	0.007 [0.135] (0.893) {0.772} \<1.295\>
CAR(-5,2)	0.398 [0.390] {50.170} (0.000) \<1.927\>	[0.204] (0.839)	0.005 [0.098] (0.922) {0.904} \<1.106\>	0.285 [6.359] (0.000) {0.987} \<1.014\>	0.570 [12.599] (0.000) {0.967} \<1.034\>	-0.037 [-0.773] (0.440) {0.880} \<1.137\>	0.404 [0.397] {51.614} (0.000) \<1.975\>	[0.930] (0.353)	-0.093 [-1.868] (0.063) {0.795} \<1.259\>	0.287 [6.470] (0.000) {0.992} \<1.008\>	0.570 [12.672] (0.000) {0.970} \<1.031\>	0.007 [0.131] (0.896) {0.772} \<1.295\>

	$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$						$CAR_{it} = \propto + \beta_1 SII_{it} + \beta_2 ADY_{it} + \beta_3 IES_{it} + \beta_4 ITA_{it} + \varepsilon$					
	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	SII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,3)	0.397 [0.389] {50.071} (0.000) <1.937>	[0.136] (0.892)	0.008 [0.176] (0.860) {0.904} <1.106>	0.284 [6.342] (0.000) {0.987} <1.014>	0.570 [12.595] (0.000) {0.967} <1.034>	-0.038 [-0.809] (0.419) {0.880} <1.137>	0.404 [0.396] {51.489} (0.000) <1.984>	[0.926] (0.355)	-0.092 [-1.857] (0.064) {0.795} <1.259>	0.287 [6.458] (0.000) {0.992} <1.008>	0.569 [12.662] (0.000) {0.970} <1.031>	0.006 [0.113] (0.910) {0.772} <1.295>
CAR(-5,4)	0.302 [0.292] {32.814} (0.000) <1.936>	[0.339] (0.735)	0.028 [0.564] (0.573) {0.904} <1.106>	0.297 [6.152] (0.000) {0.987} <1.014>	0.474 [9.727] (0.000) {0.967} <1.034>	-0.095 [-1.857] (0.064) {0.880} <1.137>	0.310 [0.301] {34.192} (0.000) <1.963>	[1.969] (0.050)	-0.109 [-2.042] (0.042) {0.795} <1.259>	0.302 [6.307] (0.000) {0.992} <1.008>	0.472 [9.763] (0.000) {0.970} <1.031>	-0.037 [-0.685] (0.494) {0.772} <1.295>
CAR(-5,5)	0.262 [0.252] {27.004} (0.000) <1.966>	[0.935] (0.350)	0.015 [0.295] (0.768) {0.904} <1.106>	0.275 [5.551] (0.000) {0.987} <1.014>	0.443 [8.848] (0.000) {0.967} <1.034>	-0.128 [-2.441] (0.015) {0.880} <1.137>	0.277 [0.267] {29.096} (0.000) <1.984>	[2.760] (0.006)	-0.136 [-2.479] (0.014) {0.795} <1.259>	0.280 [5.710] (0.000) {0.992} <1.008>	0.442 [8.919] (0.000) {0.970} <1.031>	-0.062 [-1.123] (0.262) {0.772} <1.295>

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CII (SII) = Complementary (Supplementary) Number of Information Items, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

Diagram 9 illustrates relative information of complementary and supplementary narratives based on disclosure variety.

Diagram 9   Relative Information Content based on Disclosure Variety
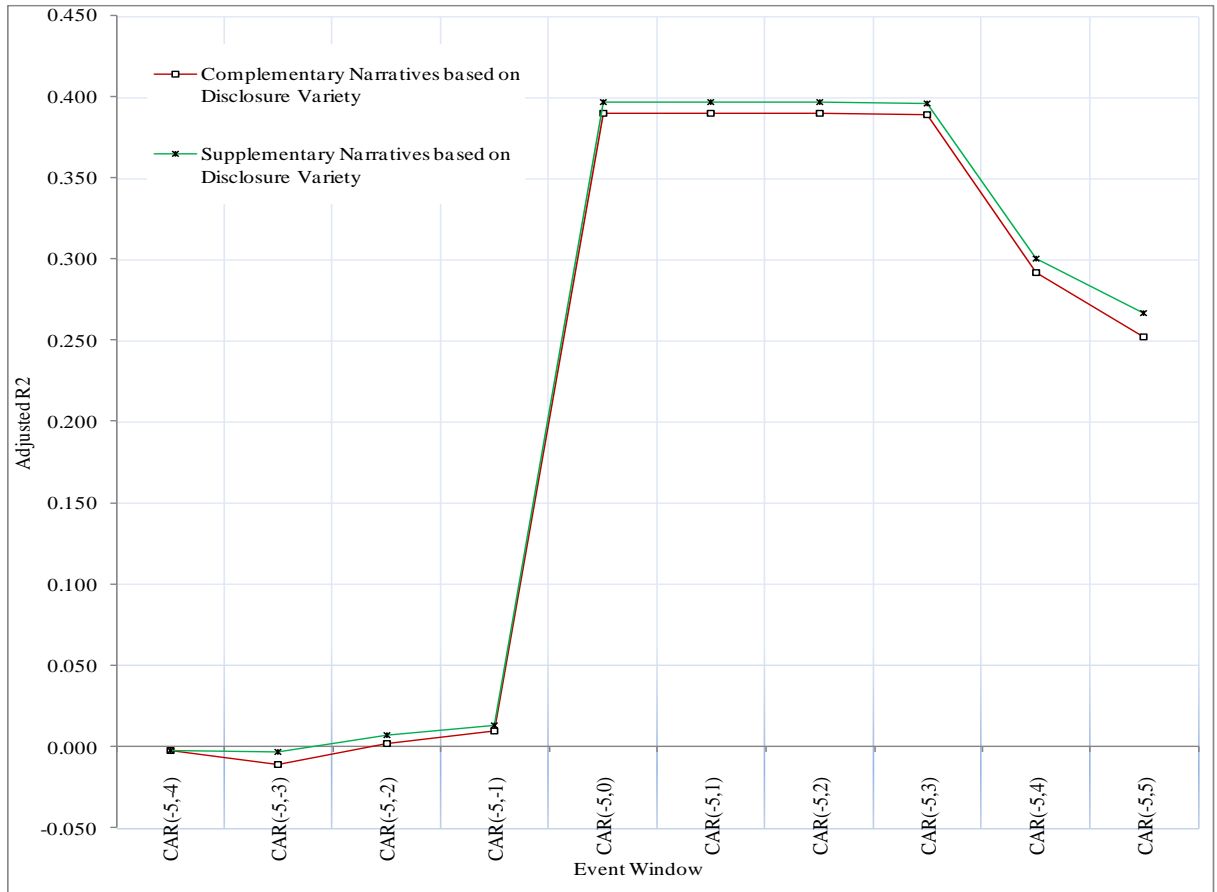
The diagram shows that in both the pre-event and post-event periods, the model for information content of supplementary narratives based on disclosure variety has higher adjusted R^2 values than that of information content of complementary narratives based on disclosure variety. The differential of adjusted R^2 between the models is small in both periods. However, the values of adjusted R^2 for both models are low in the pre-event period but increase from the event day (CAR -5,0). After day +3, the coefficients decline for both models.

To augment the comparison above, Table 25 presents the significance tests for relative information content using Hotelling's t-statistic and Steiger's Z-statistic.

Table 25   Relative Information Content based on Disclosure Variety Significance Test

	R1	R2	Corr. (1, 2)	df	t	Z	Critical t	Critical Z	Is change significant based on t?	Is change significant based on Z?
CAR(-5,-4)	0.104	0.116	0.852	306	0.388	0.388	1.97	1.96	No	No
CAR(-5,-3)	0.048	0.106	0.554	306	1.080	1.078	1.97	1.96	No	No
CAR(-5,-2)	0.158	0.158	0.870	306	0.695	0.694	1.97	1.96	No	No
CAR(-5,-1)	0.147	0.157	0.920	306	0.443	0.443	1.97	1.96	No	No
CAR(-5,0)	0.631	0.636	0.991	306	0.845	0.844	1.97	1.96	No	No
CAR(-5,1)	0.631	0.636	0.991	306	0.845	0.844	1.97	1.96	No	No
CAR(-5,2)	0.631	0.636	0.991	306	0.845	0.844	1.97	1.96	No	No
CAR(-5,3)	0.630	0.636	0.991	306	1.014	1.012	1.97	1.96	No	No
CAR(-5,4)	0.549	0.557	0.979	306	0.822	0.821	1.97	1.96	No	No
CAR(-5,5)	0.512	0.526	0.969	306	0.157	1.154	1.97	1.96	No	No

Note: R1= R coefficient for Model 1, R2 = R coefficient for Model 2, Corr. (1, 2) = Two-tailed Pearson correlation between the unstandardised predicted values of Model 1 and Model 2, df = degrees of freedom, t = Hotelling's t-statistic, Steiger's Z-statistic, Critical t = Two-tailed t-critical for (p<0.05, for df of 306), Critical Z = Two-tailed Z-critical for p<0.05

The result shows that for both Hotelling's t and Steiger's t values comparing Model 1 and Model 2, the differences in information content are not significant throughout the event period.   Therefore, relatively, information content of complementary and supplementary narratives based on disclosure variety does not differ significantly.

9.4.1.2   *Relative Information Content based on Disclosure Depth*

Relative information content based on disclosure depth is established by comparing results of Model 3 (complementary narratives) to those of Model 4 (supplementary narratives).   The results of the two models are presented in Table 26.

The pre-event period results are provided in Panel A.   The adjusted R^2 coefficients for complementary narratives model ranges from -0.002 to 0.008.   The F-ratio values for the model range from 0.903 to 1.340 and none is significant.   For the supplementary narratives model, the adjusted coefficients of determination are lowest at -0.009 and highest at 0.014. The F-ratios are all not significant and range between 0.587 and 1.620.   Neither complementary nor supplementary attributes have significant t-statistic value.   For both models, the results of the pre-event period are not exposed to serial correlation because the D-

W statistics do not differ substantially from 2.000. In addition, neither the complementary nor the supplementary model has an instance of a VIF value exceeding 10.000 and a tolerance below 0.200, hence no high exposure to multicollinearity.

Results in Panel B relate to the post-event period. The adjusted R^2 coefficients for complementary and supplementary narrative models are highest for CAR (-5, 0) at 0.439 and 0.389, respectively. The lowest adjusted R^2 values are for CAR (-5, 5) at 0.312 and 0.265 for complementary and supplementary narratives, respectively. Both Model 3 and Model 4 have significant results of information content because all F-ratio coefficients are significant. The range for F-ratios is from 36.376 to 20.974 for the complementary narratives model while the F-ratio range for the supplementary narratives model is from 29.050 to 16.869. Significant t-statistic values are observed for the complementary narratives attributes CGD, CAC and CRE, but no attribute is significant in the supplementary narratives model. In Model 3, all financial performance variables (ADY, IES and ITA) are significant for all post-event days. In Model 4, both ADY and IES are significant throughout the post-event period but ITA was not significant on any day. Both models have similar tolerance and VIF values as in the pre-event period and are all within acceptable limits. Therefore, the risk of multicollinearity is not substantial. The D-W statistics for both models are between 1.900 and 1.999, suggesting no instances of high serial correlation.

Table 26   *Relative Information Content based on Disclosure Depth*

Panel A.   *Pre-Event Period*

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

$$CAR_{it} = \propto + \beta_1 SGD_{it} + \beta_2 SAC_{it} + \beta_3 SRE_{it} + \beta_4 SFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	SGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,-4)	0.027 [0.005] {1.206} (0.299) <1.966>	[-0.779] (0.437)	0.086 [1.339] (0.182) {0.775} <1.291>	-0.143 [-1.395] (0.164) {0.307} <3.256>	0.111 [0.885] (0.377) {0.205} <4.876>	0.030 [0.281] (0.779) {0.285} <3.505>	-0.055 [-0.967] (0.334) {0.991} <1.010>	-0.017 [-0.289] (0.773) {0.941} <1.063>	-0.028 [-0.419] (0.675) {0.722} <1.384>	0.023 [0.000] {0.995} (0.435) <1.976>	[0.700] (0.484)	0.049 [0.810] (0.419) {0.886} <1.129>	0.199 [1.744] (0.082) {0.248} <4.027>	-0.122 [-0.963] (0.336) {0.201} <4.981>	-0.022 [-0.289] (0.773) {0.552} <1.812>	-0.037 [-0.641] (0.522) {0.959} <1.043>	-0.023 [-0.385] (0.701) {0.928} <1.077>	-0.094 [-1.437] (0.152) {0.759} <1.317>
CAR(-5,-3)	0.022 [-0.001] {0.952} (0.466) <2.036>	[-0.386] (0.699)	0.037 [0.564] (0.573) {0.775} <1.291>	-0.127 [-1.231] (0.219) {0.307} <3.256>	0.235 [1.867] (0.063) {0.205} <4.876>	-0.052 [-0.485] (0.628) {0.285} <3.505>	-0.011 [-0.196] (0.844) {0.991} <1.010>	0.055 [0.933] (0.352) {0.941} <1.063>	-0.013 [-0.195] (0.845) {0.722} <1.384>	0.013 [-0.009] {0.587} (0.766) <2.044>	[0.816] (0.415)	-0.027 [-0.437] (0.662) {0.886} <1.129>	0.114 [0.990] (0.323) {0.248} <4.027>	0.010 [0.082] (0.935) {0.201} <4.981>	-0.052 [-0.678] (0.498) {0.552} <1.812>	0.004 [0.076] (0.939) {0.959} <1.043>	0.062 [1.036] (0.301) {0.928} <1.077>	-0.060 [-0.921] (0.358) {0.759} <1.317>
CAR(-5,-2)	0.021 [-0.002] {0.903} (0.504) <2.001>	[0.151] (0.880)	0.029 [0.450] (0.653) {0.775} <1.291>	-0.056 [-0.546] (0.585) {0.307} <3.256>	0.125 [0.990] (0.323) {0.205} <4.876>	-0.010 [-0.092] (0.927) {0.285} <3.505>	-0.052 [-0.903] (0.367) {0.991} <1.010>	0.077 [1.315] (0.190) {0.941} <1.063>	-0.081 [-1.206] (0.229) {0.722} <1.384>	0.022 [-0.001] {0.956} (0.464) <2.014>	[1.235] (0.218)	0.008 [0.124] (0.901) {0.886} <1.129>	0.140 [1.226] (0.221) {0.248} <4.027>	-0.031 [-0.240] (0.811) {0.201} <4.981>	-0.063 [-0.821] (0.412) {0.552} <1.812>	-0.036 [-0.624] (0.533) {0.959} <1.043>	0.079 [1.329] (0.185) {0.928} <1.077>	-0.107 [-1.629] (0.104) {0.759} <1.317>
CAR(-5,-1)	0.030 [0.008] {1.340} (0.231) <2.041>	[0.169] (0.866)	0.014 [0.211] (0.833) {0.775} <1.291>	-0.083 [-0.806] (0.421) {0.307} <3.256>	0.140 [1.117] (0.265) {0.205} <4.876>	0.012 [0.110] (0.912) {0.285} <3.505>	-0.097 [-1.701] (0.090) {0.991} <1.010>	0.109 [1.856] (0.064) {0.941} <1.063>	-0.032 [-0.474] (0.636) {0.722} <1.384>	0.036 [0.014] {1.620} (0.129) <2.069>	[1.159] (0.248)	-0.022 [-0.364] (0.716) {0.886} <1.129>	0.100 [0.882] (0.378) {0.248} <4.027>	0.045 [0.355] (0.723) {0.201} <4.981>	-0.130 [-1.707] (0.089) {0.552} <1.812>	-0.085 [-1.465] (0.144) {0.959} <1.043>	0.122 [2.070] (0.039) {0.928} <1.077>	-0.051 [-0.782] (0.435) {0.759} <1.317>

Panel B. *Event Day and Post-event Period*

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,0)	0.451 [0.439] {36.376} (0.000) <1.936>	[2.948] (0.003)	-0.127 [-2.628] (0.009) {0.775} <1.291>	0.319 [4.139] (0.000) {0.307} <3.256>	-0.192 [-2.032] (0.043) {0.205} <4.876>	-0.044 [-0.553] (0.581) {0.285} <3.505>	0.286 [6.656] (0.000) {0.991} <1.010>	0.573 [13.017] (0.000) {0.941} <1.063>	-0.131 [-2.609] (0.010) {0.722} <1.384>
CAR(-5,1)	0.451 [0.438] {35.350} (0.000) <1.937>	[2.940] (0.004)	-0.127 [-2.616] (0.009) {0.775} <1.291>	0.320 [4.147] (0.000) {0.307} <3.256>	-0.192 [-2.033] (0.043) {0.205} <4.876>	-0.045 [-0.567] (0.571) {0.285} <3.505>	0.286 [6.656] (0.000) {0.991} <1.010>	0.573 [13.012] (0.000) {0.941} <1.063>	-0.131 [-2.611] (0.009) {0.722} <1.384>
CAR(-5,2)	0.451 [0.438] {35.328} (0.000) <1.938>	[2.944] (0.003)	-0.127 [-2.618] (0.009) {0.775} <1.291>	0.319 [4.144] (0.000) {0.307} <3.256>	-0.191 [-2.030] (0.043) {0.205} <4.876>	-0.045 [-0.568] (0.571) {0.285} <3.505>	0.285 [6.649] (0.000) {0.991} <1.010>	0.573 [13.010] (0.000) {0.941} <1.063>	-0.131 [-2.614] (0.009) {0.722} <1.384>

$$CAR_{it} = \propto + \beta_1 SGD_{it} + \beta_2 SAC_{it} + \beta_3 SRE_{it} + \beta_4 SFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	SGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,0)	0.403 [0.389] {29.050} (0.000) <1.954>	[-0.116] (0.908)	0.023 [0.479] (0.633) {0.886} <1.129>	-0.056 [-0.631] (0.528) {0.248} <4.027>	-0.018 [-0.182] (0.856) {0.201} <4.981>	0.001 [0.009] (0.993) {0.552} <1.812>	0.277 [6.085] (0.000) {0.959} <1.043>	0.564 [12.196] (0.000) {0.928} <1.077>	0.002 [0.034] (0.973) {0.759} <1.317>
CAR(-5,1)	0.403 [0.389] {29.030} (0.000) <1.955>	[-0.112] (0.911)	0.023 [0.479] (0.632) {0.886} <1.129>	-0.058 [-0.648] (0.517) {0.248} <4.027>	-0.017 [-0.170] (0.865) {0.201} <4.981>	0.001 [0.009] (0.993) {0.552} <1.812>	0.277 [6.083] (0.000) {0.959} <1.043>	0.563 [12.189] (0.000) {0.928} <1.077>	0.002 [0.033] (0.974) {0.759} <1.317>
CAR(-5,2)	0.403 [0.389] {29.013} (0.000) <1.955>	[-0.106] (0.916)	0.023 [0.478] (0.633) {0.886} <1.129>	-0.058 [-0.649] (0.517) {0.248} <4.027>	-0.017 [-0.167] (0.867) {0.201} <4.981>	0.000 [0.004] (0.997) {0.552} <1.812>	0.276 [6.077] (0.000) {0.959} <1.043>	0.564 [12.189] (0.000) {0.928} <1.077>	0.001 [0.029] (0.977) {0.759} <1.317>

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

$$CAR_{it} = \propto + \beta_1 SGD_{it} + \beta_2 SAC_{it} + \beta_3 SRE_{it} + \beta_4 SFW_{it} + \beta_5 ADY_{it} + \beta_6 IES_{it} + \beta_7 ITA_{it} + \varepsilon$$

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,3)	0.451		-0.128	0.319	-0.189	-0.044	0.285	0.573	-0.133
	[0.438]	[2.965]	[-2.641]	[4.136]	[-2.005]	[-0.546]	[6.638]	[13.007]	[-2.650]
	{35.260}	(0.003)	(0.009)	(0.000)	(0.046)	(0.586)	(0.000)	(0.000)	(0.008)
	(0.000)		{0.775}	{0.307}	{0.205}	{0.285}	{0.991}	{0.941}	{0.722}
	<1.951>		<1.291>	<3.256>	<4.876>	<3.505>	<1.010>	<1.063>	<1.384>
CAR(-5,4)	0.354		-0.105	0.333	-0.273	0.038	0.301	0.480	-0.178
	[0.339]	[2.650]	[-1.998]	[3.978]	[-2.665]	[0.438]	[6.478]	[10.048]	[-3.264]
	{23.579}	(0.008)	(0.047)	(0.000)	(0.008)	(0.662)	(0.000)	(0.000)	(0.001)
	(0.000)		{0.775}	{0.307}	{0.205}	{0.285}	{0.991}	{0.941}	{0.722}
	<1.956>		<1.291>	<3.256>	<4.876>	<3.505>	<1.010>	<1.063>	<1.384>
CAR(-5,5)	0.328		-0.126	0.348	-0.324	0.081	0.280	0.448	-0.222
	[0.312]	[3.215]	[-2.353]	[4.082]	[-3.108]	[0.920]	[5.899]	[9.202]	[-4.001]
	{20.974}	(0.001)	(0.019)	(0.000)	(0.002)	(0.358)	(0.000)	(0.000)	(0.000)
	(0.000)		{0.775}	{0.307}	{0.205}	{0.285}	{0.991}	{0.941}	{0.722}
	<1.989>		<1.291>	<3.256>	<4.876>	<3.505>	<1.010>	<1.063>	<1.384>

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	SGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,3)	0.402		-0.056	-0.014	-0.004		0.276	0.564	0.000
	[0.388]	[-0.078]	[0.440]	[-0.631]	[-0.142]	[-0.065]	[6.069]	[12.194]	[0.002]
	{28.912}	(0.938)	(0.660)	(0.529)	(0.887)	(0.948)	(0.000)	(0.000)	(0.999)
	(0.000)		{0.886}	{0.248}	{0.201}	{0.552}	{0.959}	{0.928}	{0.759}
	<1.965>		<1.129>	<4.027>	<4.981>	<1.812>	<1.043>	<1.077>	<1.317>
CAR(-5,4)	0.314		-0.146	0.063	-0.047		0.283	0.468	-0.028
	[0.298]	[0.554]	[0.431]	[-1.525]	[0.594]	[-0.725]	[5.809]	[9.445]	[-0.506]
	{19.644}	(0.580)	(0.667)	(0.128)	(0.553)	(0.469)	(0.000)	(0.000)	(0.613)
	(0.000)		{0.886}	{0.248}	{0.201}	{0.552}	{0.959}	{0.928}	{0.759}
	<1.956>		<1.129>	<4.027>	<4.981>	<1.812>	<1.043>	<1.077>	<1.317>
CAR(-5,5)	0.282		-0.175	0.091	-0.090		0.256	0.445	-0.054
	[0.265]	[1.327]	[-0.022]	[-1.781]	[0.831]	[-1.372]	[5.137]	[8.773]	[-0.966]
	{16.869}	(0.186)	(0.982)	(0.076)	(0.406)	(0.171)	(0.000)	(0.000)	(0.335)
	(0.000)		{0.886}	{0.248}	{0.201}	{0.552}	{0.959}	{0.928}	{0.759}
	<1.967>		<1.129>	<4.027>	<4.981>	<1.812>	<1.043>	<1.077>	<1.317>

Note: In the CAR(-5,3), CAR(-5,4) and CAR(-5,5) right-hand model rows the Std B values read: SGD = 0.021 / 0.022 / -0.001 ; SFW = -0.014 / -0.047 / -0.090 respectively (values aligned to SGD and SFW columns).

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) Complementary (Supplementary) = Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

Diagram 10 illustrates relative information content of complementary and supplementary narratives based on disclosure depth for the entire event window.

Diagram 10   Relative Information Content based on Disclosure Depth
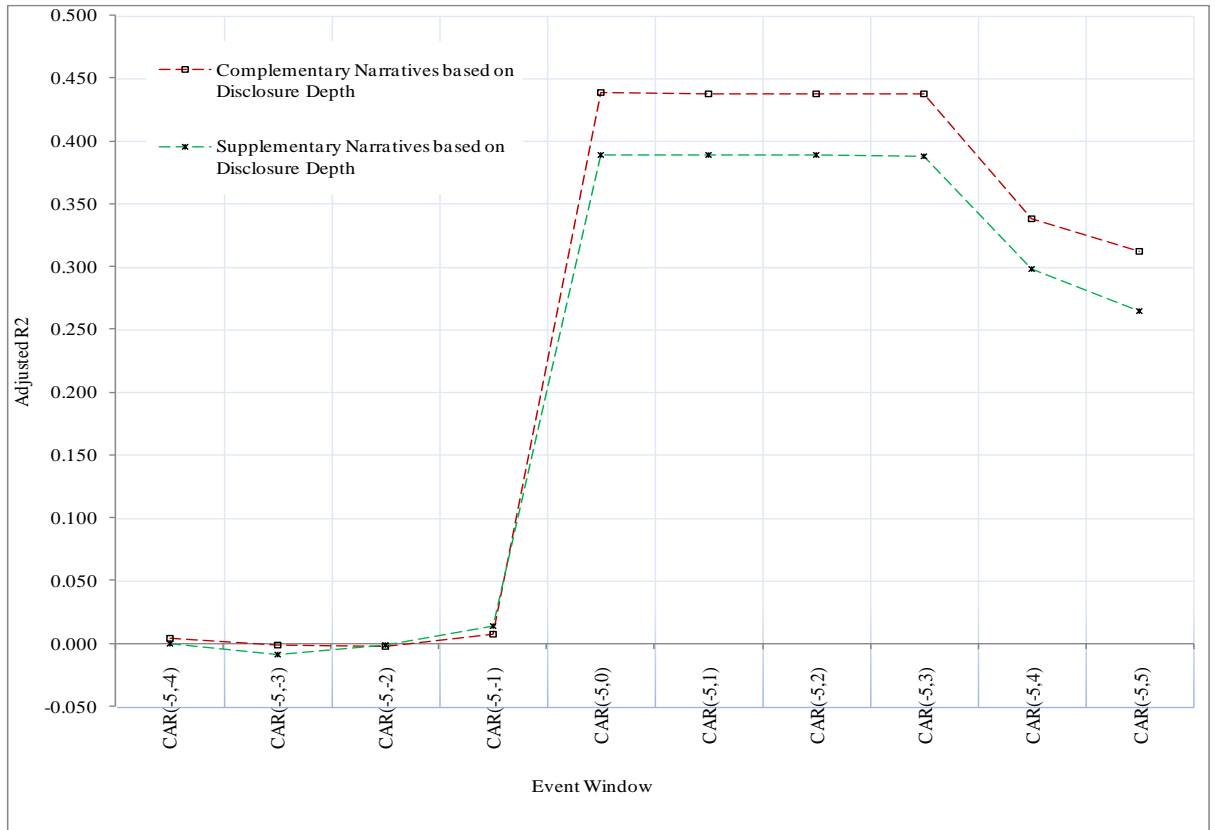
In the pre-event period, adjusted R^2 values do not differ substantially from zero. In post event-period, adjusted R^2 for the complementary narratives model are higher than the values for the supplementary narratives model. Comparing with the pre-event period, both models experience an upward shift in the adjusted coefficients of determination in the post-event period.

In addition to the above results, Table 27 shows the significance of the difference in relative information content of complementary and supplementary narratives based on disclosure depth.

Table 27   Relative Information Content based on Disclosure Depth Significance Test

	R3	R4	Corr. (3,4)	df	t	Z	Critical t	Critical Z	Is change significant based on t?	Is change significant based on Z?
CAR(-5,-4)	0.161	0.153	0.403	306	-0.130	-0.130	1.97	1.96	No	No
CAR(-5,-3)	0.148	0.115	0.122	306	-0.443	-0.441	1.97	1.96	No	No
CAR(-5,-2)	0.157	0.166	0.677	306	0.199	0.199	1.97	1.96	No	No
CAR(-5,-1)	0.173	0.190	0.598	306	0.339	0.338	1.97	1.96	No	No
CAR(-5,0)	0.672	0.635	0.922	306	-2.216	-2.198	1.97	1.96	Yes	Yes
CAR(-5,1)	0.672	0.635	0.922	306	-2.216	-2.198	1.97	1.96	Yes	Yes
CAR(-5,2)	0.672	0.635	0.922	306	-2.216	-2.198	1.97	1.96	Yes	Yes
CAR(-5,3)	0.671	0.634	0.923	306	-2.227	-2.209	1.97	1.96	Yes	Yes
CAR(-5,4)	0.595	0.560	0.884	306	-1.588	-1.580	1.97	1.96	No	No
CAR(-5,5)	0.573	0.531	0.843	306	-1.609	-1.601	1.97	1.96	No	No

Note: R3= R coefficient for Model 3, R4 = R coefficient for Model 4, Corr. (3, 4) = Two-tailed Pearson correlation between the unstandardised predicted values of Model 3 and Model 4, df = degrees of freedom, t = Hotelling's t-statistic, Steiger's Z-statistic, Critical t = Two-tailed t-critical for (p<0.05, for df of 306), Critical Z = Two-tailed Z-critical for p<0.05

The above significance tests (t and Z) concur that the relative information content difference for complementary and supplementary narratives based on disclosure depth are significant at p<0.05 for post-event days 0 to +3. For all other event period days, the results of relative information content are not significant.

9.4.2 Discussion

The main objective of establishing relative information content of complementary and supplementary narratives is represented by hypothesis H 1, stating that there is no difference in the information content of complementary and supplementary narratives.

In the pre-event period, the results testing the hypothesis are consistent. Models based on either disclosure variety or disclosure depth show that complementary and supplementary narratives have no information content. The F-ratios for the information content models are not significant for all pre-event days. Secondly, all four models have adjusted R^2 values that do not differ substantially from zero. These findings suggest that prior to the announcement of interim results, complementary and supplementary narratives have no association with returns. The lack of information content in the pre-event period is consistent for narratives based on both disclosure variety and disclosure depth. Similarly, Cools and Mirjam van Praag (2007) found little evidence of information content of narratives in the pre-event period. They argued

that there was little leakage of the disclosures. Therefore, the market could price the information before its announcement. In Opong (1995), information content results for the interim reports in the pre-event period were not significant. The finding showed that disclosures in UK interim reports are not pre-empted by preceding disclosure mediums.

In the post-event period, the results of relative information content differ. When disclosure variety is used to measure narratives, supplementary narrative commentaries have relatively higher information content than complementary narratives. The adjusted R^2 coefficients for days 0, +1, +2, +3, +4 and +5 in Model 1 (complementary narratives) are 0.390, 0.390, 0.390, 0.389, 0.292 and 0.252 respectively. For supplementary narratives, the respective adjusted R^2 values for days 0 to +5 are 0.397, 0.397, 0.397, 0.396, 0.301 and 0.267. The values suggest that for all days, supplementary narratives had higher relative information content than complementary narratives but the difference is not significant. Therefore, this thesis concludes that under disclosure variety, although supplementary narratives have higher relative information content than complementary narratives, this difference is not substantial. There are a number of reasons that may be attributed to this result. Supplementary information items (SII) are closely related to financial statements, hence, their usefulness may be construed from the financials they represent. On the other hand, complementary information items (CII) do not have any other form of reference within the interim reports unlike supplementary narratives that are based on financial statements. Secondly, since the scores for CII arise from a number of subjects that may be unrelated, the information may be ambiguous if further detail is not provided. The descriptive statistics illustrate this where the average score for SII was 22 out of 50, but for CII, the average score was about 40 out of 50. It may be argued that the ambiguity increases as the number of information items increase when disclosures are measured by disclosure variety. For example, Jones (1988) found that listed firms experienced decreased readability of narratives as sales, a proxy for complexity, grew. Merkl-Davies (2007) too suggested that firm size was the main explanation for readability difficulty and Kanto and Schadewitz (2000) also commented that complexity of the business makes some disclosure items or themes either useful or irrelevant. In ASB (2005; 2006), it was argued that the volume of narratives should reflect the size and complexity of the

firm. Given that the firms used in this study are selected from the largest and medium-sized listed companies in the UK, they may disclose on a number of information items in complementary narratives. To this effect, the likelihood that disclosure variety may not capture the value in the numerous complementary information items disclosures may arise. Relating to the theoretical framework of this study, the result indicates a failure of the complementary attribute of number of information items (under disclosure variety) to lessen the information asymmetry arising from the agency relationship between investors and managers. Ambiguity in the disclosures, as discussed above, makes the information inappropriate for decision-making as it lacks the key attributes that would be illuminative to investors. Under incomplete revelation hypothesis (IRH), Bloomfield (2002) implicates that failure to provide various attributes of disclosures may deter some investors from understanding the information thereby not solving the asymmetry problem.

Another reason for the less usefulness of complementary narratives based on disclosure variety, compared to supplementary narratives, is the lack of reference to regulated disclosures. Supplementary narratives are based on interim financial statements that are regulated under International Accounting Standards (IAS) 1 and 34. Complementary information items have no reference within the interim reports, presenting a softer target through which management may self-promote their effectiveness. In turn, investors may not find the respective information reliable and relevant. The use of diversity in information items to opportunistically mislead investors may relate to Arrow's (1963; 1965) notion of the moral hazard. Moral hazard occurs when management exploit the agency relationship and their information advantaged position by either concealing information items or disclosing on a wide variety of factors in a manner that investors cannot correctly value the firm (Kane 2004). Reflecting this, Beattie et al (2008) observe that over the years, the narrative section of UK financial reports has turned from a financial performance report to a public relations report, which in turn may reduce the usefulness of the reports. Prior studies (e.g. Kanto and Schadewitz 2000; Schadewitz et al. 2002) find that firms that tend to provide more overview information in narratives experience a delayed reaction to their interim reports than firms providing more financial analysis information. The reason they provide is that discussion of

financial analysis reduces uncertainty about performance but overview disclosures distract investors from useful facts about performance. These arguments also reflect Akerlof's (1970) suggestion that in the absence of regulation, sellers (in this case, managers as sellers of information) may take advantage of the information asymmetry situation to mislead the buyers (in this case, investors as buyers of disclosures). With complementary narratives under disclosure variety, the difficulty in regulating the respective information, as argued by Tauringana and Mangena (2006), may be the reason for the lack of information content.

However, the lack of a significant difference in information content may portray that the disclosure measurement technique that uses disclosure variety is not precise or comprehensive to capture the intrinsic value of the disclosures. The disclosure variety method may be considered to portray a hazy character of the narratives in the interim reports. In other words, the technique fails to reduce information asymmetry that arises from the agency relationship between investors and managers. Various disclosure extent studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007; Hooks et al. 2000; Wallace and Nasser 1995) agree with the argument that comprehensiveness in disclosures is revealed through the various attributes disclosed.

When disclosure depth is used to estimate narratives, the post-event results show that complementary narratives have higher relative information content than supplementary narratives. The difference is significant for CAR (-5, 0) to CAR (-5, 3). A number of factors may explain this.

First, in disclosure depth, narratives are measured using a set of attributes (good news, amounts and comparison of current with past performance, reasons for performance and forward-looking disclosures). This method of disclosure measurement may capture completeness in narratives, thereby reducing ambiguity for both complementary and supplementary narratives. Bloomfield (2002) argues that under IRH, statistical measures and qualitative measures together improve preciseness to disclosures. Having both qualitative and statistical information has a greater potential to inform the decision making process, as opposed to having either statistics or qualitative information only. The metrics are definitive

in nature and precise while qualitative information enlighten on the metrics. As ambiguity is lessened for both complementary and supplementary narratives, the comparative advantage of complementary narratives is then derived from the intrinsic information that complementary narratives have over supplementary narratives. Whilst supplementary disclosures replicate disclosures on the face of the financial statements, complementary narratives extend their focus to all other topics beyond the financials. In support of this, Flostrand and Strom (2006) argued that investors are inquisitive about non-financial statements value factors affecting firms. They further suggest that the attempt of the balance sheet to include intangible items such as goodwill is aimed at capturing the intrinsic value. However, still the amounts inadequately encompass all intrinsic value. Past studies that have established information content of disclosures on topics under complementary narratives exemplify the intrinsic information argument. Examples include Bukh, et al (2005) and Dumay and Tull (2007) relating to intellectual capital disclosures and Hammersley, et al (2008) with regard to internal controls. Others complementary subjects that have been found useful to investors include management changes (e.g. Collet 2002; Warner et al. 1988) and social responsibility (e.g. Milne and Chan 1999).

Second, literature identifies a number of deficiencies of financial statements that undermine the usefulness of the contents there in. Since supplementary narratives are closely related to the financial statements, it may be argued that they are faced with the same problems. Examples include the argument that accounting numbers may not reflect economic events in a timely manner (Beaver et al. 1980). The information in the statements relates to the past and may be less relevant to share price returns at the time of publication. Another problem of financial statements is that earnings are prone to measurement errors (Hayn 1995). Related to this, Tauringana and Mangena (2006) argued that supplementary narratives might be more useful than complementary narratives since supplementary narratives refer to audited financial statements. For UK interim reports, the auditing of financial statements is optional, worse still, the audits are merely reviews and not comprehensive. Therefore, the supplementary narratives in UK interim reports may have no comparative advantage to complementary narratives as far as reliability or third party authentication is concerned.

