

**CORPORATE INTANGIBLES, VALUE RELEVANCE
AND DISCLOSURE CONTENT**

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FOREWORD

It is self evident that stock markets exist to allow the trading of company ownership rights and debt rights; and that this market makes it possible for listed companies to access medium-term and long-term capital relatively cheaply. In turn listed companies have a common objective goal of creating value for shareholders, whilst honouring the interests of employees, creditors and other stakeholders.

Increasingly, companies find that creating value and competitive advantage - however short lived that advantage may prove to be - can only be achieved by innovation in products and processes. In competitive markets this ongoing process of value-creation is essential to the strength and survival of the company, and so there is a complex interplay between the stock market's need for relevant information in order to allow market participants to make periodic buy/sell/hold assessments of their investments, and the company's response to that need without disclosing so much information that its competitive position is damaged.

This study shows that companies are well aware that they need to have a 'story' to tell about how they create value and how much of the value that is created is a result of the knowledge that a company has; an intangible asset that is often over-looked by corporate shareholders. Understanding how companies communicate this 'story' is important to those in business and those who are affected by the results.

The 'story' that a company relates to the outside community has to be consistent, although it may evolve over time. This evolution may arise because of changes in products and technology, but also because insiders in a company perceive that outsiders' information requirements have changed. The requirements of outsiders are usually gleaned from contact with both analysts and institutional investors,

whose demands for information change in line with developments in the economy, in consumer tastes and fashion. Thus, the interaction of company insiders with analysts and fund managers may result in a change of focus for the 'story' that should be told, and in turn can impact the knowledge-intensive value-creation processes that influence this story. This Research Report examines these relationships and the 'stories' that are told.

The Research Committee of The Institute of Chartered Accountants of Scotland has been pleased to sponsor this project and is glad that the results are available at a time when understanding the link between financial performance and stock market ratings remains of real public interest. The Research Committee hopes that this project will be seen as a valuable contribution to the development of that understanding.

Nigel Macdonald
Convener
Research Committee

May 2004

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EXECUTIVE SUMMARY

Background and methods

This report seeks to understand how the content of corporate disclosure has been influenced by corporate perceptions of:

- (i) major changes in the operations of companies, from purchasing raw materials and production to selling finished goods; and
- (ii) changes in financial markets.

In particular, this study examines how companies create value in the new knowledge-intensive economy of the twenty-first century. During the last few years there have been significant changes in the structure of the market for information and in the stock market. These supply-side and demand-side changes have combined to create problems and opportunities for companies in their disclosure activities, and these changes are investigated in this study. The report was based on case interviews with 25 large listed UK FTSE 250 companies (22 in the FTSE 100) during April 2000 to November 2000, and the use of archival sources. The companies visited covered all major sectors in the economy and were all well established or 'old economy' companies.

Field research outcomes

There are three major field research outcomes of this report. First, the report illustrates how corporate value-creation and the associated company-side information agenda have changed for the case companies as they have become more knowledge-intensive. Second, the report explores how the case companies perceived that the market

for information and the market of share ownership valued companies, using specific information about their knowledge-intensive intangibles. The findings reveal how the companies perceived recent changes in these markets and in their demand for information. These two areas of information, both supply led and demand led are closely connected and are dominated by issues concerning the use of knowledge-intensive assets, the perceived core competences of the case companies and the existence of intangibles in the corporate value-creation processes and their impact on the stock market valuation (price) of each company.

Third, the report explores how this interaction between the supply of company information and the market demand for information has altered the agenda for private and public disclosure. Once the case companies understood the value-creation process, they sought to understand how the stock market used this information to value their enterprises. This allowed the case companies to assess which parts of the internal corporate value-creation information set was likely to be seen as value-relevant by external financial markets. The companies could then decide which information they should disclose through private and public channels.

The case data reveals that common information themes are present in each company and that the financial system has driven the content of the private agenda and the private disclosure process. This is illustrated in Figure 1 which shows the structure of both the supply and demand market drivers of disclosure content.

Figure 1: The jointly determined supply-side and demand-side information agenda

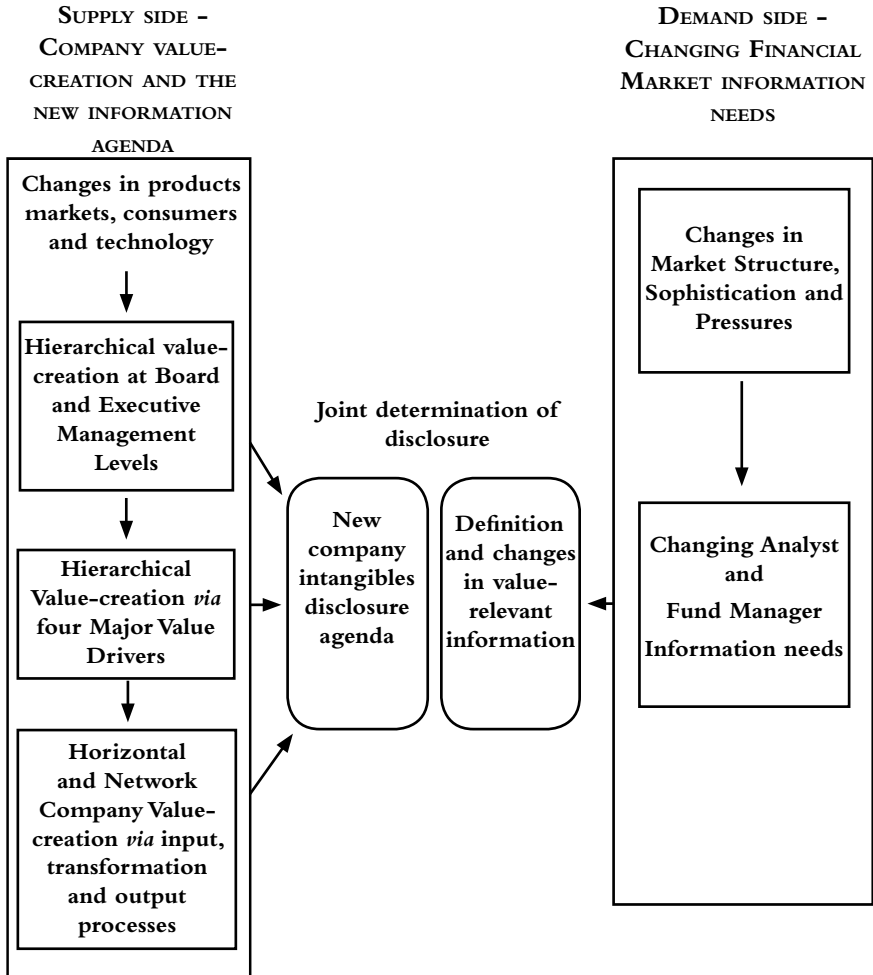


Figure 1 shows how the perceived changes and developments on both the company (supply) side and the market (demand) side have

combined to determine the information content of the corporate disclosure agenda.

Figure 1 shows that on the supply side, major changes in real product and service markets are changing the internal value-creation processes in companies as knowledge-intensive intangibles become central to their value-creation process. These changes are in turn creating a new information agenda for internal management purposes and for external disclosure to capital markets. The case research reveals that common categories of intangibles are present in the case company governance and value-creation processes, and that these intangibles are employed, in quite different ways, across the common elements of the corporate value-creation process.

On the demand side, the way in which the case companies perceive how the market interprets what is value-relevant information, is also at the heart of any disclosure content agenda. Value-relevant information arising on the company side is focused on ‘fundamental information’, which contains a changing, or contingent, subset of the corporate value-creation information set. The specific “fundamental information” released by companies to fund managers is recognised as subject to negotiation within more informal ‘relationship’ contexts with individual core fund managers.

This fundamental, company level information, is perceived by companies as fitting into a set of ascending contextual levels on the demand side. These levels are as follows:

- The first level, which is unknown to company management, involves a holistic or mosaic view employed by fund managers and analysts in processing information in their valuation models of individual companies.
- This information set is placed within a larger user view or level. In the case of fund managers this is within the wider portfolio

context and in the case of analysts a wider sector and economy context.

- Both of these levels are further set within the level of the wider fund manager and analyst.
- Finally, this information is set within a larger market ‘story’, or fashion, concerning the role of technology and knowledge-intensive intangibles in corporate value-creation. A wide range of changes at market level have changed the current or ongoing thinking in the various decision levels and hence have changed the nature of the information demands made on the case companies. The market changes include: (i) structural changes, such as the increased internationalisation and concentration of information and financial markets; (ii) the increased sophistication of the markets, as well as emerging conflicts of interest in the markets, and (iii) fashions such as the ‘dotcom’ experience.

The case companies were able to understand the larger change processes occurring in the financial markets, but found it difficult at times to understand how fund managers and analysts used corporate information on intangibles to value their companies within this context. Indeed, they faced general problems of understanding how these market participants understood and used company supplied information at these different fund manager and analyst decision levels.

Despite these broader market-level changes and their role in altering fund manager and analysts’ tasks and information needs in unknown ways, these changes were explicitly manifest in the changing diet of questions posed by fund managers and analysts during the private one-to-one meetings with the case companies. These in turn, changed the case companies’ perceptions of what was value-relevant information, especially in the area of intangibles and their contribution to value.

In addition, the financial market change process taught the case companies to develop a high degree of disclosure content responsiveness to this changing set of questions about corporate value-creation and its share price impact. In particular, changes in the current market story, or fashion, for the role of intangibles in value-creation was recognised as a critical context for disclosure and for changing this disclosure content.

As a result, the extent to which such company-side ‘fundamental’ information was used in company valuations was perceived by companies as contingent upon changing user decision needs. It was also perceived as transient, subject to fashion and to changes in processing sophistication and the structure of the market for information.

These common supply-side and demand-side factors created a common agenda for both private and public disclosure about knowledge-intensive intangibles and their role in corporate valuations. The companies favoured the use of the corporate ‘value-creation story’ or ‘business model’ as an adaptive and flexible corporate mechanism to disclose information. This was employed in the form of a connected narrative through the continuous disclosure of fragments of new information within the established story. Key intangibles, such as the ‘quality of top management’, were benchmarked in a relative, subjective, manner against competitors by the companies or the market. Other intangibles, such as R&D effectiveness, could be objectively measured and benchmarked by the market using both input expense measures and output patenting measures. Both of these benchmarks provided supporting evidence to the story, and the story, in turn, provided a meaningful context for the benchmarks.

The disclosure of the company value-creation story, of their benchmark measures, and changes to these measures, were important to the market in processing information about knowledge-intensive intangibles. The story, and benchmarks, formed an adaptive and flexible information system to communicate qualitative information. These

were the product of a corporate need to articulate and communicate a stable and comprehensive view of the corporate value-creation process. They were also the product of the need to respond in an adaptive way to the transient, contingent, and fragmented or mosaic, information agenda of the markets.

Stock market volatility in 1997-2003

This report illustrates how knowledge-intensive intangibles such as brand management skills, computer technology and R&D skills have become increasingly central to the corporate value-creation process and demonstrates the growing importance of information on these intangibles in the corporate disclosure process. In particular, the disclosure of information about the role of such intangibles in corporate value-creation, and how this value-creation process contributes to corporate cash flows and earnings is becoming vital. Such information is used in the capital markets to estimate the expected level of residual future corporate cash flows available to investors, earnings, and their absolute and relative risk to the sector and the market. Such information, together with information on tangibles as a proxy, is used to estimate future cash flows and expected cash flows, earnings, and risk and provides the basis for the valuation of these firms as manifest in their stock price.