Third, as argued in chapter 7, Ahmed and Ian (2005) consider that there are regular investor briefings in which analysts and institutional investors receive updated information about the company. In these meetings, the information shared is debatably more linked to earnings and explanations thereof since studies (e.g. Abarbanell and Lehavy 2000; Barber et al. 2003; Bozzolan et al. 2009; Jegadeesh et al. 2004; Orens and Lybaert 2007) suggest that the prime use of information by analyst is to forecast earnings. Therefore, interim report supplementary narratives, which expound on earnings, may not be informative, as they would have been disclosed in the briefings. Hence, compared to complementary narratives, the supplementary narratives in interim reports are obsolete with respect to reducing information since they might have been pre-empted in the briefings.

Overall, the relative information content findings show that the models used yield returns after the announcement of interim reports, suggesting that the information in the reports have information content. This observation is contrary to EMH in the semi-strong form that publically available information, such as that in financial reports, cannot yield abnormal returns. Therefore, this affirms the thesis theoretical framework that due to the asymmetry that results for the agency relationship between investors and managers, all the three markets theorised (capital, information and regulation) operate synergistically to explain the usefulness of disclosures. To this, the relative usefulness of either complementary or supplementary narratives, irrespective of whether disclosure variety or depth is used to measure the information, is a result of the narrative type's better ability to remove information asymmetry in the given circumstances.

From the discussion above, three conclusions for hypothesis H 1 are upheld. First, in pre-event period, the null hypothesis for H 1 is accepted that there is no difference in the information content of complementary and supplementary narratives. This is sustained for both disclosure variety and disclosure depth techniques of measuring narrative commentaries. Second, in the post-event period, null hypothesis H 1 is accepted that there is no difference in the information content of complementary and supplementary attributes when disclosure variety is used to measure narratives. Third, when disclosure depth is used to measure

information content, H 1 is rejected in the post-event period suggesting that complementary narratives have higher relative information content than supplementary narratives.

Under the main objective of the thesis, the study also intends to establish the relative usefulness of complementary and supplementary disclosure depth attributes. For complementary, as well as supplementary narratives, the attributes are four. To this effect, four hypotheses examine the relative information content of the attributes. The hypotheses include H 2 (good news), H 3 (amounts and comparison of current with past performance), H 4 (reasons for performance) and H 5 (forward-looking).

9.4.2.1 *Good News*

In Model 3, the variable CGD stands for complementary good news and in Model 4, the proxy for supplementary good news is SGD. In the pre-event period, both CGD and SGD had no significant t-test on any day. Therefore, complementary and supplementary good news have no information content prior to the announcement of interim report results. This finding concurs with suggestions by Cools and Mirjam van Praag (2007) and Opong (1995) that investors are unaware of the disclosures in the financial reports in the pre-announcement period, hence, they cannot react based on the results in the reports.

In the post event period, significant t-statistic values of CGD were -2.628, -2.616, -2.618, -2.641, -1.998 and -2.353 for days 0, +1, +2, +3, +4 and +5, respectively. For SGD, there are no significant t-statistic values for any post-event day. The significance of all t-statistics for CGD and lack of any significant t-statistic for SGD suggest that complementary good news is has more information content than supplementary good news.

The negative t-test coefficient for CGD indicates that as the amount of complementary good news in narratives increases, investors react adversely. Abrahamson and Amir (1996) argued that narrative commentaries are often filled with good news, reflecting that managers attempt to "sugar coat" performance or impress investors. In line with this, Kane (2004) suggests that managers tend to escalate the firm's value by reducing unfavourable information and increasing positive news. This is evident in the descriptive results of this study where CGD

has a mean of 0.889 suggesting that CGD occupies 88.9% of the complementary narratives in interim reports. Emphasising good news over bad news may reflect Akerlof's (1970) market for lemons (ML) theory, where the seller (in this study, managers) tend to convince buyers (investors) to buy the product (shares) through deceptive disclosures. The negative response to complementary good news by investor may therefore show the opinion in Lee, et al (2004) that investors prefer bad news as the disclosures portray management's openness and willingness to take responsibility of controllable events.   Similarly, Abrahamson and Amir (1996) found a positive market response to bad news because the bad news attribute were considered relevant to firm valuation. In response to Akerlof's (1970) ML theory, Anderson (2001) argued that buyers have various sources of information through which they can check the reliability of information from management. Through alternative information sources, the perpetual disequilibria that may be caused by the deceptive disclosures are corrected through economic market mechanisms. Economic market mechanisms would therefore require that any instance of imperfection creates entrepreneurial opportunities that correct the deficiencies in the market place. To this effect, complementary good news in interim reports may reflect impression management, however, the strategy is realised by investors who negatively respond to the information.

The lack of significance in t-statistics of SGD may suggest that the disclosures do not present any new information but are a replica of financial statements disclosures. As argued earlier on, replication of financial statement may not result into relevance of the information. An alternative reason for the lack of information content of the supplementary attribute of good news may be the nature of investors in FTSE350 firms. Tauringana and Mangena (2006) argued that one advantage of supplementary over complementary disclosures is that supplementary narratives help both non-sophisticated and sophisticated investors understand the information in the financial statements. However, there is a large body of literature (e.g. Bercel 1994; Lang and Lundholm 1996; Mangena 2004b; Nielsen 2004; Orens and Lybaert 2007) suggesting that analysts and institutional investors have sufficient technical ability to interpret financial statements.   Prior studies (e.g. Belaire-Franch and Opong 2005; Mills and Jordanov 2003; Opong et al. 1999; Spyrou et al. 2007) suggest that FTSE350 firms have a large

following of analysts and institutional investors. Gray and Roberts (1989) too found that UK managers disclose specifically for analysts and institutional investors. The sophisticated nature of these investors may undermine the relevance of supplementary narrative attribute of good news.

Based on above arguments, there are two conclusions for hypothesis H 2. In the pre-event period, the null hypothesis H 2 is accepted that there is no difference in the information content of the complementary and supplementary narrative attribute of good news. In post-event period, hypothesis H 2 is rejected, suggesting that the complementary narrative attribute of good news has more information content than the supplementary attribute of good news.

9.4.2.2 *Amounts and Comparison of Current with Past Performance*

The discussion in this section is in reference to hypothesis H 3 that is concerned with the relative information content of the complementary and supplementary attributes of amounts and comparison of current with past performance. Relative information content is achieved by comparing the t-statistics for CAC (complementary amounts and comparison of current with past performance) in Model 3 those for SAC (supplementary amounts and comparison of current with past performance) in Model 4.

In the pre-event period, no t-statistic value for CAC and SAC is significant. Therefore, neither CAC nor SAC is relevant to returns in the period. This aligns with the suggestion in Opong (1995) that interim report disclosures are not pre-empted by any prior disclosures.

After the publication of interim reports, all t-statistics for CAC were positive and significant at $p<0.01$. However, for SAC, all t-statistics were negative but not significant. Therefore, whereas CAC is a significant predictor to returns, SAC is not.

Prior studies suggest that quantification and benchmarking in complementary narratives topics has information content. For example, Berry et al (1998) find that high-level operating data disclosures about such as amounts for oil and gas reserve valuation in annual reports were useful. Also, Lajili and Zeghal (2006) found information content in quantified human capital disclosures. Amir and Lev (1996) argued that while on standalone basis, financial information

(earnings, cash flows and book values) are not relevant to share price returns, but if combined with non-financial quantified information, earnings contribute to explanation of the prices. Other studies (e.g. Givoly et al. 1999; Hope et al. 2008; Thomas 2000) suggest that the information content in segment analysis disclosures arises from the breakdown of sales and profitability according to business lines and regions. Another justification for information content of CAC is the argument in Riley et al (2003) that the seasonality effect in business, for example peak travel seasons as summer months, thanksgiving and Christmas in the airline industry, makes comparisons in narratives relevant to investors. All these studies agree that quantification and benchmarking in information of complementary nature adds precision to information of intrinsic nature, therefore making the disclosures relevant to share price returns.

Other explanations to higher relative information content of complementary compared to supplementary, attribute of amounts and comparison of current to past performance may be drawn from deficiencies of supplementary narratives. Earlier on in the chapter, it is discussed that supplementary narratives are a replication of financial statements. Unlike complementary narratives, supplementary commentaries may not present new information. In addition, financial statements are susceptible to manipulation. As SAC is dependent on financial statements figures, the likelihood that the attribute suffers the same constraint arises. Riahi-Belkaoui (2004) argues that performance comparison in financial statements is subjected to numerous accounting techniques and the firms' autonomy in selecting or changing performance measures. The multiplicity of techniques leads to a moral hazard when some techniques are selected to mislead investors about the progress of the firm. Reflecting this is the finding in Guillamon-Saorin (2006) that amounts and benchmarking in press releases showed a positive performance trend over time.

The above observations lead to the acceptance of hypothesis H 3 in the pre-event period. In the post-event period, hypothesis H 3 is rejected with the suggestion that for the attribute of amounts and comparison of current with past performance, complementary narratives have higher relative information content than supplementary narratives.

9.4.2.3 *Reasons for Performance*

In Model 3, the complementary reasons for performance attribute is represented by the variable CRE. The variable SRE is the proxy for supplementary reasons for performance attribute in Model 4. Relative information content for CRE and SRE is tested through hypothesis H 4.

Both CRE and SRE are not associated with returns in the pre-event period since their t-statistic values are all not significant. As earlier discussed, the argument in Cools and Mirjam van Praag (2007) that disclosures in financial reports are not leaked prior to the announcement of the reports may explain this finding. In the post-event period, the t-test values for CRE are -2.032, -2.033, -2.030, -2.005, -2.665 and -3.108 for days 0, +1, +2, +3, +4 and 5, respectively. The corresponding t-test for SRE are -0.182, -0.170, -0.167, -0.142, 0.594, 0.831. All CRE t-test values for days 0 to +3 were significant at $p<0.05$ and for days +4 and +5, the t-statistic coefficients were significant at $p<0.01$. On the other hand, no t-test value for SRE was significant. Therefore, unlike SRE, CRE is significantly associated with returns unlike SRE.

The t-test coefficients for CRE show an increase as the post-event days move further from the event day. In addition, the post-event significance levels for CRE are better for days +4 and +5 compared to days 0 to +3. These trends seem to reflect that investors take time to understand the full and true impact of the attribute of reasons for performance in complementary narratives. The uncertain information hypothesis (UIH) by Brown et al (1988) may explain this trend. Under UIH, the initial reaction to disclosures is sometimes a misspecified price that may be either an over- or under-reaction. With time, as investors seek for further intrinsic information within the disclosures, the actual impact of the disclosure is established. Another reason for the trends may be the incomplete revelation hypothesis (IRH). Bloomfield (2002) explains that under IRH, initial under- and over-reaction to disclosures is a result of presence of both ration and irrational investors. Whilst rational investors will price information appropriately, irrational investors will trade on noise. With time, the rational investors use the available information to correct the mispricing caused by the irrational investors.

The negative t-test sign for the complementary narratives attribute of reasons for performance may reflect that investors question the credibility of the disclosures. Given the establishment in prior literature (e.g. Opong 1995; Rippington and Taffler 1995; Wolfe et al. 2009) that interim reports influence share price returns, managers may view the reports as an opportunity for impression management. The signalling theory by Spence (1973; 2002) suggests that where there is an agency concern, the agents may tend to direct principals to only information that shows good performance. This reflects the argument in Staw et al (1983) that managers may use their superior information status to emphasise favourable performance. Similarly, impression management techniques may reflect Akerlof's (1970) market for lemons theory where managers may, with intent, give less attention to aspects of unfavourable performance in interim reports. An example where managers tend to impress through narratives is the suggestion by Clatworthy and Jones (2003) that successes are attributed to internal factors but failures to externalities. Also, Hutton et al (2003) found that firms provide more quantitative and verifiable explanations in times of good news but when bad news prevails, broad-based, qualitative, and non-verifiable justifications are disclosed. However, in cases where managers either emphasise favourable performance or minimise unfavourable disclosures, investors have the capacity to identify the strategies and react negatively to the disclosures. Anderson (2001) argues that managements' attempts to misguide investors are in vain because shareholders have various sources of information through which they can check the reliability of information.

Another explanation for the negative and significant t-test coefficients for CRE is the likelihood that the complementary reasons for performance may not be precise enough to assure investors about the viability of the business. In Kanto and Schadewitz (2000), a delayed and negative significant result was established for overview disclosures in interim reports of firms listed on the Helsinki Stock Exchange. Such narratives were concerned with topics that were not related to financial statements, analysis of financial statements and disclosures of finance and investments. The finding was ascribed to the failure of overview disclosures to provide precise guidance to investors about the firm's performance.

In addition, the negative sign of the t-tests for CRE may be explained by the changing role of narratives in UK financial reports and information overload. Several surveys (e.g. Deloitte 2006a, 2006b; PwC 2007a), document the growing trend in the size of financial reports of UK listed firms which they attribute to growth in narratives. In Beattie et al (2008), the realisation that narratives in annual reports had grown over time was attributed to the changing role of the reports from financially motivated disclosures to public relations information. It may be conceived that, through reasons for performance, managers may exploit the diverse topics in complementary narratives to promote public relations. In addition, the regulatory guidelines for narrative commentaries in the period of study (e.g. ASB 2006; 2007b; EU 2003) preferred a narrative discourse that promotes a voluntary approach by suggesting that disclosures should be viewed from the eyes of managers. Whilst supplementary narratives may not reflect this flexibility since they are drawn from amounts on the face of regulated financial statements, complementary narratives are largely a result of managements' discretion. The voluntary nature of the complementary narratives may compel managers to use the attribute of CRE to disclose more public relations information. Investors in turn react negatively to the information because the disclosures may not be credible.

The lack of information content in SRE probably is a result of confining the supplementary disclosures to financial statements. This limits the extent to which supplementary reasons for performance can provide intrinsic information. In addition, prior studies (e.g. Belaire-Franch and Opong 2005; Mills and Jordanov 2003; Opong et al. 1999; Spyrou et al. 2007) recognise that investors in FTSE350 firms are sophisticated. Such investors (analysts and institutional investors) may be well equipped in interpreting financial statements and may not need supplementary reasons for performance to form their judgements. In effect, the argument by Tauringana and Mangena (2006) that supplementary narratives assists unsophisticated investors understand financial statements may not suffice for such large and medium sized firms.

The discussion above leads to the acceptance of hypothesis H 4 in the pre-event period that there is no difference between the information content of CRE and SRE. However, in the post-event period, hypothesis H 4 is rejected, holding that, for attribute of reasons for

performance, complementary narratives have relatively higher information content than narratives.

9.4.2.4 *Forward-looking*

The forward-looking attribute is represented by the variable CFW (complementary forward-looking disclosures) in Model 3 and SFW (supplementary forward-looking disclosures) in Model 4. The relative information content of CFW and SFW is in reference to hypothesis H 5.

The results in this thesis show that in both the pre-event and post-event periods, the attribute of forward-looking disclosures in complementary and supplementary narratives was not associated with returns. This finding contravenes theoretical, regulatory and empirical research justification for interim reporting. For example, from a theoretical perspective, the role of interim disclosures is to reduce uncertainty about the business' direction by providing information that shortens the reporting interval, thereby helping to forecast annual financial performance (Bollom 1973; Shillinglaw 1961). Regulatory and standard-setting frameworks such as AICPA (1973) and ASB (1997; 2007a) agree that interim report disclosures have the ability to predict annual results. Likewise, empirical literature (e.g. Holmes 1971; Lunt 1982; Shaw 1981) confirms that interim reports help investors understand seasonality uncertainties that may affect annual performance. Investors may find interim forward-looking disclosures less useful for a number of reasons.

In the pre-event period, the lack of significant t-test results for CFW and SFW suggests interim report disclosures are not pre-empted by earlier disclosure mediums in the UK. Half-yearly interim reports are the first financial year disclosures for UK listed companies. In addition, Cools and Mirjam van Praag (2007) and Opong (1995) comment that financial reports disclosures contain information that is not pre-empted or leaked by in earlier disclosure mediums.

In the post-event period, lack of information content in both complementary and supplementary forward-looking attribute reflects the finding in Schleicher et al. (2007) that

usefulness for prospective disclosures in UK firms is dependent on profit performance. In their study, Schleicher et al. (2007) argued that for loss-making firms, forward-looking disclosures were the only remedy assuring investors about viability of the business as losses showed that past performance was undesirable. On the other hand, for profit-making firms, past profitability was adequate to assure future favourable performance. Baginski et al (2002) reflect a similar observation for US firms. In periods of profitability, prospective disclosures were few and less precise than in periods of loss-making or decreased profitability. The sample for this thesis has two characteristics that suggest the firms had sound past performance, thereby undermining the usefulness of prospective disclosures. First, the descriptive statistics show that the control variable of interim earnings per share (IES) was 6.050 at the 25th percentile, with mean of 22.358. This means that 75% of the firms had positive IES, portraying profit-making firms for three quarters of the sample. In addition, the positive mean value for IES shows that on average, the firms were profit making. Secondly, the study's sample is comprised of the top 350 UK listed firms that have sustained the status for three successive years.

Another reason for the lack of usefulness in forward-looking disclosure may be related to reputation and litigation risks. From the descriptive statistics, forward-looking information was the least disclosed attribute for both complementary and supplementary narratives. Managers may not prefer to provide precise forward-looking disclosures due to reputation risks and litigation. Therefore, the level of uncertainty reduced by the potentially imprecise prospective disclosures may be minimal. Instances of the influence of reputation and litigation risks to disclosure extent, preciseness and reliability of forward-looking disclosures have been discussed in prior literature.

On the issue of reliability, Bozzolan, et al (2009) argued that the usefulness of forward-looking disclosures may be explained through the incomplete revelation hypothesis (IRH) if the disclosures are reliable. Under IRH, forward-looking disclosures reduce the uncertainty about the firm's future performance by revealing the firms prospects and direction. However, if that information is not credible, investors may consider it deceptive and may lead to adverse selection. Complementary forward-looking disclosures are not easily reconcilable to any other

reference in the interim report, therefore, they may be hard to verify. Supplementary forward-looking disclosures may be reconciled with reference to future interim financial statements. However, lack of detailed third-party verification of interim financial statements may lead investors to question authenticity of supplementary forward-looking disclosures. This argument reflects a concern raised in a prior study (e.g. Opong 1995) that the usefulness of disclosures in UK interim reports may be undermined by the absence of full audit reports that would have assured the authenticity of the disclosures.

On the extent of disclosure, reputation risk may deter managers from providing precise and detailed forward-looking disclosures because the achievement of current or past prospects can be checked in future financial reports. Bozzolan, et al (2009) argues that the credibility of forward-looking disclosures is confirmed *ex ante* through future disclosures of performance. Therefore, there is a likelihood that managers may not be willing to provide exact and numerous targets as investors may hold them accountable for underperformance. To the contrary, under uncertain information hypothesis, incomplete revelation hypothesis and incomplete contracting, there is an appreciation that investors are always in pursuit of more precise disclosures to augment their perception about the business. If few and imprecise disclosures are provided, then usefulness of that information is likely to be compromised.

Baginski et al (2002) discussed the relationship between litigation, reputation and extent of forward-looking disclosures by comparing characteristics of prospective disclosures in a litigious environment (US) to a less litigious environment (Canada). Forward-looking disclosures for US firms had few and imprecise disclosures compared to Canadian entities that provided more prospective information. US firms were considered to disclose in a manner that protects the reputation of the firm and managers but Canadian firms were motivated by influencing investor decisions other than avoidance of litigation.

Therefore, the provision of less forward-looking disclosures for both complementary and supplementary narratives compared to other attributes in this thesis could imply that the information is not precise. This may be argued to result from fear of reputation and litigation risks. A related perspective is the observation in this thesis that while reading interim reports

of the sample firms, various companies included a disclaimer note either before or after the narrative section protecting companies from litigation arising from investors' dependence on forward-looking disclosures. This could explain the lack of association of both CFW and SFW with returns.

Based on the results and discussion above, hypothesis H 5 is accepted that there is no difference in the information content of complementary and supplementary attribute of forward-looking disclosures, both in the pre-event and post-event period.

9.5 Incremental Information Content of Complementary and Supplementary Narratives

9.5.1 Results

The subsidiary objective of the thesis is to establish incremental information content of complementary and supplementary narratives. This is achieved by comparing results of the model combining complementary and supplementary narratives with the models that consider complementary and supplementary narratives individually. The results are organised in two parts. The first part presents incremental information content based on disclosure variety where results of Model 5 are compared with those in Model 1 and Model 2. The second part relates to incremental information content based on disclosure depth. In this case, the outcome of Model 6 is compared with that in Model 3 and Model 4.

9.5.1.1 *Incremental Information Content based on Disclosure Variety*

The results for Model 5 are presented in Table 28. Panel A is concerned with the pre-event results while Panel B has results for the post-event period.

In the pre-event period, the coefficients of the adjusted R^2 are lowest at -0.004 and highest at 0.010. The lowest pre-event F-ratio coefficient in 0.740 and the highest is 1.609 and no F-ratio value is significant. In addition, prior to the event day, there is no independent variable with significant t-statistics.

Table 28   *Incremental Information Content based on Disclosure Variety*

Panel A.   *Pre-event Period*

	$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 SII_{it} + \beta_3 ADY_{it} + \beta_4 IES_{it} + \beta_5 ITA_{it} + \varepsilon$						
	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,-4)	0.015 [-0.001] {0.910} (0.475) <1.961>	[1.823] (0.069)	-0.079 [-1.130] (0.259) {0.663} <1.509>	0.080 [1.073] (0.284) {0.583} <1.716>	-0.052 [-0.898] (0.370) {0.986} <1.014>	-0.026 [-0.448] (0.654) {0.967} <1.034>	-0.082 [-1.258] (0.209) {0.770} <1.299>
CAR(-5,-3)	0.012 [-0.004] {0.740} (0.594) <2.051>	[0.775] (0.439)	-0.053 [-0.750] (0.454) {0.663} <1.509>	0.128 [1.715] (0.087) {0.583} <1.716>	-0.009 [-0.148] (0.882) {0.986} <1.014>	0.046 [0.788] (0.432) {0.967} <1.034>	-0.058 [-0.898] (0.370) {0.770} <1.299>
CAR(-5,-2)	0.020 [0.004] {1.263} (0.290) <2.010>	[0.582] (0.561)	0.014 [0.200] (0.841) {0.663} <1.509>	0.094 [1.260] (0.209) {0.583} <1.716>	-0.055 [-0.957] (0.339) {0.986} <1.014>	0.070 [1.212] (0.226) {0.967} <1.034>	-0.123 [-1.897] (0.059) {0.770} <1.299>
CAR(-5,-1)	0.026 [0.010] {1.609} (0.157) <2.069>	[0.245] (0.806)	0.018 [0.263] (0.792) {0.663} <1.509>	0.075 [1.004] (0.316) {0.583} <1.716>	-0.100 [-1.757] (0.080) {0.986} <1.014>	0.103 [1.782] (0.076) {0.967} <1.034>	-0.063 [-0.968] (0.334) {0.770} <1.299>

Panel B.   *Event Day and Post-event Period*

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
				$CAR_{it} = \propto + \beta_1 CII_{it} + \beta_2 SII_{it} + \beta_3 ADY_{it} + \beta_4 IES_{it} + \beta_5 ITA_{it} + \varepsilon$			
CAR(-5,0)	0.408 [0.398] {41.729} (0.000) <1.955>	[-0.628] (0.531)	0.068 [1.250] (0.212) {0.663} <1.509>	-0.130 [-2.240] (0.026) {0.583} <1.716>	0.283 [6.364] (0.000) {0.986} <1.014>	0.573 [12.738] (0.000) {0.967} <1.034>	0.004 [0.070] (0.945) {0.770} <1.299>
CAR(-5,1)	0.408 [0.398] {41.696} (0.000) <1.956>	[-0.613] (0.540)	0.067 [1.239] (0.216) {0.663} <1.509>	-0.130 [-2.243] (0.026) {0.583} <1.716>	0.283 [6.365] (0.000) {0.986} <1.014>	0.573 [12.731] (0.000) {0.967} <1.034>	0.003 [0.069] (0.945) {0.770} <1.299>
CAR(-5,2)	0.407 [0.398] {41.674} (0.000) <1.957>	[-0.613] (0.540)	0.068 [1.243] (0.215) {0.663} <1.509>	-0.130 [-2.243] (0.026) {0.583} <1.716>	0.283 [6.359] (0.000) {0.986} <1.014>	0.573 [12.731] (0.000) {0.967} <1.034>	0.003 [0.064] (0.949) {0.770} <1.299>
CAR(-5,3)	0.407 [0.398] {41.648} (0.000) <1.964>	[-0.689] (0.491)	0.072 [1.329] (0.185) {0.663} <1.509>	-0.132 [-2.279] (0.023) {0.583} <1.716>	0.282 [6.342] (0.000) {0.986} <1.014>	0.573 [12.730] (0.000) {0.967} <1.034>	0.002 [0.042] (0.966) {0.770} <1.299>
CAR(-5,4)	0.318 [0.307] {28.312} (0.000) <1.935>	[-0.663] (0.508)	0.111 [1.902] (0.058) {0.663} <1.509>	-0.170 [-2.739] (0.007) {0.583} <1.716>	0.294 [6.165] (0.000) {0.986} <1.014>	0.477 [9.891] (0.000) {0.967} <1.034>	-0.043 [-0.789] (0.431) {0.770} <1.299>
CAR(-5,5)	0.285 [0.273] {24.115} (0.000) <1.962>	[-0.222] (0.824)	0.110 [1.850] (0.065) {0.663} <1.509>	-0.196 [-3.087] (0.002) {0.583} <1.716>	0.272 [5.570] (0.000) {0.986} <1.014>	0.447 [9.039] (0.000) {0.967} <1.034>	-0.068 [-1.225] (0.221) {0.770} <1.299>

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CII (SII) = Complementary (Supplementary) Number of Information Items [Complementary Disclosure Variety], ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

In the post-event period, the adjusted R^2 are at 0.398 for CAR (-5, 0) to CAR (-5, 3), 0.307 for CAR (-5, 4) and 0.273 for CAR (-5, 5). The highest F-ratio is for CAR (-5, 0) at 41.729 and the lowest is 24.115 for CAR (-5, 5). All post-event F-ratios are significant at p<0.01. While

SII is significantly but negatively associated with returns throughout the period, CII is not significant for any post-event day. The pattern of the post-event SII t-statistic coefficients shows increasing values and significance levels as days disperse from the event. For the financial performance measures, ADY and IES are positively and significantly associated with returns at p<0.01 for all days, but ITA has no significant value through the period.

Both in the pre-event and post-event periods, D-W statistics range within 1.930 and 2.070. Given that the values are between 1 and 3, the model is not exposed to high serial correlation. The tolerance and VIF values for variables are within the limits that suggest low levels of multicollinearity.

Diagram 11 shows the incremental information content of complementary and supplementary narratives when disclosure variety is used to estimate extent of disclosure.

Diagram 11   Incremental Information Content based on Disclosure Variety
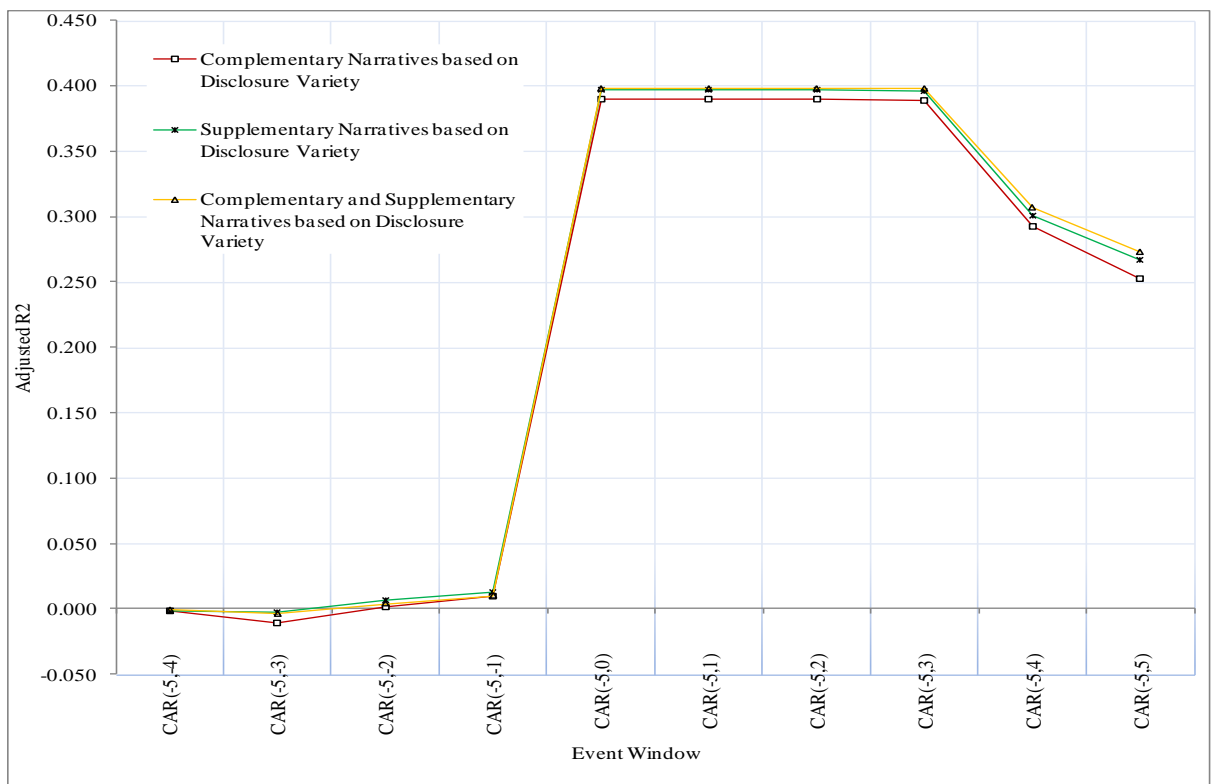
The line graph marked complementary narratives based on disclosure variety represents the adjusted R^2 values for Model 1. The adjusted R^2 coefficients for Model 2 are is represented by the lines graph marked supplementary narratives based on disclosure variety, lastly, the adjusted R^2 values for Model 5 are shown by the line graph marked complementary and supplementary narratives based on disclosure variety. Line graph for the model combining complementary and supplementary narratives is closest to that of supplementary narratives. The line graph representing complementary narratives based on disclosure variety is visually below the other two models.

In the pre-event period, all three models have adjusted R^2 values that do not differ substantially from zero and all F-ratios are not significant. All independent variables in Model 1, Model 2 and Model 5 have no significant t-statistics.

In the post-event period, the adjusted R^2 values for Model 1 are 0.390 for CAR (-5, 0) to CAR (-5, 2), 0.389 for CAR (-5, 3), 0.292 for CAR (-5, 4) and 0.252 for CAR (-5, 5), while for Model 5, the adjusted R^2 coefficients range from 0.398 to 0.273. The F-ratios for both Model 1 and Model 5 are significant at $p < 0.01$ with Model 1 having values from 50.243 to 27.004 and Model 5 having F-ratio coefficients from 41.729 to 24.115. In Model 1, annual dividend yield (ADY) and interim earnings per share (IES) are the only variables that are associated with return and are positively and significantly relevant at $p < 0.01$. In Model 5, supplementary information items (SII) has negative and significant t-statistics (at $p < 0.05$), ADY and IES are both positive and significant at $p < 0.01$.

For Model 2, the adjusted R^2 values are 0.397 for CAR (-5, 0) to CAR (-5, 2), 0.396 for CAR (-5, 3) 0.301 for CAR (-5, 4) and 0.267 for CAR (-5, 5). For Model 5, the adjusted R^2 coefficients range from 0.398 to 0.273. While, the F-ratio range for Model 2 is from 51.675 to 29.096, the range for Model 5 is from 41.729 to 24.115. In both models, ADY and IES are positive and significant at $p < 0.01$. In Model 5, SII is negatively associated with returns for all days. However, significance levels for SII vary with a significance of $p < 0.05$ for CAR (-5, 0) to CAR (-5, 3) and significance of $p > 0.01$ for CAR (-5, 4) and CAR (-5, 5). In Model 2, SII was negative and significant at $p < 0.01$ for only CAR (-5, 4) and CAR (-5, 5).

To examine the significance of the difference in information content of model combining complementary and supplementary narratives compared to that of the models considering narrative types as mutually exclusive, the F-statistic for the change in R^2 of the models is used. Table 29 shows the results of the F-statistic tests.

Table 29   Incremental Information Content based on Disclosure Variety Significance Test

Panel A: Model 5 with Model 1

	R-Sq 5	R-Sq 1	K5	K1	N	F	dfΔ	dfε	Critical F	Is change significant based on F?
CAR(-5,-4)	0.015	0.011	5	4	309	1.230	1	303	3.87	No
CAR(-5,-3)	0.012	0.002	5	4	309	3.067	1	303	3.87	No
CAR(-5,-2)	0.020	0.015	5	4	309	1.546	1	303	3.87	No
CAR(-5,-1)	0.026	0.023	5	4	309	0.933	1	303	3.87	No
CAR(-5,0)	0.408	0.398	5	4	309	5.118	1	303	3.87	Yes
CAR(-5,1)	0.408	0.398	5	4	309	5.118	1	303	3.87	Yes
CAR(-5,2)	0.407	0.398	5	4	309	4.599	1	303	3.87	Yes
CAR(-5,3)	0.407	0.397	5	4	309	5.110	1	303	3.87	Yes
CAR(-5,4)	0.318	0.302	5	4	309	7.109	1	303	3.87	Yes
CAR(-5,5)	0.285	0.262	5	4	309	9.747	1	303	3.87	Yes

Panel B: Model 5 with Model 2

	R-Sq 5	R-Sq 2	K5	K2	N	F	dfΔ	dfε	Critical F	Is change significant based on F?
CAR(-5,-4)	0.015	0.011	5	4	309	1.230	1	303	3.87	No
CAR(-5,-3)	0.012	0.010	5	4	309	0.613	1	303	3.87	No
CAR(-5,-2)	0.020	0.020	5	4	309	0.000	1	303	3.87	No
CAR(-5,-1)	0.026	0.026	5	4	309	0.000	1	303	3.87	No
CAR(-5,0)	0.408	0.405	5	4	309	1.535	1	303	3.87	No
CAR(-5,1)	0.408	0.405	5	4	309	1.535	1	303	3.87	No
CAR(-5,2)	0.407	0.404	5	4	309	1.533	1	303	3.87	No
CAR(-5,3)	0.407	0.404	5	4	309	1.533	1	303	3.87	No
CAR(-5,4)	0.318	0.310	5	4	309	3.554	1	303	3.87	No
CAR(-5,5)	0.285	0.277	5	4	309	3.390	1	303	3.87	No

Note: R-Sq 5 = coefficient of determination for Model 5, R-Sq 1 = coefficient of determination for Model 1, R-Sq 2 = coefficient of determination for Model 2, K5 = number of predictors in Model 5, K1 = number of predictors in Model 1, K2 = number of predictors in Model 2, F = F-statistic, N = number of subjects, dfΔ = degrees of freedom change, dfε = degrees of freedom error, Critical F = Critical F-statistic values at p<0.05

Table 29 under panel A shows that incremental information content of the model combining complementary and supplementary narratives, compared to the model for complementary

narratives, is significant at $p<0.05$ in the post-event period. However, in the pre-event period, the F-statistic results are not significant. In panel B, no F-statistic value surpasses the critical value. This suggests that the information content obtained by combining complementary and supplementary narratives under disclosure variety is not significantly different from that of supplementary narratives based on disclosure variety.

9.5.1.2 *Incremental Information based on Disclosure Depth*

The results for Model 6 are presented in Table 30. The pre-event and post-event period results are under Panel A and Panel B, respectively.

In the pre-event period, the adjusted R^2 coefficients range from -0.005 to 0.013. The F-ratios in the period range from 0.858 to 1.379 and are all not significant. For all pre-event days, no t-statistics for the independent variables are significant, except two instances. On day -4, the complementary amounts and comparison of current with past performance (CAC) has a significant ($p<0.05$) t-statistics value of -1.964. On day -1, interim earnings per share (IES) is has a t-test coefficient of 2.112, significant at $p<0.05$.

Table 30   *Incremental Information Content based on Disclosure Depth*

Panel A.   *Pre-event Period*

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 SGD_{it} + \beta_6 SAC_{it} + \beta_7 SRE_{it} + \beta_8 SFW_{it} + \beta_9 ADY_{it}$$
$$+ \beta_{10} IES_{it} + \beta_{11} ITA_{it} + \varepsilon$$

	R^2 [Adj. R^2] {F-Ratio} (Sig.) \<D-W\>	Const [t-Stat.] (Sig.)	CGD Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	CAC Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	CRE Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	CFW Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	SGD Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	SAC Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	SRE Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	SFW Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ADY Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	IES Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>	ITA Std B [t-Stat.] (Sig.) {Tol.} \<VIF\>
CAR(-5,-4)	0.044		0.073	-0.217	0.134	0.047	0.036	0.227	-0.098	-0.056	-0.032	-0.017	-0.052
	[0.009]	[-0.786]	[1.050]	[-1.964]	[1.026]	[0.409]	[0.537]	[1.928]	[-0.715]	[-0.705]	[-0.555]	[-0.284]	[-0.747]
	{1.241}	(0.433)	(0.295)	(0.050)	(0.306)	(0.682)	(0.592)	(0.055)	(0.475)	(0.481)	(0.579)	(0.776)	(0.456)
	(0.259)		{0.660}	{0.265}	{0.188}	{0.241}	{0.719}	{0.231}	{0.173}	{0.505}	{0.947}	{0.889}	{0.653}
	\<1.986\>		\<1.516\>	\<3.777\>	\<5.320\>	\<4.155\>	\<1.390\>	\<4.325\>	\<5.792\>	\<1.982\>	\<1.056\>	\<1.124\>	\<1.532\>
CAR(-5,-3)	0.036		0.063	-0.192	0.239	-0.058	-0.051	0.156	-0.016	-0.065	0.004	0.069	-0.032
	[0.000]	[-0.475]	[0.892]	[-1.731]	[1.819]	[-0.503]	[-0.758]	[1.316]	[-0.116]	[-0.809]	[0.067]	[1.144]	[-0.457]
	{1.000}	(0.635)	(0.373)	(0.084)	(0.070)	(0.616)	(0.449)	(0.189)	(0.908)	(0.419)	(0.947)	(0.253)	(0.648)
	(0.447)		{0.660}	{0.265}	{0.188}	{0.241}	{0.719}	{0.231}	{0.173}	{0.505}	{0.947}	{0.889}	{0.653}
	\<2.045\>		\<1.516\>	\<3.777\>	\<5.320\>	\<4.155\>	\<1.390\>	\<4.325\>	\<5.792\>	\<1.982\>	\<1.056\>	\<1.124\>	\<1.532\>
CAR(-5,-2)	0.031		0.033	-0.113	0.136	0.001	0.001	0.157	-0.045	-0.074	-0.036	0.085	-0.093
	[-0.005]	[0.072]	[0.469]	[-1.015]	[1.031]	[0.010]	[0.017]	[1.322]	[-0.324]	[-0.915]	[-0.620]	[1.397]	[-1.316]
	{0.858}	(0.943)	(0.639)	(0.311)	(0.303)	(0.992)	(0.986)	(0.187)	(0.746)	(0.361)	(0.536)	(0.163)	(0.189)
	(0.582)		{0.660}	{0.265}	{0.188}	{0.241}	{0.719}	{0.231}	{0.173}	{0.505}	{0.947}	{0.889}	{0.653}
	\<2.012\>		\<1.516\>	\<3.777\>	\<5.320\>	\<4.155\>	\<1.390\>	\<4.325\>	\<5.792\>	\<1.982\>	\<1.056\>	\<1.124\>	\<1.532\>
CAR(-5,-1)	0.049		0.038	-0.150	0.128	0.038	-0.024	0.118	0.046	-0.150	-0.082	0.127	-0.031
	[0.013]	[-0.087]	[0.545]	[-1.362]	[0.982]	[0.328]	[-0.365]	[1.000]	[0.341]	[-1.883]	[-1.416]	[2.112]	[-0.436]
	{1.379}	(0.931)	(0.586)	(0.174)	(0.327)	(0.743)	(0.715)	(0.318)	(0.734)	(0.061)	(0.158)	(0.036)	(0.663)
	(0.189)		{0.660}	{0.265}	{0.188}	{0.241}	{0.719}	{0.231}	{0.173}	{0.505}	{0.947}	{0.889}	{0.653}
	\<2.058\>		\<1.516\>	\<3.777\>	\<5.320\>	\<4.155\>	\<1.390\>	\<4.325\>	\<5.792\>	\<1.982\>	\<1.056\>	\<1.124\>	\<1.532\>

Panel B.   *Event Day and Post-event Period*

$$CAR_{it} = \propto + \beta_1 CGD_{it} + \beta_2 CAC_{it} + \beta_3 CRE_{it} + \beta_4 CFW_{it} + \beta_5 SGD_{it} + \beta_6 SAC_{it} + \beta_7 SRE_{it} + \beta_8 SFW_{it} + \beta_9 ADY_{it} + \beta_{10} IES_{it} + \beta_{11} ITA_{it} + \varepsilon$$

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>
CAR(-5,0)	0.479 [0.460] {24.842} (0.000) <1.954>	[3.267] (0.001)	-0.171 [-3.314] (0.001) {0.660} <1.516>	0.415 [5.102] (0.000) {0.265} <3.777>	-0.160 [-1.657] (0.099) {0.188} <5.320>	-0.055 [-0.644] (0.520) {0.241} <4.155>	0.069 [1.397] (0.163) {0.719} <1.390>	-0.121 [-1.393] (0.165) {0.231} <4.325>	-0.108 [-1.073] (0.284) {0.173} <5.792>	0.073 [1.242] (0.215) {0.505} <1.982>	0.264 [6.137] (0.000) {0.947} <1.056>	0.559 [12.580] (0.000) {0.889} <1.124>	-0.101 [-1.956] (0.051) {0.653} <1.532>
CAR(-5,1)	0.479 [0.460] {24.830} (0.000) <1.954>	[3.258] (0.001)	-0.170 [-3.300] (0.001) {0.660} <1.516>	0.416 [5.114] (0.000) {0.265} <3.777>	-0.160 [-1.661] (0.098) {0.188} <5.320>	-0.056 [-0.657] (0.512) {0.241} <4.155>	0.069 [1.390] (0.166) {0.719} <1.390>	-0.123 [-1.411] (0.159) {0.231} <4.325>	-0.107 [-1.062] (0.289) {0.173} <5.792>	0.073 [1.244] (0.215) {0.505} <1.982>	0.264 [6.134] (0.000) {0.947} <1.056>	0.558 [12.576] (0.000) {0.889} <1.124>	-0.101 [-1.954] (0.052) {0.653} <1.532>
CAR(-5,2)	0.479 [0.460] {24.810} (0.000) <1.955>	[3.261] (0.001)	-0.170 [-3.300] (0.001) {0.660} <1.516>	0.416 [5.110] (0.000) {0.265} <3.777>	-0.160 [-1.659] (0.098) {0.188} <5.320>	-0.056 [-0.657] (0.512) {0.241} <4.155>	0.069 [1.388] (0.166) {0.719} <1.390>	-0.123 [-1.411] (0.159) {0.231} <4.325>	-0.107 [-1.058] (0.291) {0.173} <5.792>	0.073 [1.238] (0.217) {0.505} <1.982>	0.264 [6.127] (0.000) {0.947} <1.056>	0.559 [12.575] (0.000) {0.889} <1.124>	-0.101 [-1.957] (0.051) {0.653} <1.532>
CAR(-5,3)	0.478 [0.458] {24.689} (0.000) <1.966>	[3.269] (0.001)	-0.170 [-3.300] (0.001) {0.660} <1.516>	0.414 [5.082] (0.000) {0.265} <3.777>	-0.159 [-1.639] (0.102) {0.188} <5.320>	-0.054 [-0.628] (0.530) {0.241} <4.155>	0.067 [1.362] (0.174) {0.719} <1.390>	-0.121 [-1.393] (0.165) {0.231} <4.325>	-0.104 [-1.034] (0.302) {0.173} <5.792>	0.069 [1.160] (0.247) {0.505} <1.982>	0.264 [6.117] (0.000) {0.947} <1.056>	0.559 [12.576] (0.000) {0.889} <1.124>	-0.103 [-1.984] (0.048) {0.653} <1.532>
CAR(-5,4)	0.394 [0.372] {17.582} (0.000) <1.963>	[2.743] (0.006)	-0.142 [-2.546] (0.011) {0.660} <1.516>	0.445 [5.075] (0.000) {0.265} <3.777>	-0.272 [-2.609] (0.010) {0.188} <5.320>	0.056 [0.611] (0.542) {0.241} <4.155>	0.078 [1.456] (0.147) {0.719} <1.390>	-0.243 [-2.592] (0.010) {0.231} <4.325>	0.012 [0.108] (0.914) {0.173} <5.792>	0.008 [0.120] (0.904) {0.505} <1.982>	0.273 [5.882] (0.000) {0.947} <1.056>	0.470 [9.806] (0.000) {0.889} <1.124>	-0.122 [-2.188] (0.029) {0.653} <1.532>
CAR(-5,5)	0.376 [0.353] {16.273} (0.000) <1.980>	[3.217] (0.001)	-0.153 [-2.712] (0.007) {0.660} <1.516>	0.468 [5.253] (0.000) {0.265} <3.777>	-0.333 [-3.153] (0.002) {0.188} <5.320>	0.107 [1.142] (0.254) {0.241} <4.155>	0.065 [1.210] (0.227) {0.719} <1.390>	-0.285 [-2.988] (0.003) {0.231} <4.325>	0.055 [0.501] (0.617) {0.173} <5.792>	-0.040 [-0.623] (0.534) {0.505} <1.982>	0.247 [5.255] (0.000) {0.947} <1.056>	0.445 [9.154] (0.000) {0.889} <1.124>	-0.152 [-2.682] (0.008) {0.653} <1.532>

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) Complementary (Supplementary) = Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

In the post-event period, adjusted R^2 values are 0.460 for days 0 to +2, 0.458 for day +3, 0.372 for day +4 and 0.353 for day +5. The F-ratios range from 24.842 to 16.273 and are significant at $p<0.01$. The association between the independent variables and cumulative abnormal returns (CAR) is varied. Complementary good news (CGD) has negative t-statistics throughout period with a significance level of $p<0.01$ for days 0 to +3 and day 5, but significance of the variable on day +4 is $p<0.05$. The variable CAC is positively and significantly associated with CAR at $p<0.01$ throughout the period. Complementary reasons for performance (CRE) is only associated with returns for days +4 and +5 with negative t-statistics that are significant at $p<0.01$. The complementary forward-looking variable (CFW) is the only complementary attribute that has no association with CAR. Apart from supplementary amounts and comparisons of current with past performance (SAC), other supplementary disclosure depth attributes are not associated with returns. However, even SAC is only significant (at $p<0.01$) for days +4 and +5 with t-test values of -2.592 and -2.988, respectively. Control variables ADY and IES are positively and significantly (at $p<0.01$) associated with returns throughout the period. The significant t-statistics for the variable of interim total assets (ITA) are -1.984 ($p<0.05$), -2.188 ($p<0.05$) and -2.682 ($p<0.01$) for days +3, +4 and +5, respectively.

In both pre- and post-event periods, there is no concern for high serial correlation as D-W statistics range within only ±0.060 away from 2.000. All tolerance values are above 0.1000 and VIF coefficients are all below 10.000. Therefore, there is no high multicollinearity too.

The illustration in Diagram 12 shows incremental information content when complementary and supplementary disclosures are measured by disclosure depth.

Diagram 12   Incremental Information Content based on Disclosure Depth
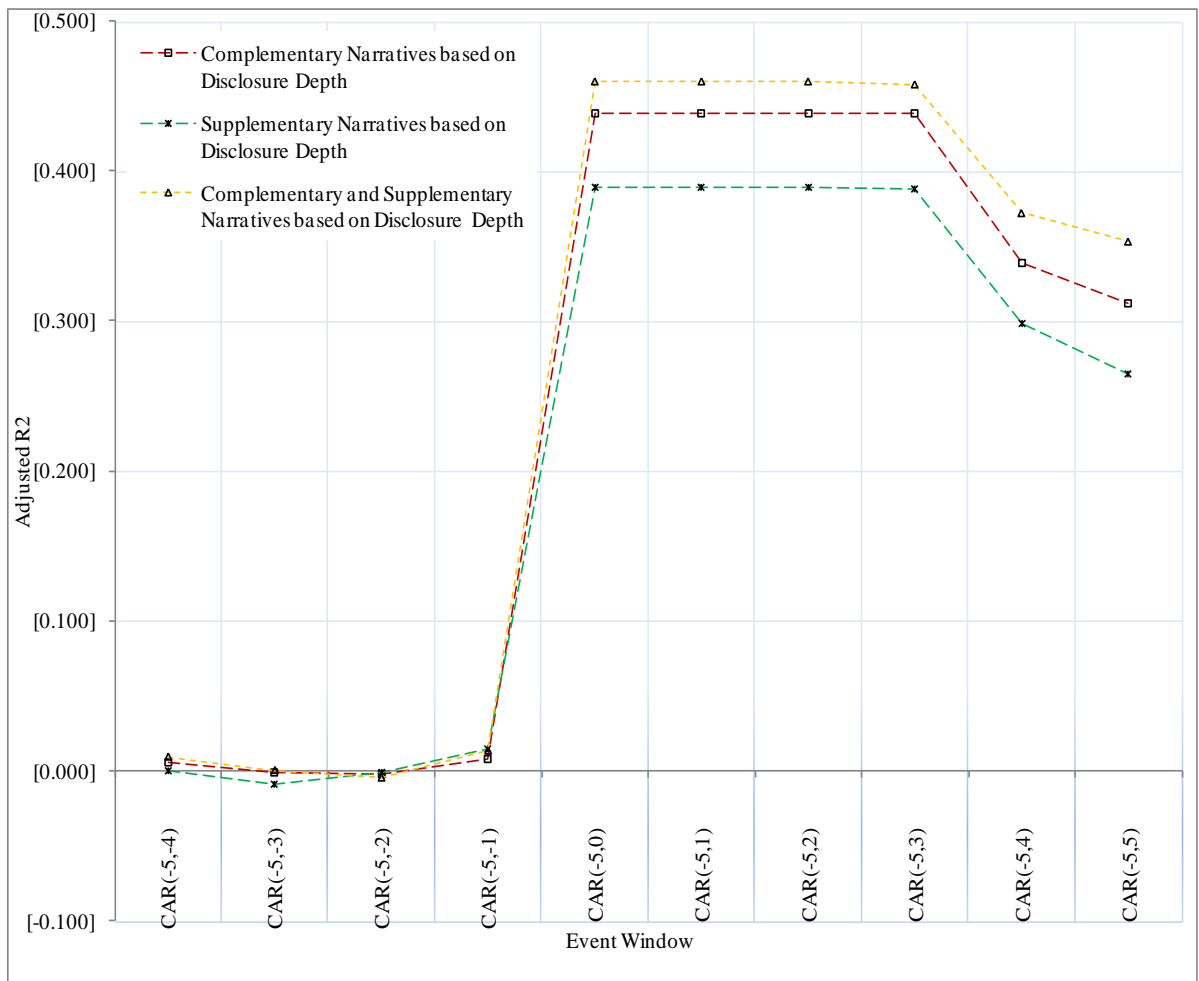
The line graph marked complementary narratives based on disclosure depth represents the adjusted R^2 values for Model 3, while the adjusted R^2 coefficients for Model 4 are shown by the line graph named supplementary narratives based on disclosure depth. The adjusted R^2 resulting from Model 6 are denoted with the line graph marked complementary and supplementary narratives based on disclosure depth.

In the pre-event period, adjusted R^2 for the three models do not differ substantially from zero and no F-ratios are significant. In Model 3 and Model 4, no independent variable is significant for any day in the pre-event period. In Model 6, CAC has a negative and significant t-test for CAR (-5, -4) and IES has a positive and significant t-test for CAR (-5, -1).

In the post-event period, Diagram 12 shows that all adjusted R^2 values for Model 6 are above those for Model 3 and Model 4. All three models have significant F-ratios at p<0.01 throughout the period but with differing coefficients. For Model 3, the range of F-ratio values is from 36.376 to 20.974 and for Model 4, the F-ratio ranges from 29.050 to 16.869. The F-ratio values for Model 6 are lowest, ranging from 24.842 to 16.273. The variables significant for all post-event days in Model 3 are CGD, CAC, CRE, ADY, IES and ITA. In Model 6, the significant period throughout the post-event period are CGD, CAC, ADY and IES. The variables CRE and SAC are only significant in Model 6 for days +4 and +5 while ITA is significant for days +3 to +5. In Model 4, the only significant variables are ADY and IES, which are associated with returns for all post-event days.

To add to the discussion above, Table 31 presents the F-statistic significance results of incremental information content based on disclosure depth.

Table 31   Incremental Information Content based on Disclosure Depth Significance Test
Panel A: Model 6 with Model 3

	R-Sq 6	R-Sq 3	K6	K3	N	F	dfΔ	dfε	Critical F	Is change significant based on F?
CAR(-5,-4)	0.044	0.027	11	7	309	1.320	4	297	2.40	No
CAR(-5,-3)	0.036	0.022	11	7	309	1.078	4	297	2.40	No
CAR(-5,-2)	0.031	0.021	11	7	309	0.766	4	297	2.40	No
CAR(-5,-1)	0.049	0.030	11	7	309	1.483	4	297	2.40	No
CAR(-5,0)	0.479	0.451	11	7	309	3.990	4	297	2.40	Yes
CAR(-5,1)	0.479	0.451	11	7	309	3.990	4	297	2.40	Yes
CAR(-5,2)	0.479	0.451	11	7	309	3.990	4	297	2.40	Yes
CAR(-5,3)	0.478	0.451	11	7	309	3.841	4	297	2.40	Yes
CAR(-5,4)	0.394	0.354	11	7	309	4.901	4	297	2.40	Yes
CAR(-5,5)	0.376	0.328	11	7	309	5.712	4	297	2.40	Yes

Panel B: Model 6 with Model 4

	R-Sq 6	R-Sq 4	K6	K4	N	*F*	dfΔ	dfε	Critical F	Is change significant based on F?
CAR(-5,-4)	0.044	0.023	11	7	309	1.631	4	297	2.40	No
CAR(-5,-3)	0.036	0.013	11	7	309	1.772	4	297	2.40	No
CAR(-5,-2)	0.031	0.022	11	7	309	0.690	4	297	2.40	No
CAR(-5,-1)	0.049	0.036	11	7	309	1.015	4	297	2.40	No
CAR(-5,0)	0.479	0.403	11	7	309	10.831	4	297	2.40	Yes
CAR(-5,1)	0.479	0.403	11	7	309	10.831	4	297	2.40	Yes
CAR(-5,2)	0.479	0.403	11	7	309	10.831	4	297	2.40	Yes
CAR(-5,3)	0.478	0.402	11	7	309	10.810	4	297	2.40	Yes
CAR(-5,4)	0.394	0.314	11	7	309	9.802	4	297	2.40	Yes
CAR(-5,5)	0.376	0.282	11	7	309	11.185	4	297	2.40	Yes

Note: R-Sq 6 = coefficient of determination for Model 6, R-Sq 3 = coefficient of determination for Model 3, R-Sq 4 = coefficient of determination for Model 4, K6 = number of predictors in Model 6, K3 = number of predictors in Model 3, K4 = number of predictors in Model 4, F = F-statistic, N = number of subjects, dfΔ = degrees of freedom change, dfε = degrees of freedom error, Critical F = Critical F-statistic values at p<0.05

Table 31 under panel A presents the significance test of the difference between the information content of the model having both complementary and supplementary narratives based on disclosure depth and the model having complementary narratives only. Under panel B, the differential in information content of the model combining complementary and supplementary narratives, compared to the model having supplementary narratives is examined for significance. For both panels, the pre-event incremental information content is not significant. In the post-event period, incremental information content is significant at p<0.05 for all models based on disclosure depth on all days.

9.5.2 Discussion

The examination of incremental information content is motivated by the statement in ASB (2005; 2006) that complementary and supplementary narratives are used by investors to understand financial statements with an aim of investment decision making. The discourse in the statement reflects that investors refer to both complementary and supplementary narratives as opposed to utilising complementary or supplementary narratives individually.

In the pre-event period, results of Model 5 show that complementary and supplementary narratives are not associated with returns, similar to the findings in Model 1 and Model 2. Likewise, neither Model 6 nor Model 3 and Model 4 had significant pre-event F-ratios and the models' adjusted R^2 coefficients did not differ substantially from zero. These results suggest that in the pre-event period, all three models have no information content, reflecting the suggestion by Opong (1995) that disclosures in UK interim reports are not pre-empted by any earlier source of information.

In the post-event period, under both disclosure variety and depth, the model combining complementary and supplementary narratives has higher information content than the models that consider complementary and supplementary narratives individually. However, the difference is significant in all cases except for the comparison between the model combining complementary and supplementary narratives based on disclosure variety and the model having supplementary narratives based on disclosure variety. The findings confirms the Biddle et al (1995) argument that combining variables in relative information content models provides more predictive power. The result also confirms the suggestion in Tauringana (1997) that models having most variables in a study provide the best predictive power.

Under disclosure variety, Model 2, representing supplementary narratives, had the highest F-ratio values. The second highest F-ratio values were for Model 1, representing complementary narratives. The least F-ratio values were for Model 5 that combined both complementary and supplementary narratives. For disclosure depth, the highest F-ratio coefficients were for Model 3 (complementary narratives), followed Model 4 (supplementary narratives). The least F-ratio values were for Model 6 (combination of complementary and supplementary narratives). This finding may indicate that whilst combining complementary and supplementary narratives provides the best models for predicting returns, the unimportant predictors of the models having less relative information content dilute the level of precision in the models combining complementary and supplementary narratives. The results reflects the suggestion in prior disclosure extent studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007; Hooks et al. 2000; Wallace and Nasser 1995) that mere estimation of disclosure extent

based on presence or absence of information items does not show the comprehensiveness in narratives.

For both disclosure variety and depth, the higher information content obtained by combining complementary and supplementary disclosures in the post-event period may reflect arguments in three alternate theories. The theories include uncertain information hypothesis (UIH), incomplete revelation hypothesis (IRH) and incomplete contracting. Arguments in the three theories reflect that completeness in disclosures influences returns due to reduction in information asymmetry and enhancement of preciseness.

Under UIH, Brown et al (1988) argues that due to risk averseness, investors' initial reaction to news may not be the true price. However, as investors comprehend the real effect of the information, a true price for the news is reached. Related to this, the overreaction hypothesis (ORH) by DeBondt and Thaler (1985) suggests that markets habitually over react to new information and persistently revise their original pricing of the news. To demonstrate these arguments, Brown et al (1988) explain that the first reaction to the sudden demise of an executive may be a decline in share prices. However, the true price for this event can only be established after the firm announces either a strategy for replacement or profile of the new executive. The example arguably illustrates that the true price of the news depends on the link between the news about demise and the replacement of the executive because of completeness in information about the event. Similarly, the synergy between complementary and supplementary narratives provides a more complete disclosure profile compared to considering either complementary or supplementary narratives separately. Whilst supplementary narratives explain only the amounts on the face of financial statements, complementary disclosures extend to information about factors outside the statements but influence the financial performance. For example, supplementary narratives explain the aggregate interim sales and profitability figures for the six months. However, complementary narratives break down interim sales and profitability according to time (e.g. monthly or quarterly), geographical segments (e.g. by country or continent) or business line (e.g. by product or customer type).

The IRH by Bloomfield (2002) explains that the revaluation of information is a result of having both rational and irrational investors. The rational investors will price a new piece of information accurately but irrational traders will depend on noise. The mispricing caused by irrational investors compels rational investors to seek for more intrinsic value in the disclosures for more returns. The process continues until a true price is reached. However, in order for rational investors to comprehend the actual returns of the information, they require both quantified and non-quantified disclosures. While the statistically based disclosures are precise and measurable, non-quantified information provides intrinsic value by explaining factors affecting the statistics and/ or cannot be quantified. Since supplementary narratives explain the amounts on the face of financial statements, the disclosures may be inclined to explaining statistical elements of performance. On the other hand, complementary narratives consider both the statistical elements that are not expressed in financial statements and other information that may be hard to quantify but can affect performance. Augmenting this argument is the recommendation by ASB (2005; 2006) that while complementing and supplementing, both quantified and non-quantified aspects of performance ought to be considered. To exemplify this, while supplementary narratives may disclose on staff expenses and retirement benefit obligations, complementary narratives provide information about changes in staff numbers and personnel policies. Therefore, the combination of complementary and supplementary narratives arguably provides a more complete account on personnel aspects of performance unlike in a case where complementary and supplementary narratives are considered separately. Prior studies such as Ball and Brown (1968) and Barberis, et al (1998) also argue that although disclosures based on financial statement information have information content, other non-statistical disclosures that are disclosed with financial statements are useful to investors.

Under incomplete contract theory, combining supplementary and complementary disclosures gives investors alternative sources of information that may address differences in information processing abilities. Chen (2005) discusses that information asymmetry may arise because people have varied information processing capabilities due to unique background knowledge. To illustrate this, Chen (2005) suggest that if the same financial report is produced for a

variety of investor types, it would be unlikely to attain a perfect correlation for the reaction to the information. In addition, Hart and Moore (1988) consider that the incomplete contract hypothesis recognises that people have unlimited forecast and cognition abilities. Therefore, there is possibility that varied abilities will lead to information asymmetry and mispricing of information. However, in circumstance where investors can renegotiate their initial mispriced positions, there is an opportunity of *ex post* returns (Masten 1999). Similarly, Vahabi (2002) and Gonedes (1976) argue that investors use available information to reassess the intrinsic value in disclosures continuously until a true price is established. Therefore, complementing and supplementing may provide investors with information that explains performance from alternating aspects. For example, people who are inclined to comprehending nonfinancial aspects of performance are likely to concentrate on complementary narratives but those who appreciate financial performance may be interested in supplementary disclosures.

In addition, combining complementary and supplementary narratives may reduce information costs since investors may not have to engage resources to analysing information. Hart and Moore (1988) argue that it is costly and impractical to have a complete contract between or amongst individuals. Therefore, incomplete contracting theory that recognises increased disclosures are better suited than complete contracting that assumes perfection in the market place. Tauringana and Mangena (2006) reflect this argument by suggesting that supplementary disclosures assist both sophisticated and unsophisticated investors in understanding financial statements without engaging in further analytical techniques. Similarly, firms may provide more disclosures if they view the information reduces the resources that investors would have employed to analyse information, thereby reducing information asymmetry and enhancing homogeneity in investor beliefs (Diamond 1985).

Also observed, the margin of information content between the model combining complementary and supplementary disclosures and models that consider complementary and supplementary information individually differs under disclosure variety and disclosure depth. Under disclosure variety, the adjusted R^2 coefficients of the combined model and the individual models of complementary and supplementary narratives do not differ substantially. However, in disclosure depth, the difference between the adjusted R^2 coefficients of the

combined model compared to the individual models is substantial. This observation may be explained by incomplete contract theory. Arrow and Debreu (1954) argue that complete contracting in a market place provides information about attributes of trade such number and specifications of commodities traded, the location, price and time of trade. This type of contract assumes that contracting parties are impartially informed. Therefore, there is no motivation for either party to strategically withhold or signal to the other party or even alter behaviour to unfairly gain by reducing the joint gains. In the disclosure variety models, one attribute of disclosure, that is, number of information items is used to measure disclosures. Under disclosure depth a set of information attributes (good news, amounts and comparison of current with past performance, reasons for performance and forward-looking disclosures) is used to measure disclosure extent. Therefore, it is likely that the multiplicity of attributes under disclosure depth provides more comprehensive disclosures that reduce information asymmetry compared to disclosure variety. In the same perspective, both the uncertain information and incomplete revelation hypotheses agree that a more detailed disclosure profile reduces uncertainty and helps investors use alternative attributes to understand and cross-examine the reliability of information. For example, under disclosure depth, good news in supplementary disclosures may be verified either through reasons or through trends in financial statements. Likewise, precision of complementary reasons for performance can be enhanced by reference to complementary amounts and comparison of current with past performance. Under disclosure variety, the extent of attribution is compromised and such advantages may be neglected. In agreement with this observation are prior studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007; Wallace and Nasser 1995) that foster the argument that disclosure measurement techniques based on various attributions reveal comprehensiveness in narratives. In turn, the attributes identified illuminate the aspects that investors may find relevant.

The conclusion to the subsidiary objective of this thesis is similar for disclosure variety and depth in pre-event period that the information content of the model combining complementary and supplementary narratives is not different from the models that consider complementary and supplementary narratives individually. In the post-event period, the results are varied

based on significance of the difference. For disclosure variety, the model combining complementary and supplementary narratives has higher information content than the models that consider complementary and supplementary narratives separately. However, the results are not significant for the comparison with the model for supplementary narratives but significant for the comparison with the model for complementary narratives. For disclosure depth, the model combining complementary and supplementary narratives has higher and significant incremental information content than the models that consider complementary and supplementary narratives separately. Given that disclosure depth considers a number of attributes, that is, (goodness of the news, amounts and comparisons of current with past performance, reasons for performance and forward-looking disclosures) as well as volume of narratives, the method is arguably better placed to reduce information asymmetry. Secondly, the generally higher incremental content in the models combining complementary and supplementary narratives affirms that both narratives types are used jointly reduce information asymmetry, as commended by ASB (2005; 2006) and thereby addressing the agency problem.

9.6   Information Content of Control Variables

The discussion in this section relates to the hypotheses H 6 (annual dividend yield) H 7 (interim earnings per share) and H 8 (interim total assets). As financial variables are included in all models, the discussion is based on all models.

9.6.1 Annual Dividend Yield

The t-statistics for annual dividend yield (ADY) are not significant in the pre-event period but were positively associated with returns in post-event period. In the pre-event period, investors arguably cannot rely on past dividend yield to make decisions as it may not be indicative of the future performance. In Watts (1973), information content of dividends was not realised on ground that the proportion of future earnings potential reflected in dividends was minute.

In the post-event period, a number of factors may explain the significance of ADY. Merton and Modigliani (1961) suggest that a stable or increased dividend pay signals to investors that management is confident about the performance outlook or prospects. The annual dividend

yield is a function of interim and final dividend. Therefore, previous financial year's dividend yield provides investors' interim dividend expectations that are confirmed when the interim reports are published. Prior studies (e.g. Campbell and Shiller 1988; Fama and French 1988; Kothari and Shanken 1997) agree that dividend yield is associated with share price returns because the ratio is used to predict the firm's future earnings and cash flows. Similarly, Sadka (2007) considers that dividend yield is useful to returns since it conveys information about the stability of future cash flows. However, a factor that may deter information content of dividend yield is that dividend policy is susceptible to manipulation (Fama and French 1989; Sadka 2007). In such circumstances, the cash flows attached to dividend declaration may not be sustainable. There also are studies (e.g. Fairfield and Yohn 2001; Watts and Zimmerman 1990) suggesting that dividend yield is manipulated as a result of profits manipulation.

From the findings of the study, hypothesis H 6 is accepted in the pre-event that annual dividend yield is not associated with share price returns. In the post-event period, hypothesis H 6 is rejected to conclude that after the announcement of interim results, there is a significant and positive relationship between dividend yield and share price returns.

9.6.2 Interim Earnings per Share

The variable representing interim earnings per share in the models used in this study is IES. In the pre-event period, the variable was not associated with returns for most instances. This result may reflect that interim report disclosures in the UK are not pre-empted by any form of information prior to the publication of interim reports (Opong 1995).

In post-event period, IES has the highest t-test values for all models, making it the most important predictor of returns in the study. All values are positive and significant at $p<0.01$, suggesting that IES is responded to positively by investors. A number of studies that have found information content in earnings per share such as Patell (1976) and Foster (1973). Even recent studies (e.g. Dimitropoulos and Asteriou 2009; Lennox and Park 2006) do find the earnings per share relevant to share price returns. Ball and Brown (1967; 1968) argue that earnings per share relates to macroeconomic factors in the business' environment and therefore is informative to returns. Opong (1996; 1997) found a relationship between earnings

per share and dividend as both parameters are disclosed together. Therefore, they mutually signal performance to investors. When both earning per share and dividend increase, investors are confident that the firm is performing well, however, higher dividend with reduced earnings per share may signal temporal poor earnings per share performance. To enhance this argument, Allen (1992) and Lintner (1956) suggest that management will only increase dividends to sustainable levels so as to avoid future investor disappointments. Another explanation to the usefulness of interim EPS is Brown and Kennelly's (1972) argument that investors may use interim earnings per share to predict the annual earnings performance.

A key criticism for the usefulness of earning per share is that information in financial statements lacks timeliness (Elliott and Jacobson 1991). This compels investors to other disclosures other than financial statements. However, Francis and Schipper (1999) consider that the timeliness deficiency is minimised through the provision of interim disclosures. Another argument against the relevance of earnings per share is by Said, et al (2008) who did not find information content in earnings per share. They suggested that investors are interested in economic but not accounting performance measures. To substantiate this argument, Collins, et al (2009) suggested that accounting earnings per share was susceptible to manipulation arising from restructuring costs, write-downs, asset impairments, costs and gains on sale of assets, mergers and acquisitions, goodwill amortisation and research and development expenses.

From the findings of this thesis, hypothesis H 7 is accepted in the pre-event period that there is no association between interim earnings per share and returns. In post-event period, the positive sign of the t-test values suggests that IES is positively associated with returns, thereby rejecting hypothesis H 7.

9.6.3 Interim Total Assets

Interim total assets, denoted as ITA, is a measure of firm size. For all models, the t-statistics for ITA are not significant in the pre-event period. The result demonstrates that investors cannot act on the disclosures, as they are not yet public. In the UK, interim report disclosures

are not pre-empted as the half-year reports are first formal financial reports in the financial year (Opong 1995)

In the post event period, the association between ITA and returns was varied across the models. In Model 2, Model 4 and Model 5, ITA was not associated with returns for any post-event day. In Model 1, ITA had a negative and significant ($p<0.05$) t-statistic for CAR (-5, 5). In Model 3, ITA was significant at $p<0.01$ with negative t-statistics for all post-event days. The variable ITA was negatively significant at $p<0.05$ for CAR (-5, 3) and CAR (-5, 4) and significant at $p<0.01$ for Model 6.

The cases in which ITA was not associated with returns may be explained by suggestions in prior studies. One explanation may be that financial statements information fails to reflect the real value of intangible assets and the changing trends of the business environment such as innovation and deregulation (Lev and Zarowin 1999). In addition, Amir and Lev (1996) concluded from their results that on a stand-alone basis, financial statements information such as book values is not useful for share valuation. High-level performance information such as such as market growth, customer churn and penetration is highly relevant to share pricing but is neglected in financial statements. Another reason is provided by Elliott and Jacobson (1991; 1994) who consider that the usefulness of total assets is compromised by the nature of measurement which is historical and cost-based. The valuation method is regarded obsolete in an information era where investors depend on current information to value firms.

The instances where ITA has information content, the negative sign may indicate information asymmetry because of firm size and complexity. In ASB (2005; 2006) it is recommended that the amount of disclosures should reflect business complexity and size. Reflecting this, Cooke (1991) argues that large firms are characterised by numerous business lines and geographical locations. Disclosing on all the activities may make disclosures difficult to understand because of information overload. On the other hand, suppressing the disclosures for firms with numerous segments may be considered as a strategy to increase information asymmetry. In either case (disclosing on all segments or suppressing disclosures), the disclosures may be regarded as unreliable. Another explanation is by Wallace (1987) suggesting that large firms may avoid

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disclosing to abate political and litigation costs arising from the information. The reason for the negative association between total assets and returns by Grullon and Michaely (2004) is that large firms have lower investment opportunities than small firms. The few available opportunities are competed for aggressively with smaller firms. As a result, large firms accumulate large cash reserves, which may not be reinvestment, compelling investors to demand the cash flows through share repurchases and dividends. Even in instances of investment opportunities, for example acquisitions, large firms tend to over pay for the investments and this may not be viewed positively by investors (Campbell et al. 2001). Similar to the negative significance of ITA, is the finding in Bamber (1986) where total assets were inversely associated with trading volume.

For the above discussion, this study accepts hypothesis H 8 for all models in the pre-event period that interim total assets has no association with returns. Similarly, the thesis accepts hypothesis H 8 in the post-event period for Model 2, Model 4 and Model 5. However, in the post-event period, hypothesis H 8 is rejected for Model 1, Model 3 and Model 6, suggesting that interim total assets are negatively associated with returns.

9.7   Sensitivity Testing

The discussion in this section addresses the robustness of the models for information content of complementary and supplementary narratives. In response to Field (2005; 2009) suggestion that the effect of externalities ought to be examined, two factors are examined for their influence on the results of the models used to examine information content. The factors are regulation change effect (RGE) and audit review effect (ARE).

9.7.1 Consideration for Selecting Externalities for Sensitivity Tests

The list of factors that influence information content is not exhaustive. Therefore, externalities selected are do not provide a comprehensive set of factors but rather illustrative. The considerations to select a factor are four. First, the factor is related to the data used in the thesis. Second, it has a theoretical or prior literature underpinning for its effect on information content of narratives. Third, the factor should be interpretable in statistical terms for profiling

it as variable in a multiple regression model. Fourth, factors that had many classes of categorisation were neglected as they could disperse sample cases into numerous strata leading to insufficient data for regression analysis. For example, factors like the number of indices or industry classification may result into seven or more classifications thereby leading to numerous dummy variables.