During the period 1997-2000, or the 'dotcom' boom, there was considerable optimism about the wider role of intangibles in the economy and their role in creating value in the form of growing corporate cash flow and earnings levels. In 2000-2003, major stock market declines have been associated with the growth of uncertainty in world politics and in major world economies. In addition, pessimism has emerged about the economic impact of technology and other aspects of the knowledge-intensive intangibles 'dream'. However, corporate cash flows and earnings in the predominantly 'old economy'

case companies have not expanded as fast as stock prices indicated in 1997–2000 nor declined as much as stock prices in 2000–2003 suggested. Relative risk levels for knowledge-intensive case companies such as banks, computer companies, branded goods companies, pharmaceutical companies, technology companies, and others have not altered as radically as stock prices would suggest. Since 2000, the case companies have not become less knowledge-intensive. They, and their investors, have not become less interested in the role of intangibles in the corporate value-creation, and in their role in generating future cash flows and earnings. The effectiveness of R&D in a case pharmaceutical company, or brand management effectiveness in a case confectionery company continues to drive stock prices throughout such periods of market volatility.

Stock price volatility in both the 1997–2000 and 2000–2003 periods suggests that a key part of the valuation problem lies with the content of corporate disclosure and especially with the information set available on intangibles. These corporate level intangibles are directly connected to the larger market ‘dream’ and debate about technology and other knowledge-intensive stocks which appear to have been the main driver of optimism during 1997–2000 and was an element of the pessimism in 2000–2003. As a result, this report recommends new ways of improving corporate disclosure on intangibles. Achieving this aim is expected to contribute to significant improvements in the public information set for such companies and, over a longer period of time, may contribute to a reduction in the volatility of stock prices as the increasing importance of intangibles is more widely understood.

Policy implications

This report also discusses new areas for policy formation. In particular, the report recommends new ways of improving public disclosure by developing new disclosure standards based on the deeper

underlying information structures that have been observed in corporate value-creation and in the needs of the market for information, and in the content of the subsequent corporate disclosure information agenda.

This report argues for a greater responsiveness to be built into information and disclosure systems and for companies to disclose how they are doing this. More specifically, on the company information supply-side, policy makers should require companies to describe their value-creation story consisting of three underlying value-creation processes: (i) hierarchical; (ii) horizontal; and (iii) network. The use of the ‘story’ is central to disclosure improvements and some form of narrative should form a central element to public disclosure. Regulators could further develop such ‘practice’ guidance by matching it with insights available from the strategic literature’s view of corporate value-creation in the modern enterprise, especially in terms of the purpose, content, and means of value-creation.

Companies should also be more explicit on how their core disclosure content is adapted to various user needs, and how the underlying information and disclosure systems have developed to respond to ever changing market demands. On the demand-side, policy makers should require companies to disclose what they perceive from market observation and experience to be the value-relevant subset of the corporate creation story in various circumstances. For example, companies could disclose the most common questions asked of them in private, by fund managers and analysts, about specific intangibles and how such qualitative factors have been measured. They could reveal new benchmark measures that were used by analysts and fund managers in these private meetings. They could also reveal how this dialogue and question probing changed over time, with major new events or fashions. This would reveal how a practical concept of ‘value relevant’ information was changing over time. It would reveal how the core value-creation story was communicated (text, oral, video *etc*)

in different contexts such as the financial report, one-to-one meetings, and marketing channels, and how this was modified, according to the listener. For example, it would reveal how downside risks became an important dimension of the story with bank lenders and credit raters, and how both up and downside dimensions were required by equity market suppliers and analysts. All of the above changes to public disclosure are likely to create a more level 'playing field' for all stakeholders and create a more open debate about how intangibles drive stock prices.

Lev (2001, 2002) has proposed a new intangibles information system, called the Value Chain Scoreboard. This idea has strong similarities to the case defined horizontal and network value-creation chains and their potential role in public corporate disclosure. However, the present research has also identified internal governance and value-drivers as key components of hierarchical value-creation. This research shows how demand-side pressures can alter the way the case companies disclose such supply-side information. Finally, this research also highlights the importance of the adaptability and responsiveness of new disclosure information systems and content to these pressures.

The approach of this study exploits deeper information structures than can be observed in corporate and information market practice, and contrasts with the present policy formulation approach, which at best can be described as *ad hoc*, incremental, and 'muddling through' by regulators such the ASB, FSA, FASB and IASB. There appears to be little in the way of systematic research by these bodies on how the information content of value-creation varies across companies, and how corporate perceptions of market concepts of value relevant information vary. There is little methodical insight as to what underlying, common structures might exist here and hence how common patterns of disclosure on qualitative information on intangibles could be encouraged. These bodies could enhance corporate disclosure by employing the deeper structure, identified here, as a basis for disclosure.

The above proposals are briefly compared with the UK 'Operating and Financial Review' (OFR) proposals in the new Companies Bill, *Modernising Company Law*, (UK DTI, 2002), the Accounting Standards Board (ASB) revision (2003) of its 1993 OFR Statement, and US proposals FASB (2001) in the Business Reporting Research Project. The UK and US proposals are partially consistent with the proposals in this report for improving disclosure content. However, in both the UK and US the emphasis is on the listing of topical intangibles and their indicators, rather than exploring the underlying structure to value-creation, the connected role of intangibles, and the structured influence of the market for information. Such lists are *ad hoc* and will change over time. A more systematic approach is required to overcome the fragmented, transient and *ad hoc* nature of policy-based proposals for disclosure of intangibles information. This report indicates that the broad categories, plus the three value-creation processes of hierarchical, horizontal and network processes could form the structural basis of a new disclosure model and its content. This connecting framework can also be enhanced by the corporate disclosure of how companies develop corporate responsiveness to varying market information demands.

These proposed regulatory changes could provide a major improvement in the corporate and market information set concerning the role of intangibles in value-creation. They would therefore play a major role in reducing the intellectual capital information asymmetry identified in this research.

CHAPTER ONE

BRIEF SURVEY OF THE POLICY DEBATE AND RELEVANT RELATED WORK

As a result of the lack of prior research, this research began from the premise that understanding the content of corporate disclosure required an investigation of how companies perceived their corporate value-creation processes and how this affected their corporate disclosure, especially in the private domain with core fund managers. A qualitative research approach was required to generate the required grounded theory. The intention was to use insights into this private disclosure behaviour to draw implications for the improvement of public disclosure especially for value-relevant information on corporate intangibles. This is important because the high volatility of stock prices in 1997 to 2003, covering both the 'dotcom' boom and the subsequent decline in stock prices, is likely to be related to the perceptions of the development of the knowledge-based economy. Improvements in the disclosure of intangibles information may be useful for distinguishing between the short-run and long-run stock price effects of knowledge-intensive intangibles.

The first section in this chapter reveals that there have been a number of major changes in the way companies perceive how they create value in the new knowledge-intensive economy of the twenty-first century and how this has created problems for public disclosure by companies. The second section summarises the key research studies which reveal the nature and scale of the disclosure problem in financial statements. The third section discusses how this could be affecting wider policy issues such as the allocation of capital, the cost

of capital, and insider dealing issues in financial markets. The fourth section summarises the literature on private disclosure and highlights the significance of qualitative information and the dearth of research on how changes in the corporate value-creation process changes the corporate information set for disclosure. A final section outlines the structure of the rest of this report.

Corporate intangibles and problems arising in public disclosure

There have been major changes in the corporate value-creation process over the past decade. These include the increasing significance of knowledge-intensive processes, assets and intangibles in creating value within the enterprise, and within the immediate network of corporate alliances with suppliers, distributors, and customers. Associated with this has been an increasing use of technology, such as information technology and biotechnology, and has led to major changes in the corporate process of value-creation. Stopford (1997) noted that knowledge creation, articulation, processing and leveraging had become a central survival activity for multinational companies at the end of the twentieth century.

The fusion of the information age with traditional engineering, chemical, biochemical, service and financial service industries has been a primary driver of innovation. New modes of production, distribution, and communication have emerged in these industries. Major technological breakthroughs have also occurred in advanced materials, energy production and conservation, nuclear and medical science, biotechnology and environmental control (OECD June 1999, p.7). Each of these industries has its own unique intangible assets based on its knowledge of sourcing, production, distribution, and/or marketing. Many new knowledge-intensive assets are implicit in the behaviour and competences of teams and individuals. This

innovation has increased the ability of innovators to change the rules of competition in global industries and increased the chances of failure in those companies failing to invest in knowledge and IT skills.

By the late 1990s, various economic developments had evolved into radical ideas about the emergence of a 'new economy'. The combination of the emergence of the internet as a global phenomenon, the development of new internet software, of new ways of using the internet to advertise, sell, and transact, as well as the union of computers and telecommunications, had a major impact on companies' operations. The fusion of video, voice and data communication, and the penetration of the home as well as business by these developments generated many radical ideas about how knowledge-intensive companies were expected to create value in the decades ahead. This economic change was associated with changes in the corporate structure from top-heavy, multi-layered managerial hierarchies to flat hierarchies, and to companies establishing alliances and networks with companies in the same industry and with suppliers and distributors. Knowledge-intensive processes developed both within the company and within these networks. The increased globalisation of companies and industries, allied with the changes in value-creation, stimulated radical changes in corporate strategy.

Chapter three examines how these changes had important implications for the 25 case companies that were part of this study, which were primarily well-established old-economy companies. For example, by 2000, the internet had become important in many parts of the case companies operations from procurement, to internal transformation, to marketing, transacting, and after-sales service. The internet was beginning to influence how these case companies bought goods from suppliers, how they sold products and services, the prices at which they bought and sold, and the way in which they collected and used information at the customer, supplier, and distributor interfaces. In part, this can be interpreted as a cost-cutting exercise, as well as an

attempt to create wider profit margins by creating new, price-insensitive and knowledge-intensive products and services.

Lev (2001, p.63) argued that:

... other investments besides R&D and tangible assets created the bulk of the growth in corporate value over these two decades [1980-2001]. Organisational and human capital are prominent among those value creators.

The result of the above changes in corporate value-creation were that 'winners are knowledge-intensive' (OECD 1999, p.7). The OECD (1999, p7) also noted that:

The last quarter of the twentieth century has witnessed the emergence of a new economic order challenging the established norms of wealth creation, investment, return and risk. Dominant market players increasingly deploy intellectual capital as a key strategic tool, and for many firms in the high tech sectors - notably software, bio-technology, media and business services - the effective exploitation of intellectual capital is often the critical factor in sustaining competitive advantage.

The issue of intellectual capital and intangibles is not a new one. What is new is its global impact. Intellectual capital and intangibles have been the focus of many debates over the past century. These debates have concerned sources of productivity, human capital development, research and development and innovation, and the accounting for such changes in economic life. The difference at the end of the 20th century and the start of the new millennium is the rate of change in this direction and the way in which the vast bulk of new economic activity is intellectual-capital based on a global scale.

However, the stock market jury is still undecided as to which corporate knowledge-intensive intangibles will create long term financial value in terms of growth and sustainable stock price increases. This uncertainty has possibly contributed to both the 'dotcom' boom of 1997-2000 and the subsequent decline in stock prices in 2000-2003.

However, the corporate case data in this study reveals that corporate managers and capital market players are very interested in information on knowledge-intensive intangibles and are engaged in an ongoing dialogue to explore which intangibles information is likely to have long-term stock market value-relevance and which information is likely to be transient and subject to fashion.

Intangibles and problems in corporate disclosure

These changes in the corporate value-creation processes and strategy have increased the information asymmetry between users and suppliers of equity risk capital as well as changing the character, or content, of that information asymmetry. In particular, these changes have led to problems in the disclosure of corporate information to financial markets concerning accounting numbers, financial statement text disclosure, and in public announcements to the stock exchange.

Difficulties have emerged with the information content of corporate financial statements. The above changes have all reinforced the view that intangibles are difficult to categorise or define as well as to measure their costs and assign benefits. As a result, it is very difficult to assign property rights to patents or other contractual forms, and hence to evaluate the benefits that arise from intangibles. Companies recognise that such intangibles are often at the heart of competitive advantage but they prefer to keep their intangibles under wraps and tend not to voluntarily disclose public information about them. This means that a significant part of corporate value is not disclosed in financial reports or in public announcements until the company is sure that it has established a major lead over its competitors, or when the advantage has become such an important part of the share price (*via* private disclosure) that it must reveal its existence (but not its copyable substance). Surprises for capital market participants may also be higher in companies with higher intangibles because of the

difficulty of public disclosure and of patenting. The general surprise level of markets may also be rising with the increase in intellectual-capital based intangibles in corporate value-creation and the increased invisibility of the latter process.