9.7.2 Measurement of Externalities for Sensitivity Tests

Dichotomously measured dummy variables for the two factors are used to give weights to the different classes of the externality factors. For audit review effect, denoted ARE, where absence of an audit review is awarded a zero and presence of an audit review in the interim report is awarded a score of one. The sample cases under ARE=0 were 96 and 213 for ARE=1. For regulation change effect, RCE = 0 represents interim balance sheet date being in a period of a voluntary operating and financial review (OFR) and RCE = 1 proxies for interim balance sheet date being in a period of a mandatory OFR. This resulted into 216 cases for ARE=0 and 93 cases for ARE=1.

9.7.3 Correlation between Sensitivity Test Factors and Predictors

Field (2009) argues that if there is high correlation between the predictors and external factors, the regression model is exposed to the externalities. To this effect, the predictive power of the independent variables may be undermined by the external factors. Through a scanning of the correlation matrix in Appendix 15, there is no instance of high correlation, confirming that the predictive ability of the predictors is not influenced by the externalities.[15]

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[15] The cut-off point for high correlation was ±0.90. In the correlation matrix, there is no coefficient exceeding ±0.30.

9.7.4 Sensitivity Test Results

Sensitivity tests were conducted by including the externalities in the six multiple regression models for information content of complementary and supplementary narratives. In Appendix 16, the sensitivity test results for the event day are presented.[16]

9.7.4.1   *Audit Review Effect*

Under Table 6 in Chapter 2, a number of regulations and standards (e.g. ASB 2007a; EU 2004, 2007; FSA 2008) recommend but do not mandate audit involvement in UK interim reporting. Prior literature (e.g. Opong 1995) has suggested investigation of the effect of inclusion of audit review on information content of interim report disclosures.

The decision to include an audit review in interim reports may indicate that management wants to instil confidence in investors about the reliability of disclosures. Prior studies (e.g. Beattie et al. 2004; Merkl-Davies 2007; Merkl-Davies and Brennan 2007) argue that management may adopt disclosure strategies that either mislead investors or show reliability in information. The fact that in the UK the interim audit reviews are neither a full audit nor mandatory, previous research (e.g. Atiase et al. 2005; Opong 1995) have queried the reliability of the review. In addition, Ettredge et al (1994) criticise audit reviews for lack attention to detail such as effectiveness of internal control structures. Furthermore, Alford and Edmonds (1981) suggest that audit involvement does not increases the quality of interim reports numbers. Fabozzi and Fonfeder (1983) consider that the costs and delay implications attached to interim audit involvement outweigh the usefulness of the reviews. Also, Alves and Teixeira dos Santos (2008) and Cornell and Landsman (1989) argue that interim reviews are exposed errors as they are mere reviews. However, studies (e.g. Manry et al. 2003; Ready and Rock 2003) established that audit reviews in interim are more value relevant than retrospective audit

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[16] The event day is results are selected for presentation in Appendix 16 because it is the first day for all models with the highest adjusted R^2 coefficients, suggesting that the event day is the most significant day. The sensitivity test results for other event window days were carried out and the conclusions drawn from the results did not differ from those of the event day results.

reports in annual reports. Manry et al (2003) attribute this to timeliness of the audit review, thereby enhancing their reliability and relevancy.

The results in Appendix 16 show that inclusion of the audit review effect dummy variable in the information content models of complementary and supplementary narratives did not change the results of this study significantly. No F-statistic coefficients that compared the change in results on inclusion of the dummy variable ARE were greater than the respective critical F-statistic. Therefore, variable ARE was not significant in any model. This confirms the robustness of the results as far as inclusion of an audit review is concerned. The result may reflect arguments in earlier studies (e.g. Atiase et al. 2005; Opong 1995) that relevancy of audit reviews in the UK interim reports is compromised by the voluntary and incomprehensive nature of audit reviews.

9.7.4.2 *Regulation Change Effect*

In this thesis, two theoretical explanations justify regulation in the markets for capital and information. The theories are the public interest and the capture theories.

The public interest theory considers that free economic markets are affected by inefficient or inequitable transacting and therefore require government intervention to replace self-monitoring (Posner 1974). However, the effectiveness of government intervention is not attainable since it is impractically to achieve a good result for the entire public (Posner 1974). Enrlich and Posner (1974) further criticise the public interest theory of regulation that public regulation is costly due to the process of negotiating with various stakeholders with different motivations.

The capture theory postulates that government agencies act in the interest of the special interest groups (Levine and Forrence 1990). For example, ASB (2005; 2006) suggested that the need to complement and supplement financial statements was to aid investors understand the statements. Similarly, narratives are intended for investors, as they are the "buying" consumers of accounting information (AICPA 1994). Seligman (1983) supports the capture theory because management may employ impression management techniques in disclosures to

influence investor decisions. In addition, insider trading, deterioration of public confidence in capital markets and the resulting slowdown of economic growth justify the capture theory. Posner (1974) however criticised the capture theory because the interaction between the regulated firm and the regulating agencies is disregarded. As result, the regulating agency and interest groups influence the outcome with less consideration about the regulated firm. Benston (1969) too provided three reasons against the regulation. First, with or without regulatory bodies, evidence of capital market failures has emerged over time. Secondly, in competitive market mechanisms, investors' interests are protected through efficient allocation of capital to deserving firms. Third, regulation fails to end the debate regarding the timeliness and materiality of accounting information. Disclosure extent literature (e.g. Beattie et al. 2004; Botosan and Harris 2000) discusses that voluntary disclosures show management willingness to communicate with investors but mandatory disclosures are most times intended to avoid litigation risks and therefore may not be relevant to returns.

In Chapter 2, Table 7 illustrates that a number of regulations standards recommend narrative reporting. These include ASB (1997; 2007a), EU (2004; 2007) and FSA (2008). In the period of study (2005 – 2007), various regulations and standards for narrative commentaries were in force. In 2005, ASB (2005) mandated the provision of the operating and financial review (OFR). In 2006, ASB (2006) repealed the mandatory OFR. The Business Review, regulated by the EU (2003), came into force after the repealing of the mandatory OFR. However, ASB (2006) recommended that the OFR remains an instrument of best practice. To examine the regulation change effect, the sample is divided into two. Complementing and supplementing is considered voluntary for interim reports with balance sheet dates before ASB (2005) was effective (before 1st April 2005) and after its repeal (on or after 12th January 2006). Mandatory complementing and supplementing is considered to apply for interim reports with balance sheet dates falling within the period ASB (2006) was effective (the period from 1st April 2005 to 11th January 2006).

The results under Appendix 16 show that regulation change effect (RCE) was not significant for any information content model as all respective F-statistic coefficients were lower than the critical F-statistic. Therefore, in the period of either a mandatory or a voluntary OFR, the

results of this study are robust. ASB (2005) stated explicitly that the mandatory OFR was applicable to annual reports. This arguably meant that the enactment or annulment of the mandatory OFR might not have affected the motivation or nature of interim report narratives for UK listed firms. Therefore, in both reporting environments (mandatory and voluntary OFR), interim report narratives remained a discretion of management. Also, the lack of significance of RCE may indicate the argument in past studies (e.g. Beattie et al. 2004; Botosan and Harris 2000) that voluntary disclosures show management's willingness to reduce information asymmetry and uncertainty. The findings also reflect the discussion in Benston (1969) that in either a voluntary or a mandatory regime, information content is guided by investors' interpretation of disclosures regarding allocation of resources.

9.8 Summary and Concluding Remarks

This chapter discusses results of an event study examining the relative information content of complementary and supplementary narratives. In addition, incremental information content of the two narrative types is investigated.

The first section, presenting descriptive results, generally shows the period after the publication of the interim report results has higher market adjusted cumulative abnormal returns than the pre-event period. The event day has the greatest returns. The extent disclosure is greater for complementary narrative attributes compared to supplementary narrative attributes under both disclosure variety and depth techniques of measuring disclosure extent.

In line with the main objective of the study, that is to examine the relative information content of complementary and supplementary narratives, the results are varied. In the pre-event period, the disclosures generally have no association with returns suggesting that interim report narratives are largely not pre-empted by prior announcements. In the post-event period, when disclosures are measured by disclosure variety supplementary narratives have relatively higher information content than complementary narratives but the difference is not significant. For disclosure depth, information content of complementary narratives is significantly higher than that of supplementary narratives.

As an appendage to the main objective, the study also compared the association of the disclosure depth attributes in complementary narratives to the counterpart attributes in supplementary narratives. The results the complementary attributes of good news, amounts and comparison of current with past performance and reasons for performance had relatively higher information compared to their counterparts in supplementary narratives. No difference in information content was realised between the complementary and supplementary forward-looking disclosures as both attributes had no significant association with returns.

The subsidiary objective of this thesis was to examine incremental information content of complementary and supplementary narratives. The pre-event period results of the model combining complementary and supplementary narratives did not differ from the models considering complementary and supplementary narratives individually. For disclosure variety, the results for the post-event period were varied. The model combining complementary and supplementary narratives had more significant information content than the model considering complementary individually. However, the incremental information content for the model combining complementary and supplementary narratives was not significant when compared with the model having supplementary narratives only. In the post-event period, there results based on disclosure depth were similar. The model combining complementary and supplementary narratives had more significant information content than the models considering complementary and supplementary narratives individually. Another observation is that under disclosure variety, the difference between the information content of the model combining complementary and supplementary narratives and the models considering complementary and supplementary narratives individually is small. However, under disclosure depth, the difference between the information content of the model combining complementary and supplementary narratives and the models considering complementary and supplementary narratives individually is substantial. The model based on disclosure depth that combined both complementary and supplementary narratives has the highest predictive power compared to all models in the study.

In the pre-event period, the financial performance measures are generally not associated with returns. In all models, a positive and significant relation with returns is realised for annual

dividend yield and interim earnings per share. However, interim total assets had no association with returns in Model 2, Model 4 and Model 5. In Model 1, Model 3 and Model 6, the variable of interim total assets is negatively associated with returns.

The results of all models are robust whether the interim report published with or without an audit review. In addition, the results of all models are robust under either mandatory or voluntary regimes for the provision of an operating and financial review.

The results of relative and incremental information content of complementary and supplementary narratives in this chapter portray that the disclosures are useful to investors and yield abnormal returns on publications. Referring to chapters 5 and 6, the empirical evidence in this thesis portrays that the strict adherence to the concept of perfectly informed market players that underlie the market for capital and efficient market hypothesis is not attained. Rather, the results align mostly with joint application of the mainstream and heterodox economic market theories where agency relationship between investors and managers substantiates the provision of accounting disclosures. In other words, the narrative disclosures reduce information asymmetry, especially when disclosure depth is used to measure complementary and supplementary disclosures. Based on the disclosure level and nature of the respective attributes under complementary and supplementary narrative, the investors are able to establish whether the information reflects impression management or incremental information.

The events leading to subprime financial crisis of 2007 may be considered to have intensified the relevance of the findings in this study. To recap, the key findings are that complementary narratives relative higher information content but both complementary and supplementary narratives have incremental information content. These results are more pronounced when disclosure depth (set of various disclosure attributes as well as considering repetitions), other than disclosure variety (mere presence of disclosure items without regard to repetitions), is used to estimate extent of complementary and supplementary disclosures. Wagner (2010) and Schwarcz (2008) explicitly blamed the 2007 financial crisis to the presence of large information asymmetry, complex financial innovations and laxity in regulation. Given that

investors in bank's equity and debt securities financed the bank's activities in the subprime mortgages they ought to have been advised the various aspects of the mortgages. Such attributes would arguably include extent of the contingent liabilities/ assets and the valuation thereof, which could be reflected in supplementary narratives. Other attributes would be of complementary nature such as the income clustering of the borrowers and the amount at risk for each income group, the regulatory remedy in case of default, the banks hedging activities and exposure to other mortgage-backed securities. Through the attributes of the complementary and supplementary disclosure (presence of information items, goodness of the disclosures, amounts and comparison of current with past performance, reasons for performance and forward-looking information), the investors could have a more precise basis for investment decisions with regard to the exposure to the subprime mortgages.

10 RESEARCH SUMMARY, IMPLICATIONS, LIMITATIONS AND FURTHER RESEARCH

10.1 Introduction

This chapter provides summary and conclusion of the research. Additionally, implications of results and limitations of the research are discussed. Lastly, comments concerning the direction for future research are given.

The rest of the chapter is organised as follows. The next section presents the objectives of the research. This is followed by a summary of the methodology explained. The results of the thesis are then summarised. The last sections of the chapter are research implications, limitations of the research and opportunities for further research.

10.2 Research Objectives

The key research objective was to investigate the relative information content of complementary and supplementary narrative commentaries in UK interim reports. As an auxiliary to the main objective, the thesis also examined that relative usefulness of complementary and the counterpart supplementary narrative information attributes under disclosure depth technique of estimating disclosure extent. The attributes are good news, amounts and comparisons of current with past performance, reasons for performance and forward-looking disclosures.

A minor objective of the thesis is to establish incremental information content of complementary and supplementary narratives. Incremental information content is examined by inquiring whether combining complementary and supplementary narratives provides better information content than considering complementary and supplementary narratives individually.

10.3 Research Methodology and Methods

The methodology and method used in the thesis are discussed in Chapter 8. The perspectives considered include the research philosophy, selection of the sample and justification of the event study technique as the appropriate method for estimating information content. Other considerations are measurement of cumulative abnormal returns, measurement of the independent variables and the models used for examining relative and incremental information content.

The research philosophy is inclined to the positivist approach where quantitative methods of data collection are considered favourable for answering the research objectives.

The sample for the thesis comprises of 103 companies is a random set from a sampling frame of 136 firms. The sampling frame met three conditions. First, the companies listed on the LSE. Secondly, they were members of the FTSE350 index continuously from 1st January 2005 to 31st December 2007. Lastly, they are non-financial services sector firms. Therefore, the study is based on the interim reports of the 103 firms for the years 2005, 2006 and 2007, leading to 309 firm years.

Relative and incremental information content was examined for a 10-day event window around the announcement day of interim reports. The dependant variables are the daily market adjusted cumulative abnormal returns for each day in the event window. The independent variables are disclosure either depth or variety attributes of complementary and/or supplementary narratives and financial performance measures. For relative information content, the model for complementary narratives is compared with that for supplementary narratives. For incremental information content, model combining complementary and supplementary narratives is compared with the models considering complementary and supplementary narratives individually.

10.4 Results and Explanation

The detailed presentation and discussion of results is in Chapter 9.

10.4.1 *Relative Information Content of Complementary and Supplementary Narratives*

The main objective is achieved by comparing the adjusted R^2 coefficients of the models that consider complementary and supplementary narrative separately. The first examination of relative information content of complementary and supplementary narratives is based on disclosure variety. The second analysis is based on disclosure depth. Table 32 summarises the results.

Table 32 Summary of Relative Information Content Results

Models	Adjusted R^2 Range		Hypothesis	Decision	Narrative Type with Higher Information Content
	Complementary Narratives Models	Supplementary Narratives Models			
Disclosure Variety					
Pre-event	-0.011 to 0.010	-0.003 to 0.013	H 1	Accepted	None
Post-event	0.252 to 0.390	0.267 to 0.397	H 1	Accepted	None
Disclosure Depth					
Pre-event	-0.002 to 0.008	0.009 to 0.014	H 1	Accepted	None
Post-event	0.312 to 0.439*	0.265 to 0.389*	H 1	Rejected	Complementary

Note: *Range has significant Hottelling's t and Steiger's Z test values at $p<0.05$

In the pre-event period, returns are not associated with either complementary or supplementary narratives as no adjusted R^2 value was substantially different from zero and the F-ratio coefficients were all not significant. This finding is similar for disclosure variety and disclosure depth estimates of disclosure extent. Largely, interim report results are not pre-empted by disclosures prior to the announcement of the interim reports (Opong 1995).

The results of the post-event period are mixed. Under disclosure variety, supplementary narratives have higher information content than complementary narratives but the difference is not significant. Supplementary number information items (SII) may be considered reliable because they are confined to regulated interim financial statements (Tauringana and Mangena 2006). On the hand, complementary number of information items (CII) are diverse and may not be related, leading to a situation of ambiguity. Jones (1988) and Merkl-Davies (2007) argue that decreased readability of narratives is prompted by increased disclosures arising from firm size and complexity. The diversity and lack of another reference for CII may lead to Arrow's (1963; 1965) notion of the moral hazard if managers use complementary narratives for impression management. However, the technique used to measure CII and SII is not precise to uncover the intrinsic value in either narrative type. Mere presence or absence of information items does not show the comprehensiveness in disclosures (Beattie et al. 2004; Beattie and Thomson 2007; Hooks et al. 2000; Wallace and Nasser 1995).

Under disclosure depth, complementary narratives have more significant information content than supplementary narratives. The multiplicity in disclosure attributes reduces ambiguity and uncertainty for both complementary and supplementary narratives. While complementary narrative attribute reveal intrinsic information about performance, supplementary narrative attributes largely replicate financial statements information. Bloomfield (2002) under Incomplete Revelation Hypothesis (IRH) argues that statistical measures and qualitative measures synergise to improve disclosure preciseness. Similarly, Flostrand and Strom (2006) suggest that investors pursue value factors that are not in financial statements because the balance sheet values fail to capture the true value of intangible items such as goodwill. Other criticisms of financial statements that may extend to supplementary narratives include failure of accounting numbers to timely reflect economic events (e.g. Beaver et al. 1980) and measurement errors (e.g. Hayn 1995). Information content of complementary narratives topics has been found in studies such as Bukh, et al (2005) and Dumay and Tull (2007) concerning intellectual capital, Hammersley, et al (2008) with regard to internal controls. These studies content that the topics provide intrinsic information that cannot be disclosed in financial statements.

An auxiliary objective of relative usefulness of complementary and supplementary narrative attributes under disclosure depth, the t-values in the disclosure depth models considering complementary and supplementary individually are compared. The results are summarised in Table 33

The pre-event, neither complementary nor supplementary attributes under disclosure depth are associated with returns. Therefore, in the period, there is no difference in the information content complementary narrative disclosure depth attributes compared to the counterpart supplementary narrative disclosure depth attributes. The finding reflects the argument by Cools and Mirjam van Praag (2007) that information in financial reports is not leaked to the market prior to its publication.

Table 33   Summary of Relative Information Content Results of Disclosure Attributes

Disclosure Depth Attributes	Sign of significant t-statistics*		Hypothesis	Decision	Narrative Type with Higher Information Content
	Complementary Narratives Model	Supplementary Narratives Model			
Pre-event					
CGD and SGD			H 2	Accepted	None
CAC and SAC			H 3	Accepted	None
CRE and SRE			H 4	Accepted	None
CFW and SFW			H 5	Accepted	None
Post-event					
CGD and SGD	(-)		H 2	Rejected	CGD
CAC and SAC	(+)		H 3	Rejected	CAC
CRE and SRE	(-)		H 4	Rejected	CRE
CFW and SFW			H 5	Accepted	None

Note: CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) Complementary (Supplementary) = Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, (+) or (-) = t-statistics are positively or negatively significant at either 0.05 or 0.01 level, respectively, *A variable is considered significant if it has at least one instance of significant t-statistic within the respective period

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In the post-event period, all complementary attributes except forward-looking disclosures were significantly associated with returns but no supplementary narrative attribute was significant.

The negative t-statistics for complementary good news reflect the argument by Abrahamson and Amir (1996) that good news in narratives in most cases is an attempt to impress investors. Kane (2004) also suggests that mangers tend to escalate the firm's value by reducing unfavourable information and increasing positive news. On the other hand, Lee, et al (2004) consider bad news to portray management's openness and willingness to take responsibility of controllable events. In Abrahamson and Amir (1996), bad news had a positive market response indicating the information is relevant to firm valuation. The non-significance of supplementary good news shows that the disclosures replicate financial statements disclosures, therefore, do not provide information beyond financial statements. In addition, analysts and institutional investors who have the skills to analyse financial statements follow FTSE350 firms. Therefore, the advantage of supplementary narratives raised in Tauringana and Mangena (2006) the information helps unsophisticated investors may not suffice for the sample in this study.

The positive association of complementary amounts and comparisons of current with past performance reflects similar findings in past studies that investigated amounts or comparisons in disclosures of complementary nature. For example, Berry et al (1998) regarding mounts of oil and gas reserve valuation and Lajili and Zeghal (2006) in relation to quantified human capital disclosures. Other studies (e.g. Givoly et al. 1999; Hope et al. 2008; Thomas 2000) find information content in segment analysis disclosures because the figures help investors understand the source of revenues and profits. The suggestion in Riley et al (2003) that the seasonality effect in business, for example peak travel seasons as summer months, thanksgiving and Christmas in the airline industry may indicate that comparisons in complementary narratives are relevant. The lack of information content in supplementary amounts and comparisons of current with past performance may be justified by the argument by Amir and Lev (1996) that on standalone basis, financial information (earnings, cash flows

and book values) are not relevant to share price returns but when combined with non-financial quantified information, earnings contribute to explanation of the prices.

A number of factors may explain the inverse relationship between returns and complementary reasons for performance. Staw et al (1983) suggests that managers disclosures for impression management by emphasising favourable performance. Clatworthy and Jones (2003), suggest that successes are attributed to internal factors but failures to externalities. Also, Hutton et al (2003) found that firms provide precise and verifiable explanations in times of good news but when bad news prevails, broad-based and non-verifiable information is provided. However, investors react adversely to this strategy reflecting Anderson's (2001) discussion that shareholders use various sources of information to verify reliability of management disclosures. In Kanto and Schadewitz (2000), the reaction to overview disclosures was inverse, depicting that investors are aware of impression management strategies. The non-significance of supplementary reasons for performance may be due to confinement of the disclosures to financial statements. Therefore, the information may lack diversity and detail to inform investors adequately.

The lack of information content in both complementary and supplementary forward-looking was mainly attributed to the discussion by Schleicher et al. (2007). In their study, Schleicher et al. (2007) argued the forward-looking attribute is only relevant in situation of loss making because, through prospects, managers can assure investors about viability of the business. In time of profit-making, prospects may not be necessary since profitability is sufficient to illustrate business viability. The descriptive statistics of this thesis showed that 75% of sample cases had positive interim earnings and the firms under study sustained their listing status as FTSE350 companies throughout the study period. Similarly, Baginski et al (2002) find that in periods of profitability, prospective disclosures were few and less precise compared to periods of loss-making or decreased profitability. In addition, the descriptives of this study show that forward-looking disclosures were the least disclosed attribute for both complementary and supplementary narratives. The low level of disclosures for the forward-looking attribute also results in questioning the reliability of the disclosures. Under uncertain information hypothesis, incomplete revelation hypothesis and incomplete contracting, there is an appreciation that

investors need detailed and precise disclosures to augment their perception about the business. Another reason for the lack of usefulness of forward-looking information is the link between litigation, reputation and prospective disclosures. Baginski et al (2002) established that managers provide little and less precise forward-looking information to reduce litigation and reputation risks arising from investors' reliance on the prospects.

10.4.2 Incremental Information Content of Complementary and Supplementary Narratives

The subsidiary objective of the thesis was to examine the incremental information content of complementary and supplementary narratives. Incremental information content is established by comparing results of the model combining complementary and supplementary narratives with the outcome of the model considering complementary and supplementary narratives individually. Table 34 summarises the results for incremental information content.

In the pre-event period, the adjusted R^2 values were not substantially different from zero and the F-ratios were not significant for all models that either combined or separated complementary and supplementary narratives. Therefore, no incremental information content was observed for either disclosure variety or disclosure depth models. Prior to the announcement of financial reports, the information there in is hardly pre-empted (Cools and Mirjam Van Praag 2007; Opong 1995).

Table 34   *Summary for Incremental Information Content Results*

Models	Complementary Narratives Models (A)	Supplementary Narratives Models (B)	Models Combining Complementary and Supplementary Narratives (C)	Presence of Incremental Information Content
	Adjusted R^2 Range			
Disclosure Variety				
Pre-event	-0.011 to 0.010	-0.003 to 0.013	-0.004 to 0.010	Not present
Post-event	0.252 to 0.390*	0.267 to 0.397	0.273 to 0.398	Present for both complementary and supplementary narratives when A is compared with C but present for only supplementary narratives when B is compared with C
Disclosure Depth				
Pre-event	-0.002 to 0.008	0.009 to 0.014	-0.005 to 0.013	Not Present
Post-event	0.312 to 0.439*	0.265 to 0.389*	0.353 to 0.460	Present for complementary and supplementary disclosures for all comparison

Note: A = Models having complementary narratives only, B = Models having supplementary narratives only, C = Models having both complementary and supplementary narratives, *Range has significant F-statistics at $p<0.05$ for the comparison with the model combining complementary and supplementary narratives

In the post-event period, both disclosure depth and disclosure variety models that combine complementary and supplementary narratives have higher information content than their

counterpart models that consider complementary and supplementary narratives individually. However, the comparison is significant for all other comparisons except with the supplementary narratives based on disclosure variety. Incremental information content models will normally have equal or higher predictive power than relative information content models (Biddle et al. 1995). Statistically, models that have more variables tend to have more predictive power as they reduce Type II errors that arise from neglecting relevant variables (Tauringana 1997).

A number of theories may explain the incremental information content observed in the models combining complementary and supplementary narratives.

First, the uncertain information hypothesis by Brown et al (1988) and the overreaction hypothesis by DeBondt and Thaler (1985) suggest that the first instance of investor reaction to information is either an over or under reaction. However, the positions are corrected as investors find the real effect of the information. A combined model postulated synergy between complementary and supplementary narratives provides a more complete disclosure profile compared to considering either complementary or supplementary narratives separately.

Secondly, the incomplete revelation hypothesis by Bloomfield (2002) suggests that comprehensiveness and preciseness is enhanced by the provision of quantified and non-quantified disclosures. Statistically based disclosures are precise and measurable, non-quantified information provides intrinsic value by explaining factors affecting the statistics and/ or cannot be quantified. Supplementary narratives concentrate on financial statement amounts and complementary narratives extend beyond the financial statements to other disclosures that have intrinsic value that may either be quantifiable or non-quantifiable.

Additionally, combining complementary and supplementary narratives may reduce information costs, as investors may not have to engage resources to analysing information. Hart and Moore (1988) argue that it is costly and impractical to have a complete contract between or amongst individuals. Therefore, under incomplete contracting theory, increased dimensions of disclosure provide investors with options to look at information from various perspectives.

Another observation from the adjusted R^2 values in Table 34 is that the margin of information content between the model combining complementary and supplementary disclosures and models that consider complementary and supplementary narratives individually differs under disclosure variety and disclosure depth. Under disclosure variety, margin for incremental information content is small, whereas under disclosure depth, the margin is substantial. Arrow and Debreu (1954) argues that complete contracting in a market place provides information about attributes of trade such number and specifications of commodities traded, the location, price and time of trade. This type of information enhances the completeness of information that traders use for decision-making. In the disclosure variety model, one attribute of disclosure is considered, that is, number of information items. However, under disclosure depth a set of information attributes (good news, amounts and comparison of current with past performance, reasons for performance and forward-looking disclosures) is used to estimate disclosure extent. Therefore, the numerous attributes in disclosure depth may provide more information that reduces information asymmetry compared to disclosure variety. Prior studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007; Wallace and Nasser 1995) discuss that disclosure extent measurement techniques taking into account various narrative attributes have more potential to reveal preciseness in disclosure than dichotomous techniques.

10.4.3 Information Content of Control Variables

For all models used to examine relative and incremental information content, the control variables are annual dividend yield (ADY), interim earnings per share (IES) and interim total assets as a measure of firm size (ITA).

The t-statistics for all control variables were not significant almost throughout the pre-event period for all models. For ADY, the result reflects the argument by Watts (1973) that past dividends may not help investors' forecast earnings. For IES and ITA, outcome agrees with the suggestion that disclosures in UK interim report are not pre-empted by any prior disclosure (Opong 1995).

In the post- event period, there is a positive association of ADY and returns in line with prior studies (e.g. Campbell and Shiller 1988; Fama and French 1988; Kothari and Shanken 1997).

These studies discuss that dividend yield is used to predict the firm's future earnings and cash flows. However, studies (e.g. Fairfield and Yohn 2001; Watts and Zimmerman 1990) suggest that dividend yield is exposed to manipulation because of profits manipulation.

After the announcement of interim reports, IES is the most significant variable for all models. The variable is positively associated with returns. Studies (e.g. Dimitropoulos and Asteriou 2009; Lennox and Park 2006) find information content in earnings per share (EPS). Ball and Brown (1967; 1968) suggest that the EPS incorporates macroeconomic factors of the business' environment. Opong (1996; 1997) established a relationship between EPS and dividend because the parameters are announced together with an aim of signalling performance to investors. An increase in both EPS and dividend assures investors about performance but an increase in dividend with reduced EPS may indicate temporally bad performance. Studies in which EPS was not relevant include Said, et al (2008) because investors seek for economic rather than accounting performance measures. Collins, Li et al (2009) argued that EPS is vulnerable to manipulation. Elliott and Jacobson (1991; 1994), consider that financial statements do not to reflect timeliness, compelling investors to use competing sources of information.

The variable ITA had mixed results in the post-event period. In some models, the variable had no information content and in other models, ITA was negatively associated with returns. Lack of usefulness of ITA may lead to a number of conclusions. First, asset valuation in financial statements may not show the true value of intangible assets and the changing business environment (Lev and Zarowin 1999). Second, Amir and Lev (1996) suggest that financial statements information if not accompanied by high-level performance measures may make the disclosures less relevant. Third, Elliott and Jacobson (1991; 1994) argue that asset values in financial statements are historical and cost-based, failing to reflect current value of the business.

Similar to this study, Bamber (1986) found negative information content of total assets. Cooke (1991) argues that large firms are characterised by numerous business lines and geographical locations. Disclosing on all activities may lead to obscurity yet a decision not to

report on all activities may be interpreted as concealment. In addition, Grullon and Michaely (2004) suggest that large firms have low investment opportunities and as a result, they accumulate large cash reserves. Failure to reinvest the cash obliges investors to demand the cash through share repurchases and dividends. In cases of investment opportunities, for example acquisitions, large firms may over pay leading investors to view the new investment negatively (Campbell et al. 2001).

10.4.4   Sensitivity Tests

Two sensitivity tests were conducted to check robustness of the results (1) presence or absence of an audit review and (2) interim narrative reporting under a regime of either a mandatory or a voluntary operating and financial review. In both cases, the results of all models were robust.

10.5 Conclusion about Relative and Incremental Information Content

Prior to the announcement of interim reports, the disclosures in the reports are not pre-empted by any form of other information medium. Therefore, complementary and supplementary narratives have no association with share price returns under disclosure variety and under disclosure depth techniques of measuring disclosures. This leads to the conclusion that there is similar relative information for complementary and supplementary narratives because neither complementary nor supplementary have information content. Also concluded is that there is no incremental information content for complementary and supplementary narratives because both complementary and supplementary narratives have no association with returns.

After the announcement of interim report results, there are two conclusions about relative information content. First, when disclosure variety is used to measure disclosure extent, supplementary narratives have higher relative information content than complementary narratives. While supplementary information items are verifiable because they confined to disclosures in financial statements, complementary information items are ambiguous, and may be unrelated. Therefore, if mere presence of information items is used to measure disclosures,

supplementary narratives are more concise and reliable compared to complementary narratives.

Secondly, when disclosure depth is used to measure disclosure extent, complementary narratives have higher relative information content than supplementary narratives. The multiplicity of disclosure attributes and regard to repetitions under the disclosure depth technique for measuring disclosures uncovers the comprehensiveness in disclosures through various qualities of information. Therefore, ambiguity or vagueness is reduced compared for both complementary and supplementary narratives, compared to disclosure variety measurement technique. The higher relative information content in complementary narratives, compared to supplementary narratives is explained by the intrinsic value in complementary narratives. While complementary narratives disclose on diverse aspects of the organization, quantifiable and non-quantifiable, supplementary narratives are mostly a replication of financial statements in an oratory manner.

The disclosure depth attributes attributions responsible for the higher relative information content in complementary narratives are good news, comparison of current with past performance and reasons for performance. In both complementary and supplementary narratives, forward-looking disclosures were not relevant to returns. The past good performance of the firms in the sample was a better assurance than forward-looking information about the viability of the securities. About three quarters of the sample cases had positive earnings per share and all firms in the sample sustained their listing status as part of the FTSE350 throughout the period of study (2005 to 2007). Secondly, probably because of litigation and reputation risks, the forward-looking disclosures were the least disclosed attribute. To reflect this argument, in a number of interim reports, narratives were accompanied with a caveat about their usage for investment decisions.

In the post-event period, both complementary and supplementary narratives have incremental information content. The combination of complementary and supplementary narratives provides investors with more comprehensive and synergized information for investment decision-making. The model with the best predictive power was the disclosure depth model

combining complementary and supplementary narratives. The model had the most number of disclosure attributes compared to other disclosure depth and disclosure variety information content models. The multiplicity of complementary and supplementary narrative attributes in the model shows better preciseness of information in narratives compared to other models used in the study.

Summarily, the post-event results of relative and incremental information content when disclosure variety is used to measure complementary and supplementary narratives compared to those of disclosure depth reflect that information asymmetry is lower for disclosure depth. This is may be explained by the fact that more attributes within the disclosures are more informative to investors. With reference to relative information content, the superiority of complementary narratives show that such information discloses more about the performance of the business, beyond the financial statement figures. Still this reflects that information asymmetry is lessened when complementary narratives are provided as supplementary narratives is mostly a narratory re-write of the financial statements, yet investors in FTSE350 firms are arguably sophisticated to analyse the statements. More still, these same investors, who are mainly institutional or analysts, are in close contact with investor and get briefings about financial performance that is mostly represented in supplementary narratives. The incremental information for both complementary and supplementary narratives under disclosure depth also shows that information asymmetry arising from agency is reduced by providing both types of disclosures. These finding are contrary to EMH in the semi-strong form that publically available information, such as complementary and supplementary narratives in interim reports, is spontaneously and accurately reflected in share prices, and so cannot yield above market returns. Rather, the findings concur that the agency relationship is the root cause of information asymmetry and financial disclosure, such as complementary and supplementary narratives, are relevant for investment-decision making.

10.6 Research Implications

For market-based accounting, this study has three implications.

First, this thesis was motivated by concerns raised about disclosure proliferation in financial reports and the likely negative effect on the usefulness of the information. To examine the claim about the effect of proliferation on usefulness of narratives, reference is made to the discussion in ASB (2005; 2006) that extent of narratives ought to be directly proportional to firm size and complexity. In other words, as a business increases its size, more disclosures are expected. To reflect these arguments, all information content models have total assets (ITA) as a control variable for firm size. Secondly, the information content models based on disclosure depth, the variables for disclosure extent are all measured with regard to repetitions, to capture disclosure volume. In the results, where ITA was associated with returns, the association was negative. In models and event days where ITA was associated with returns, complementary attributes of good news (CGD) and complementary attribute of reasons for performance (CRE) were also significantly associated with returns. The result suggests that investors inversely react to firm size. Furthermore, as extent of CGD and volume of CRE increase, investors react negatively. The reason attributed to the result for CGD and CRE was that management are likely to misuse the unrestricted, less verifiable and diverse nature of complementary narratives to foster impression management techniques through CGD and CRE. However, investors consider the disclosures unreliable and suspicious. In relation to the comment in ASB (2005; 2006), there is a likelihood that large firms disclose more volume of narratives than small firms do. The assumption that large firms use CGD and CRE for impression management may be supported in the argument by Beattie et al (2008) that financial reports have become more of public relation other than financial reporting tools. In addition, large firms may be motivated to adopt the impression management strategy by audience for the financial reports resulting from the high analyst and institutional investor following. However, analysts and institutional investors have the skills to rightfully price the information (Bercel 1994; Lang and Lundholm 1996; Orens and Lybaert 2007). The implication of the findings in this study is the evidence that voluminous disclosures may reflect impression management tendencies to which investors react adversely.

Secondly, results of relative and incremental information content of complementary and supplementary narratives in this study provide the first evidence of the relevance of the narrative types for share pricing. In addition, the findings about usefulness of the disclosure attributes (number of information items, good news, amounts and comparison of current with past performance, reasons for performance and forward-looking disclosures) in complementary and supplementary narratives may be relevant to investors. These findings may guide policymakers, the finance and accounting professionals and business managers on the information that investors require. The subject of complementing and supplementing in financial reports' narratives is topical and this study provides the vital evidence on investors' reaction to complementary and supplementary narratives. The concept of complementing and supplementing in narratives was introduced in the UK reporting environment by ASB (2005; 2006) for the operating and financial review. Elsewhere, complementing and supplementing has been recommended for the business review and the management commentary by FRC (2009) and IASB (2009).