Intangibles, such as knowledge, have become an increasingly important issue in corporate valuation, and the problems of categorisation and measurement have become acute. This exacerbates the accountants' problem of how to disclose the value of these assets on the balance sheet and how to explain how the profit numbers that arise from such intangibles. Hence financial accountants face major difficulties in disclosing information on intangibles in conventional financial statements and this has encouraged private disclosure and a private dialogue between companies and their suppliers of capital about the role of intangibles in value-creation.

Research on the information content and market impact of corporate disclosure

The issue of the declining information content of financial statements has been addressed by researchers such as Lev and Zarowin (1999) and Francis and Schipper (1999). Lev and Zarowin (1999) argued that if the relevance of financial statement information had declined over time because of the growth of intangibles in companies, then they would expect to find a decline in the ability of the financial numbers to explain the cross-sectional variations in security returns. For example, Lev and Zarowin (1999) demonstrated that the informativeness of financial statements was at a historically, and incredibly, low level and continued to decrease. A low statistical association (an R-squared of 6%) between earnings and stock prices, over time, suggested a major failure. Lev and Zarowin (1999) also demonstrated the extent to which the book value and the market-value gap had increased over the past twenty years. The gap was at its largest in high technology and

knowledge-intensive stocks such as pharmaceuticals, bio technology, and software. This indicated that financial statements were becoming less relevant to the capital markets. However, it was also suggested that capital market participants were finding other sources of information on the value-creation role of intangibles and that this had a significant impact on share valuations.

In contrast, Francis and Schipper (1999) argued that Lev and Zarowin (1999) has failed to control adequately for changes in the volatility of the market over time. They queried their definition of 'value relevance' and argued that the information reported would permit users to assess the future prospects of the firm as well the contemporaneous returns. Francis and Schipper (1999) returned to a Ball and Brown (1968) definition of 'value relevance', and to work by Alford *et al.* (1993), and investigated the total return that could be earned from a foreknowledge of financial statement information. They completed a comprehensive series of tests that examined the explanatory power of earnings information and of balance sheet and book value data over the period 1952 to 1994. They found that returns to 'perfect foresight' trading strategies based on the sign and magnitude of earnings and on the level and change in earnings and book value had decreased over this period. In contrast, returns based upon cash flows and the sign of earnings had not changed over the 42-year period. In addition, the explanatory power of the book value of assets and liabilities for equity market values provided no evidence of a decline. However, they recognised the limitations of their model of market returns and of testing joint hypotheses, especially the problems caused by the increase in variability of market returns observed over the lengthy time period used.

The debate between Lev and Zarowin (1999) and Francis and Schipper (1999) suggests that care should be taken in making broad statements about the declining information content of financial statements. The debate has revealed a differential decline

in informativeness in parts of the financial statement information set. Lev and Zarowins (1999) work suggests that less and less accounting numbers, or tangibles based information, has actually been used by investors. In addition, Francis and Schippers work suggests that the upper bound for usefulness has been falling for earnings information. In Francis and Schipper's world of perfect foreknowledge of financial statements, a user of financial information is only able to earn 50% of all the returns available in a typical year. Even under these ideal conditions, a large amount of information is reaching the stock market outside the normal financial reporting mechanisms, and the market has to find other ways of finding out how managers are using intangible and tangible assets.

The above problem has coincided with the ASB in the UK, and other national and international regulators, especially FASB in the US and the IASB, tightening up the accounting rules and definitions used to produce the numbers in financial statements. In addition, corporate flexibility on disclosure of goodwill and internally generated brand values has been much reduced by recent ASB and IASB standards. This has been done to remove the opportunities for manipulation of financial statements. It has also reduced the scope for companies to voluntarily release information on intangibles, especially if measurement of asset values is involved. However, the Operating and Financial Review (OFR) does provide opportunities for text discussion of competitive advantages, and this flexibility can encourage disclosure of information on intangibles.

Wider policy issues

The radical changes in the corporate value-creation processes of companies and the problems with the information content of financial statements and other corporate public disclosures are likely to have

created major problems for investors and for other capital market participants. These have created important policy issues.

If the capital markets are facing increasing problems of poor quality information on the role of intangibles then this could affect the allocation of capital to firms. This problem of allocation is likely to be most severe with new intellectual capital based firms with a high proportion of intangibles rather than old economy companies. The problems of valuing 'dotcom' companies in 1998, 1999, and early 2000 and the subsequent stock market volatility was a recent example of this problem (Shiller, 2000). The nature of the 'dotcom' company value-creation process was little known, but investors were betting that at least a small number of these companies would be enormously successful in the same manner as Microsoft, Intel and other IT related companies were throughout the 1990s.

In addition, this ignorance of new value-creation processes might be reflected in higher costs of capital for knowledge-intensive or intangible intensive firms. This could adversely affect capital allocation in the economy, especially with those knowledge-intensive firms playing a central role in regenerating economies.

The changes in corporate value-creation processes and the difficulties of disclosing information on these new processes might also increase the insider knowledge and information power of managers. This might also increase the potential of, and likelihood of, insider trading and other forms of managerial opportunism concerning corporate disclosure. Aboody and Lev (2000) demonstrate that managers in R&D intensive companies have higher gains (9.6%) from their legitimate stock deals than those managers in low R&D companies (3.2%).

Fund managers, as *quasi* insiders, could be expected to profit in a similar way from their private company meetings and their private access to information on intangibles. They could interpret earning announcements and other corporate announcements before

uninformed capital market participants, and they could exploit the increased noise in prices arising from the increased ignorance of non-insiders. These *quasi* insiders could therefore redistribute wealth to themselves though their private foreknowledge of price sensitive and material information. However, this fund manager benefit might also have a broader benefit to many mutual, unit and investment trust, insurance and pension fund savers, and might also be seen as a legitimate return for an investment in learning.

Finally, uninformed investors may increasingly waste scarce financial resources as they seek to acquire the private information and knowledge advantages acquired by established *quasi* insiders. Improving public disclosure and transparency may save on these wasted resources.

Establishing the nature of this private information and knowledge advantage is an important first step in understanding what new kinds of information and knowledge are seen as value-relevant by companies and fund managers as *quasi* insiders. Chapter six investigates how such insights can provide the means to encourage improved public disclosure and transparency by companies and hence resolve some of the above policy issues.

Private disclosure literature and the significance of qualitative information

The emphasis in the academic disclosure literature has been on corporate voluntary disclosure in the public domain (Marston and Shrivs, 1996). For example, Healy and Palepu (2001) have provided a comprehensive and up to date review of the empirical disclosure literature, especially the economic forces for disclosure, the effectiveness of financial reporting, the role of intermediaries, the determinants of disclosure, and the market consequences of disclosure. However, despite this broad coverage, the authors do not deal explicitly with

disclosure content issues and how recent corporate changes in corporate economic transformation processes may have changed the scale and nature of the information asymmetry between uninformed and *quasi* informed investors.

Much less attention has been devoted to disclosure content issues arising in the knowledge-intensive economy. Lev & Sougiannis (1996), Lev (2001, 2002) and Ernst and Young (1999) are important exceptions here. In addition, there have been a series of experiments in both Sweden and Denmark to create intellectual capital statements of use to management and to stakeholders including employees and shareholders (see *Accounting Auditing and Accountability Journal*, Vol.14, No.4, 2001 for examples).

In addition, there is a limited literature on how companies conduct their private voluntary disclosure to financial markets (Lee and Tweedie, 1981; Arnold and Moizer, 1984; Chugh and Meador, 1984; Treynor, 1993; Byrd *et al*, 1993; Marston, 1993, 1996; Holland, 1994; Holland and Stoner, 1996; Barker, 1997; Holland and Doran, 1998; Holland, 1998a, b or c, 2000), and this research has revealed some new insights into the qualitative and intangibles content of the new disclosure agenda.

For example, Arnold, Moizer and Noreen (1984) highlighted the value of direct company contacts for UK analysts whilst Chugh and Meador (1984) surveyed US analysts and also noted the significance of direct corporate contacts. They emphasised the role of qualitative variables such as management quality, and their role as intermediaries in the estimation of financial fundamentals. Marston (1996) showed how company respondents perceived the relative importance of their private disclosure of different types of information on their companies' future prospects. The three most important items were: company strategy in the long term; company strategy in the short term; and company strategy for the different segments of the business. In terms of their perception of the relative importance of private disclosure of different types of information on past performance, the top three agenda items

were explanations of: (i) recent results; (ii) the balance sheet and gearing; and (iii) the performance of recent acquisitions. Barker (1997) found that formal, direct contacts with senior company management were the most important sources of information for fund managers, and that the report and accounts were the second major source of information. Meetings with company executives were particularly important to allow fund managers to understand the strategy of the company, and to assess managements' capacity to achieve that strategy.

Holland (1997, 1998c) described how 33 large UK companies communicated with their primary or core shareholders, the large UK financial institutions. The research focused on the private voluntary information flows from the investee company to the investor institution, and the eventual release of that information into the public domain. This case work revealed that meetings between private companies' fund managers focused on a very different information agenda from that employed for the public channels. The qualitative agenda included information on: the quality of management; the company's strategy and its coherence; recent changes in management and strategy and the corporate succession and management style; whether there was a supportive company climate for innovation and long term investment in productive and human assets; the flexibility of the company to technological change; the role of internal financial resources in investments; management attitudes to innovation, profitability, and the return to shareholders.

The work of Marston (1993, 1996), Holland (1995), Barker (1997), Holland and Doran (1998), Holland and Stoner (1996) and Holland (1998; 2000a) has indicated that private corporate disclosure has been the dominant means by which companies have sought to disclose qualitative information on intangibles. Holland (1998, 2000a, 2001) reveals how fund managers emphasise the significance of intangible or qualitative factors in company valuations. These studies have provided many insights into the content of disclosure. As a result, this field

research was extended to consider the role that intangible assets played in value-creation and in corporate communications to the City and investors relations. The intention was to use insights into this private disclosure behaviour to draw implications for the improved public disclosure of value-relevant information on corporate intangibles.

Outline of the report

In the next chapter, the research questions and research methods are discussed. Chapter three deals with the main results of the case interviews and archival research concerning corporate value-creation. Chapter four discusses the role of the ‘story’ or narrative as a key means to disclose qualitative information on the value-creation role of intangibles, and as a means to make ‘visible the invisible’ in value-creation. Chapter five discusses the case results on financial market changes and their impact on the case companies’ views of which information was value-relevant. Chapter six considers the policy implications.

CHAPTER TWO

RESEARCH QUESTIONS AND METHODS

This chapter outlines the detailed research questions employed in the research which were derived from the discussion in chapter one and then covers the grounded theory approach to the research.

Detailed research questions

The following research questions were examined in depth with the case companies:

- What are the core value-creation or profit drivers in the company and what are the main factors driving the share price?
- What are the major intangibles, or assets that are difficult to measure, or qualitative aspects of profit-drivers that make important contributions to share value?
- How, if at all, are these intangibles specific to a company or industry?
- How do these intangibles individually, or in combination, contribute to the value-creation process in a company?
- How are these qualitative profit-drivers or intangible assets connected in the corporate value-creation process?
- How are intangibles related to tangible, measurable assets such as physical supply, production or distribution systems, or to property, or equipment?

- What kind of risks are the intangible assets exposed to - environmental, competitive, regulatory, or any other?
- How do companies perceive that information on intangibles is used in stock market valuations?
- What information on intangibles do companies disclose? Is information about intangible assets and their risks to fund managers, analysts and the stock market disclosed *via* financial statements, announcements, internet, private meetings and other means?
- What are the problems in disclosing such information to analysts and fund managers, or through public channels?

Research methods

Given the nature of the research questions, a mixture of interviews with company managers and archival research was employed. The interviews were used to explore the nature of the information on intangibles disclosed by the case companies. The research was based on the qualitative disclosure agenda employed within a prior grounded theory model of private and public disclosure (Holland, 1998) and drew on related work by Marston (1996) and Barker (1997). The research was conducted in two parallel stages and employed different but complementary research methods in the two stages. Stage one of the research involved collecting archival data on corporate disclosure by each individual case company. The most recent financial statements, public announcements, and presentations to analysts were collected directly from the company prior to the interview. Public announcements were identified from a variety of sources, including the company itself, and the London Stock Exchange (LSE). The quality press such as the *Financial Times* and other major newspapers were also available on databases. These newspapers reported any

corporate public disclosure, as well as adding comments and revealing other information which, in part, arose from direct contact with the company concerned.

This stage provided data on topical issues to be discussed in the stage two interviews. The public data was used to identify patterns or themes in the content of public disclosure by companies. The data was used with the subsequent interview case data as a check on the views expressed in the case interview data collected in stage two. The author's 1993-94 and 1993-96 interviews with 23 out of 25 of the same companies formed a further set of archival data on the content of the private disclosure agenda (Holland 1995, 1998). The author also investigated bank-corporate issues in some of the same companies during 1986-90. This provided further insights into similar areas of private information flows and of the links between users and suppliers of debt capital (Holland 1994).

Stage two involved interviews with directors in 25 UK FTSE 250 companies (22 FTSE 100 companies) in the period April 2000 to November 2000 (see Appendix two for details). This was normally a private one-to-one meeting with a single director, but in three cases, two directors per company were interviewed. Key individuals interviewed across the sample included two chairmen, eight finance directors and 18 directors of either communications or investor relations. Twenty-three of these companies had already been extensively interviewed on broadly the same issues by the author from 1993 to 1997 (see Holland 1995, 1998a).

A seven stage approach was adopted in sifting through and processing the case data (Easterby-Smith *et al.* 1991). These stages included: (i) case familiarisation; (ii) reflection on the contents; (iii) conceptualisation of the data; (iv) cataloguing the concepts; (v) recoding the data; (vi) linking; and (vii) re-evaluating the data. During these stages the interview responses of the various subjects were compared in order to identify common themes and problems

indicating a common understanding of the value-creation and disclosure processes.

The grounded theory approach adopted here corresponded closely to the Strauss and Corbin (1990) approach and to the 'middle way' proposed by Laughlin (1995). The themes identified in corporate value-creation and in the corporate perception of the changing information needs of the market for information constituted a 'skeletal' theory. This provided a conceptual bridge between the restricted experience of the set of case companies and the many complex corporate disclosure content behaviours likely to be observed in practice. The model therefore created a new means with which to interpret and understand how complex change processes in the case companies and in the market for information affected the content of corporate disclosure.

CHAPTER THREE

CHANGES IN THE CORPORATE VALUE-CREATION PROCESS AND THE DISCLOSURE OF INFORMATION BY COMPANIES

This chapter explores how the ongoing knowledge-intensive changes in companies are creating a new agenda for the information content of corporate disclosure.

Chapter one explored how corporate value-creation processes have been altered by major changes in the global markets, in consumer preferences, in technology and from competition. In the case of the companies in this study these changes in real markets have been reflected in changes to the internal value-creation processes. These, in turn, have created a new information agenda for the case companies both for internal management purposes and for external disclosure to the capital markets.

The case company data revealed that there were three major knowledge-intensive value-creation processes emerging within the case companies: 'hierarchical' value-creation; 'horizontal' value-creation; and 'network' value-creation.

Each of these separate, but closely connected, value-creation processes is discussed in more detail in the following three sections, highlighting the specific role of intangibles in the case company value-creation processes. The fourth section explores a broader, more dynamic, case company picture of the value-creation process. The fifth section discusses the case data in the context of the relevant literature. A final section summarises the chapter in a simple model.

The hierarchical value-creation process

The hierarchical value-creation process was conducted at two closely connected levels within the case companies.

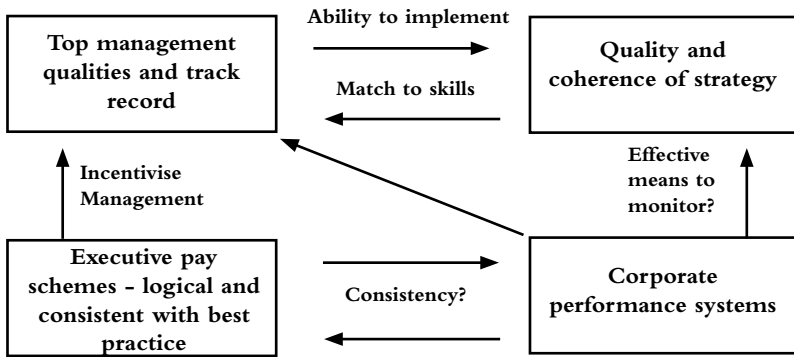
The first level involved the board, its directors and board committees as the primary internal corporate mechanisms. The board created the structural and strategic conditions for the second more operational level of hierarchical action and interaction. As a result the board selected and appointed top management, incentivised top management through executive pay schemes, and monitored them through Economic Value Added (EVA™) type performance measurement schemes. Top management in turn developed and implemented a coherent strategy and this was monitored by the board.

Hence the four main (second level) hierarchical drivers included: (i) top management qualities; (ii) coherence and credibility of strategy; (iii) management remuneration scheme; and (iv) shareholder value based corporate performance systems. The case companies identified many critical interactions between these factors as drivers of the horizontal and network value-creation processes. Thus management competencies were critical to strategy implementation and these and other related intangible assets were active drivers of corporate value creation.

The combination of these four factors, their internal matching or alignment (with each other, and with shareholder wealth aims), were critical to the case companies' ability to instill a common sense of (hierarchical) purpose and direction in the horizontal and network value-creation processes.

Figure 3.1 illustrates a small sample of potential interactions between these factors. The diagram isolates the four second level drivers from the rest of the (first level) hierarchical process involving the board.

Figure 3.1 Alignment of the four main value-drivers



The two connected levels of internal board governance and hierarchical value drivers together were the primary drivers of the horizontal and network value-creation processes. They were drivers for the rest of the value creation within the enterprise, including the tangible purchasing, production and selling operations combined with intangibles such as developing employees' human capital, R&D effectiveness, product innovation, brand power, brand management skills, financial management skills, and many others.

The case companies were very much aware that their core fund managers closely observed and sought evidence for a close alignment of these four factors and this was a key part of the disclosure agenda. This was recognised as critical to their core fund managers' confidence in top managements' qualities and their match with strategy, managerial incentives, target rates of return, and the effectiveness of the means to measure such performance and to align it with pay incentives. Clarity and agreement on these issues formed the central contract between top management and their core fund managers. As interviewee in case six (consumer) stated:

You can argue that there is a close alignment in four directions between four items. There is the human capital of the top management and their skills and abilities. There is the strategy of the company and what management is actually doing. The human qualities of management are aligned with the top management incentive schemes. All three of these are aligned with shareholder aims. They are aligned with explicit links to the key drivers of shareholder value and with us also making explicit our targets for financial performance. Therefore, you have got this four-way alignment. The matching here, or the alignment here, is also an intangible. It adds to confidence about the ability of the top management group and their abilities to be incentivised to pursue the shareholder value we have made explicit in the targets. In a way, we have established a contract between the company management and the fund managers about the strategy and how it is aligned with shareholder wealth creation. We have also established a contract about the quality of management and their ability to implement strategy. We have also established a contract about how the incentives will drive management to implement strategy and increase wealth. We, therefore, hope to be able to increase the size of the wealth pie which will be shared out between the company and the shareholders. The fund managers are much more interested in this wealth creation than the specific details of chief executive pay.

The case companies recognised that the perceived effectiveness of the board and board committee functions was seen as a core requirement by fund managers as a critical supporting factor in overseeing, monitoring, and keeping these four value-drivers aligned and on course. The case companies were aware that conformity with Cadbury, Hampel, and Greenbury were used by their core fund managers as the means to protect the wealth arising from these four aligned factors. Compliance with the combined code was used as a strategic option to change the board and/or top management if performance declined. Good corporate performance and good corporate governance systems

provided support to high quality managers for the development of a coherent strategy and the implementation of agreed incentive and performance systems. Additional supporting contextual factors included the ability of top management and the board to communicate the hierarchical element of the value-creation story internally and externally. Other factors monitored by the board included the quality of public and private disclosure mechanisms, and the quality of internal communication systems.

The case companies and core fund managers were able to benchmark these four aligned factors and their supporting qualitative factors. Benchmarking existed for some parts of the value-creation process that were less visible to fund managers, and was provided by external agents such as analysts or survey companies, and was available to both the case companies and the fund managers.

All of the above human and structural capital elements were identified as the principal drivers of the wider range of other internal human and structural capital elements to be found in the horizontal and network value-creation processes. The case companies sought to exploit the interaction between the human capital and the structural capital employed in the value-creation process. More specifically, the case companies sought to use elements of human capital, such as a coherent strategy, individual and collective competence and knowledge of board members, and top and middle 'management quality', to produce internal structural and organisational capital and to propagate this throughout the company, and to further develop middle management skills. The internal structural capital included ingredients such as novel management practices, planned management succession, a stable senior management group, a clear organisation and divisional structure, an explicit and well managed innovation process and a new product development process. The case companies tried to turn management and board human capital into external structural capital such as the ability to manage brands, to nurture good supplier

and customer relationships, resulting in high customer satisfaction and market share.

The case companies also tried to exploit the reverse interaction. They used their internal structural capital in the form of, *inter alia*, a structured strategy review process; a stable senior management team and clear organisation structure; managerial incentive schemes aligned with shareholder interests; performance measurement systems designed with shareholder interests in mind; and the innovation process as the means to lever or fully exploit boardroom skills and top and middle ‘management quality’. The case companies also used external structural capital in the form of brand names, existing market share and competitive position, supplier and customer relations to lever or fully exploit board skills and ‘management quality’.

Coherence of strategy and top management quality as intangibles at the core of hierarchical value-creation

The purpose of these value-creation processes and their desired outcomes were clarified by the case companies during their strategic analysis and planning activities. The quality and coherence of such strategic analysis, benchmarked relative to the competition, was both a key intangible in its own right, as well as being one of the major drivers of the larger value-creation process involving many other diverse intangibles.

Management quality was also a major value driver. It was a complex concept in its own right. It was a combination of personality factors such as trust, confidence, reputation and leadership, as well as the cohesiveness of management teams, successful track records an ability to deliver promises, and the responsiveness to new situations.

Strategy and management quality interacted in many ways in value-creation in the case companies. As interviewee in case four (bank) noted:

When I am asked what are the key drivers to value, especially the qualitative drivers to value, then I give the following list. It is really about, one, what is strategy seeking to do?; two do we have competent management? If you have a poor strategy with a competent management then you don't produce value. If you have competent management with a poor strategy then I am afraid there is no silk purse to be made out of pigs ears here. It is very difficult to create value under these circumstances. The key to value in terms of these qualitative factors is a combination of these two intangibles. It is also about the connections between them, the way one drives or influences the other. The way strategy is devised by competent management and the way strategy drives competent management is a two-way relationship. These connections are the means by which value is created. It is very difficult, at times, to understand what is going on in these qualitative factors and how they interact.