Third, as Wagner (2010) blamed the subprime financial crisis to information asymmetry and laxity in regulation in the market place, the results of this thesis have a topical contribution since information asymmetry was largely used to explain information content results. In addition, as the study used a theoretical framework that advocates for the joint application of the markets for capital, information and capital, the findings of the study may be crucial in addressing the causes of the crisis. Schwarcz (2008) narrated that the crisis was initiated when lenders provided loans to risky borrowers characterised by no jobs, no income and the collateral was only the houses that the lenders attached the mortgages. This model was a reflection of government incentive in the US to allow home ownership to the low-income groups, therefore, regulation regarding credit risks were relaxed. The stagnation and/or decline in house prices meant that borrowers who relied on refinancing for loan repayments could not afford to pay their commitments, hence the start of defaults. The defaulting pattern extended to the financial institutions that used mortgage-backed securities, leading to their credit rating down grading and loss of investor confidence and a fall in both debt and equity

securities. Escalating this was the US government refusal to bailout Lehman Brothers, leading to its bankruptcy and further mistrust in the markets.

Schwarcz (2008) summarises that the crises could have been partly avoided by addressing two problems, that is, the failure to disclose and the difficulty of the market participants to understand the financial condition of their counterparts. These two issues offer their origin to information asymmetry that arises from agency as argued by Wagner (2010). Hence, the disclosure problem could be addressed by the provision of more and better disclosures while the difficulty to understand counterparty risk may be addressed by providing information within the disclosures that can be used to assess counterparty risk. These solutions arguably are reflected in the discussions justifying information content of complementary and supplementary disclosures in chapter 9. For example, complementary disclosures in financial reports may concentrate on the risk characteristics of counterparties such as average incomes of the borrowers, average credit rating of the borrowers as well as the types of collateral and loans and respective exposure levels. On other hand, supplementary narratives may concentrate on the level of contingent liabilities or assets, trend patterns thereof and explanations. Further, the various attributes within the respective complementary and supplementary narratives (such as, information items, goodness of the disclosures, amounts and comparisons of current with past performance, reasons for performance and forward-looking disclosures) would provide a precise discussion about the risks of the counterparties.

In the research environment, the study has two main implications.

Firstly, the studies pioneering research about complementing and supplementing in narratives were by Tauringana and Mangena (2006; 2007), concerning disclosure extent. This thesis is the first to answer the call by Tauringana and Mangena (2006; 2007) with regard to examining usefulness of complementary and supplementary narratives. The findings may be relevant to future finance and accounting research concerning complementary and supplementary narratives in financial reports.

Secondly, disclosure literature (e.g., Beattie et al. 2004; Beattie and Thomson 2007) recommend that disclosure extent measurement through content analysis ought to be in-depth,

considering repetitions, and where possible manual. This helps to capture the context of disclosures and quality attributes such as disclosure variety and depth. This study adopted the recommendations and the outcome was crucial to identifying the useful attributes of disclosures and the justifications for the relative and incremental information content of complementary and supplementary narratives. The evidence in the thesis may provide useful insights relevant to the direction of future disclosure extent and narrative information content research.

10.7 Limitation of the Research

There are a number of limitations to the study.

This research is mainly quantitative based with little regard to qualitative research methods. The bias therefore leads to a number of limitations.

First, the study did not seek from investors, analysts or business managers about their thoughts on useful complementary and supplementary information. The complementary and supplementary attributes thereof used to examine usefulness of narratives is only limited to those found in interim reports and prior academic research of disclosure extent, perceived usefulness and information content. Therefore, the attributes used in this study may not represent the comprehensiveness in complementary and supplementary disclosures. In addition, the justifications of findings in the study concerning usefulness of complementary and supplementary literature are based on suggestions in past theoretical and empirical research.

Secondly, the thesis depended on share price returns alone to establish the relevance of complementary and supplementary narratives. Share prices may as well have been influenced by other factors.

Third, the study estimated disclosure extent based on quantitative scores. This assumes that disclosure extent or quality is statistically measurable which may not always be the case.

Fourth, also related to disclosure measurement, measures attached to the disclosures are based on the researcher's decision rules, guided by prior theoretical and empirical literature. Therefore, the importance attached to the information items and attributes may not reflect the importance investors attach to the disclosures.

Fifth, quantitative scores used cannot capture all the precision in an information item. For example, one company may justify its expansion in the UK by its market-seeking strategy. Another company may justify its expansion in the same country due to flexible labour legislation. In either case, a score of one would be awarded for the attribute of reasons for performance. However, such a score disregard that the same investment decisions is driven by different motives that could differently affect investor's decision. As another illustration, suppose a company disclosed that in Europe it had 200 employees and in Asia, it had 100 employees. For either scenario, a score of one was awarded for the attribute amount, not taking into consideration that there is a difference between 200 and 100. These examples demonstrate that the techniques used may not reveal the quality and precision in complementary and supplementary narratives.

Other limitations arise from disregarding alternative quantitative-based research techniques that are available to estimate information content of narratives or have ability to check the robustness of results but were not used.

Regarding the dependent variable, used only daily market adjusted cumulative abnormal returns to measure the value that investors attach disclosures. Other alternatives may include hourly, monthly or annual returns. Apart from share price returns, information content may also be estimated by risk, trading volume. Related to the limitation that the study uses only the market-adjusted model to estimate abnormal returns, the technique considers that beta is unitary for all firms, which may not always be the case. Firms have various characteristics and performance levels and may be perceived by investors differently, hence leading to variability in their beta estimates (David 2001). For measurement of abnormal returns, alternatives could include the Market Model, Capital Asset Pricing Model, Arbitrage Pricing Model and other multifactor models to address variability in beta. The study also did not

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adjust the beta estimates for thin trading. As discussed under chapter 8, although daily returns are in certain instances criticised for thin trading (e.g. Scholes and Williams 1977), other studies, for example, Jain (1986) find the influence of thin trading on distribution of abnormal returns being minimal.

For the independent variables, although a number of disclosure attributes are considered for complementary and supplementary narratives, the study does not consider that the attributes used represent a comprehensive estimation for narratives. In measuring disclosure extent, the list of attributes representing information quality is inexhaustible (Beattie et al. 2004; Beattie and Thomson 2007; Wallace and Nasser 1995).

For the control variables, a number of predictors of returns have not been considered in the study. These may include financial performance measures such as turnover, cash flows, liquidity ratios and investment ratios.

In addition, this thesis recognises that although some sensitivity tests were conducted, there is a multitude of factors that may influence either narrative disclosure extent or share price returns. However, their effect on the results of the study was not examined. Such include status of the economy (depression or boom), industry classification, investibility weight and presence of secondary lines of shares. Others are analyst following, number of geographical and product line segments, and auditor type, interim reporting frequency and calendar effects.

In the results and analysis chapter, the diagnostics show that the dependent variables and a number of independent variables violate the normality assumption of parametric tests. Although, linear multiple regression analysis was justified as the best technique to enhance robustness of the study, the robustness of results may be compromised if judged on only one type of test. More diagnostic tests to assure reliability of the results could have been conducted, which may include various means of transforming or estimating variables, increasing the sample size and comparison of both parametric and non-parametric test results.

Relating to recent events, that is, the financial crisis of 2007, the sample of the study did not include financial services firms. Secondly, the period of study 2005 – 2007 is mostly before

the financial crisis. Therefore, the findings may not reflect post-financial crisis investors' use of complementary and supplementary narratives. The impact of the financial crisis on the usefulness of complementary and supplementary narratives could arguably be substantial as various studies (e.g. Schwarcz 2008; Wagner 2010) suggested that insufficiency in disclosures was the main cause of the crisis. Further, this thesis uses the joint functioning of the markets for capital, information and regulation in reducing asymmetry to theorise the usefulness of the narrative commentaries. However, various studies (e.g. Dam 2010; Goodhart 2008) suggest that the failure of the same three markets, including that for regulation that could have monitored the proper functioning of the markets for capital and information, is the reason for the subprime financial crisis. Therefore, the results of the study could be challenged based on the theoretical justification since the markets failed to reduce information asymmetry arising from the agency between investors and the banks' management. Lastly, exclusion of financial services firms from the sample on the ground that they are prone to more disclosures that arise from their regulatory bodies may lead to question the findings of the study as among the key issues in the financial crisis were subjected to financial services firms. Furthermore, excluding these firms from the sample because of exposure to more disclosures through regulation arguably challenges the theoretical rationale for the market for regulation in the thesis, thereby underscores the efficacy of the findings with respect to the role of regulation and disclosures in the financial crisis.

For most of the above limitations, the main causes were time and financial resources constraints. For example, the rigour of the disclosure measurement could not permit substantive sample size expansion and all the limitation mentioned above would require much time or resources to examine. However, reference to prior literature for most decisions regarding methodology for the study assures a degree of reliability.

10.8 Further Research

First, the limitations to the study present areas of further research. It may be argued that for as long as the limitations persist, the question of relative and incremental information content of complementary and supplementary narratives in interim reports remains unresolved. To make

the findings in this thesis relevant to the period after the financial crisis of 2007, research may be extended to estimate extent of disclosure, perceived usefulness and information content of complementary and supplementary narratives of financial reports of financial services firms. Keenly, this research may consider complementary and supplementary information arising from the financial institutions lines of business such as mortgage financing, structured trade finance, bonds and equities, capital asset financing and overdrafts.

Secondly, disclosure measurement techniques applied in this thesis may be used in future studies concerned with disclosure extent and information content narratives in annual reports and other news releases. Recent studies (e.g. Beattie et al. 2004; Beattie and Thomson 2007) suggest that disclosure variety and depth ought to be considered to capture attributes in disclosures. In addition, repetitions under disclosure depth capture volume and manual content analysis reveals the context of disclosure. However, most disclosure extent and information content research in the past have ignored the efficacy of disclosure variety and disclosure depth (Beattie et al. 2004). The evidence that this study measured disclosures by disclosure depth and variety through a manual content analysis that recognised repetitions for 309 interim reports shows the viability of the technique.

This study can be replicated for other UK indices, other countries and to the financial services sector to examine consistence regarding the relative and incremental information content of complementary and supplementary information. In addition, the study can be replicated using various measures returns and/or measuring disclosures. For example, in the presence of non-normality of returns on FTSE indices, Hamill et al (2002) recommend a combination of techniques for robustness of return estimation. In their study, they advise use of bootstrapping of the market model and Corrado's (1989) rank test in computation of mean abnormal returns and the ZD test in Coutts et al. (1995) for cumulative abnormal returns.

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Appendix 1.   **Sample Size Guide: Expected Effect and Number of Predictors -**
   Cohen (1988)
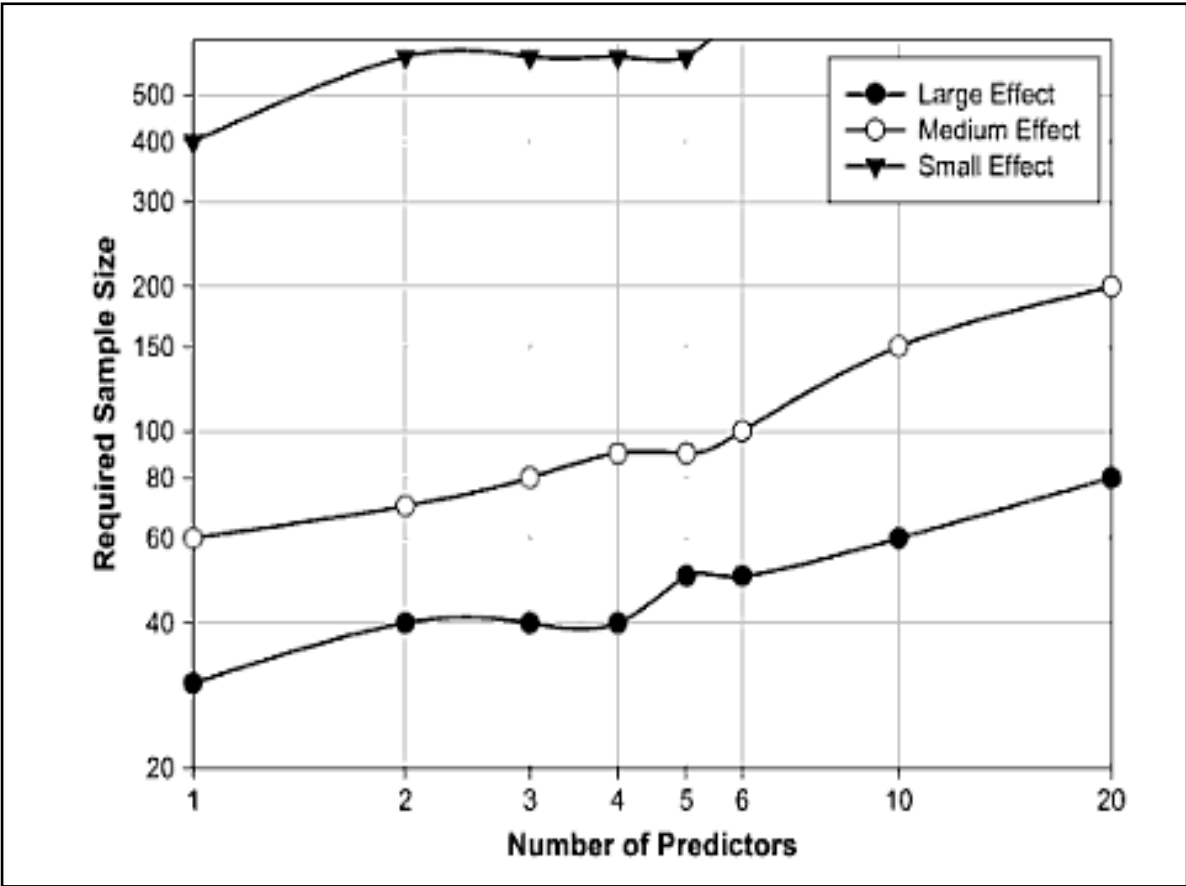
Source: Field (2009, p223)

Appendix 2.　　Sample Size Table by Sekaran (2000)

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Source: Sekaran (2000, p. 295)

Appendix 3. Sample Constituents, Interim Report and Event Dates

List of Companies, IC Codes, FTSE100 and FTSE250 Membership, Interim Report Date and Interim Report Announcement Date

	Company	TIDM	ICB	FSTE Membership 2005	FSTE Membership 2006	FSTE Membership 2007	2005 Interim Report Date	2005 Event Date	2006 Interim Report	2006 Event Date	2007 Interim Report Date	2007 Event Date
1	Aegis Group	AGS	5000	FTSE250	FTSE250	FTSE250	30-Jun-05	6-Sep-05	30-Jun-06	5-Sep-06	30-Jun-07	6-Sep-07
2	AGA Foodservice	AGA	3000	FTSE250	FTSE250	FTSE250	30-Jun-05	9-Sep-05	30-Jun-06	8-Sep-06	30-Jun-07	7-Sep-07
3	Aggreko	AGK	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	15-Sep-05	30-Jun-06	14-Sep-06	30-Jun-07	13-Sep-07
4	Amec	AMEC	0001	FTSE250	FTSE250	FTSE250	30-Jun-05	1-Sep-05	30-Jun-06	3-Aug-06	30-Jun-07	6-Sep-07
5	Anglo American	AAL	1000	FTSE100	FTSE100	FTSE100	30-Jun-05	3-Aug-05	30-Jun-06	3-Aug-06	30-Jun-07	2-Aug-07
6	ARM Holdings	ARM	9000	FTSE250	FTSE250	FTSE250	30-Jun-05	19-Jul-05	30-Jun-06	25-Jul-06	30-Jun-07	26-Jul-07
7	Arriva	ARI	5000	FTSE250	FTSE250	FTSE250	30-Jun-05	8-Sep-05	30-Jun-06	7-Sep-06	30-Jun-07	6-Sep-07
8	Associated British Foods	ABF	3000	FTSE100	FTSE100	FTSE100	5-Mar-05	19-Apr-05	4-Mar-06	19-Apr-06	3-Mar-07	24-Apr-07
9	Astra Zaneca	AZN	4000	FTSE100	FTSE100	FTSE100	30-Jun-05	28-Jul-05	30-Jun-06	27-Jul-06	30-Jun-07	26-Jul-07
10	Atkins WS	ATK	2000	FTSE250	FTSE250	FTSE250	30-Sep-05	29-Nov-05	30-Sep-06	23-Nov-06	30-Sep-07	27-Nov-07
11	BAE Systems	BA.	2000	FTSE100	FTSE100	FTSE100	30-Jun-05	6-Sep-05	30-Jun-06	12-Sep-06	30-Jun-07	8-Aug-07
12	Balfour Beatty	BBY	2000	FTSE250	FTSE250	FTSE250	2-Jul-05	16-Aug-05	1-Jul-06	15-Aug-06	30-Jun-07	14-Aug-07
13	Barratt Developments	BDEV	3000	FTSE250	FTSE250	FTSE250	31-Dec-05	29-Mar-06	31-Dec-06	28-Feb-07	31-Dec-07	26-Feb-08
14	Bellway	BWY	3000	FTSE250	FTSE250	FTSE250	31-Jan-05	18-Apr-05	31-Jan-06	3-Apr-06	31-Jan-07	16-Apr-07
15	Berkeley	BKG	3000	FTSE250	FTSE250	FTSE250	31-Oct-05	9-Dec-05	31-Oct-06	8-Dec-06	31-Oct-07	7-Dec-07
16	BG Group	BG.	0001	FTSE100	FTSE100	FTSE100	30-Jun-05	27-Jul-05	30-Jun-06	24-Jul-06	30-Jun-07	27-Jul-07
17	Bodycote	BOY	2000	FTSE250	FTSE250	FTSE250	1-Jun-05	23-Aug-05	30-Jul-06	22-Aug-06	30-Jun-07	31-Jul-07
18	Bovis Homes	BVS	3000	FTSE250	FTSE250	FTSE250	30-Jun-05	9-Sep-05	30-Jun-06	11-Sep-06	30-Jun-07	10-Sep-07
19	BP	BP.	0001	FTSE100	FTSE100	FTSE100	30-Jun-05	25-Jul-05	30-Jun-06	24-Jul-06	30-Jun-07	23-Jul-07
20	British Airways	BAY	5000	FTSE100	FTSE100	FTSE100	30-Sep-05	3-Nov-05	30-Sep-06	2-Nov-06	30-Sep-07	1-Nov-07
21	British American Tobacco	BATS	3000	FTSE100	FTSE100	FTSE100	30-Jun-05	28-Jul-05	30-Jun-06	27-Jul-06	30-Jun-07	26-Jul-07
22	British Sky Broadcasting	BSY	5000	FTSE100	FTSE100	FTSE100	31-Dec-05	1-Feb-06	31-Dec-06	30-Jan-07	31-Dec-07	6-Feb-08
23	BT	BT.A	6000	FTSE100	FTSE100	FTSE100	30-Sep-05	10-Nov-05	30-Sep-06	9-Nov-06	30-Sep-07	8-Nov-07
24	Bunzl	BNZL	2000	FTSE100	FTSE250	FTSE250	30-Jun-05	30-Aug-05	30-Jun-06	29-Aug-06	30-Jun-07	28-Aug-07
25	Burberry	BRBY	3000	FTSE250	FTSE250	FTSE250	30-Sep-05	14-Nov-05	30-Sep-06	14-Nov-06	30-Sep-07	13-Nov-07
26	Cadbury Schweppes	CBRY	3000	FTSE100	FTSE100	FTSE100	19-Jun-05	26-Jul-05	30-Jun-06	1-Aug-06	30-Jun-07	1-Aug-07
27	Carillion	CLLN	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	7-Sep-05	30-Jun-06	6-Sep-06	30-Jun-07	5-Sep-07
28	Carnival	CCL	5000	FTSE100	FTSE100	FTSE100	31-May-05	7-Jul-05	31-May-06	30-Jun-06	31-May-07	29-Jun-07
29	Carpet Right	CPR	5000	FTSE250	FTSE250	FTSE250	29-Oct-05	12-Dec-05	28-Oct-06	11-Dec-06	27-Oct-07	10-Dec-07
30	Carphone Warehouse	CPW	5000	FTSE250	FTSE250	FTSE250	1-Oct-05	3-Nov-05	30-Sep-06	2-Nov-06	29-Sep-07	8-Nov-07
31	Compass Group	CPG	5000	FTSE100	FTSE100	FTSE100	31-Mar-05	18-May-05	31-Mar-06	15-May-06	31-Mar-07	16-May-07
32	Croda	CRDA	1000	FTSE250	FTSE250	FTSE250	30-Jun-05	27-Jul-05	30-Jun-06	27-Jul-06	30-Jun-07	25-Jul-07
33	CSR	CSR	9000	FTSE250	FTSE250	FTSE250	1-Jul-05	28-Jul-05	30-Jun-06	26-Jul-06	29-Jun-07	24-Jul-07
34	Daily Mail and General Trust	DMGT	5000	FTSE100	FTSE100	FTSE100	3-Apr-05	25-May-05	2-Apr-06	24-May-06	1-Apr-07	24-May-07
35	Dairy Crest	DCG	3000	FTSE250	FTSE250	FTSE250	30-Sep-05	10-Nov-05	30-Sep-06	9-Nov-06	30-Sep-07	8-Nov-07
36	Davis Service	DVSG	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	25-Aug-05	30-Jun-06	8-Sep-06	30-Jun-07	31-Aug-07
37	De La Rue	DLAR	2000	FTSE250	FTSE250	FTSE250	24-Sep-05	29-Nov-05	30-Sep-06	27-Nov-06	29-Sep-07	26-Nov-07
38	Diageo	DGE	3000	FTSE100	FTSE100	FTSE100	31-Dec-05	15-Feb-06	31-Dec-06	14-Feb-07	31-Dec-07	13-Feb-08
39	DS Smith	SMDS	2000	FTSE250	FTSE250	FTSE250	31-Oct-05	7-Dec-05	31-Oct-06	6-Dec-06	31-Oct-07	5-Dec-07
40	Enterprise Inns	ETI	5000	FTSE100	FTSE100	FTSE100	31-Mar-05	17-May-05	31-Mar-06	16-May-06	31-Mar-07	15-May-07
41	Euro Money Institutional Investor	ERM	5000	FTSE250	FTSE250	FTSE250	31-Mar-05	18-May-05	31-Mar-06	17-May-06	31-Mar-07	16-May-07
42	Findel	FDL	5000	FTSE250	FTSE250	FTSE250	30-Sep-05	1-Dec-05	30-Sep-06	30-Nov-06	30-Sep-07	29-Nov-07
43	FirstGroup	FGP	5000	FTSE250	FTSE250	FTSE250	30-Sep-05	18-Nov-05	30-Sep-06	7-Nov-06	30-Sep-07	6-Nov-07
44	Forth Ports	FPT	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	12-Sep-05	30-Jun-06	11-Sep-06	30-Jun-07	10-Sep-07
45	GlaxoSmithKline	GSK	4000	FTSE100	FTSE100	FTSE100	30-Jun-05	28-Jul-05	30-Jun-06	26-Jul-06	30-Jun-07	25-Jul-07
46	Go-Ahead Group	GOG	5000	FTSE250	FTSE250	FTSE250	1-Jan-05	17-Feb-05	30-Dec-06	15-Feb-07	12-Dec-07	15-Feb-08
47	Greggs	GRG	5000	FTSE250	FTSE250	FTSE250	18-Jun-05	5-Aug-05	17-Jun-06	4-Aug-06	16-Jun-07	31-Jul-07
48	Group 4 Securicor	GFS	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	12-Sep-05	30-Jun-06	11-Sep-06	30-Jun-07	29-Aug-07
49	Halfords	HFD	5000	FTSE250	FTSE250	FTSE250	30-Sep-05	24-Nov-05	29-Sep-06	23-Nov-06	28-Sep-07	22-Nov-07
50	Halma	HLMA	2000	FTSE250	FTSE250	FTSE250	1-Oct-05	6-Dec-05	30-Sep-06	5-Dec-06	29-Sep-07	29-Nov-07

Appendix 3: List of Companies, IC Codes, FTSE100 and FTSE250 Membership, Interim Report Date and Interim Report Announcement Date Continued

	Company	TIDM	ICB	FSTE Membership 2005	FSTE Membership 2006	FSTE Membership 2007	2005 Interim Report Date	2005 Event Date	2006 Interim Report	2006 Event Date	2007 Interim Report Date	2007 Event Date
51	HMV	HMV	5000	FTSE250	FTSE250	FTSE250	29-Oct-05	12-Jan-06	28-Oct-06	10-Jan-07	27-Oct-07	11-Dec-07
52	Homeserve	HSV	2000	FTSE250	FTSE250	FTSE250	30-Sep-05	28-Nov-05	30-Sep-06	27-Nov-06	30-Sep-07	26-Nov-07
53	IMI	IMI	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	5-Sep-05	30-Jun-06	4-Sep-06	30-Jun-07	3-Sep-07
54	Inchcape	INCH	5000	FTSE250	FTSE250	FTSE250	30-Jun-05	1-Aug-05	30-Jun-06	2-Aug-06	30-Jun-07	1-Aug-07
55	International Power	IPR	7000	FTSE250	FTSE100	FTSE100	30-Jun-05	4-Aug-05	30-Jun-06	10-Aug-06	30-Jun-07	9-Aug-07
56	Invensys	ISYS	2000	FTSE250	FTSE250	FTSE250	30-Sep-05	9-Nov-05	30-Sep-06	8-Nov-06	30-Sep-07	7-Nov-07
57	John Wood	WG.	0001	FTSE250	FTSE250	FTSE250	30-Jun-05	12-Sep-05	30-Jun-06	4-Sep-06	30-Jun-07	27-Aug-07
58	Johnson Matthey	JMAT	1000	FTSE100	FTSE100	FTSE100	30-Sep-05	23-Nov-05	30-Sep-06	21-Nov-06	30-Sep-07	27-Nov-07
59	Johnson Press	JPR	5000	FTSE250	FTSE250	FTSE250	30-Jun-05	31-Aug-05	30-Jun-06	30-Aug-06	30-Jun-07	29-Aug-07
60	Kelda	KEL	7000	FTSE250	FTSE100	FTSE100	30-Sep-05	30-Nov-05	30-Sep-06	30-Nov-06	30-Sep-07	26-Nov-07
61	Kesa Electricals	KESA	5000	FTSE250	FTSE250	FTSE250	31-Jul-05	28-Sep-05	31-Jul-06	27-Sep-06	31-Jul-07	26-Sep-07
62	LogicaCMG	LOG	9000	FTSE250	FTSE250	FTSE250	30-Jun-05	31-Aug-05	30-Jun-06	30-Aug-06	30-Jun-07	28-Aug-07
63	Marks and Spenser	MKS	5000	FTSE100	FTSE100	FTSE100	1-Oct-05	7-Nov-05	30-Sep-06	7-Nov-06	29-Sep-07	6-Nov-07
64	Marshalls	MSLH	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	9-Sep-05	30-Jun-06	8-Sep-06	30-Jun-07	7-Sep-07
65	Michael Page	MPI	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	15-Aug-05	30-Jun-06	14-Aug-06	30-Jun-07	20-Aug-07
66	Millennium and Copthorne	MLC	5000	FTSE250	FTSE250	FTSE250	30-Jun-05	4-Aug-05	30-Jun-06	4-Aug-06	30-Jun-07	7-Aug-07
67	Misys	MSY	9000	FTSE250	FTSE250	FTSE250	30-Nov-05	26-Jan-06	30-Nov-06	18-Jan-07	30-Nov-07	24-Jan-08
68	Morgan Crucible	MGCR	2000	FTSE250	FTSE250	FTSE250	4-Jun-05	2-Aug-05	4-Jul-06	3-Aug-06	4-Jul-07	1-Aug-07
69	Morrison	MRW	5000	FTSE100	FTSE100	FTSE100	24-Jul-05	22-Sep-05	23-Jul-06	20-Sep-06	29-Jul-07	19-Sep-07
70	N Brown	BWNG	5000	FTSE250	FTSE250	FTSE250	27-Aug-05	11-Oct-05	26-Aug-06	11-Oct-06	25-Aug-07	9-Oct-07
71	National Grid	NGT	7000	FTSE100	FTSE100	FTSE100	30-Sep-05	16-Nov-05	30-Sep-06	16-Nov-06	30-Sep-07	14-Nov-07
72	Next	NXT	5000	FTSE100	FTSE100	FTSE100	31-Jul-05	15-Sep-05	31-Jul-06	15-Sep-06	31-Jul-07	11-Sep-07
73	Pearson	PSON	5000	FTSE100	FTSE100	FTSE100	30-Jun-05	27-Jul-05	30-Jun-06	31-Jul-06	30-Jun-07	31-Jul-07
74	Persimmon	PSN	3000	FTSE250	FTSE100	FTSE100	30-Jun-05	23-Aug-05	30-Jun-06	22-Aug-06	30-Jun-07	20-Aug-07
75	Premier Farnell	PFL	2000	FTSE250	FTSE250	FTSE250	31-Jul-05	7-Sep-05	30-Jul-06	7-Sep-06	29-Jul-07	11-Sep-07
76	PZ Cussons	PZC	3000	FTSE250	FTSE250	FTSE250	30-Nov-05	7-Feb-06	30-Nov-06	30-Jan-07	30-Nov-07	29-Jan-08
77	Randgold	RRS	1000	FTSE250	FTSE250	FTSE250	30-Jun-05	4-Aug-05	30-Jun-06	7-Aug-06	30-Jun-07	2-Aug-07
78	Reckitt Benckiser	RB.	3000	FTSE100	FTSE100	FTSE100	30-Jun-05	4-Aug-05	30-Jun-06	7-Aug-06	30-Jun-07	15-Aug-07
79	Redrow	RDW	3000	FTSE250	FTSE250	FTSE250	31-Dec-05	7-Mar-06	31-Dec-06	6-Mar-07	31-Dec-07	28-Feb-08
80	Reed Elsevier	REL	5000	FTSE100	FTSE100	FTSE100	30-Jun-05	27-Jul-05	30-Jun-06	26-Jul-06	30-Jun-07	25-Jul-07
81	Renishaw	RSW	2000	FTSE250	FTSE250	FTSE250	31-Dec-05	26-Jan-06	31-Dec-06	24-Jan-07	31-Dec-07	23-Jan-08
82	Rio Tinto	RIO	1000	FTSE100	FTSE100	FTSE100	30-Jun-05	3-Aug-05	30-Jun-06	3-Aug-06	30-Jun-07	2-Aug-07
83	Rotork	ROR	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	2-Aug-05	30-Jun-06	2-Aug-06	30-Jun-07	30-Jul-07
84	Sage	SGE	9000	FTSE100	FTSE100	FTSE100	31-Mar-05	9-May-05	31-Mar-06	9-May-06	31-Mar-07	9-May-07
85	Severn Trent	SVT	7000	FTSE100	FTSE100	FTSE100	30-Sep-05	6-Dec-05	30-Sep-06	7-Dec-06	30-Sep-07	27-Nov-07
86	SIG	SHI	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	14-Sep-05	30-Jun-06	13-Sep-06	30-Jun-07	12-Sep-07
87	Signet Group	SIG	5000	FTSE250	FTSE250	FTSE250	30-Jul-05	31-Aug-05	29-Jul-06	30-Aug-06	4-Aug-07	5-Sep-07
88	Smith and Nephew	SN.	4000	FTSE100	FTSE100	FTSE100	2-Jul-05	4-Aug-05	1-Jul-06	27-Jul-06	30-Jun-07	2-Aug-07
89	Smiths	SMIN	2000	FTSE100	FTSE100	FTSE100	31-Jan-05	16-Mar-05	31-Jan-06	15-Mar-06	3-Feb-07	21-Mar-07
90	Spirax Sarco	SPX	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	6-Sep-05	30-Jun-06	7-Sep-06	30-Jun-07	7-Sep-07
91	SSL	SSL	3000	FTSE250	FTSE250	FTSE250	30-Sep-05	21-Nov-05	30-Sep-06	20-Nov-06	30-Sep-07	19-Nov-07
92	Tesco	TSCO	5000	FTSE100	FTSE100	FTSE100	13-Aug-05	19-Sep-05	26-Aug-06	2-Oct-06	25-Aug-07	1-Oct-07
93	Travis Perkins	TPK	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	2-Sep-05	30-Jun-06	1-Aug-06	30-Jun-07	31-Jul-07
94	Tullow Oil	TLW	0001	FTSE250	FTSE250	FTSE250	30-Jun-05	13-Sep-05	30-Jun-06	5-Sep-06	30-Jun-07	3-Sep-07
95	Ultra Electronics	ULE	2000	FTSE250	FTSE250	FTSE250	30-Jun-05	1-Aug-05	30-Jun-06	31-Jul-06	30-Jun-07	30-Jul-07
96	Unilever	ULVR	3000	FTSE100	FTSE100	FTSE100	2-Jul-05	4-Aug-05	1-Jul-06	3-Aug-06	30-Jun-07	2-Aug-07
97	United Business Media	UBM	5000	FTSE250	FTSE250	FTSE250	30-Jun-05	27-Jul-05	30-Jun-06	25-Jul-06	30-Jun-07	27-Jul-07
98	Wetherspoon (JD)	JDW	5000	FTSE250	FTSE250	FTSE250	23-Jan-05	4-Mar-05	22-Jan-06	3-Mar-06	28-Jan-07	2-Mar-07
99	Whitbread	WTB	5000	FTSE100	FTSE250	FTSE100	1-Sep-05	25-Oct-05	31-Aug-06	23-Oct-06	30-Aug-07	15-Oct-07
100	Wier Group	WEIR	2000	FTSE250	FTSE250	FTSE250	1-Jul-05	18-Aug-05	30-Jun-06	17-Aug-06	29-Jun-07	21-Aug-07
101	William Hill	WMH	5000	FTSE100	FTSE250	FTSE250	28-Jun-05	5-Sep-05	27-Jun-06	1-Aug-06	26-Jun-07	2-Aug-07
102	Wolsey	WOS	2000	FTSE100	FTSE100	FTSE100	31-Jan-05	21-Mar-05	31-Jan-06	21-Mar-06	31-Jan-07	19-Mar-07
103	Yell Group	YELL	5000	FTSE100	FTSE100	FTSE100	30-Sep-05	11-Nov-05	30-Sep-06	7-Nov-06	30-Sep-07	6-Nov-07

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Panel C.   *Sample Summary Characteristics*

Number of Firms by ICB Membership

Industry	*Number of Firms*
0001: Oil and Gas	5
1000: Basic Materials	5
2000: Industrials	29
3000: Consumer Goods	17
4000: Health Care	3
5000: Consumer Services	34
6000: Telecommunications	1
7000: Utilities	4
8000: Financials	0
9000: Technology	5
Total	**103**

Number of Firms by Membership to FTSE100 and FTSE250

	2005	*2006*	*2007*
FTSE100	37	37	37
FTSE250	66	66	66
Total	**103**	**103**	**103**

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Appendix 4.   LSE Non-Trading Days in England and Wales in 2005 - 2008

Bank Holiday	Date
Year 2005	
New Year's Day	Monday, January 03, 2005
Good Friday	Friday, March 25, 2005
Easter Monday	Monday, March 28, 2005
Early May Bank Holiday	Monday, May 02, 2005
Spring Bank Holiday	Monday, May 30, 2005
Summer Bank Holiday	Monday, August 29, 2005
Christmas Day	Tuesday, December 27, 2005
Boxing Day	Monday, December 26, 2005
Year 2006	
New Year's Day	Monday, January 02, 2006
Good Friday	Friday, April 14, 2006
Easter Monday	Monday, April 17, 2006
Early May Bank Holiday	Monday, May 01, 2006
Spring Bank Holiday	Monday, May 29, 2006
Summer Bank Holiday	Monday, August 28, 2006
Christmas Day	Monday, December 25, 2006
Boxing Day	Tuesday, December 26, 2006
Year 2007	
New Year's Day	Monday, January 01, 2007
Good Friday	Friday, April 06, 2007
Easter Monday	Monday, April 09, 2007
Early May Bank Holiday	Monday, May 07, 2007
Spring Bank Holiday	Monday, May 28, 2007
Summer Bank Holiday	Monday, August 27, 2007
Christmas Day	Tuesday, December 25, 2007
Boxing Day	Wednesday, December 26, 2007
Year 2008	
New Year's Day	Tuesday, January 01, 2008
Good Friday	Friday, March 21, 2008
Easter Monday	Monday, March 24, 2008
Early May Bank Holiday	Monday, May 05, 2008
Spring Bank Holiday	Monday, May 26, 2008
Summer Bank Holiday	Monday, August 25, 2008
Christmas Day	Thursday, December 25, 2008
Boxing Day	Friday, December 26, 2008

Appendix 5.   The Disclosure Indices

Supplementary information items
(Attributes for all information items are: presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)
Financial statements information
Income statement items

SUP1	Revenue from continuing operations
SUP2	Cost of sales from continuing operations
SUP3	Gross profit from continuing operations
SUP4	Other Income, e.g. profit from sale of plant and equipment
SUP5	Operating costs - administrative and selling
SUP6	Other Expense - e.g. loss from sale of plant and equipment
SUP7	Finance income
SUP8	Finance costs
SUP9	Taxation
SUP10	Profit from continuing operations
SUP11	Profit from discontinued operations
SUP12	Attribution of profit to equity holders of the parent
SUP13	Attribution of profit to minority interest
SUP14	Earnings per share - basic and diluted
SUP15	Dividend per share