A critical quality of corporate strategy was the ability of top management to identify where corporate competitive advantages lay, and how the company was exploiting them and intended to exploit them, in its own unique form of value-creation. This involved identifying which intangibles and associated competitive advantages were central (now and over the planning horizon) to the horizontal and network value-creation processes. Strategy also involved selecting the benchmarks and performance indicators for the managers when managing the significant intangibles at each level of value-creation. It also involved establishing performance incentives aligned with the benchmarks, as well as ensuring the regular monitoring of progress relative to the benchmarks.

Top management's ability to externally communicate this strategic value-creation story, *via* presentations, dialogue and other means with shareholders, corporate allies, suppliers, distributors, and customers was also crucial in gaining consent and support. These issues of

communication with the financial markets and shareholders are the topics of chapters four and five.

Top management's ability to communicate this strategic value-creation story within the enterprise was identified as a primary driver of middle management and other employee human capital. Strategy was seen as a form of corporate 'glue' which held together the vision and sense of direction of many disparate operating units and divisions. In practice, very complex stories were articulated within each case company through diagrams, visuals, and words. The aim was to ensure that the company could understand and implement its own ideas on value-creation.

In terms of iteration up and down the corporate hierarchy, interviewee in case one (pharmaceutical) stated:

The Director of R&D and the chief executive drive our scientific vision, our R&D vision. This influences the scientists at various levels. This is a top down vision of R&D but clearly, in this business with so many high quality scientists there is a lot of R&D vision and scientific vision thrown up from the bottom and we, of course, make our best efforts to exploit this.

Performance measures and incentive schemes at the core of hierarchical value-creation

In the past decade there has been a rapid growth in the use of commercially available 'value based management' (VBM) measurement systems especially in large companies. These include commercial systems, such as free cash flow analysis or shareholder value analysis, all operating under similar principles. (Biddle *et al.* 1997, 1999; O'Byrne, 1996; O'Hanlon and Peasnell, 1998). For example, EVA™ is the original Value Based Management (VBM) system. It is a historical performance metric, similar to earnings but with adjustments made for the full cost of capital and known intangibles such as public disclosure on R&D,

goodwill write-offs and exceptional items (O'Hanlon and Peasnell, 1998). Given that it deals with historical increments to shareholder value it provides a diagnostic tool for the board and top management, as well as for their core fund managers and analysts. Unfortunately, like earnings, it relies on public domain information. It therefore has similar problems of low informativeness relative to explaining share prices (Biddle *et al.* 1997). Essentially, these VBM measurement systems are measuring how much additional wealth a company has created over time after a capital charge for both debt and equity. Achieving a corporate return which is only equal to the company's cost of capital is not seen as adequate in these systems.

The existence of these commercial performance measurement systems has improved the case companies' ability to assess the extent to which value has been created or destroyed, and hence to articulate wealth creation questions in strategy formulation and implementation in the corporate value-creation process. This has allowed the case companies to understand more about the strengths and weaknesses in the corporate value-creation process. Most large case companies were also in a position to use EVATM or other VBM systems internally for divisional performance and incentive schemes. They used their private information to assess where the main value-creation gains and losses had been made, and they identified the major drivers of these wealth changes. EVATM or other VBM systems were used to ask questions about how intangible or difficult-to-measure assets such as brands, product quality, relationships with suppliers, and quality of marketing management, had individually and collectively created wealth in excess of the cost of debt and the benchmark return on equity capital for that industry, company, division, or brand category.

The following quote by interviewee in case 12 (consumer) illustrates such systems in the case companies:

We have a system for assessing value-creation in the business and we use a concept of total shareholder return. This is based upon changing

share price over the period under study, say, a quarter or a year, and dividends paid. This concept is used to compare the performance of different companies in the group over time by breaking the total shareholder return down into measures of total business return at each strategic business unit or regional unit. The absolute size of our total shareholder return varies with stock markets but the relative position is a reflection of the market perception of overall performance. We calculate the total shareholder return over a three-year rolling period and this is short enough to reflect changes but long enough to smooth out short term volatility. We have set ourselves a total shareholder return target in the top third of the reference group of about twenty international consumer goods companies.

The case companies also sought to connect their executive pay schemes to their corporate performance measures. For example, the following interviewee in case 25 (insurance) illustrates this connection:

We also try to ensure that performance related rewards are aligned with these risk management aims and measures. Therefore, growth of itself does not provide a measure of performance. Growth is only seen as successful if it meets or beats the return on capital requirements given for that sector. Pay bonus incentive schemes are based on meeting or beating our cost of capital requirements, and so we align risk management and incentive schemes together in this way. We really need to show a concrete connection between the intangible which is the quality of our risk management processes and incentives schemes at top management, middle management and right down to underwriting and a concrete connection through to results.

The ‘horizontal’ value-creation process

Each case company articulated a concept or an idea of its ‘horizontal’ value-creation process consisting of input sourcing

decisions and processes, transformation decisions and processes, and output decisions and processes, or a simple process model of *input* → *process* → *output*. This value-creation process was normally conducted at middle management and employee operational levels.

Within this process the case companies exploited input intangibles such as effective supplier relations, supply chain management skills, the quality of staff training, retention and recruitment skills in identifying or buying information on new consumer needs, and skills in internally discovering, buying in, or copying new scientific and technological developments.

In the transformation processes they exploited process intangibles such as the effectiveness of R&D systems, of innovation for new products, of testing products and gaining regulatory acceptance, of patenting, of technological skills in production and product innovation, of production management, quality of industrial relations, and many others.

In terms of output, they exploited intangibles such as brand power, effectiveness of brand management, skills in buying in brands and brand management skills, of broader marketing and promotional skills, effectiveness of managing patents and their earnings, quality of distribution systems, quality of customer and distributor relationships, and the corporate track record in implementing strategy and keeping performance promises.

During horizontal value-creation they also exploited and levered middle management and employees human capital elements such as quality of new business creation skills, new product development skills, risk management skills (at the level of individual transactions and company wide), and marketing skills.

The horizontal value-creation process or model is best illustrated through two distinct examples. These quotes reveal how a narrative or story is used to connect the role of intangibles in value-creation. Once the company can articulate this story for internal management

purposes, it can adapt it for external financial communication purposes. First, interviewee in case one (pharmaceutical) stated:

Our value-creation process starts with raw discovery through a process of clinical development and regulatory approval through a process to chemical and pharmaceutical development for new products, and then to manufacture and supply and then sales and marketing of the products. As they go down this long pipeline, this chain, then obviously there is much human knowledge involved and the products in the pipeline are knowledge-intensive. In other words, the products, the individual molecules are knowledge-intensive and the way we manage this pipeline and bring the drugs to market is knowledge-intensive. Of course, when they go out into the market place we patent them and these are intangibles in terms of the value of our control or rights to this knowledge over a known period and what happens afterwards and how else we are going to maintain our position in the market place. There are many intangibles here. This company is very much a company of intangibles. These people, pipeline, patents, and product intangibles are reflected in the knowledge of individuals and also embedded in procedures in the business and they lead to explicit knowledge that you can articulate and they lead to implicit knowledge that is tacit and built into teams and the way we work. We have many thousands of scientists and these are a key source of future wealth in this business. We also have a marketing and distribution network and a global franchise. The key intangible with us is our relationship with doctors or physicians. Our salesmen have good relationships with many doctors and this is a major marketing interface. We get many of our sales through this relationship with doctors. We obviously spend a lot of time promoting our new drugs to them and trying to persuade them to prescribe them for their customers. We have tried to improve the productivity of our salesmen by giving them improved technology with PCs to trap data as to changing customer needs and doctor needs and we collect data now

at this point of sale and this has improved our productivity in terms of this relationship. This is a very important selling channel.

Second, interviewee in case nine (insurance) observed:

In insurance, so much of our traditional value-creation process involves intangibles in the wider sense. More specifically, traditional insurance sector intangibles are to do with underwriting skills, claims management skills and risk management skills across transactions and across the portfolio. The way we distribute our life, pension and other savings products is critical to the business. These include the direct salesmen route which has been cut back in recent years, the independent financial adviser channel, through the Internet and through relationships with large organisations like universities. The actuarial process is trying to estimate the likelihood of the insured risk occurring and us having to pay out. There are many assumptions built into this and this is a key intangible. So much of what you call hard data does not really exist. For example, in terms of the asbestos claims in the United States the question has to be asked, are our reserves adequate given that they are based on an informed guess at the present? Are our provisions for future contingencies adequate? Thus in our results you can see many intangibles. Then there is the traditional intermediation process by which the surplus from premiums is invested by our fund management arm. This intermediation process involves many judgements about the best type of financial investment, property investment, and short term liquid investments to meet any liabilities arising in different types of the insurance business. The success of this investment activity is an intangible that provides a major cushion against old businesses turning out to be more risky than we first thought when we underwrote it. There is also the new areas of intangibles that are coming into the business involving areas such as brand management, marketing and distribution skills. They have always existed but they have been at a very low profile and they

are now becoming very important in new underwriting and selling through the new distribution channels.'

Boundary relationships and the network value-creation process

The above hierarchical and horizontal value-creation models have emphasised knowledge-intensive value-creation processes *within the enterprise*. Management competences were critical to value-creation especially within areas of discovery, R&D, production, distribution, brand management, as well as in connecting this internal network in an effective internal value-creation process.

The case companies also sought to create many knowledge-intensive competences at the boundary of the company. This normally involved interaction with input, process, and/or output phases of the horizontal value-creation process. It involved the sharing of both tangible and intangible value drivers *via* supply, production and marketing alliances at various points in the corporate horizontal value-creation process and it also involved the sharing of intangibles with suppliers, distributors and customers along the corporate horizontal value-creation chain. For example, specific case companies employed sophisticated, cutting edge, supply chain methods, and fully exploited the emergence of new distribution channels such as the internet and telephone selling. Several case companies found that their customer data base required new methods of data collection on customer/consumer buying behaviour, and new ways of connecting this to socio-economic data. Specific case companies had sophisticated means of collecting information from customers at many different points of purchase, of warehousing and processing the data, and using it to identify novel selling opportunities. Such data mining allowed the companies to develop a deeper knowledge of customer behaviour and

relationships, and then to use it to increase the life of relationships by altering the patterns of products and services delivered.

Utility suppliers such as gas and water companies with huge customer bases were good examples of how companies could create knowledge on consumer relationships, and develop expertise on the management of such relationships. They then used these knowledge-intensive assets to exploit their 'customer hub' to sell new products outside their historical range.

Management of operating or product level brands was a critical boundary management activity with consumers and customers. Despite rapid technological change, the case companies found difficulties in maintaining product differentiation through technology alone. The low inflation environment also meant that pricing increases were difficult to pass on and pricing power was moving from manufacturers to retailers and consumers. The pricing power problem meant that the retailer case companies were enhancing their own store brands through improved product quality and price competition. Manufacturing case companies in areas such as food were also reinforcing their brands and responding through major price reductions. Trustworthy brands were being 'stretched' to invade new product categories. The case retailers were invading financial service areas occupied by case banks. The decline in price power, and the difficulties in differentiating products by technology alone, had increased the significance of brand management and of distribution systems.

All of the above case companies recognised that brands were a critical means of intangible differentiation based on differences in emotional and service preferences and on life style differences. These areas were a primary focus of in-house brand management and an important area of internal, knowledge-intensive expertise. In addition, corporate reputations, brands or identity were often managed with operating brands, and were used to buttress and to differentiate operating brands. Corporate brands and identity were also used to

improve internal communications and identity, and this was used, in turn, to ensure that the whole company was delivering the same marketing and brand messages down all distribution channels and that errors, mistakes or problems at group or product brand levels did not cause contagion problems across other operating brands or corporate reputation.

The case companies also cultivated and managed relationships with corporate allies, key suppliers, distributors of goods and customers and matched these to weak points in the internal horizontal value-creation process, especially in these boundary areas. As a result, the wider corporate value-creation processes involved extensive networks of corporate alliances, and relationships with external suppliers, distributors, and customers. Managing these networks and the set of relationships was a knowledge-intensive, key competence of enterprises in 2000. The case companies found that their fund managers sought to understand how they as companies were exploiting these relationship intangibles. For example, brand management in many of the FTSE 100 case companies was partially outsourced to the large advertising, media, and brand management companies such as WPP.

The corporate competence in managing this relationship and the division of labour was critical to companies in sectors as diverse as the oil industry, speciality chemicals and banking, especially their ability to exploit their corporate and operating brands. Other case company banks with large customer bases and internet banking or telephone banking technology teamed up with case supermarket retailers. The retailers also had large customer bases and access to customers at different times or access to different customers. These two case companies combined their own unique intangibles and created new customer relationships, to sell new products (say banking), down new channels (say the supermarket store or internet or telephone links to supermarket customers) and thus created additional value for both partners.

These boundary relationships, matching various points in the internal value-creation process, were therefore knowledge-intensive. However, in the case of critical suppliers, distributors, and customers, the case companies also sought to create additional intangible assets such as trust and confidence. They sought to use these relationship and reputation assets as a means to create stable transacting platforms that were both effective and economic in terms of costs and profits, and that also created strategic options for the future. In some of the case companies, there was little in the way of complex transformation and use of tangibles and intangibles in an internal value-creation processes. Instead, external networks were where the bulk of their business was conducted and hence where their main intangible assets were located.

The case companies were aware that their core fund managers sought to understand these network value-creation issues as much as the internal value-creation processes. As a result, the case companies also articulated a detailed network element to their disclosure story.

A larger picture of the dynamic purposeful nature of the value-creation process through time and space

A broader picture of the above value-creation processes can be developed by noting that these processes were dynamic in the sense of having strong purposeful drivers, being conducted through space and time, having complex internal interactions, being subject to many external threats and opportunities, receiving feedback from the markets, and facing extensive external benchmarking and monitoring processes. The case companies experienced iterative learning over time during these dynamic processes and this added a further reflexive component to the value-creation processes. Once these dynamic elements were understood they became another important element of the corporate value-creation story and hence of disclosure.

The explicit case company *purposes* of creating and managing the value-creation process included the generation of a wide range of promised and desired future corporate outcomes. These ranged from tangible outcomes such as desired and promised corporate financial performance and share price, high market share, and rapid growth, to a wide range of intangible outcomes such as a high reputation for goods and services, high customer confidence, and the credibility of the company in the financial and product market places. They also involved aims to achieve promised changes in the corporate value-creation process and to reposition the company in the product market place to maximise shareholder benefits.

The case companies sought to understand the *internal links* and *dynamics* in their value-creation process within the horizontal, hierarchal, and network processes. They sought to understand and manage many human and structural capital interactions within and between these processes. In all of the company cases there was considerable *iteration and interaction* between these intangibles and tangibles in the value-creation processes including:

- Within the company through the value-creation process involving interactions up and down the corporate hierarchy (hierarchal or vertical interaction);
- Within the company, through the value-creation process from input functions through process to outputs and in reverse (horizontal or process interaction);
- At the boundary of the company, in terms of its relationships with suppliers, distributors of goods, customers, and competitors (network interaction); and
- At the boundary, between the company value-creation process and communication with the stock market and City. Relationships with capital suppliers and information processors in financial

markets were particularly important ‘relationship’ contexts. (This area is addressed in chapter five as network interaction).

Once these internal links, sense of purpose, and dynamic elements were understood by the case managers and fund managers they became part of the private dialogue and hence of disclosure.

A key aspect of the disclosure story for each company and its core fund managers was the kind of competitive environment that the company was facing and how was this expected to impinge on the company’s core competences. The case companies had track records of their responsiveness to crisis events, to major detrimental competitive events, as well as their response to positive events. If they had handled difficult crises or competitive threats in the past, and could explain how they had performed, then this was the means to illustrate the responsiveness of their various corporate competences. When these events occurred, the case companies argued that they only had short ‘windows of opportunity’ to demonstrate their responsiveness due to the short attention span of analysts and some fund managers. It was therefore critical that they were in a state of readiness to deal with these events. It was also critical that they could communicate their response, and get the analysts and fund managers to accept that it was appropriate. If not, then their ‘credibility and confidence’ stock price intangibles began to suffer and were difficult to rebuild.

Time and *change* were central to the corporate understanding of the value-creation processes. Historical value-creation was compared against current activities and both were compared against future strategic aspirations and the promises that had been made concerning corporate-value-creation. The case companies and their external assessors were continuously monitoring what had changed, what was changing, what promises were made, and whether they had been kept. Hence milestones and progress over time were monitored.

Benchmarking

The case companies also *benchmarked* or responded to external benchmarking for the tangible and intangible components of their value-creation process and outcomes. These provided feedback ‘measurements’ for corporate learning and adaption, and also provided a means to measure current progress, and that expected in the near future, towards the wide set of promised or desired outcomes. Top management were aware that they were benchmarked by external observers such as fund managers. Benchmarking was conducted by comparison with sector peers, as well as by fund managers recording corporate promises and checking against them over time.

The case companies knew that their strategy was compared with competitors, and that other specific intangibles such as R&D effectiveness, brand management effectiveness, the quality of private and public disclosure, and corporate governance structures, were all assessed and externally benchmarked in some way. Much of the benchmarking was done on a sector specific, subjective and relative (not absolute measure) basis. For example, ‘quality of management’ was ranked on a subjective basis within say the oil or energy sectors. The companies also faced standardised, absolute, outcome measures for profit, EVATM, as well as sector and market relative share price performance measures. As a result, benchmarking and company responses to changes in benchmark measures were at the heart of private dialogues with fund managers and formed a central component of corporate disclosure.

The case data and relevant literature

This chapter has shown how the company cases revealed that many different kinds of knowledge-intensive intangibles were present within the hierarchical, horizontal and network value-creation processes identified in the large UK case companies. The individual intangibles

driving the major competitive advantages varied by sector and by case firms. However in total, the variety observed in the cases matched wider categories of knowledge-intensive intangibles identified in the intellectual capital literature. For example, writers such as Brooking (1997), Edvinsson and Malone (1997) and Sveiby (1997) have generally adopted a three-part framework for understanding intellectual capital. These include ideas of human capital, organisational or internal structural capital, and customer or external structural capital as the three main components of corporate intellectual capital.

Each case company's strategic value-creation story was unique and each company had its own vision of hierarchical, horizontal, and network value-creation. Nevertheless, the case data also broadly reflected the major elements of the strategic analysis literature. More specifically, the above, case derived, sub-models or common themes of the hierarchical and horizontal value-creation processes corresponded to a well established academic and managerial debate on competitive strategy and value-creation in the enterprise. This included Porter's (1980, 1985) environmental analysis and corporate value chain, as well as resource based strategies developed in the 1990s by writers such as Barney (1991). Barney's view (1991) focused on the enterprise, and the internal capability of firms to accumulate resources and skills. These were turned into a unique firm-specific advantage for value-creation that were rare, non substitutable and difficult to imitate. In this view, knowledge was regarded as a critical, if not *the* critical component in competitive advantage. Effective management of knowledge was seen as the main source of competitive advantage (Prahalad and Hamel, 1990). Companies that protected their unique knowledge from imitation or expropriation, that expanded, disseminated and exploited it internally, could both create and exploit a unique competitive advantage and resource.

Summary

The case company data revealed that there were three major knowledge-intensive value-creation processes emerging within the case companies. Very briefly, the three value-creation processes were:

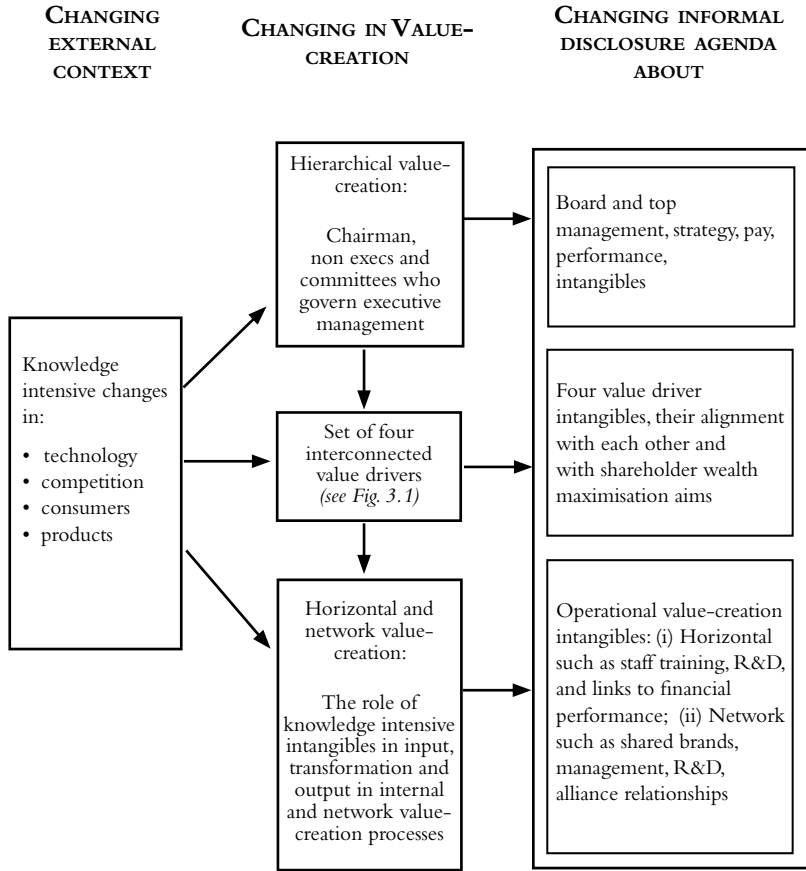
1. *Hierarchical value-creation*: This involves the internal governance and value-creation drivers. These generate the purpose, impetus, or momentum of value-creation. They include board, top management, or top-down intangibles such as the quality of directors. The board chose top management, incentivised top management through executive pay schemes, and monitored them through EVA™ type financial performance measurement schemes. These elements of the internal company governance systems were the primary drivers of the coherence of strategy, vision, and direction. These internal governance and value drivers factors together were the primary drivers of the horizontal and network value-creation processes.
2. *'Horizontal' value-creation*: This deals with a simpler process model of *input* → *process* → *output*. The 'horizontal' value-creation process consists of sourcing decisions and processes, economic transformation decisions and processes, and output decisions and processes. This involves many core tangibles and intangibles as value drivers at middle management, employee, and operational levels. These inner core intangibles contain many human and structural capital elements, both traditional and new, to the company and industry.
3. *Network value-creation*: This involves the sharing of both tangible and intangible value drivers *via* supply, production and marketing alliances which match equivalent points in the corporate horizontal value-creation process. It also involves the sharing of intangibles *via* stable transacting relationships with suppliers, distributors and customers along the corporate horizontal value-creation chain. As a result, these intangibles are mainly employed at the boundary of the firm.

Intangibles at all three levels interact to create value in terms of known cash flows from existing businesses, in terms of creating strategic options value and in growing the current business. Both the structure of the three value-creation processes and the broad classes of intangibles noted in the cases reveal a deeper structure to disclosure content in a world of intangibles. This suggests that the broad categories plus the three value-creation processes could form the structural basis of a new disclosure model.

A value-creation story (see chapter four), or narrative, connecting the three value-creation processes, appears to be the focus of much private disclosure to core fund managers in regular one-to-one meetings, normally just after the earnings announcements. This disclosure agenda can involve all the private value-creation agenda and contain information about the role of key intangibles in the three connected value-creation processes.

Figure 3.2 summarises the main points in this chapter and illustrates how these changes in real markets are changing the internal value-creation processes in companies and how these are in turn creating a new information agenda for internal management purposes and for external disclosure to capital markets.

Figure 3.2 Supply side determinants of disclosure agenda



The central section of Figure 3.2 deals with the new knowledge-intensive value-creation processes emerging within the case companies. Figure 3.2 illustrates the central role of intangibles in value-creation and outlines the three main hierarchical, horizontal, and network sub-processes to be found in the case companies value-creation process and how each of these value-creation processes produces its own information agenda.