Statement of Changes in Equity

SUP16	Income recognised directly in equity, e.g. foreign currency translations, goodwill amortisation, fair value gains and losses on tangible assets and financial instruments, etc
SUP17	Loss recognised directly in equity, e.g. foreign currency translations, goodwill amortisation, fair value gains and losses on tangible assets and financial instruments, etc
SUP18	Transactions with owners: share issues and redemptions, dividends and the purchase of treasury shares

Balance sheet items

SUP19	Property, plant and equipment
SUP20	Investment property
SUP21	Investments in joint ventures and associates
SUP22	Deferred tax assets
SUP23	Intangible assets, e.g. goodwill
SUP24	Non-current financial assets, e.g. derivatives
SUP25	Inventories
SUP26	Current financial assets, e.g. derivatives
SUP27	Trade and other receivables
SUP28	Current tax assets
SUP29	Cash and cash equivalents
SUP30	Current financial liabilities, e.g. overdraft and derivatives
SUP31	Trade and other payables

SUP32	Current tax liabilities
SUP33	Non-current financial liabilities, e.g. derivatives, mortgages, vehicle financing
SUP34	Retirement benefit obligations, e.g. pensions
SUP35	Deferred tax liabilities
SUP36	Provisions
SUP37	Minority interest in equity
SUP38	Issued capital
SUP39	Share premium
SUP40	Other reserves
SUP41	Profit and loss

Cash flow Statement:

SUP42	Cash flow from operating activities
SUP43	Cash flow from investment activities
SUP44	Cash flow from financing activities

High level operational and performance measures:

SUP45	Profitability ratios, e.g. gross profit margin, operating margin and ROCE
SUP46	Efficiency and effectiveness ratios, e.g. debtor days, creditor days and inventory days
SUP47	Cash flow ratios, e.g. cash flow from operations to net income, cash flow ratio and cash flow from sales revenue to sales revenue
SUP48	Leverage ratios, e.g. debt to equity ratio and interest coverage
SUP49	Liquidity ratios, e.g. quick ratio and current ratio
SUP50	Investment related ratios, e.g. earnings per share, dividend payout ratio

Complementary information items
(Attributes are presented in the parenthesis adjacent to each information item or topic if there is no difference within the items of the topic)
Financial related disclosures*: (presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*
Financial performance measures not in financial statements

COM1   A description of financing arrangements that are either on or off the balance sheet: e.g. overdrafts, mortgages, collaterised, non-collaterised, fixed interest, floating interests

COM2   An account of the management of transactions that are likely to cause financial loss: e.g. derivatives, hedging, credit, debtors, transactions with special purpose vehicles or affiliates

COM3   A discussion of external economic monetary, fiscal measures and policies that directly affect financial transactions of the business: e.g. interest rates, inflation, foreign exchange, tax rates, licensing fees, embargoes, trade and tax economic blocks, double tax arrangements, etc

COM4   Analysis of financial performance using financial ratios that are not fully based on financial statements: e.g. book-to-market ratio, market capitalisation

Segment information

COM5   A discussion of revenue/ sales by geographical locations of the business

COM6   A narrative account for profitability by geographical locations of the business

COM7   A description of corporate capital resources: e.g. human capital, fixed assets, working capital and business relations by geographical locations of the business

COM8   A commentary on revenue/ sales by product and/or activity of the business

COM9   Discussion of profitability by products and/or activity of the business

COM10   Analysis of company resources: e.g. human capital, fixed assets, working capital and business relations according to product lines or activity of the business

High level operational data and performance measures used internally by management*: (presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

COM11   Analysis of revenue statistics: e.g. units, prices, products and services

COM12   Analysis of direct cost parameters: e.g. units produced, prices of material

COM13   Identification of indirect costs: e.g. number of employees, energy consumption, equipment maintenance costs

COM14   A review on performance of nature-provided intangible resources such as time management, weather

COM15   A narrative discussion of structural capital performance for considered both intangible and tangible: e.g. business structures performance, productivity and availability of financial, physical and all intangible assets

COM16   Explanation of human capital performance: e.g. productivity, teamwork, training, promotions, turnover levels, attraction of best employees, management performance

COM17   Discussion of value relevance of relational capital: e.g. measures of effectiveness for relations with suppliers, customers, competition, government, trade unions, physical environment, business partners, society

COM18	An analysis of connectivity capital performance: the extent to which all capital and resources are synergised to achieve corporate objectives: e.g. employees and the environment, health and safety of the tangible structures
COM19	A discussion on quality management measures, responsibilities and performance: e.g. tasks, performance monitoring, achievements
COM20	An analysis of achievement for other Key Performance Indicators not mentioned above: e.g. overall performance against budget estimates

Opportunities and risks, including those from key trends*: (Opportunities, risks, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

COM21	Discussion of business performance related opportunities and risks based on nature of business and/ or uncontrollable: e.g. known key trends, cyclic and seasonality effects, climate, etc
COM22	Explanation of macroeconomic structural related risks and opportunities: e.g. changes in technology, national infrastructure such as road network, sea ports
COM23	Explanation of microeconomic structural related risks and opportunities: e.g. changes in technology, internal systems and infrastructure such as machinery, plant, licences, brands
COM24	Discussion of economy-wide human capital risks and opportunities: e.g. demographics, national insurance, culture and values, minimum pay, working hours and or days
COM25	An account for microeconomic human capital related risks and opportunities: e.g. staff training quality, experience, innovative capacity, motivation
COM26	Discussion of macroeconomic relational capital risks and opportunities: e.g. relationships with trade unions, business partners, competition, government, political relations, licensing authorities and communities
COM27	An explanation of company specific relational capital risks and opportunities: e.g. intracompany and intercompany cohesion, management and employee cohesion

Objectives, strategies and management plans, including critical success factors*: (short term, long term, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

COM28	Explanation of company objectives and strategies: e.g. penetration into new markets, financing structures, etc
COM29	A discussion on the consistency of objectives and strategies with company vision
COM30	Consistency of objectives and strategies with business key trends in the micro- and macro-economic business environment
COM31	Management plans and activities to meet broad objectives and strategy: e.g. policy and investment in research and development
COM32	Identification of factors within company necessary to meet the objectives and strategies: e.g. assets, people
COM33	Discussion of factors outside company necessary to meet the objectives and strategy: e.g. transport network, weather conditions, etc

Management and shareholders information

Identities – Directors and management

COM34   Identification of directors and discussion of their backgrounds: i.e. names, qualifications, experience*: (presence/ names, experience, professional or academic training, recognitions/ convictions, type of directorship – executive/ non executive / responsibilities)*

COM35   Identification of key executive management and discussion of their back grounds: i.e. names, qualifications, experience*: (presence/ names, experience, professional or academic training, recognitions/ convictions, type of directorship – executive/ non executive / responsibilities)*

Identities – Shareholders

COM36   Discussion of shareholding characteristics and/or identities, e.g. names of major shareholders, structures and/ or policies for directors' or employees' shareholding schemes, shares owned by directors or employees*: (major shareholders, director shareholders, executive management shareholders, employee shareholding, arrangements likely to result into corporate control)*

Corporate control management

COM37   An analysis of directors' remuneration *(presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

COM38   An analysis of executive remuneration: e.g. senior management who may not be directors: *(presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

COM39   Discussion of related party transactions: e.g. shareholders, directors, suppliers, customers, intercompany transactions: *(presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

COM40   Discussion of any disagreements with directors, independent auditors, bankers, corporate secretaries, lawyers, etc: *(presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

Board of directors' characteristics

COM41   Board of directors' characteristics: e.g. committees, independence, internal controls and communication with shareholders: *(Committees and their functions, involvement – number of meetings and/or attendance, independence – disclosure on non-executive and executive directors, internal controls, Communication of present results with investors)*

Scope and description of the business and reporting characteristics

Description of the business and its internal environment

COM42   A narrative of the company and its internal environment, e.g. its history, achievements such as quality assurance certifications like ISO certifications, development of the business, corporate vision, etc*: (Historic narration and/ or past performance, General Business Development, Activities, Locations and Products, Company Philosophy or vision Resources: structural, people and relations)*

Description of the business external environment

COM43   A description of the business' external environment, e.g. key resource providers and business partners, market of operation, national and international relations: *(Industry - market share, market growth, seasonality, Key resource relations - suppliers, customers, trade unions, etc, Government and Regulation, Past effects of external*

environment, Future effects of external environment)

Business reporting characteristics

COM44   A disclosure of the business reporting characteristics or practices: e.g. the current period of reporting, any changes in annual or interim reporting dates, basis for comparison like last interim against current interim or current interim against last full year: *(Reporting entity, date and current period of reporting, Basis of comparisons - interim with interim or interim with annual, Internal accounting policies: e.g. provisions, goodwill, Regulatory and accounting standards used or to be used, Audit related disclosures: e.g. pay, appointment, internal/ external audit)*

Industrial structure information*: (presence, amount, comparison with past, reason for change or performance and future trend – increase or decrease)*

COM45   An analysis of the industry innovations and their impact on business, e.g. new products, new players, new logistics and technology

COM46   A discussion of bargaining power of resource providers

COM47   A discussion of the bargaining power of customers, e.g. types of customers and market size

COM48   A review on the intensity of competition, e.g. names and types of competitors, rivalry intensity - price and customer service wars, positioning of the business with competition, market penetration, ratio of major industry biddings won/lost

Other disclosures:

Corporate Social Responsibility and Research and Development

COM49   A discussion of corporate social responsibility: e.g. human resources, products, consumers, services, business community, local community, environment, energy resources*: (Note of thanks to non-shareholding stakeholders, Policy, Comparison with Past, Cost and/or Benefit analysis, Future trend - increase or decrease)*

Investor Relations

COM50   Explanation of the investor relations activities that the business engages in: e.g. communication with investors, commitment of the company to investors, etc*: (Note of thanks to shareholders, Past activities on investor relations, Policy on Investor Relations or Corporate commitment to shareholders, Modes of communication with shareholders: e.g. investor briefings and internet, Future investor relation activities)*
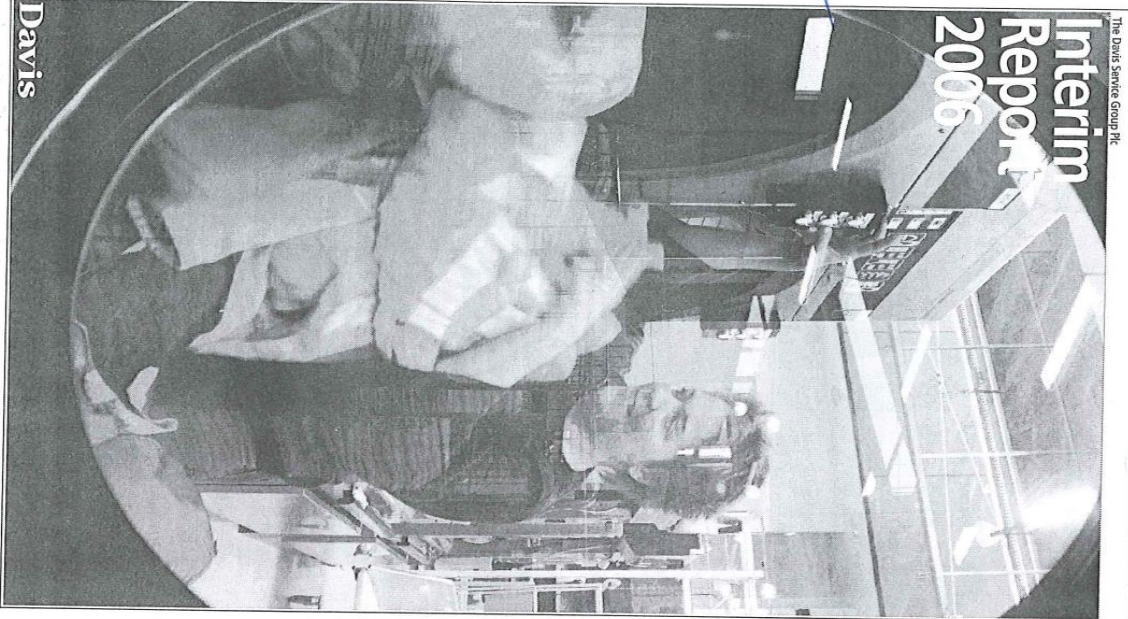
Appendix 6.   Characteristics of disclosure measurement scales

Type of Scale	Exhaustive and mutually exclusive	Ranking	Equal Intervals	Absolute Zero	Data Type	Addition and Subtraction	Multiplication and division	Average
					Characteristics present			
Nominal	✓	✗	✗	✗	Non-parametric	✗	✗	✗
Ordinal	✓	✓	✗	✗	Non-parametric	✗	✗	Mode
Interval	✓	✓	✓	✗	Parametric	✓	✗	Median
Ratio	✓	✓	✓	✓	Parametric	✓	✓	Mean

Source: Jones and Alabaster (1999)

Appendix 7.   Scoring Technique

Panel A.   Coding of Narratives: Davis Group Interim Report 2006

Financial highlights

+6%
Sales from continuing activities £348.8m (2005: £328.1m)

+2%
Operating profits from continuing operations* £43.3m (2005: £42.4m)

+24%
Adjusted earnings per share from continuing operations* 16.2p (2005: 13.1p)

+5%
Dividends per share 5.8p (2005: 5.5p)

+51%
Earnings per share from continuing operations 16.9p (2005: 11.2p)

£24.2m
Free cash flow from continuing operations £24.2m (2005: £32.6m)

*Before exceptional items and amortisation of customer contracts

Sunlight / Spring Grove Textiles

UK and Ireland

Our Sunlight business is a market leader serving hotels and restaurants, healthcare, commerce and the public sector, with flat linens and garments.

2006 financial summary

Revenue **£146.2m** (2005: £131.6m)

Operating profit **£15.0m** (2005: £16.4m)

Operating margin **10.3%** (2005: 12.5%)

Operating profit* £m	
2002	40.9
2003	38.4
2004	38.4
2005	34.3
2006	16.4 / 34.3

Markets

Operations	2006 priorities
Hotels and restaurants	Management of current market volatility
Industry and commerce	Target pricing opportunities to offset cost increases
Healthcare	Maintain programme of operational improvements
Public sector	Continue programme of bolt-on acquisitions

1. UK
2. Ireland

02

Interim statement
For the six months ended 30th June 2006

Roger Dye and Christopher Kemball

I am pleased to report that the group grew its revenues by 6% in the first six months of the year while continuing to increase earnings on behalf of shareholders. The markets in which we operate in Continental Europe were generally stronger than in 2005 and we also increased volumes in the UK and Ireland through organic growth. We also grew through bolt-on acquisitions, in line with our strategy, and we expect these to deliver good returns.

In Continental Europe we have already seen the benefits of this additional revenue in our profitability and increased our operating margin once again in the period. The UK market continued to face the more significant challenge from increased costs and competition. We expect to see the benefit of the acquisitions we have made in the UK in the second half of 2006.

Overall, the group traded in line with our expectations in the first half and the level of new contract wins in Continental Europe was particularly encouraging.

Results

Revenue from continuing operations in the period was £348.8 million (2005: £328.1 million). Operating profit before exceptional items and amortisation of customer contracts (adjusted operating profit) was £43.3 million compared with £42.4 million last year, an increase of 2%. Adjusted earnings per share rose 24% from 13.1 pence in 2005 to 16.2 pence as a result of this increase, the reduction in the net interest charge and the tax for six consolidation of shares following the return of capital to shareholders last year. Our headline tax rate was 29%, consistent with last year.

During the period we realised exceptional income totalling £3.4 million from the sale of property and further receipt of cash from the sale of the HSS business. Amortisation of acquired customer contracts amounted to £2.4 million (2005: £0.9 million). Operating profit after these items was £44.3 million (2005: £35.6 million). In 2005 we realised a profit of £88.2 million on the sale of the Elliott business resulting in the total earnings per share that year of 44.8 pence (compared with 16.9 pence in 2006).

Free cash flow of £24.2 million was generated compared with £34.4 million last year, which included £1.8 million from the Elliott business. As planned, we increased our capital expenditure in the period as we invested in new plants in Norway and Poland, both of which are growing markets with further investment targeted in the second half of 2006. We have also increased our investment in textiles for new contracts. Net borrowings at 30th June were £248.0 million compared with £214.2 million at 31st December 2005, following investments of £32 million for acquisitions. Our gearing level was 64% at 30th June 2006.

The Board has resolved to pay an interim dividend of 5.8 pence (2005: 5.5 pence), a 5% increase. This dividend will be paid on 17th October 2006 to shareholders on the register at the close of business on 22nd September 2006.

The financial statements for the six months ended 30th June 2006 have been reviewed by PricewaterhouseCoopers LLP with their half review opinion set out in note 10.

Continental Europe

The Berendsen management and staff, headed by Christer Ström, again achieved their objectives. Revenue increased to £212.6 million from £196.3 million in 2005 and adjusted operating profit was £30.5 million compared with £28.2 million last year. The adjusted operating margin improved from 14.4% in the first half of 2005 to 15.1% in the period. Foreign exchange decreased these results by revenue of £1.9 million and operating profit of £0.3 million compared to the equivalent period last year. Organic growth in revenue was 2% and we have made 14 bolt-on acquisitions in the first half of 2006 investing £16 million.

Our businesses in Scandinavia performed well, growing both revenue and profit while improving margins. We saw higher new sales than in recent years and the level of business confidence is encouraging. We have made a number of acquisitions and these remain a good pipeline of opportunities reflecting our strong position in these markets. In Italy we sold our last remaining flat linen plant to improve and we continue to focus on the higher margin garments, mats and washroom segments.

Our workwear business in Holland started to show the benefits of the investments we made last year in increasing our sales force, with revenues ahead and a satisfactory level of new contract wins. Germany remained our most challenging market, being questioned in a healthcare business, as it continued to face structural change in the provision of its healthcare service. The business held up well following the strengthening of senior management and restructuring we managed last year. We expect the challenges faced by the healthcare part of our business to continue while we look to grow in garments. Our Polish business continued to grow strongly both in terms of revenue and profit, and our second plant in the south of the country has already been extended and is operating well. Plans are advanced for further plants.

We entered the Finnish market in the second half of 2005 with a small acquisition and in the first half of 2006 we invested further in the market, which we see as offering good opportunities for growth. Elsewhere, we continue to pursue opportunities to enter new markets, particularly in Central Europe.

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Appendix 7 Panel A: Coding of Narratives: Davis Group Interim Report 2006 Continued

UK and Ireland

This was another challenging period for our UK and Ireland operations. The team, headed by Steve Finch, grew revenue by 11% to £146.2 million (2005: £131.8 million) and adjusted operating profit was £15.0 million compared with £16.4 million in 2005. Excluding the impact of acquisitions the business grew revenues by 2%, predominantly through increased volumes. **D1**

Our margin decline from 12.5% to 10.3% was expected and reflected primarily the significant increase in wage and energy costs, which came through from the second half of 2005. **D2**

Our linen business performed well in difficult circumstances and the combination of additional volume and efficiencies meant that our profits held up well compared with a strong first half last year. In the healthcare business we continued to win key contracts and revenues were up in the period. However, the efficiencies we achieved were not sufficient to offset the cost increases and with pricing under pressure, mainly as a result of NHS Trust budget deficits, profits were lower. We do not expect this pressure to alleviate in the short-term. **D3**

While the level of new contract wins in our workwear division demonstrated that the market continues to develop, it remained very competitive with the change from higher price industrial garments to the lighter service industries adversely impacting the overall mix of pricing and margin. Following Rentokil Initial's exit from the textile market we took on some contracts, but only where there were acceptable pricing levels, and these have underpinned revenues in line with our expectations. **D4**

In Ireland we grew both organically and through acquisition resulting in improved profits. **D5**

So far in 2006 we have made acquisitions for a total consideration of £16.0 million. The integration of these has progressed well, with associated costs being incurred in the first half. We expect these acquisitions to contribute to profits more strongly from the second half of this year. **D6**

Financing and Other

In May 2006 we conducted a private placement transaction to provide the group with additional sources of financing, to extend the term of committed funding and to increase the level of fixed borrowing. The private placement was with US institutions for $250 million at attractive rates, which we swapped principally into fixed euro, Danish krone and Swedish krona borrowings. We used these to repay amounts drawn under our Revolving Credit Facility, which remains at £320 million. We now have the sterling equivalent of £215 million of borrowings fixed in three tranches through to 2010, 2016 and 2019 at a blended rate of 3.97% in these currencies. **D7**

In May 2006 we completed our B share programme with the repurchase of the remaining shares for £6.5 million. In May and June 2006 we purchased 825,000 Davis shares in the market for a total cost of £3.6 million, and hold them as treasury shares. These purchases are expected to result in a small enhancement to 2006 earnings per share. **D8**

The Board is planning to make a one-off payment of approximately £25 million from existing resources into the group's UK pension plan and is in the process of seeking the required clearances. The deficit on this plan was £30.6 million at 30th June 2006. The Board expects to make this payment during the second half of this financial year. **D9**

Outlook

We expect the first half trading conditions to continue into the second half of 2006. With the positive momentum we saw in Continental Europe in the first half we remain confident in our outlook for the business for the remainder of the year. In the UK and Ireland, market pressures will remain but we expect a more stable performance in the second half due to the benefits of the acquisitions we made and the comparison to a weaker second half last year due to the impact of the July London bombings. We continue to target acquisition opportunities, particularly in Continental Europe. **D10**

Overall, the Board continues to expect to deliver a satisfactory outcome for 2006. **D11**

Christopher Kemball Chairman
8th September 2006 **D12**

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Appendix 7 Panel B: Scoring of Narrative Disclosures: Davis Group Interim Report 2006 Continued

Panel C.   *Tallying of Narrative Scores: Davis Group Interim Report 2006*

Part A: Complementary Information

Appendix 7 Panel C Part A: Tallying of Narrative Scores (Complementary Information Items): Davis Group Interim Report 2006

Part B: Supplementary Information

Davis Group '06

SUP1	P		SUP18	P		SUP35	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP2	P		SUP19	P		SUP36	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP3	P		SUP20	P		SUP37	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP4	P		SUP21	P		SUP38	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP5	P		SUP22	P		SUP39	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP6	P		SUP23	P		SUP40	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP7	P		SUP24	P		SUP41	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP8	P		SUP25	P		SUP42	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP9	P		SUP26	P		SUP43	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP10	P		SUP27	P		SUP44	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP11	P		SUP28	P		SUP45	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP12	P		SUP29	P		SUP46	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP13	P		SUP30	P		SUP47	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP14	P		SUP31	P		SUP48	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP15	P		SUP32	P		SUP49	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP16	P		SUP33	P		SUP50	P
	A			A			A
	C			C			C
	R			R			R
	F			F			F
SUP17	P		SUP34	P			
	A			A			
	C			C			
	R			R			
	F			F			

Panel D.   *Tallies of Good News "+" / Bad News "-": Davis Group Interim Report 2006*

Davis '06

COM
89/0
116/0
83/9
57/6
40/11
62/2
62/4
57/11
49/21
32/24
74/1
43/11
14/0

SUP
28/13
8/3

Dave

Appendix 8. Scores for Narrative Disclosure Attributes

Panel A. *Interim Reports for the Year 2005*

	Company	Complementary Information Attributes						Supplementary Information Attributes				
		CGD	CII	CAC	CRE	CFW		SGD	SII	SAC	SRE	SFW
1	Aegis Group	0.93	38	264	272	116		0.85	20	100	25	5
2	AGA Foodservice	0.97	41	452	615	291		0.78	18	43	21	13
3	Aggreko	0.93	44	1,236	1,154	260		0.79	26	176	69	15
4	Amec	0.87	40	774	622	492		0.36	29	143	103	25
5	Anglo American	0.83	46	3,640	1,006	949		0.65	30	236	102	10
6	ARM Holdings	0.92	35	1,817	1,532	258		0.67	25	169	138	41
7	Arriva	0.93	42	745	881	925		0.47	14	28	21	2
8	Associated British Foods	0.86	41	630	543	168		0.78	21	52	42	8
9	Astra Zaneca	0.90	43	808	490	213		0.74	33	280	199	36
10	Atkins WS	0.94	40	1,519	2,402	1,565		0.64	19	155	51	14
11	BAE Systems	0.96	42	4,288	4,638	2,275		0.57	24	121	99	7
12	Balfour Beatty	0.92	37	406	311	174		0.78	15	47	26	2
13	Barratt Developments	0.91	38	456	436	179		0.85	14	43	17	12
14	Bellway	0.96	32	103	66	39		0.95	11	33	4	4
15	Berkeley	0.89	38	422	370	269		0.64	25	172	77	33
16	BG Group	0.83	36	727	398	155		0.83	21	234	43	12
17	Bodycote	0.89	42	860	791	423		0.61	26	166	74	10
18	Bovis Homes	0.83	44	651	641	582		0.36	13	92	41	35
19	BP	0.85	40	249	79	157		0.70	27	67	18	14
20	British Airways	0.84	40	331	212	157		0.50	27	160	35	10
21	British American Tobacco	0.84	38	1,035	799	57		0.75	29	105	67	6
22	British Sky Broadcasting	0.94	43	1,316	962	801		0.64	30	149	45	48
23	BT	0.78	42	1,424	943	725		0.62	28	206	67	11
24	Bunzl	0.97	38	761	983	667		0.57	21	45	34	4
25	Burberry	0.85	44	1,387	1,072	642		0.61	31	261	134	31
26	Cadbury Schweppes	0.92	44	1,824	1,627	105		0.65	27	183	88	12
27	Carnival	0.68	44	333	268	107		0.74	22	65	65	10
28	Carpet Right	0.91	40	778	392	251		0.47	23	94	47	8
29	Carphone Warehouse	0.89	36	583	477	228		0.71	14	37	19	6
30	Carillion	0.95	36	611	680	619		0.67	18	60	21	6
31	Compass Group	0.90	43	582	341	306		0.49	34	188	129	80
32	Croda	0.93	28	63	69	32		0.89	14	29	16	2
33	CSR	0.85	40	558	781	418		0.71	15	126	32	4
34	Daily Mail and General Trust	0.81	38	456	303	64		0.69	16	56	33	3
35	Dairy Crest	0.88	36	419	221	143		0.50	20	48	24	4
36	Davis Service	0.76	41	493	307	90		0.61	29	91	83	10
37	De La Rue	0.88	42	417	315	204		0.71	31	118	110	43
38	Diageo	0.82	44	2,044	1,049	223		0.67	32	294	136	30
39	DS Smith	0.70	42	854	540	393		0.38	17	47	5	2
40	Enterprise Inns	0.93	26	56	39	20		0.71	13	36	15	3
41	Euro Money Institutional Investor	0.82	42	492	397	150		0.43	19	54	37	12
42	Findel	0.88	40	814	489	273		0.49	15	46	17	2
43	FirstGroup	0.96	45	1,985	1,725	703		0.73	33	152	83	19
44	Forth Ports	0.90	41	259	336	219		0.57	25	39	43	18
45	GlaxoSmithKline	0.95	39	701	948	411		0.92	15	56	24	12
46	Go-Ahead Group	0.84	34	190	134	71		0.83	10	13	9	2
47	Greggs	0.81	38	218	158	81		0.83	14	39	24	8
48	Group 4 Securicor	0.84	39	408	199	77		0.85	16	38	7	7
49	Halfords	0.96	37	539	610	262		0.83	25	97	56	6
50	Halma	0.93	34	310	274	64		0.90	12	54	22	3

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Appendix 8 Panel A: Interim Reports for the Year 2005 Continued

Company	Complementary Information Attributes						Supplementary Information Attributes				
	CGD	CII	CAC	CRE	CFW		SGD	SII	SAC	SRE	SFW
51 HMV	0.77	43	1,060	735	148		0.59	22	116	73	6
52 Homeserve	0.96	37	336	279	122		0.92	12	38	9	2
53 IMI	0.85	43	686	428	470		0.47	30	124	66	12
54 Inchcape	0.91	42	1,557	1,602	846		0.74	32	103	85	9
55 International Power	0.91	39	968	507	230		0.64	27	264	122	11
56 Invensys	0.75	25	86	18	17		0.81	12	18	0	0
57 John Wood	0.99	39	764	1,147	1,419		0.62	25	194	58	18
58 Johnson Matthey	0.88	39	401	393	251		0.90	22	85	56	16
59 Johnson Press	0.87	39	570	331	147		0.69	24	49	33	14
60 Kelda	0.93	39	262	235	199		0.63	19	82	19	6
61 Kesa Electricals	0.89	40	753	548	377		0.49	21	77	43	9
62 LogicaCMG	0.87	38	841	816	380		0.87	16	60	31	8
63 Marks and Spenser	0.96	42	934	1,083	674		0.63	24	104	38	18
64 Marshalls	0.89	34	262	166	123		0.76	25	63	58	24
65 Michael Page	0.98	39	300	242	118		0.83	18	74	33	9
66 Millennium and Copthorne	0.95	39	678	388	215		0.67	24	135	41	2
67 Misys	0.91	37	535	426	144		0.70	27	128	54	9
68 Morgan Crucible	0.87	42	735	572	444		0.44	28	203	98	20
69 Morrison	0.82	35	276	439	317		0.80	15	47	13	8
70 N Brown	0.89	34	475	382	94		0.67	19	60	40	7
71 National Grid	0.83	41	689	556	486		0.74	24	128	93	23
72 Next	0.78	36	312	167	148		0.81	19	48	18	10
73 Pearson	0.93	39	350	261	115		0.80	18	56	23	6
74 Persimmon	0.93	41	314	412	396		0.83	17	83	12	11
75 Premier Farnell	0.77	39	550	416	215		0.62	23	60	41	16
76 PZ Cussons	0.90	39	253	238	99		0.94	10	22	9	0
77 Randgold	0.93	44	703	570	324		0.88	18	31	29	5
78 Reckitt Benckiser	0.95	39	547	545	258		0.93	22	147	65	39
79 Redrow	0.92	42	997	1,038	846		0.45	13	43	8	5
80 Reed Elsevier	0.88	42	800	651	315		0.71	28	244	70	16
81 Renishaw	0.96	28	70	59	19		0.96	11	43	11	6
82 Rio Tinto	0.80	38	1,025	686	231		0.84	32	223	107	42
83 Rotork	0.91	29	164	82	27		1.00	8	14	5	2
84 Sage	0.98	38	843	581	313		0.80	20	40	26	15
85 Severn Trent	0.75	41	364	206	132		0.71	22	83	22	6
86 SIG	0.84	35	221	102	33		0.97	14	92	27	7
87 Signet Group	0.89	35	202	87	88		0.93	13	43	5	3
88 Smith and Nephew	0.93	40	469	472	328		0.79	22	84	53	15
89 Smiths	0.96	42	881	857	328		0.84	23	102	48	10
90 Spirax Sarco	0.89	41	622	507	98		0.86	29	78	25	6
91 SSL	0.95	36	435	273	174		0.67	18	42	19	3
92 Tesco	0.94	43	1,779	1,248	395		0.65	24	112	41	14
93 Travis Perkins	0.82	42	778	546	366		0.69	25	107	35	4
94 Tullow Oil	0.95	40	292	319	244		0.76	23	41	85	31
95 Ultra Electronics	0.95	37	244	244	98		0.82	14	23	12	5
96 Unilever	0.79	40	1,437	673	511		0.46	33	208	89	6
97 United Business Media	0.85	42	831	726	282		0.67	30	203	84	9
98 Wetherspoon (JD)	0.86	33	86	71	70		0.45	17	51	14	4
99 Whitbread	0.88	46	896	343	417		0.67	22	103	70	31
100 Wier Group	0.91	41	972	976	787		0.60	25	131	50	14
101 William Hill	0.87	38	854	725	554		0.42	21	63	37	22
102 Wolsey	0.90	43	1,631	1,279	1,063		0.58	30	181	110	42
103 Yell Group	0.90	35	339	165	55		0.80	22	73	38	22

Panel B.   *Interim Reports for the Year 2006*

Company	Complementary Information Attributes						Supplementary Information Attributes				
	CGD	CII	CAC	CRE	CFW		SGD	SII	SAC	SRE	SFW
1 Aegis Group	0.93	40	312	223	54		0.79	25	88	30	2
2 AGA Foodservice	0.97	35	491	682	318		0.96	13	39	10	4
3 Aggreko	0.94	41	1,136	649	273		0.84	22	191	58	9
4 Amec	0.86	39	709	684	576		0.43	22	119	65	11
5 Anglo American	0.77	45	4,696	1,478	1,136		0.61	29	322	142	22
6 ARM Holdings	0.88	37	1,038	979	302		0.62	25	219	127	9
7 Arriva	0.93	42	710	598	487		0.50	19	46	48	5
8 Associated British Foods	0.78	42	805	737	307		0.48	20	53	31	9
9 Astra Zaneca	0.87	44	1,039	701	355		0.69	34	325	177	42
10 Atkins WS	0.94	42	945	1,158	958		0.67	20	113	31	4
11 BAE Systems	0.95	43	3,264	3,776	2,357		0.59	34	237	140	27
12 Balfour Beatty	0.94	39	367	339	98		0.74	14	43	34	12
13 Barratt Developments	0.96	40	946	1,024	692		0.69	15	37	15	15
14 Bellway	0.97	25	85	68	38		0.57	12	35	4	3
15 Berkeley	0.85	42	731	1,102	604		0.78	24	101	79	42
16 BG Group	0.89	36	891	528	162		0.68	24	281	83	14
17 Bodycote	0.94	45	1,144	689	554		0.65	28	132	61	30
18 Bovis Homes	0.90	39	414	241	195		0.70	20	70	25	11
19 BP	0.85	39	270	123	221		0.76	29	102	28	14
20 British Airways	0.78	38	341	205	126		0.50	29	182	70	16
21 British American Tobacco	0.82	38	1,210	923	35		0.79	29	74	56	12
22 British Sky Broadcasting	0.91	44	1,664	1,061	456		0.59	29	177	94	3
23 BT	0.89	44	2,043	1,861	664		0.68	28	225	76	27
24 Bunzl	0.95	40	751	655	835		0.59	12	34	19	5
25 Burberry	0.92	45	1,569	1,218	393		0.58	32	299	162	44
26 Cadbury Schweppes	0.88	42	1,329	1,286	209		0.72	29	222	151	38
27 Carnival	0.68	44	356	259	133		0.64	28	121	101	14
28 Carpet Right	0.93	40	1,186	568	339		0.81	18	67	17	8
29 Carphone Warehouse	0.90	37	561	472	196		0.68	13	35	25	10
30 Carillion	0.95	38	1,204	1,139	944		0.70	15	50	14	14
31 Compass Group	0.92	41	804	952	602		0.67	27	128	45	9
32 Croda	0.92	30	62	54	22		0.84	15	45	28	3
33 CSR	0.89	35	909	826	459		0.70	14	152	45	4
34 Daily Mail and General Trust	0.85	37	457	311	87		0.63	21	60	41	4
35 Dairy Crest	0.87	34	334	218	146		0.73	19	57	24	6
36 Davis Service	0.88	41	475	442	250		0.69	23	60	27	11
37 De La Rue	0.97	42	318	244	205		0.81	20	98	51	29
38 Diageo	0.82	44	1,714	785	235		0.54	31	220	123	43
39 DS Smith	0.80	43	795	627	377		0.49	19	73	19	3
40 Enterprise Inns	0.79	32	90	68	64		0.91	11	26	15	14
41 Euro Money Institutional Investor	0.94	40	491	226	110		0.47	18	71	45	18
42 Findel	0.92	39	925	749	729		0.55	20	69	26	6
43 FirstGroup	0.97	43	2,392	2,138	1,023		0.71	30	141	86	22
44 Forth Ports	0.79	40	300	359	247		0.50	21	32	23	5
45 GlaxoSmithKline	0.94	39	884	1,236	405		0.78	19	89	37	18
46 Go-Ahead Group	0.85	42	276	220	122		0.93	16	40	23	15
47 Greggs	0.84	41	232	275	187		0.72	17	55	53	23
48 Group 4 Securicor	0.79	39	389	181	121		0.87	14	44	7	8
49 Halfords	0.99	41	438	430	106		0.81	24	107	54	8
50 Halma	1.00	35	388	430	142		0.92	14	66	41	10