Hierarchical value-creation produces its own unique information agenda on board level and top management intangibles. The rise of the corporate governance debate has ensured that information on the structure and composition of the board and its effectiveness have become central to the private disclosure process. Information on intangibles such as top management quality have long played a central role in such disclosure. Such categories of board, top management and value driver intangibles were common across the cases and generated a general disclosure agenda.

In contrast, horizontal value-creation processes created a unique corporate information agenda on the role of company or sector specific intangibles in knowledge-intensive corporate economic transformation processes. The input, process and output structure to this value-creation process form a common disclosure agenda, but company and sector specific intangibles often formed a unique corporate disclosure agenda. Network value-creation processes produce a similar input, process, and output information agenda to the horizontal process, but with the added dimension of how specific intangibles are shared with suppliers, joint producers, customers and other economic allies or relations.

The model outlined in Figure 3.2 was derived from the case data, and reflected many of the technological and knowledge-intensive change processes to be observed in national economies such as the UK, Germany and the US.

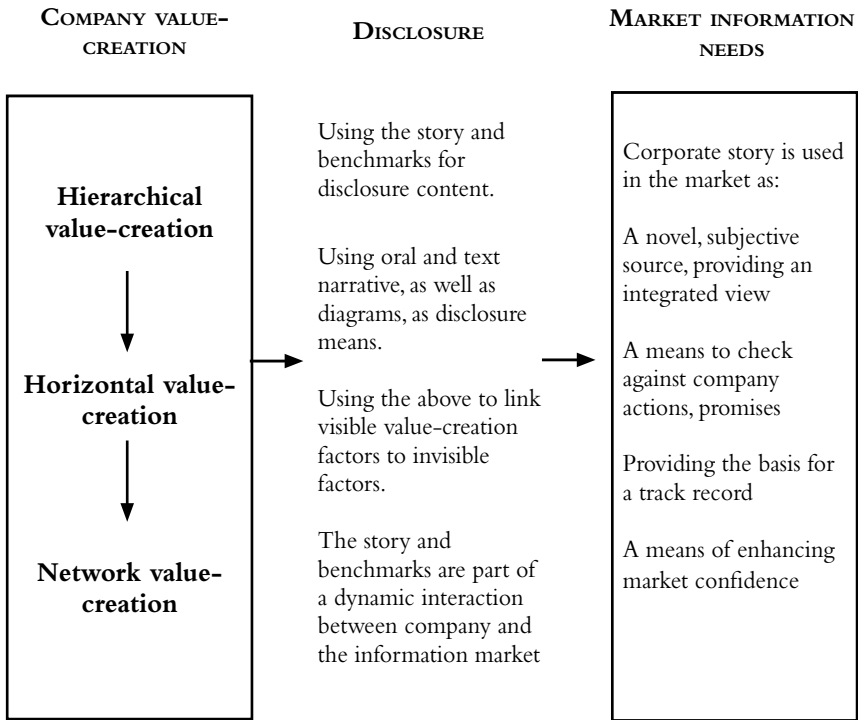
CHAPTER FOUR

THE SIGNIFICANCE OF THE STORY OF VALUE-CREATION IN PRIVATE DISCLOSURE

Chapter three considered how changes in corporate value-creation are associated in the corporate disclosure agenda. The corporate value-creation story or ‘business model’ was briefly mentioned as a key means to disclose information on difficult-to-measure intangibles. The first main section of chapter four explores the nature of the value-creation ‘story’ and associated benchmarks, and their significance as an increasingly important means to disclose much subjective information about intangibles in corporate value-creation. Figure 4.1 illustrates how the story is at the heart of a dynamic interchange process with fund managers and analysts. The value-creation story and the specific roles of key benchmarked intangibles are conveyed through a mixture of oral narrative, text, slides and diagrams. The links in the narrative and diagrams are an important means to make visible certain aspects of corporate value-creation processes that are invisible to external observers. The specific sequence and role of the benchmarked intangibles is made clear in the story narrative.

The story in turn provides the means for information market participants to gain an integrated view of value-creation over time, and are able to check the story line against corporate actions and delivered promises. This is discussed in section two. These in turn contribute to market perceptions of corporate track record and market confidence in the story. However, given its subjective nature, problems are identified with this flexible and adaptive disclosure mechanism (section three). The fourth section highlights the centrality of the story to disclosure. A final section summarises.

Figure 4.1 - The central role of the value-creation story in disclosure



The nature of value-creation stories

The main element of the story content consisted of an oral or written narrative about how each case company created value through hierarchical, horizontal, and network value-creation processes. It connected key tangible and intangible factors in each value-creation process in a succinct way. For example, it contained information about strategic purpose, experience and changes over time, the meaning of benchmarks, and about the central role of key intangibles in value-creation. It provided a narrative through time from the historical

context to the present day and the future. It provided an informed context for corporate promises and for benchmarked value-creation intangibles.

Diagrams, flowcharts, pictures and numbers were used to support the storyline. The story narrative was used to make visible the invisible or tacit content of corporate value-creation. The story was a flexible, two way, cumulative, means to communicate. It was rooted in the memory of participants and, in some cases, stored as text. It was also used as an important means to vary disclosure according to company circumstances, and to tailor disclosure to the current value-relevant criteria or fashion in security markets.

The story connected together many fragmented pieces of information that were already in the public domain, as well as adding unique insights derived from the private dialogue. It could be interpreted as a shared form of bounded rationality negotiated between the corporate story teller and core fund manager and analyst listeners. It was recognised as a superior form of communication rather than just disclosing static, unconnected information in various value-creation or intangible categories. For example, interview in case 24 (bank) noted that:

Getting our story over to the analysts and fund managers is far more difficult than showing them concrete products and processes, but it is vastly more important for our share price.'

The strategic story normally connected many of the key elements in the value-creation process. This was communicated *via* a narrative connecting hierarchical, horizontal, and network value-creation processes. Intangibles that were invisible to outside monitors, were connected *via* the story to more visible intangibles and to tangibles as well as to output and performance measures. For example, in the strategic story, the invisible quality of R&D research could be connected to the visible degree of innovation and the securing of new

patents which could in turn be connected to visible sales and profits. The track record was then observed, or made visible, by regular checks of the story against reality in the form of long-term corporate actions (increased R&D expenditure, new patents, innovation) and financial performance (earnings, eps, cash flow, and growth), and consistency with the value-creation story. There was normally a track record of five to ten years of regular story telling and eventual value-creation.

The following comments by interviewee in case one (pharmaceutical) reveals how the connections within the strategic story of value-creation were disclosed:

In terms of the analysts and the fund managers, we do explain a lot about R&D and the technical side to these people. Many of them are fairly competent in the situation. They have a good background in this field. So we will spend a lot of time talking about the product pipeline I have mentioned before. At the basic end in terms of R&D they will be interested in the productivity of R&D. What is the size of the R&D spend and what are the chances of producing a certain number of new molecules and drugs per one hundred thousand pounds of expenditure? So, the question here is what is the productivity of the basic science? They will then move along the chain and look at the productivity of the other areas. For example, at the discovery point they will want to know how good are we at picking out candidate drugs for further clinical studies but these are the simple level clinical studies. Then when we go through to clinical development and regulatory approval stage they will want to know how we manage this. How good are we at managing large clinical studies and how effective are we at getting drugs through this process and not wasting money on drugs that are not going to get through in a critical area. They will also want to know how quickly can we get such products through into production and to supply. Then, finally, how are we going to launch the product and how is it going to get to market. So, you can see that all along this chain there are questions of productivity

in terms of how well the money is spent and not wasted and there are questions of the quality of management at each point in terms of effectively pushing the product through the chain. Are they going to be feasible for the market place? This goes right through to the licensing process and the patenting process, etc.

Dynamic aspects of stories

A regular reinforcement of the story through consistent evidence *via* actions or outcomes consistent with promised strategy or performance meant that the external observers such as fund managers or competitors, could infer the existence of good quality invisible R&D research and research management skills. Recent corporate actions in the past six months or so and last period earnings were critical to maintaining current confidence in the story, and in the credibility of management. They were also critical in maintaining fund manager belief in the continued presence of high quality but invisible intangibles making a contribution to future value-creation. Value was therefore based on some idea of connections between the invisible and visible fundamentals of the company value-creation story, company responsiveness to macro and competitive conditions, reality checks using corporate actions against promises, and financial performance track record. The value of the company was normally conceived as the current output of a complex combination of these connected fundamentals in the form of current earnings, growth prospects based on a track record, and confidence factors. Hence the fund managers and analysts were normally betting against changes in an established and well checked out story on the basis of recently reinforced confidence. They were betting that the company story and information on changes would generate superior or inferior performance in companies that had some kind of credible track record. For example, interviewee in case 13 (technology) stated that:

Fund managers can put two and two together. They can observe management when they are beginning to implement strategy. They can assess their qualities and abilities to drive value-creation. They can hear their promises. They can listen to the strategic story, and assess its internal coherence, and compare it relative to competitors. Some time later they can then observe company actions consistent or inconsistent with the story, they can interpret events relative to the story, they can see if the company is keeping its promises, they can see financial performance, and they can assess if the management team have been competent in executing the strategy. All of these observations and facts can help them infer the existence of important intangibles such as technical competence, and their role in creating value through the existing business and through growth, and hence in valuing the company. If they see changes in the stock value as an output of this, and have heard us talk about the links in the story, then they can infer the existence of invisible parts of the value-creation process. If they repeatedly observe successful input and output then they expect the invisible process to work again in the future. Repeated success increases their confidence in the invisibles in the value-creation story and this plays a role in the share price. So, they work back from performance and promises that the company have made to the links in the story and develop credibility in the story as consistent events occur. Of course if they are pushed for time they may miss out the inference phase and just use the observable inputs such as management quality and strategy, and observable outputs such as strategy execution and financial performance, as their source of valuation information.

The story elements and the whole story were also benchmarked in some way. It was easier to measure and observe changes in relative, sector specific measures used with visibles such as expenditure on R&D or marketing. Invisibles were also benchmarked by observing

the company track record and story, and thus inferring that invisible intangibles were better or worse than other sector equivalents.

The above processes of story telling, of observing track records, of inferring the existence of invisibles and of benchmarking, were becoming an increasingly important constituent of disclosure for the case companies. As the intellectual capital element increased in value-creation, and as value-creation became more invisible, then the story and track record became a more critical method for overcoming the information asymmetry between company insiders and the external market.

In general, the case companies' 'story' was partially communicated through public disclosure means such as the OFR or through company web sites. However, these sources were fragmented and limited, especially with regard to management qualities and the coherence of the story. This fragmentation may have been deliberate, the result of regulatory requirements, or arising from a combination of these factors. In contrast, in the private meetings, the story was conveyed through diagrams outlining links in the value-creation process, through dialogue, and interpreted and developed through question and answer sessions. It was held together by a common 'story line' or connecting thread running through the story. The main aim here was to get over a larger, coherent picture and to explain how it changed through time.

In addition, fund managers and analysts were able to observe management in terms of 'communication action' effectiveness and this provided some insights into their internal 'decision action' effectiveness, especially if there was a track record connecting these management quality intangibles. The story of value-creation was broken down into its process and time-based elements, but the main emphasis in the story or narrative was on connections, and the wholeness or completeness of the story. This was the source of important understandings by the company and thus was a main driver of, and reflection of, strategy. The ability to articulate this story was critical to the management process

within the company. It clarified to top management why they were doing certain activities, what they were doing, and how they were conducting these value-creation activities. It provided the means to communicate the sense of mission and direction to the rest of the employees. This understanding of the story of the value-creation process was seen as central to the internal management process. It was also critical to the external disclosure process.