Company	Complementary Information Attributes						Supplementary Information Attributes				
	CGD	CII	CAC	CRE	CFW		SGD	SII	SAC	SRE	SFW
51 HMV	0.84	36	638	292	84		0.44	16	92	36	1
52 Homeserve	0.97	42	507	404	143		0.90	14	46	12	3
53 IMI	0.86	40	522	390	328		0.63	30	115	42	9
54 Inchcape	0.92	43	1,705	1,260	818		0.83	25	97	59	12
55 International Power	0.92	41	1,046	723	340		0.62	27	275	132	3
56 Invensys	0.89	30	98	60	22		0.44	12	22	0	0
57 John Wood	0.99	37	1,072	1,075	1,262		0.66	26	160	40	8
58 Johnson Matthey	0.83	39	480	423	254		0.74	22	84	64	22
59 Johnson Press	0.89	39	443	364	214		0.65	20	60	37	9
60 Kelda	0.95	44	516	384	316		0.83	15	85	33	39
61 Kesa Electricals	0.96	44	772	755	466		0.70	23	66	36	7
62 LogicaCMG	0.88	39	748	580	242		0.79	19	82	59	17
63 Marks and Spenser	0.93	41	1,689	1,185	1,115		0.68	29	119	43	13
64 Marshalls	0.97	39	472	323	213		0.98	18	43	26	9
65 Michael Page	0.98	41	575	545	366		0.78	21	108	44	11
66 Millennium and Copthorne	0.93	39	645	555	162		0.91	14	80	21	6
67 Misys	0.91	40	604	541	153		0.63	24	126	38	1
68 Morgan Crucible	0.96	38	512	534	283		0.72	27	162	69	11
69 Morrison	0.94	39	520	316	216		0.78	18	54	22	13
70 N Brown	0.94	36	450	528	234		0.89	24	41	23	11
71 National Grid	0.84	44	720	555	591		0.70	22	78	36	7
72 Next	0.81	37	292	128	100		0.77	19	46	28	8
73 Pearson	0.94	38	483	384	169		0.78	17	69	46	22
74 Persimmon	0.95	43	688	802	503		0.65	22	145	38	9
75 Premier Farnell	0.95	40	633	437	174		0.88	24	113	28	7
76 PZ Cussons	0.90	38	231	155	96		0.89	15	43	9	1
77 Randgold	0.83	42	864	487	256		0.87	17	87	33	4
78 Reckitt Benckiser	0.96	40	913	1,196	198		0.71	26	152	72	15
79 Redrow	0.88	44	787	1,695	784		0.84	12	37	18	9
80 Reed Elsevier	0.85	39	577	332	138		0.90	29	333	124	10
81 Renishaw	0.84	28	90	57	43		0.53	12	48	13	8
82 Rio Tinto	0.78	40	1,400	692	223		0.89	29	276	118	26
83 Rotork	0.91	31	224	81	31		1.00	6	14	8	8
84 Sage	0.97	40	1,000	692	321		0.81	23	92	43	3
85 Severn Trent	0.76	39	338	243	134		0.60	30	137	65	19
86 SIG	0.83	38	260	111	38		0.91	12	50	18	3
87 Signet Group	0.92	38	259	111	201		0.88	16	46	8	10
88 Smith and Nephew	0.85	38	1,015	1,200	600		0.60	25	78	67	21
89 Smiths	0.97	45	974	1,075	382		0.84	30	91	57	15
90 Spirax Sarco	0.92	41	594	512	144		0.92	23	66	29	5
91 SSL	0.95	36	321	262	179		0.86	19	45	12	5
92 Tesco	0.96	41	2,347	1,434	784		0.81	26	123	70	19
93 Travis Perkins	0.91	42	1,217	674	451		0.88	15	72	11	0
94 Tullow Oil	0.93	40	337	397	260		0.81	22	66	62	28
95 Ultra Electronics	0.94	35	238	173	64		0.89	17	38	21	8
96 Unilever	0.86	39	705	442	436		0.77	27	158	53	19
97 United Business Media	0.94	40	1,249	1,919	335		0.65	34	256	150	23
98 Wetherspoon (JD)	0.80	32	101	80	67		0.85	14	53	12	6
99 Whitbread	0.92	43	972	682	688		0.61	26	120	83	13
100 Wier Group	0.95	39	984	836	617		0.77	19	73	19	7
101 William Hill	0.93	39	794	538	258		0.65	24	69	45	41
102 Wolsey	0.92	43	1,953	1,891	1,242		0.65	31	168	69	22
103 Yell Group	0.82	37	261	150	62		0.69	16	68	21	5

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Panel C.   *Interim Reports for the Year 2007*

Company	Complementary Information Attributes						Supplementary Information Attributes				
	CGD	CII	CAC	CRE	CFW		SGD	SII	SAC	SRE	SFW
1 Aegis Group	0.87	40	390	360	154		0.76	22	105	58	12
2 AGA Foodservice	0.95	42	339	522	221		0.75	29	96	60	16
3 Aggreko	0.92	38	1,240	544	216		0.77	27	215	53	7
4 Amec	0.91	43	912	937	882		0.69	27	100	38	36
5 Anglo American	0.80	44	6,307	1,646	1,553		0.64	32	321	148	19
6 ARM Holdings	0.80	39	571	544	288		0.59	22	194	80	9
7 Arriva	0.95	39	1,031	666	658		0.55	20	65	47	2
8 Associated British Foods	0.82	41	774	614	196		0.63	24	56	46	8
9 Astra Zaneca	0.86	44	1,281	941	695		0.54	34	484	260	78
10 Atkins WS	0.90	41	931	748	533		0.72	26	163	49	9
11 BAE Systems	0.94	42	3,535	3,523	1,824		0.69	30	198	95	6
12 Balfour Beatty	0.96	40	567	437	194		0.74	17	71	39	3
13 Barratt Developments	0.78	43	848	610	565		0.56	19	89	44	8
14 Bellway	0.94	28	85	53	47		1.00	12	37	7	2
15 Berkeley	0.83	47	899	785	582		0.74	24	131	65	44
16 BG Group	0.81	37	798	514	263		0.69	22	222	80	16
17 Bodycote	0.92	44	924	863	845		0.61	28	133	89	26
18 Bovis Homes	0.87	37	308	265	120		0.76	19	65	41	19
19 BP	0.78	41	265	113	102		0.44	27	109	12	4
20 British Airways	0.85	41	863	675	688		0.64	18	40	15	12
21 British American Tobacco	0.77	38	1,009	708	30		0.87	16	52	25	9
22 British Sky Broadcasting	0.88	42	1,625	1,044	656		0.51	30	186	115	47
23 BT	0.88	45	2,351	2,127	906		0.57	30	286	112	21
24 Bunzl	0.95	43	1,391	1,594	1,067		0.59	20	107	78	9
25 Burberry	0.93	44	2,114	1,262	737		0.67	27	182	101	18
26 Cadbury Schweppes	0.86	42	1,461	1,537	372		0.38	29	257	156	20
27 Carnival	0.67	41	393	327	156		0.61	30	137	112	19
28 Carpet Right	0.82	40	593	366	257		0.52	18	57	57	9
29 Carphone Warehouse	0.88	37	678	483	244		0.63	19	47	35	12
30 Carillion	0.95	38	1,018	857	998		0.63	26	163	54	28
31 Compass Group	0.92	44	603	884	773		0.80	28	215	88	35
32 Croda	0.84	30	75	63	25		0.52	14	29	13	0
33 CSR	0.87	38	1,134	1,544	1,774		0.54	24	196	71	14
34 Daily Mail and General Trust	0.89	41	645	438	186		0.75	26	76	62	8
35 Dairy Crest	0.84	38	352	159	73		0.73	15	60	18	1
36 Davis Service	0.94	41	612	694	414		0.51	21	76	68	13
37 De La Rue	0.95	41	647	417	374		0.76	25	148	90	45
38 Diageo	0.85	45	1,491	848	171		0.63	35	180	85	16
39 DS Smith	0.80	43	801	646	371		0.54	16	65	6	2
40 Enterprise Inns	0.79	29	77	84	77		0.79	12	45	25	8
41 Euro Money Institutional Investor	0.97	42	752	688	406		0.62	27	96	55	5
42 Findel	0.92	40	799	989	682		0.56	19	46	17	3
43 FirstGroup	0.95	44	2,422	2,659	1,379		0.89	33	160	115	45
44 Forth Ports	0.88	39	230	294	190		0.71	17	41	32	7
45 GlaxoSmithKline	0.90	42	1,213	1,202	704		0.74	20	99	28	31
46 Go-Ahead Group	0.73	40	338	293	107		0.79	24	84	46	17
47 Greggs	0.87	37	169	192	130		0.91	16	49	27	10
48 Group 4 Securicor	0.95	39	460	227	53		0.74	23	100	16	5
49 Halfords	0.95	40	678	713	476		0.92	21	99	51	18
50 Halma	0.95	38	476	522	229		0.85	16	52	20	4

Appendix 8 Panel C: Interim reports for the Year 2007 Continued

Company	Complementary Information Attributes						Supplementary Information Attributes				
	CGD	CII	CAC	CRE	CFW		SGD	SII	SAC	SRE	SFW
51 HMV	0.90	36	647	212	261		0.56	11	77	29	0
52 Homeserve	0.93	44	709	540	239		0.63	22	107	38	5
53 IMI	0.72	38	620	312	353		0.53	30	114	45	8
54 Inchcape	0.93	41	948	688	296		0.78	17	110	29	6
55 International Power	0.87	43	1,727	1,185	564		0.59	29	299	140	6
56 Invensys	0.81	38	765	358	275		0.57	30	233	120	10
57 John Wood	0.99	39	1,062	1,003	801		0.76	27	253	67	10
58 Johnson Matthey	0.86	38	546	436	298		0.80	23	104	63	15
59 Johnson Press	0.82	38	554	554	172		0.55	24	62	43	11
60 Kelda	0.81	40	371	265	193		0.61	27	84	42	4
61 Kesa Electricals	0.91	44	757	955	518		0.63	24	96	50	11
62 LogicaCMG	0.79	40	891	541	200		0.80	24	76	63	19
63 Marks and Spenser	0.92	43	1,535	1,036	937		0.66	28	174	79	29
64 Marshalls	0.99	35	385	371	246		0.89	22	64	38	11
65 Michael Page	0.99	34	729	765	535		0.86	12	93	26	4
66 Millennium and Copthorne	0.90	36	363	151	52		0.91	17	121	21	3
67 Misys	0.96	41	1,092	1,138	489		0.76	27	159	66	8
68 Morgan Crucible	0.96	42	623	616	448		0.68	31	223	73	18
69 Morrison	0.89	39	483	657	495		0.71	19	63	32	15
70 N Brown	0.95	37	477	457	158		0.89	24	53	30	6
71 National Grid	0.89	46	792	954	812		0.75	28	155	105	24
72 Next	0.81	40	532	245	188		0.71	20	54	42	12
73 Pearson	0.96	41	677	544	287		0.70	19	78	44	26
74 Persimmon	0.87	42	480	384	210		0.74	20	110	20	15
75 Premier Farnell	0.90	43	858	717	256		0.79	29	155	69	7
76 PZ Cussons	0.92	37	315	157	86		0.87	21	68	18	7
77 Randgold	0.86	42	927	513	290		0.34	16	53	29	9
78 Reckitt Benckiser	0.98	41	918	924	245		0.83	29	155	67	35
79 Redrow	0.83	42	615	619	394		0.50	19	60	18	7
80 Reed Elsevier	0.85	40	612	329	129		0.88	31	230	103	16
81 Renishaw	0.90	28	71	26	21		0.91	14	44	14	10
82 Rio Tinto	0.70	38	1,283	635	341		0.52	29	242	100	42
83 Rotork	0.91	37	261	113	28		1.00	7	37	9	2
84 Sage	0.96	40	816	1,010	291		0.67	20	54	20	4
85 Severn Trent	0.81	36	346	279	152		0.64	27	105	27	5
86 SIG	0.92	39	327	152	85		0.89	16	80	32	12
87 Signet Group	0.91	38	322	98	176		0.81	21	41	25	12
88 Smith and Nephew	0.95	40	737	747	428		0.81	27	104	89	28
89 Smiths	0.91	43	661	623	253		0.78	30	122	74	19
90 Spirax Sarco	0.86	42	637	271	151		0.79	25	112	38	8
91 SSL	0.95	41	451	260	182		0.63	22	112	28	5
92 Tesco	0.93	43	2,302	1,820	774		0.75	29	138	83	40
93 Travis Perkins	0.92	40	711	398	348		0.90	18	67	11	4
94 Tullow Oil	0.87	39	467	570	354		0.66	22	78	102	37
95 Ultra Electronics	0.96	40	271	246	66		0.73	14	36	22	6
96 Unilever	0.88	41	849	472	573		0.73	34	214	77	45
97 United Business Media	0.89	44	1,486	1,343	924		0.58	32	188	97	25
98 Wetherspoon (JD)	0.90	35	185	73	51		0.80	18	51	23	7
99 Whitbread	0.92	41	749	553	423		0.71	28	178	123	29
100 Wier Group	0.92	38	797	612	331		0.77	23	94	34	8
101 William Hill	0.91	37	620	460	268		0.66	26	74	29	17
102 Wolsey	0.87	43	2,113	1,300	1,099		0.56	29	193	89	25
103 Yell Group	0.74	37	269	118	55		0.59	20	97	13	7

Appendix 9. Scores for Disclosure Items with Repetitions: Good or Bad News

Panel A. *Scores for Interim Reports for the Years 2005, 2006 and 2007*

Company	2005 Complementary Good News	2005 Complementary Bad News	2005 Supplementary Good News	2005 Supplementary Bad News	2006 Complementary Good News	2006 Complementary Bad News	2006 Supplementary Good News	2006 Supplementary Bad News	2007 Complementary Good News	2007 Complementary Bad News	2007 Supplementary Good News	2007 Supplementary Bad News
1 Aegis Group	289	21	60	11	250	19	53	14	399	62	68	21
2 AGA Foodservice	873	30	28	8	903	25	27	1	734	36	73	24
3 Aggreko	1,995	158	102	27	1,144	69	102	19	1,221	106	105	31
4 Amec	1,685	242	60	109	2,019	332	66	87	2,496	246	86	39
5 Anglo American	4,140	839	203	107	4,823	1,473	280	182	6,190	1,519	278	159
6 ARM Holdings	1,914	174	118	57	1,297	175	113	68	833	214	86	60
7 Arriva	1,572	118	17	19	1,306	94	26	26	1,541	84	49	40
8 Associated British Foods	709	116	51	14	817	226	23	25	795	178	40	23
9 Astra Zaneca	1,426	155	247	86	1,725	255	220	98	2,078	350	251	211
10 Atkins WS	4,313	274	79	45	2,461	160	55	27	1,761	204	77	30
11 BAE Systems	5,713	215	73	56	4,833	228	139	97	4,342	257	153	68
12 Balfour Beatty	360	33	32	9	376	26	37	13	617	25	48	17
13 Barratt Developments	965	92	28	5	2,464	112	31	14	1,679	475	45	35
14 Bellway	133	6	20	1	109	3	12	9	108	7	24	0
15 Berkeley	1,090	137	98	55	1,721	312	93	27	1,527	320	93	32
16 BG Group	795	161	115	24	1,026	124	110	51	849	199	94	42
17 Bodycote	1,334	165	75	47	2,509	162	75	40	2,302	195	97	62
18 Bovis Homes	1,540	316	30	53	927	101	62	26	634	92	64	20
19 BP	472	85	59	25	593	105	70	22	452	130	36	46
20 British Airways	640	121	66	65	570	165	67	68	1,239	212	28	16
21 British American Tobacco	1,300	253	73	24	1,300	289	74	20	1,114	330	48	7
22 British Sky Broadcasting	2,727	181	108	62	2,442	240	93	65	2,552	351	128	125
23 BT	1,837	530	141	88	3,285	397	178	82	3,388	450	186	141
24 Bunzl	1,833	65	35	26	2,209	126	33	23	2,386	134	56	39
25 Burberry	2,275	407	150	94	2,480	209	170	124	2,860	205	122	59
26 Cadbury Schweppes	2,619	239	106	56	2,412	340	173	66	2,049	344	91	150
27 Carnival	265	126	52	18	304	146	82	47	311	151	87	56
28 Carpet Right	1,332	130	36	41	1,358	100	39	9	986	223	53	49
29 Carphone Warehouse	549	70	24	10	555	60	27	13	592	83	33	19
30 Carillion	1,344	71	42	21	2,035	114	46	20	2,311	109	119	71
31 Compass Group	1,848	206	136	143	2,331	216	110	54	1,769	147	178	44
32 Croda	96	7	25	3	71	6	36	7	76	15	13	12
33 CSR	1,706	306	80	33	1,638	204	83	36	2,933	455	88	75
34 Daily Mail and General Trust	480	116	33	15	533	92	35	21	726	94	57	19
35 Dairy Crest	481	68	21	21	414	60	33	12	404	76	27	10
36 Davis Service	530	163	67	43	778	110	36	16	1,231	74	44	43
37 De La Rue	846	116	124	50	861	25	74	17	1,284	74	115	37
38 Diageo	2,965	647	168	82	2,329	510	116	97	1,969	338	90	52
39 DS Smith	1,075	470	18	29	1,231	306	33	34	1,241	311	38	33
40 Enterprise Inns	83	6	20	8	118	31	31	3	123	32	34	9
41 Euro Money Institutional Investor	969	216	29	39	1,033	67	53	59	1,844	58	97	60
42 Findel	1,131	148	26	27	1,878	169	38	31	1,767	160	32	25
43 FirstGroup	1,962	92	88	32	2,529	65	87	35	3,230	177	139	17
44 Forth Ports	369	42	29	22	339	92	15	15	315	41	27	11
45 GlaxoSmithKline	1,957	101	56	5	2,287	148	62	17	2,176	236	76	27
46 Go-Ahead Group	93	18	10	2	276	50	37	3	340	124	54	14
47 Greggs	192	45	30	6	295	58	47	18	240	37	43	4
48 Group 4 Securicor	324	60	29	5	388	102	33	5	460	26	45	16
49 Halfords	749	32	67	14	580	6	67	16	892	46	72	6
50 Halma	411	30	43	5	564	1	59	5	703	36	44	8

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Appendix 9 Panel A Scores for Interim Reports for the Years 2005, 2006 and 2007 Continued

| Company | 2005 | | | | 2006 | | | | 2007 | | | |
| | Complementary | | Supplementary | | Complementary | | Supplementary | | Complementary | | Supplementary | |
	Good News	Bad News	Good News	Bad News	Good News	Bad News	Good News	Bad News	Good News	Bad News	Good News	Bad News
51 HMV	1,527	450	64	44	1,679	328	36	45	2,261	247	105	81
52 Homeserve	350	15	22	2	469	17	28	3	698	54	53	31
53 IMI	1,032	187	73	82	840	134	86	51	721	275	69	60
54 Inchcape	3,529	368	106	37	3,473	306	91	18	2,421	188	109	31
55 International Power	960	92	114	63	1,224	101	110	67	1,450	219	120	84
56 Invensys	88	30	13	3	161	19	7	9	1,973	452	125	94
57 John Wood	2,103	25	114	70	2,650	39	102	52	3,513	46	161	50
58 Johnson Matthey	510	67	79	9	523	108	68	24	588	95	74	19
59 Johnson Press	725	109	50	22	1,020	124	55	29	1,080	231	42	35
60 Kelda	550	42	39	23	917	45	94	19	503	117	55	35
61 Kesa Electricals	1,475	177	44	46	1,764	79	58	25	2,184	225	60	36
62 LogicaCMG	857	124	55	8	643	90	65	17	628	165	66	17
63 Marks and Spenser	2,333	109	73	42	2,909	220	71	34	2,560	226	117	61
64 Marshalls	282	34	57	18	453	14	40	1	478	7	54	7
65 Michael Page	766	15	58	12	1,381	27	68	19	1,974	30	75	12
66 Millennium and Copthorne	1,319	69	97	48	1,155	83	62	6	842	91	102	10
67 Misys	580	56	68	29	685	71	50	29	1,319	50	84	26
68 Morgan Crucible	1,265	186	75	95	1,422	63	98	39	1,607	67	121	56
69 Morrison	740	163	24	6	1,424	83	50	14	1,495	183	67	28
70 N Brown	448	55	31	15	553	33	34	4	498	24	42	5
71 National Grid	1,245	258	106	38	1,586	295	85	37	1,717	220	141	48
72 Next	315	87	34	8	263	60	34	10	442	107	34	14
73 Pearson	342	25	35	9	521	33	57	16	685	26	54	23
74 Persimmon	1,389	102	70	14	2,641	142	91	48	1,104	168	67	23
75 Premier Farnell	417	127	37	23	593	34	69	9	766	89	95	26
76 PZ Cussons	308	36	16	1	291	33	25	3	365	32	47	7
77 Randgold	707	51	29	4	741	153	58	9	874	137	16	31
78 Reckitt Benckiser	1,529	83	136	10	2,396	105	112	45	2,451	60	135	27
79 Redrow	1,902	158	14	17	2,029	281	31	6	1,625	326	29	29
80 Reed Elsevier	1,001	136	119	49	581	102	209	24	550	99	166	23
81 Renishaw	89	4	26	1	75	14	18	16	56	6	32	3
82 Rio Tinto	831	209	150	29	858	242	187	24	704	299	98	89
83 Rotork	221	23	14	0	252	25	17	0	280	27	24	0
84 Sage	1,245	26	45	11	1,808	52	90	21	1,993	76	43	21
85 Severn Trent	287	98	40	16	307	98	69	46	268	63	42	24
86 SIG	307	59	67	2	269	57	40	4	357	33	64	8
87 Signet Group	229	28	27	2	319	26	30	4	309	31	35	8
88 Smith and Nephew	955	76	81	22	1,860	340	73	48	1,671	80	130	31
89 Smiths	1,037	40	74	14	1,289	36	84	16	806	76	86	24
90 Spirax Sarco	1,062	129	64	10	1,199	102	67	6	909	142	79	21
91 SSL	726	38	35	17	1,577	75	95	16	752	42	60	36
92 Tesco	2,412	158	68	37	3,089	113	103	24	3,281	247	113	37
93 Travis Perkins	1,335	290	59	27	1,749	173	58	8	1,500	139	44	5
94 Tullow Oil	404	20	65	20	471	35	68	16	604	91	80	41
95 Ultra Electronics	342	18	18	4	313	19	32	4	490	20	29	11
96 Unilever	1,727	452	85	99	1,899	309	142	42	2,641	367	182	67
97 United Business Media	1,589	289	177	88	2,158	127	277	148	2,597	313	138	101
98 Wetherspoon (JD)	137	23	19	23	131	33	34	6	182	20	43	11
99 Whitbread	1,515	210	84	42	1,786	147	98	62	1,962	163	120	49
100 Wier Group	1,961	187	69	46	1,858	98	66	20	1,303	118	75	23
101 William Hill	1,491	226	39	54	1,361	104	79	42	1,472	139	73	37
102 Wolsey	3,051	335	114	82	4,117	354	125	68	3,340	515	118	92
103 Yell Group	280	31	53	13	212	47	29	13	195	70	10	7

Panel B.   *Summary Descriptive Statistics for Scores for Information Items with Repetitions and Classified as Good and Bad News*

	Notes	2005	2006	2007	Pooled
Number of Sample Cases	A	103	103	103	309
Total Complementary Good News in Sample	B	120,133	136,670	141,113	397,916
Total Complementary Bad News in Sample	C	14,824	14,353	17,181	46,358
Total Complementary Information Items	D = B+C	134,957	151,023	158,294	444,274
Total Supplementary Good News in Sample	E	6,752	7,586	8,234	22,572
Total Supplementary Bad News in Sample	F	3,353	3,250	3,989	10,592
Total Supplementary Information Items	G = E + F	10,105	10,836	12,223	33,164
Average Complementary Good News Items	B÷A	1,166.34	1,326.89	1,370.03	1,287.75
Average Complementary Bad News Items	C÷A	143.92	139.35	166.81	150.03
Average Total Complementary Items	D÷A	1,310.26	1,466.24	1,536.83	1,437.78
Average Supplementary Good News Items	E÷A	65.55	73.65	79.94	73.05
Average Supplementary Bad News Items	F÷A	32.55	31.55	38.73	34.28
Average Total Supplementary Items	G÷A	98.11	105.20	118.67	107.33
% Good News in Complementary	(B÷D)	89.02%	90.50%	89.15%	89.57%
% Good News in Supplementary	(E÷G)	66.82%	70.01%	67.36%	68.06%
% Good News to Total Information Items	[(B+E)÷(D+G)]	87.47%	89.12%	87.58%	88.07%
% Complementary to Total Information Items	D÷(D+G)	93.03%	93.31%	92.83%	93.05%
% Supplementary to Total Information Items	G÷(D+G)	6.97%	6.69%	7.17%	6.95%

Appendix 10.   Krippendorff's Alpha Reliability Test Computation Process
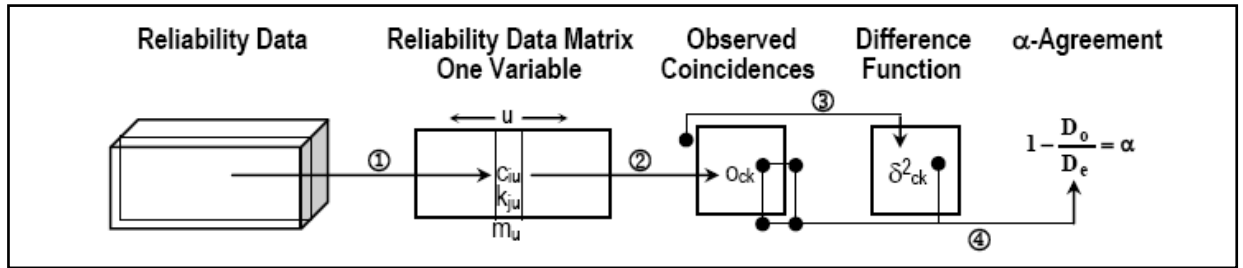
Source: Krippendorff (2007, p. 2)

Appendix 11.   Reliability Test Results for Scoring Technique

Panel A.   *Inter-coder Scoring for Variables*

	Millennium & Copthorne 2006		Barratt Development 2005		Kesa Electricals 2006	
	MC2006A	MC2006B	BR2005A	BR2005A	KE2006A	KE2006B
CIIR	1238.00	1258.00	1057.00	1046.00	1843.00	1751.00
CGD	1155.00	1208.00	965.00	973.00	1764.00	1628.00
CII	39.00	41.00	38.00	32.00	44.00	32.00
CAC	645.00	686.00	456.00	415.00	772.00	712.00
CRE	555.00	535.00	436.00	401.00	755.00	675.00
CFW	162.00	166.00	179.00	180.00	466.00	454.00
SIIR	68.00	70.00	33.00	35.00	83.00	80.00
SGD	62.00	62.00	28.00	29.00	58.00	57.00
SII	14.00	15.00	14.00	13.00	23.00	21.00
SAC	80.00	81.00	43.00	39.00	66.00	69.00
SRE	21.00	19.00	17.00	16.00	36.00	27.00
SFW	6.00	6.00	12.00	10.00	7.00	7.00

Definition of Terms:

CIIR: Sum for number of Complementary Information Items scored, repetitions accounted for

CGD: Sum for number of Complementary Good News Information Items scored, repetitions accounted for

CII: Sum for number of Complementary Information Items scored, repetitions not accounted for

CAC: Sum for number of Complementary Amounts and Comparisons of Current and With Past Performance attributes scored, repetitions accounted for

CRE: Sum for number of Complementary Reasons for Performance attributes scored, repetitions accounted for

CFW: Sum for number of Complementary Forward-looking attributes scored, repetitions accounted for

SIIR: Sum for number of Supplementary Information Items scored, repetitions accounted for

SGD: Sum for number of Supplementary Good News Information Items scored, repetitions accounted for

SII: Sum for number of Supplementary Information Items scored, repetitions not accounted for

SAC: Sum for number of Supplementary Amounts and Comparisons of Current and With Past Performance attributes scored, repetitions accounted for

SRE: Sum for number of Supplementary Reasons for Performance attributes scored, repetitions accounted for

SFW: Sum for number of Supplementary Forward-looking attributes scored, repetitions accounted for

MC2006A/ B: First/ second coder for Millennium Copthorne Interim Report, 2006

BR2005A/ B: First/ second coder for Barratt Development Interim Report, 2006

BR2005A/ B: First/ second coder for Barratt Development Interim Report, 2006

KE2006A/ B: First/ second coder for Kesa Electricals Interim Report, 2006

Panel B.   *Krippendorff's Alpha SPSS Output for Scoring Reliability Test: Millennium and Copthorne Interim Report 2006*

```
Run MATRIX procedure:

Krippendorff's Alpha Reliability Estimate


        Alpha    Units  Obsrvrs   Pairs
Ratio   .9989  12.0000  2.0000  12.0000

Judges used in these computations:
 MC2006A  MC2006B

=====================================================
```

```
Rows and columns correspond to following unit values
Columns  1 -  8
   6.00   14.00   15.00   19.00   21.00   39.00   41.00   62.00
Columns  9 - 16
  68.00   70.00   80.00   81.00  162.00  166.00  535.00  555.00
Columns 17 - 22
 645.00  686.00 1155.00 1208.00 1238.00 1258.00

Examine output for SPSS errors and do not interpret if any are found

------ END MATRIX -----
```

Panel C.   *Krippendorff's Alpha SPSS Output for Scoring Reliability Test: Barratt Developments Interim Report 2005*

```
Run MATRIX procedure:

Krippendorff's Alpha Reliability Estimate


        Alpha    Units  Obsrvrs   Pairs
Ratio   .9955  12.0000  2.0000  12.0000

Judges used in these computations:
 BR2005A  BR2005B

==============================================
```

```
Rows and columns correspond to following unit values
Columns  1 -  8
  10.00   12.00   13.00   14.00   16.00   17.00   28.00   29.00
Columns  9 - 16
  32.00   33.00   35.00   38.00   39.00   43.00  179.00  180.00
Columns 17 - 24
 401.00  415.00  436.00  456.00  965.00  973.00 1046.00 1057.00

Examine output for SPSS errors and do not interpret if any are found

------ END MATRIX -----
```

Panel D.   *Krippendorff's Alpha SPSS Output for Scoring Reliability Test: Kesa Electricals Interim Report 2006*

```
Run MATRIX procedure:

Krippendorff's Alpha Reliability Estimate


        Alpha    Units  Obsrvrs   Pairs
Ratio   .9909  12.0000  2.0000  12.0000

Judges used in these computations:
 KE2006A  KE2006B


================================================
```

```
Rows and columns correspond to following unit values
Columns  1 -  8
   7.00   21.00   23.00   27.00   32.00   36.00   44.00   57.00
Columns  9 - 16
  58.00   66.00   69.00   80.00   83.00  454.00  466.00  675.00
Columns 17 - 23
 712.00  755.00  772.00 1628.00 1751.00 1764.00 1843.00

Examine output for SPSS errors and do not interpret if any are found

------ END MATRIX -----
```

Appendix 12.   Reliability Test Results for Tallying Technique

Panel A.   *Inter-coder Tallying Values for Variables*

	Arriva 2007		Berkeley 2007		GlaxoSmithKline 2006		Findel 2007	
	AR2007A	AR2007B	BK2007A	BK2007B	GS2006A	GS2006B	FD2007A	FD2007B
CIIR	1625.00	1618.00	1847.00	2130.00	2435.00	1873.00	1927.00	1959.00
CAC	1031.00	975.00	899.00	898.00	884.00	623.00	799.00	836.00
CRE	666.00	670.00	785.00	789.00	1236.00	786.00	989.00	1023.00
CFW	658.00	679.00	582.00	614.00	405.00	297.00	682.00	738.00
SIIR	89.00	88.00	125.00	129.00	79.00	69.00	57.00	64.00
SAC	65.00	69.00	131.00	127.00	89.00	79.00	46.00	48.00
SRE	47.00	44.00	65.00	67.00	37.00	27.00	17.00	17.00
SFW	2.00	2.00	44.00	45.00	18.00	18.00	3.00	3.00

	Euro Money Institutional Investor 2006		Euro Money Institutional Investor 2007		Carpetright 2005		Carillion 2007	
	EM2006A	EM2006B	EM2007A	EM2007B	CR2005A	CR2005B	CL2007A	CL2007B
CIIR	1100.00	1112.00	1902.00	1386.00	1462.00	1176.00	2420.00	2266.00
CAC	491.00	515.00	752.00	677.00	778.00	818.00	1018.00	976.00
CRE	226.00	247.00	688.00	517.00	392.00	438.00	857.00	862.00
CFW	110.00	128.00	406.00	369.00	251.00	292.00	998.00	993.00
SIIR	112.00	101.00	157.00	142.00	77.00	92.00	190.00	201.00
SAC	71.00	61.00	96.00	97.00	94.00	91.00	163.00	162.00
SRE	45.00	37.00	55.00	64.00	47.00	43.00	54.00	54.00
SFW	18.00	15.00	5.00	7.00	8.00	7.00	28.00	25.00

	SSL 2005		Unilever 2005		Redrow 2005		United Business Media 2005	
	SL2005A	SL2005B	UL2005A	UL2005B	RD2005A	RD2005B	UB2005A	UB2005B
CIIR	764.00	766.00	2179.00	2273.00	2060.00	2184.00	1878.00	2001.00
CAC	435.00	408.00	1437.00	1425.00	997.00	946.00	831.00	870.00
CRE	273.00	275.00	673.00	667.00	1038.00	1139.00	726.00	761.00
CFW	174.00	178.00	511.00	485.00	846.00	858.00	282.00	354.00
SIIR	52.00	50.00	184.00	191.00	31.00	31.00	265.00	231.00
SAC	42.00	55.00	208.00	205.00	43.00	43.00	203.00	195.00
SRE	19.00	27.00	89.00	87.00	8.00	8.00	84.00	76.00
SFW	3.00	5.00	6.00	8.00	5.00	5.00	9.00	9.00

	United Business Media 2006			Persimmon 2006		Smith and Nephew 2005	
	UB2006A	UB2006B	UB2006C	PM2006A	PM2006B	SN2005A	SN2005B
CIIR	2285.00	3318.00	3347.00	2783.00	2585.00	1031.00	1117.00
CAC	1249.00	1242.00	1250.00	688.00	604.00	469.00	469.00
CRE	1919.00	1884.00	1944.00	802.00	787.00	472.00	452.00
CFW	335.00	322.00	318.00	503.00	511.00	328.00	321.00
SIIR	425.00	358.00	357.00	139.00	127.00	103.00	105.00
SAC	256.00	258.00	253.00	145.00	144.00	84.00	81.00
SRE	150.00	159.00	167.00	38.00	36.00	53.00	52.00
SFW	23.00	19.00	22.00	9.00	9.00	15.00	14.00

Appendix 12 *Panel A: Inter-coder Tallying Values for Variables Continued*

Definition of Terms:

CIIR: Sum for number of Complementary Information Items scored, repetitions accounted for

CAC: Sum for number of Complementary Amounts and Comparisons of Current and With Past Performance attributes scored, repetitions accounted for

CRE: Sum for number of Complementary Reasons for Performance attributes scored, repetitions accounted for

CFW: Sum for number of Complementary Forward-looking attributes scored, repetitions accounted for

SIIR: Sum for number of Supplementary Information Items scored, repetitions accounted for

SAC: Sum for number of Supplementary Amounts and Comparisons of Current and With Past Performance attributes scored, repetitions accounted for

SRE: Sum for number of Supplementary Reasons for Performance attributes scored, repetitions accounted for

SFW: Sum for number of Supplementary Forward-looking attributes scored, repetitions accounted for

AR2007A/ B: First/ second coder for Arriva Interim Report, 2007

BK2007A/ B: First/ second coder for Berkeley Interim Report, 2007

GS2006A/ B: First/ second coder for GlaxoSmithKline Interim Report, 2006

FD2007A/ B: First/ second coder for Findel Interim Report, 2007

EM2006A/ B: First/ second coder for Euro Money Institutional Investor Interim Report, 2006

EM2007A/ B: First/ second coder for Euro Money Institutional Investor Interim Report, 2007

CR2005A/ B: First/ second coder for Carpetright Interim Report, 2005

CL2007A/ B: First/ second coder for Carillion Interim Report, 2007

SL2005A/ B: First/ second coder for SSL Interim Report, 2005

UL2005A/ B: First/ second coder for Unilever Interim Report, 2005

RD2005A/ B: First/ second coder for Redrow Interim Report, 2005

UB2005A/ B: First/ second coder for United Business Media Interim Report, 2005

UB2006A/ B/C: First/ second/ third coder for United Business Media Interim Report, 2006

PM2006A/ B: First/ second coder for Persimmon Interim Report, 2006

SN2005A/ B: First/ second coder for Smith and Nephew Interim Report, 2005

Panel B.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Arriva 2007*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate

       Alpha   Units  Obsrvrs   Pairs
Ratio   .9993  8.0000  2.0000   8.0000

Judges used in these computations:
 AR2007A  AR2007B
=====================================================

Rows and columns correspond to following unit values
Columns  1 - 13
   2.00   44.00   47.00   65.00   69.00   88.00   89.00   658.00   666.00   670.00   679.00   975.00   1031.00
Columns  14 - 15
 1618.00  1625.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel C.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Berkeley 2007*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate

       Alpha   Units  Obsrvrs   Pairs
Ratio   .9980  8.0000  2.0000   8.0000

Judges used in these computations:
 BK2007A  BK2007B
=====================================================

Rows and columns correspond to following unit values
Columns  1 - 13
  44.00   45.00   65.00   67.00   125.00   127.00   129.00   131.00   582.00   614.00   785.00   789.00   898.00
Columns  14 - 16
 899.00  1847.00  2130.00

Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel D.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: GlaxoSmithKline 2006*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
       Alpha   Units  Obsrvrs   Pairs
Ratio   .9613  8.0000  2.0000   8.0000

Judges used in these computations:
 GS2006A  GS2006B
=====================================================

Rows and columns correspond to following unit values
Columns  1 - 13
  18.00   27.00   37.00   69.00   79.00   89.00   297.00   405.00   623.00   786.00   884.00   1236.00   1873.00
Columns  14 - 14
    2435

Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel E.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Findel 2007*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs    Pairs
Ratio    .9986   8.0000   2.0000    8.0000

Judges used in these computations:
 FD2007A  FD2007B
======================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
   3.00   17.00   46.00   48.00   57.00   64.00   682.00   738.00   799.00   836.00   989.00   1023.00   1927.00
Columns  14 - 14
    1959
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel F.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Euro Money Institutional Investor 2006*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs    Pairs
Ratio    .9890   8.0000   2.0000    8.0000
Judges used in these computations:
 EM2006A  EM2006B
======================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
   15.00   18.00   37.00   45.00   61.00   71.00   101.00   110.00   112.00   128.00   226.00   247.00   491.00
Columns  14 - 16
   515.00   1100.00   1112.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel G.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Euro Money Institutional Investor 2007*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs    Pairs
Ratio    .9771   8.0000   2.0000    8.0000
Judges used in these computations:
 EM2007A  EM2007B
======================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
   5.00   7.00   55.00   64.00   96.00   97.00   142.00   157.00   369.00   406.00   517.00   677.00   688.00
Columns  14 - 16
   752.00   1386.00   1902.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

XXXIX

Panel H.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Carpetright 2005*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
      Alpha    Units   Obsrvrs    Pairs
 Ratio   .9905   8.0000   2.0000   8.0000
 Judges used in these computations:
  CR2005A  CR2005B
 =====================================================

 Rows and columns correspond to following unit values
 Columns  1 - 13
    7.00    8.00   43.00   47.00   77.00   91.00   92.00   94.00   251.00   292.00   392.00   438.00   778.00
 Columns 14 - 16
   818.00  1176.00  1462.00
 Examine output for SPSS errors and do not interpret if any are found
 ------ END MATRIX -----
```

Panel I.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Carillion 2007*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
      Alpha    Units   Obsrvrs    Pairs
 Ratio   .9985   8.0000   2.0000   8.0000
 Judges used in these computations:
  CL2007A  CL2007B
 =====================================================

 Rows and columns correspond to following unit values
 Columns  1 - 13
   25.00   28.00   54.00   162.00   163.00   190.00   201.00   857.00   862.00   976.00   993.00   998.00   1018.00
 Columns 14 - 15
  2266.00  2420.00
 Examine output for SPSS errors and do not interpret if any are found
 ------ END MATRIX -----
```

Panel J.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: SSL 2005*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
      Alpha    Units   Obsrvrs    Pairs
 Ratio   .9708   8.0000   2.0000   8.0000
 Judges used in these computations:
  SL2005A  SL2005B
 =====================================================

 Rows and columns correspond to following unit values
 Columns  1 - 13
    3.00    5.00   19.00   27.00   42.00   50.00   52.00   55.00   174.00   178.00   273.00   275.00   408.00
 Columns 14 - 16
   435.00   764.00   766.00
 Examine output for SPSS errors and do not interpret if any are found
 ------ END MATRIX -----
```

Panel K.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Unilever 2005*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs   Pairs
Ratio    .9941   8.0000   2.0000   8.0000

Judges used in these computations:
 UL2005A  UL2005B
 ====================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
    6.00    8.00   87.00   89.00  184.00  191.00  205.00  208.00  485.00  511.00  667.00  673.00  1425.00
Columns 14 - 16
 1437.00  2179.00  2273.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel L.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Redrow 2005*

```
Run MATRIX procedure:
Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs   Pairs
Ratio    .9992   8.0000   2.0000   8.0000
Judges used in these computations:
 RD2005A  RD2005B
 ====================================================
```
```
Rows and columns correspond to following unit values
    5.00    8.00   31.00   43.00  846.00  858.00  946.00  997.00  1038.00  1139.00  2060.00  2184.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel M.   *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: United Business Media 2005*

```
Run MATRIX procedure:
 Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs   Pairs
Ratio    .9935   8.0000   2.0000   8.0000
Judges used in these computations:
 UB2005A  UB2005B
 ====================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
    9.00   76.00   84.00  195.00  203.00  231.00  265.00  282.00  354.00  726.00  761.00  831.00  870.00
Columns 14 - 15
 1878.00  2001.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel N. *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: United Business Media 2006*

```
Run MATRIX procedure:
Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs    Pairs
Ratio   .9897   8.0000   3.0000   24.0000
Judges used in these computations:
 UB2006A  UB2006B  UB2006C
=======================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
   19.00   22.00   23.00   150.00   159.00   167.00   253.00   256.00   258.00   318.00   322.00   335.00   357.00
Columns  14 - 24
   358.00   425.00   1242.00   1249.00   1250.00   1884.00   1919.00   1944.00   2285.00   3318.00   3347.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel O. *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Persimmon 2006*

```
Run MATRIX procedure:
Krippendorff's Alpha Reliability Estimate
        Alpha    Units    Obsrvrs    Pairs
Ratio   .9979   8.0000   2.0000   8.0000
Judges used in these computations:
 PM2006A  PM2006B
=======================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
   9.00    36.00    38.00    127.00    139.00    144.00    145.00    503.00    511.00    604.00    688.00    787.00    802.00
Columns  14 - 15
   2585.00   2783.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Panel P. *Krippendorff's Alpha SPSS Output for Tallying Reliability Test: Smith and Nephew 2005*

```
Run MATRIX procedure:
Krippendorff's Alpha Reliability Estimate
        Alpha    Units   Obsrvrs    Pairs
Ratio   .9988   8.0000   2.0000   8.0000
Judges used in these computations:
 SN2005A  SN2005B
=======================================================
```
```
Rows and columns correspond to following unit values
Columns  1 - 13
   14.00    15.00    52.00    53.00    81.00    84.00    103.00    105.00    321.00    328.00    452.00    469.00    472.00
Columns  14 - 15
   1031.00   1117.00
Examine output for SPSS errors and do not interpret if any are found
------ END MATRIX -----
```

Appendix 13.   Relative versus Incremental Information Content by Biddle et al (1995)

Panel A

X and Y have equal relative information content

Neither X nor Y are incremental

Both X and Y are incremental

Panel B

X has larger relative information content than Y

Only X is incremental

Both X and Y are incremental

Panel C

X has smaller relative information content than Y

Only Y is incremental

Both X and Y are incremental

Note: The areas covered by circles represent variation in a dependent variable explained by the predictor variables X and Y

Source: Biddle et al (1995)

Appendix 14.   Plots for Regression Standardised Residual and Predicted Value for Day 0

Model 1: Information Content of Complementary Narratives based on Disclosure Variety
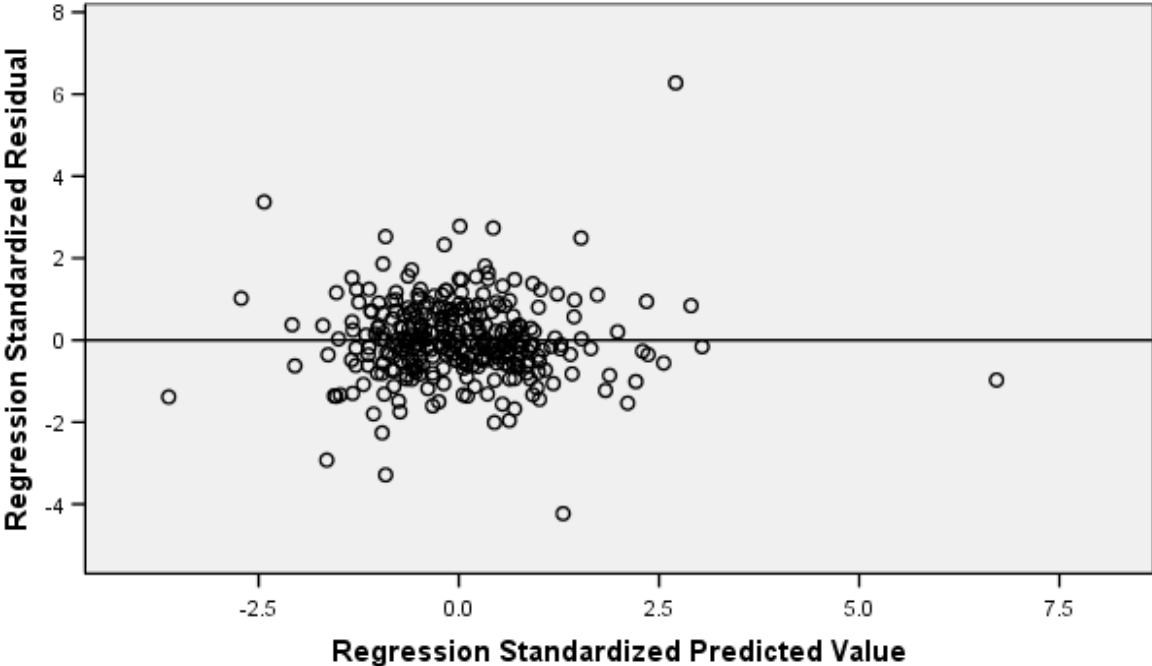
Model 2: Information Content of Supplementary Narratives based on Disclosure Variety
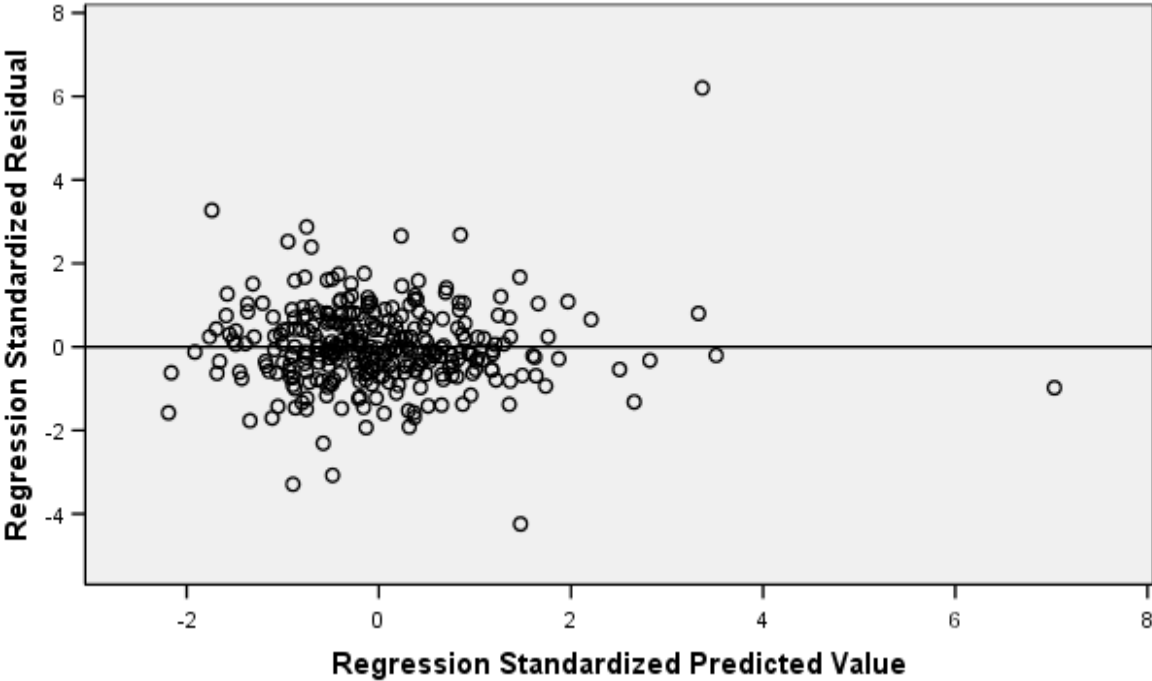
Model 3: Information Content of Complementary Narratives based on Disclosure Depth

Model 4: Information Content of Supplementary Narratives based on Disclosure Depth

Model 5: Incremental Information Content of Complementary and Supplementary Narratives based on Disclosure Variety

Model 6: Incremental Information Content of Complementary and Supplementary Narratives based on Disclosure Depth
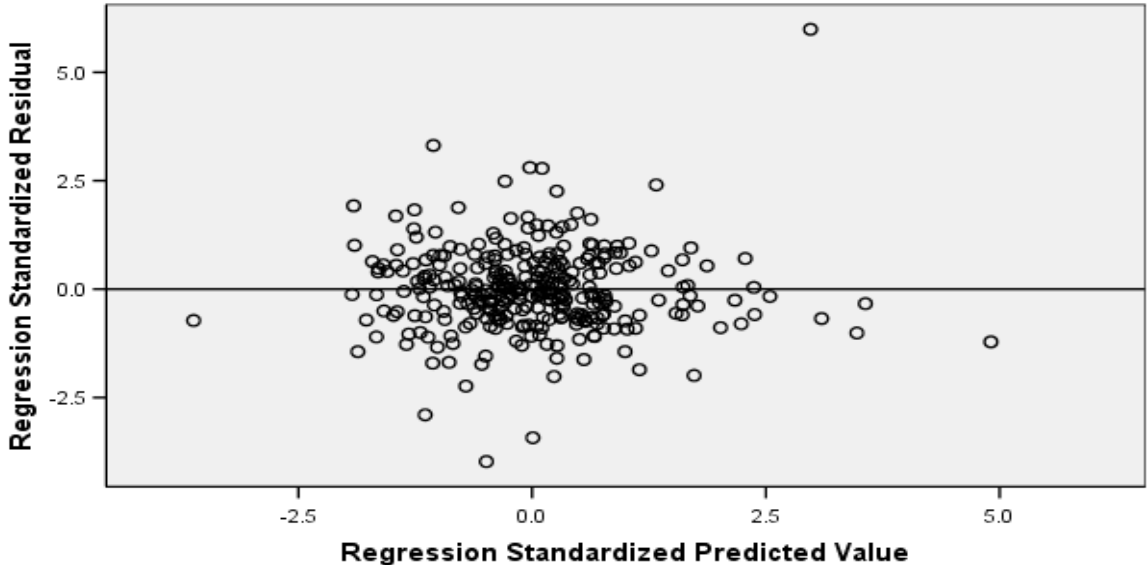
Appendix 15.   Pearson Correlation between Sensitivity Test Factors and Predictors

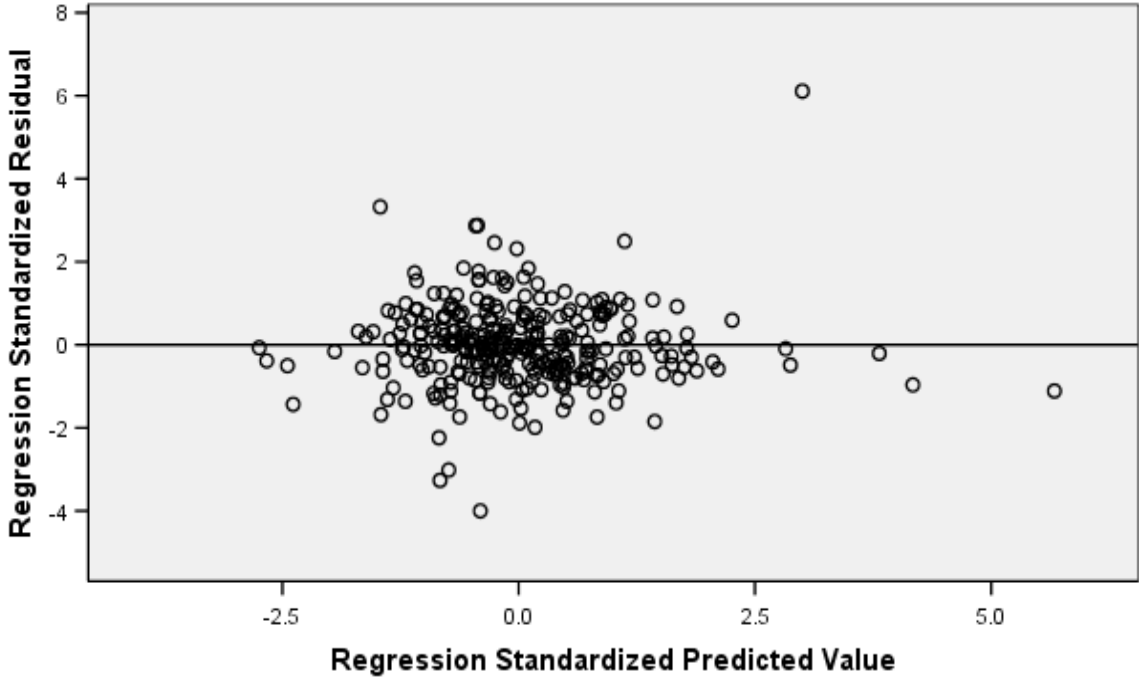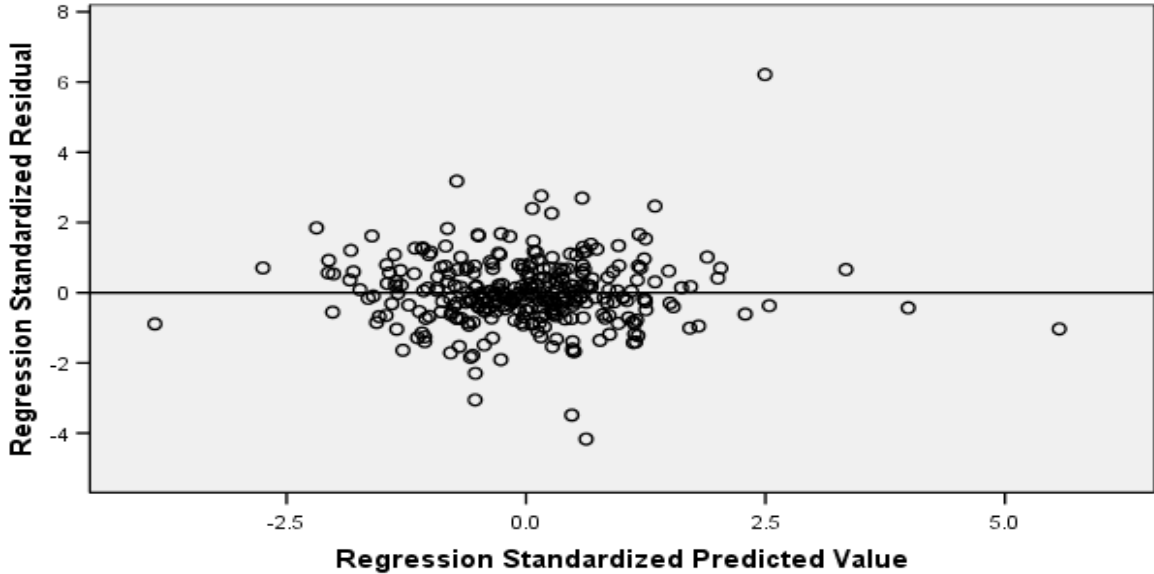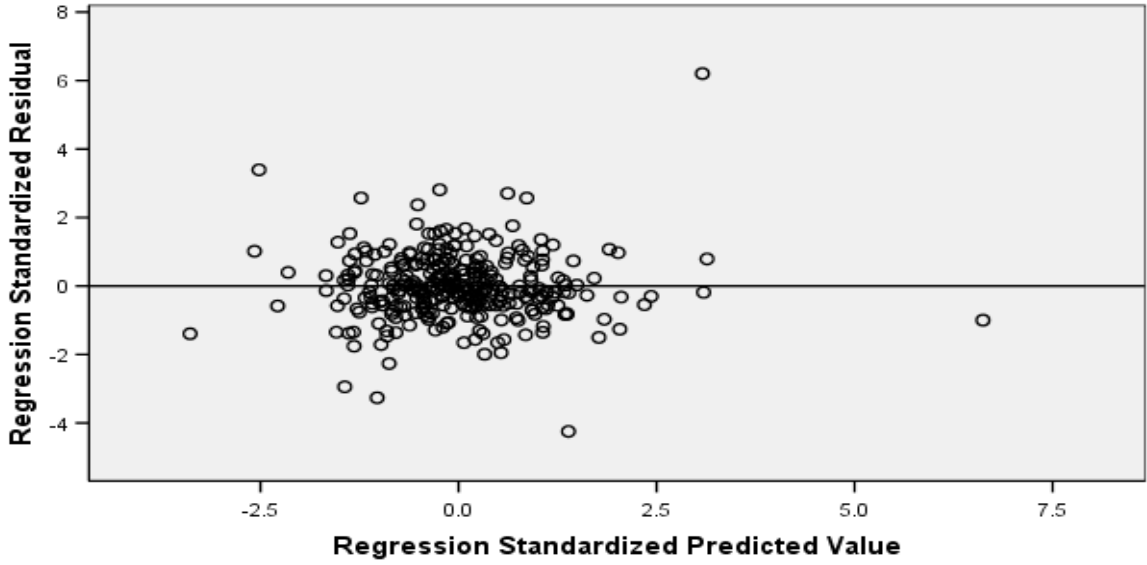|	ARE	RCE
CII	0.216**	-0.040
CGD	-0.007	-0.056
CAC	0.191**	-0.041
CRE	0.148**	-0.030
CFW	0.180**	-0.048
SGD	-0.195**	-0.027
SII	0.263**	-0.034
SAC	0.261**	-0.051
SRE	0.255**	-0.038
SFW	0.189**	-0.054
ADY	-0.041	0.077
IES	0.034	-0.042
ITA	0.248**	-0.047

Note: CII (SII) = Complementary (Supplementary) Number of Information Items, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) Complementary (Supplementary) Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, ARE = Audit Review Effect, RCE = Regulation Change Effect, **Correlation is significant at the 0.01 level (1-tailed), *Correlation is significant at the 0.05 level (1-tailed), n=309 and missing = 0

Appendix 16. Sensitivity Test Results based on Event Day Results

Relative Information Content of Complementary and Supplementary Narratives Based on Disclosure Variety for CAR (-5, 0)

	Model 1							Model 2						
	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	Dummy Std B [t-Stat.] (Sig.) {Tol.} <VIF>	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	SII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	Dummy Std B [t-Stat.] (Sig.) {Tol.} <VIF>
Main Result	0.398 [0.390] {50.243} (0.000) <1.926>	[0.187] (0.852)	0.005 [0.108] (0.914) {0.904} <1.106>	0.285 [6.365] (0.000) {0.987} <1.014>	0.570 [12.607] (0.000) {0.967} <1.034>	-0.036 [-0.766] (0.444) {0.880} <1.137>	n/a n/a n/a n/a n/a	0.405 [0.397] {51.675} (0.000) <1.974>	[0.913] (0.362)	-0.092 [-1.860] (0.064) {0.795} <1.259>	0.288 [6.476] (0.000) {0.992} <1.008>	0.570 [12.678] (0.000) {0.970} <1.031>	0.007 [0.136] (0.892) {0.772} <1.295>	n/a n/a n/a n/a n/a
Regulation Change Effect														
Dummy = RCE	0.400 [0.390] {40.322} (0.000) <1.935>	[0.276] (0.783)	0.004 [0.076] (0.939) {0.903} <1.108>	0.288 [6.414] (0.000) {0.980} <1.021>	0.569 [12.563] (0.000) {0.966} <1.035>	-0.038 [-0.796] (0.427) {0.879} <1.138>	-0.040 [-0.884] (0.377) {0.989} <1.011>	0.406 [0.397] {41.491} (0.000) <1.985>	[1.030] (0.304)	-0.093 [-1.875] (0.062) {0.794} <1.259>	0.291 [6.528] (0.000) {0.986} <1.014>	0.568 [12.637] (0.000) {0.968} <1.033>	0.005 [0.104] (0.917) {0.771} <1.296>	-0.041 [-0.924] (0.356) {0.990} <1.010>
Audit Review Effect														
Dummy = ARE	0.403 [0.393] {40.843} (0.000) <1.953>	[0.014] (0.989)	0.017 [0.351] (0.726) {0.881} <1.135>	0.280 [6.243] (0.000) {0.981} <1.020>	0.570 [12.630] (0.000) {0.967} <1.034>	-0.022 [-0.447] (0.655) {0.845} <1.184>	-0.071 [-1.533] (0.126) {0.911} <1.098>	0.408 [0.398] {41.683} (0.000) <1.991>	[0.924] (0.356)	-0.082 [-1.623] (0.106) {0.770} <1.299>	0.284 [6.383] (0.000) {0.988} <1.012>	0.569 [12.674] (0.000) {0.969} <1.032>	0.016 [0.319] (0.750) {0.754} <1.327>	-0.055 [-1.194] (0.233) {0.906} <1.104>

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CII (SII) = Complementary (Supplementary) Number of Information Items, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, RCE = Regulation Change Effect, ARE = Audit Review Effect, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

Relative Information Content of Complementary and Supplementary Narratives Based on Disclosure Depth for CAR (-5, 0)

	Model 3										Model 4									
	R² [Adj. R²] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	Dummy Std B [t-Stat.] (Sig.) {Tol.} <VIF>	R² [Adj. R²] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	SGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	Dummy Std B [t-Stat.] (Sig.) {Tol.} <VIF>
Main Result	0.451		-0.127	0.319	-0.192	-0.044	0.286	0.573	-0.131	n/a	0.403		0.023	-0.056	-0.018	0.001	0.277	0.564	0.002	n/a
	[0.439]	[2.948]	[-2.628]	[4.139]	[-2.032]	[-0.553]	[6.656]	[13.017]	[-2.609]	n/a	[0.389]	[-0.116]	[0.479]	[-0.631]	[-0.182]	[0.009]	[6.085]	[12.196]	[0.034]	n/a
	{36.376}	(0.003)	(0.009)	(0.000)	(0.043)	(0.581)	(0.000)	(0.000)	(0.010)	n/a	{29.050}	(0.908)	(0.633)	(0.528)	(0.856)	(0.993)	(0.000)	(0.000)	(0.973)	n/a
	(0.000)		{0.775}	{0.307}	{0.205}	{0.285}	{0.991}	{0.941}	{0.722}	n/a	(0.000)		{0.886}	{0.248}	{0.201}	{0.552}	{0.959}	{0.928}	{0.759}	n/a
	<1.936>		<1.291>	<3.256>	<4.876>	<3.505>	<1.010>	<1.063>	<1.384>	n/a	<1.954>		<1.129>	<4.027>	<4.981>	<1.812>	<1.043>	<1.077>	<1.317>	n/a
Regulation Change Effect																				
Dummy = RCE	0.453		-0.132	0.317	-0.187	-0.047	0.289	0.571	-0.134	-0.047	0.405		0.021	-0.058	-0.016	-0.001	0.280	0.563	0.000	-0.041
	[0.439]	[3.053]	[-2.704]	[4.110]	[-1.985]	[-0.587]	[6.722]	[12.959]	[-2.667]	[-1.082]	[0.389]	[-0.017]	[0.453]	[-0.653]	[-0.163]	[-0.023]	[6.133]	[12.165]	[0.006]	[-0.905]
	{31.118}	(0.002)	(0.007)	(0.000)	(0.048)	(0.557)	(0.000)	(0.000)	(0.008)	(0.280)	{25.506}	(0.987)	(0.651)	(0.514)	(0.870)	(0.982)	(0.000)	(0.000)	(0.995)	(0.366)
	(0.000)		{0.770}	{0.307}	{0.205}	{0.285}	{0.984}	{0.939}	{0.720}	{0.982}	(0.000)		{0.885}	{0.248}	{0.201}	{0.551}	{0.954}	{0.928}	{0.759}	{0.987}
	<1.951>		<1.299>	<3.259>	<4.885>	<3.509>	<1.016>	<1.065>	<1.389>	<1.018>	<1.964>		<1.130>	<4.029>	<4.983>	<1.814>	<1.049>	<1.078>	<1.318>	<1.013>
Audit Review Effect																				
Dummy = ARE	0.456		-0.123	0.326	-0.202	-0.032	0.282	0.574	-0.114	-0.072	0.406		0.015	-0.051	-0.016	0.003	0.274	0.564	0.010	-0.056
	[0.442]	[2.900]	[-2.545]	[4.236]	[-2.148]	[-0.400]	[6.569]	[13.069]	[-2.230]	[-1.618]	[0.390]	[0.056]	[0.317]	[-0.568]	[-0.160]	[0.052]	[6.022]	[12.219]	[0.203]	[-1.187]
	{31.447}	(0.004)	(0.011)	(0.000)	(0.033)	(0.689)	(0.000)	(0.000)	(0.026)	(0.107)	{25.629}	(0.955)	(0.752)	(0.570)	(0.873)	(0.958)	(0.000)	(0.000)	(0.839)	(0.236)
	(0.000)		{0.772}	{0.306}	{0.204}	{0.283}	{0.987}	{0.940}	{0.692}	{0.913}	(0.000)		{0.870}	{0.248}	{0.201}	{0.551}	{0.956}	{0.928}	{0.744}	{0.888}
	<1.969>		<1.295>	<3.267>	<4.901>	<3.536>	<1.013>	<1.063>	<1.445>	<1.096>	<1.973>		<1.149>	<4.038>	<4.983>	<1.814>	<1.046>	<1.078>	<1.344>	<1.126>

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) Complementary (Supplementary) = Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, RCE = Regulation Change Effect, ARE = Audit Review Effect, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

Incremental Information Content of Complementary and Supplementary Narratives Based on Disclosure Variety for CAR (-5, 0)

	R² [Adj. R²] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SII Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	Dummy Std B [t-Stat.] (Sig.) {Tol.} <VIF>
					Model 5			
Main Result	0.408 [0.398] {41.729} (0.000) <1.955>	[-0.628] (0.531)	0.068 [1.250] (0.212) {0.663} <1.509>	-0.130 [-2.240] (0.026) {0.583} <1.716>	0.283 [6.364] (0.000) {0.986} <1.014>	0.573 [12.738] (0.000) {0.967} <1.034>	0.004 [0.070] (0.945) {0.770} <1.299>	n/a n/a n/a n/a n/a
Regulation Change Effect Dummy = RCE	0.409 [0.398] {34.880} (0.000) <1.965>	[-0.540] (0.589)	0.066 [1.221] (0.223) {0.662} <1.510>	-0.130 [-2.238] (0.026) {0.583} <1.716>	0.287 [6.413] (0.000) {0.980} <1.021>	0.571 [12.694] (0.000) {0.966} <1.036>	0.002 [0.040] (0.968) {0.769} <1.300>	-0.039 [-0.886] (0.376) {0.989} <1.011>
Audit Review Effect Dummy = ARE	0.411 [0.399] {35.136} (0.000) <1.972>	[-0.713] (0.476)	0.074 [1.353] (0.177) {0.658} <1.519>	-0.121 [-2.085] (0.038) {0.576} <1.737>	0.279 [6.256] (0.000) {0.981} <1.020>	0.572 [12.745] (0.000) {0.967} <1.034>	0.013 [0.265] (0.791) {0.753} <1.329>	-0.061 [-1.302] (0.194) {0.900} <1.112>

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CII (SII) = Complementary (Supplementary) Number of Information Items, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, RCE = Regulation Change Effect, ARE = Audit Review Effect, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

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Incremental Information Content of Complementary and Supplementary Narratives Based on Disclosure Depth for CAR (-5, 0)

	R^2 [Adj. R^2] {F-Ratio} (Sig.) <D-W>	Const [t-Stat.] (Sig.)	CGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	CFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SGD Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SAC Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SRE Std B [t-Stat.] (Sig.) {Tol.} <VIF>	SFW Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ADY Std B [t-Stat.] (Sig.) {Tol.} <VIF>	IES Std B [t-Stat.] (Sig.) {Tol.} <VIF>	ITA Std B [t-Stat.] (Sig.) {Tol.} <VIF>	Dummy Std B [t-Stat.] (Sig.) {Tol.} <VIF>
Main Result	0.479		-0.171	0.415	-0.160	-0.055	0.069	-0.121	-0.108	0.073	0.264	0.559	-0.101	n/a
	[0.460]	[3.267]	[-3.314]	[5.102]	[-1.657]	[-0.644]	[1.397]	[-1.393]	[-1.073]	[1.242]	[6.137]	[12.580]	[-1.956]	n/a
	{24.842}	(0.001)	(0.001)	(0.000)	(0.099)	(0.520)	(0.163)	(0.165)	(0.284)	(0.215)	(0.000)	(0.000)	(0.051)	n/a
	(0.000)		{0.660}	{0.265}	{0.188}	{0.241}	{0.719}	{0.231}	{0.173}	{0.505}	{0.947}	{0.889}	{0.653}	n/a
	<1.954>		<1.516>	<3.777>	<5.320>	<4.155>	<1.390>	<4.325>	<5.792>	<1.982>	<1.056>	<1.124>	<1.532>	n/a
Regulation Change Effect Dummy = RCE	0.481		-0.175	0.413	-0.156	-0.058	0.068	-0.122	-0.107	0.072	0.268	0.557	-0.104	-0.047
	[0.460]	[3.370]	[-3.380]	[5.079]	[-1.612]	[-0.677]	[1.383]	[-1.403]	[-1.067]	[1.219]	[6.204]	[12.534]	[-2.006]	[-1.106]
	{22.890}	(0.001)	(0.001)	(0.000)	(0.108)	(0.499)	(0.168)	(0.162)	(0.287)	(0.224)	(0.000)	(0.000)	(0.056)	(0.270)
	(0.000)		{0.657}	{0.265}	{0.188}	{0.240}	{0.719}	{0.231}	{0.173}	{0.504}	{0.942}	{0.888}	{0.651}	{0.981}
	<1.970>		<1.523>	<3.779>	<5.328>	<4.158>	<1.391>	<4.326>	<5.792>	<1.983>	<1.061>	<1.126>	<1.535>	<1.019>
Audit Review Effect Dummy = ARE	0.481		-0.166	0.417	-0.168	-0.050	0.063	-0.119	-0.103	0.073	0.262	0.560	-0.093	-0.041
	[0.460]	[3.225]	[-3.190]	[5.117]	[-1.729]	[-0.579]	[1.256]	[-1.367]	[-1.023]	[1.246]	[6.085]	[12.600]	[-1.770]	[-0.923]
	{22.831}	(0.001)	(0.002)	(0.000)	(0.085)	(0.563)	(0.210)	(0.173)	(0.307)	(0.214)	(0.000)	(0.000)	(0.078)	(0.357)
	(0.000)		{0.651}	{0.265}	{0.187}	{0.240}	{0.706}	{0.231}	{0.172}	{0.505}	{0.945}	{0.889}	{0.634}	{0.871}
	<1.967>		<1.535>	<3.778>	<5.358>	<4.174>	<1.417>	<4.329>	<5.808>	<1.982>	<1.058>	<1.125>	<1.578>	<1.148>

Notes: CAR = Daily Market Adjusted Cumulative Abnormal Returns, CGD (SGD) = Complementary (Supplementary) Good News, CAC (SAC) = Complementary (Supplementary) Amounts and Comparison of Current with Past Performance, CRE (SRE) Complementary (Supplementary) = Reasons for Performance, CFW (SFW) = Complementary (Supplementary) Forward-looking Attribute, ADY = Average Annual Dividend Yield, IES = Interim Earnings per Share, ITA = Firm Size by Interim Logarithmic Total Assets, RCE = Regulation Change Effect, ARE = Audit Review Effect, Single and double underline show significance respectively at 0.05 and 0.01 level, n=309

F- Statistic significance test for Sensitivity Analysis based on Event Day Results

	Dummy Variable	R-Sq Dummy	R-Sq No Dummy	K Dummy	K No Dummy	N	F	dfΔ	dfε	Critical F	Is change significant based on F-statistic?
Model 1	RCE	0.400	0.398	5	4	309	1.010	1	303	3.87	No
	ARE	0.403	0.398	5	4	309	2.538	1	303	3.87	No
Model 2	RCE	0.406	0.405	5	4	309	0.510	1	303	3.87	No
	ARE	0.408	0.405	5	4	309	1.535	1	303	3.87	No
Model 3	RCE	0.453	0.451	8	7	309	1.097	1	300	3.87	No
	ARE	0.456	0.451	8	7	309	2.757	1	300	3.87	No
Model 4	RCE	0.405	0.403	8	7	309	1.008	1	300	3.87	No
	ARE	0.406	0.403	8	7	309	1.515	1	300	3.87	No
Model 5	RCE	0.409	0.408	6	5	309	0.511	1	302	3.87	No
	ARE	0.411	0.408	6	5	309	1.538	1	302	3.87	No
Model 6	RCE	0.481	0.479	12	11	309	1.141	1	296	3.87	No
	ARE	0.481	0.479	12	11	309	1.141	1	296	3.87	No

Note: , RCE = Regulation Change Effect, ARE = Audit Review Effect, R-Sq Dummy = coefficient of determination for the model with the dummy variable, R-Sq No Dummy = coefficient of determination for the model of the main results, K Dummy = number of predictors in the model having the dummy variable, K No Dummy = number of predictors in the model of the main results, F = F-statistic, N = number of subjects, dfΔ = degrees of freedom change, dfε = degrees of freedom error, Critical F = Critical F-statistic values at $p < 0.05$