Problems with stories

However it should be noted that the use of the story had its problems. The following remarks by interviewee in case seven (transport) reveals how senior managers perceived that the poor quality of storytelling was the main factor adversely affecting the share price. In contrast, fund managers and analysts may have perceived poor content and execution as the main problem.

Last year, our Chief Executive was sacked despite having a good following in the City. We also lost our senior US executive under difficult personal conditions. Some parts of the City, some of the analysts and fund managers, took the view that our chairman was treating the company as a private company and not as a plc. An important executive director also resigned. These were big problems for us but we did not tell the story properly in the City. As a result, the share price dropped quite a bit. All of these changes led to many interpretations of events behind the scenes here in this business. These interpretations were made by the brokers' analysts and the media and were not based on fact. However, this did not matter because it led to quite a sharp decline in the share price. When you have an incomplete story then the analysts' and the media's perception of the story can be distorted and this is what I mean about the weakness in the way we explained about ourselves and we could have pointed out that the new finance director had been with the company for a

long time and was highly experienced. We still have the chairman at the helm and he is one of the most significant people in the industry. Our board is stable and full of quite capable people. We could also have explained that the prospects for the business were quite good under this leadership and management. We didn't quite get this story across and the focus was on some supposed dissension in the management team and the board. This was not the case and we lost out to this perception of the actual situation. This is what I mean about telling the story accurately.

The case company stories could, despite technological change, be stable over a long period of time, especially if they were supported over time by consistent performance and by delivered promises. However, in some cases the story had descended to a mythical status and remained unchallenged until major corporate problems or crises emerged. Marks & Spencer and Sainsbury were two such cases identified by the case companies. In such situations it appeared that the market for information did not check out the corporate value-creation story rigorously enough over time. In part, this was because the myth was a convenient short cut which saved research resources. It was challenged only when an event occurred which focused the attention of a large section of participants in the market for information on the 'star' company. Both companies have since returned to the success factors that underpinned their historical story.

Another example cited by the case companies was Railtrack. The privatisation process appeared to generate major organisational failure especially in terms of the massive loss of tacit knowledge, both human and structural capital, that was required to run the business. This was manifest at all levels, including top management levels, middle management and at operational levels. Many staff were shed in a major cost cutting exercise and the company sought to create many formal systems to make more explicit the implicit knowledge on railway assets, practices, and skills. During this period this company, rich in

tacit knowledge, lost many valuable knowledge-based assets concerning safety and co-ordination skills. Initially, the top executives were able to convince analysts and fund managers that they had a sound value-creation story and this contributed to rises in their share price.

However, as rail accidents occurred and the stock price fell, top-level executives of Railtrack were considered by analysts, fund managers and other case transportation companies to be ineffective in communicating the basic value-creation story of Railtrack. This story was about the provision of safe, reliable, and efficient stations and railway lines to carry trains for its train operating company customers and to thus provide the base for train travel services to the public throughout the UK. This output required the input of major engineering and maintenance skills, project management skills, management skills to ensure the ongoing effectiveness of the rail infrastructure and the development of new infrastructure, and management skills to co-ordinate train company use of the lines and stations. All of this was done within the management of the relationship with the government and the maintenance of subsidy levels.

Such a story was also the means to convey ideas about tacit knowledge and its role in this unique value-creation process. However, Railtrack were perceived as failing to communicate how tacit knowledge, such as key engineering and maintenance skills, ensured safety and high track and station utilisation. There appeared to be a major disconnection between hierarchical and horizontal value-creation processes, with top management appearing to be unaware, at times, of the nature of the business at operational levels. In addition, during 2000, other case companies argued that the fundamental value-creation story had been displaced by a detailed public discourse in which the main problem and function of the company was focused on how to manage the many disparate contractors and subcontractors, and the problems with train operating companies. The suggestion was that a new top management team could not articulate a simple and

coherent value-creation story to themselves, never mind to the market for information in the City and this clearly affected confidence in the company. The problem with the Railtrack story also reveals problems faced by analysts and fund managers in the market for information in processing such subjective information and finding alternative non company sources of information (Holland and Johanson, 2003).

Disclosure implications – the story is central

The increase in the significance of knowledge-intensive intangibles in corporate value-creation has exacerbated the information asymmetry between companies and suppliers of equity and debt capital throughout the 1990s and into the new millenium. It has played a role in the disclosure and valuation crises to be observed in financial markets in the period 1997-2003 and was creating major problems for the case companies in 2000. Under these conditions it has been difficult to articulate and disclose the information necessary for company valuation. It has also increased the scope for opportunism and bias in corporate disclosure. These possibilities reveal why the three value-creation processes are an important means to clarify the nature of corporate supplied value relevant information. They also indicate why value-creation 'stories' and benchmarking have become important means to disclose such information. The case companies were under intense pressure to bridge the information gap. The categories of intangibles, value-creation processes, stories, and benchmarks, have emerged as fragile, but necessary working solutions to these connected disclosure and valuation problems. The increasing significance of the story and of benchmarks to bridge the information gap can also be interpreted as responses to corporate value-creation complexity, and to fund manager cognitive limitations.

However, as indicated above, there have been problems with the use of corporate stories for disclosure. These problems appear to

have also been implicated in the disclosure and valuation crises to be observed in financial markets in the period 1997–2002. Chapter five shows how fragile corporate stories were during the ‘dotcom’ period of 1997–2000 as the case companies sought to adapt their value-creation story to a larger market fashion or story. The US examples of corporate failure in 2002, such as Enron and WorldCom, may also reveal how opportunities for corporate opportunism and bias have increased with the increased reliance on such subjectively based disclosure vehicles. In the UK cases, such problems were normally controlled by demand side pressures, benchmarking and constant monitoring during dynamic interaction between the case companies, fund managers and analysts. It is clear, however, that major failures can occur in the market for information, leading to demands for greater transparency and more stringent reality checks for such stories.

Summary

This chapter has revealed how the value-creation ‘story’ and associated benchmarks have become an increasingly important means to disclose subjective information about intangibles in corporate value-creation. The story and information on benchmarked intangibles were communicated through a mixture of oral narrative, text, slides, and diagrams. These mechanisms and the story narrative were the means to make visible certain invisible aspects of corporate value-creation processes. The specific sequence of benchmarked intangibles was made clear in the story narrative. The story contributed to market perceptions of corporate track record and to market confidence in the story. However, given its subjective nature, problems were identified with this flexible and adaptive disclosure mechanism.

CHAPTER FIVE

CORPORATE PERCEPTIONS OF MARKET VALUATION AND INFORMATION NEEDS AND THE EFFECT ON DISCLOSURE

The case company managers were considerably influenced by their perception of how the stock market and the market for information valued the company and how the markets defined company supplied 'value relevant information'. In particular, this influenced their view of which components of the supply side information agenda, as illustrated in chapters three and four, were relevant for corporate disclosure to capital markets. This perception had a strong effect on their disclosure policy and behaviour. As a result, a major focus of this chapter is how the case companies perceived how these markets used information categories to value companies and hence practical insights into how 'value relevant information' was perceived and how it changed.

This behaviour can be related to the concept of 'Information inductance' (Prakash and Rappaport, 1977) whereby the behavior of an individual is affected by the information (s)he is required to communicate. Prakash and Rappaport (1977) employed this concept to study behaviour in corporate social systems with reference to both internal reporting in the firm and the firm's external reporting. In this context the wider social system was the market for information including the firm as the discloser and analysts and fund managers as processors of information. Corporate managers interpreted the nature of 'value relevance' from their regular and routine interactions with powerful analysts and fund managers within this social system and this influenced their private disclosure content and behaviour.

Figure 5.1 illustrates how major external changes in the global market for information and in global capital markets contributed to this change and exacerbated the existing problems in internal information processing at various levels within analysts and fund managers. These changed information needs stimulated new questions among analysts and fund managers and these were major demand side drivers of corporate disclosure.

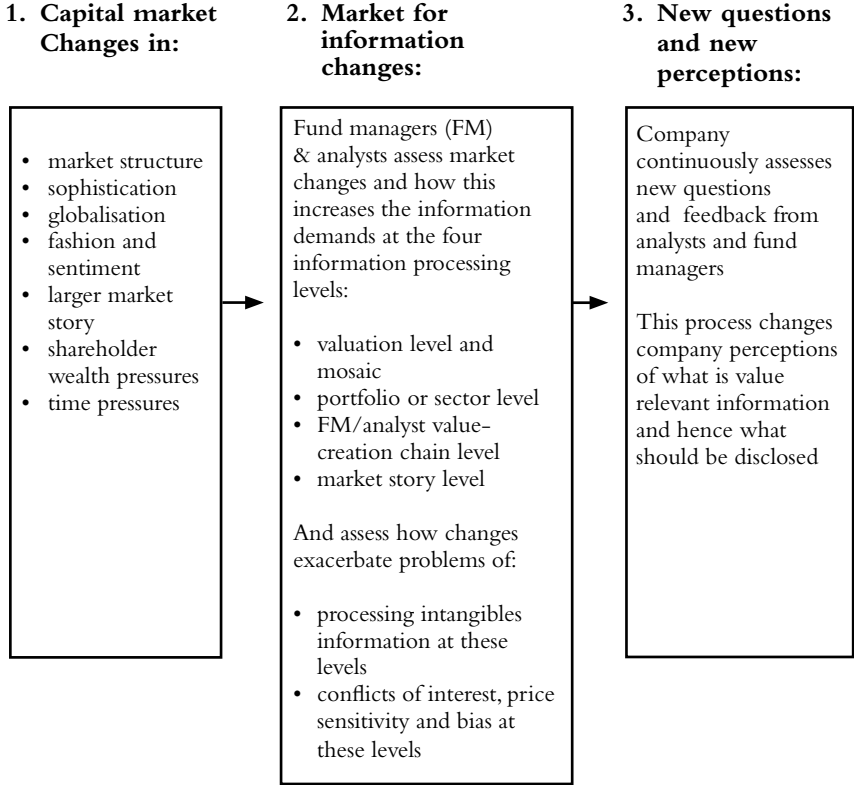
This wider market change carried problems for the analysts and fund managers in processing intangibles information within their valuation models and in their portfolio and sector decisions. These changes also contributed to increasing conflicts of interest amongst sell side analysts such as a bias in earnings estimates, and problems of disclosing and receiving price sensitive information. As a result, analysts and fund managers were asking many new questions of the case companies. These questions influenced how companies perceived value-relevant information as a sub-set of the wider corporate value-creation information set. This in turn affected corporate disclosure of information on intangibles.

This chapter includes a first section on continuous iterative feed back from the market. The second section considers problems faced by fund managers and analysts when collecting, processing, and using company sourced information on the role of intangibles, or more specifically, the knowledge-intensive sub-set of intangible assets in corporate value-creation. This information was used to create a unique picture or 'mosaic' of corporate value-creation. The processing problems are illustrated at the individual company 'mosaic' and valuation levels for both analysts and fund managers. They also arose at fund manager portfolio and analyst sectors levels, and at the level of wider fund manager and analyst internal value-creation or decision processes. In addition, care had to be taken to avoid conflicts of interest, and to avoid the release of price sensitive information concerning key variables in external valuation models.

Both the feedback processes and the problems faced by fund managers and analysts were influenced and altered by the larger change processes occurring in the market for information and in capital markets. These market changes also changed the current or ongoing tasks in the various decision levels and hence changed the contingent nature of the information demands made on the case companies.

The market changes are discussed in sections three and four. Section three deals with major changes in structure in these markets such as increased internationalisation, sophistication, and concentration of financial markets. Section four is concerned with major sea changes in market sentiment and fashion. Fashions such as the 'dotcom' experience meant that managers learnt that company supplied 'value relevant information', the corporate disclosure protocol and the corporate story were contingent on market sentiment and a larger market story on intangibles and value-creation. Section five looks at how the case companies responded, *via* changes in disclosure content and behaviour, to these changing market information needs and corporate disclosure responses. A final section summarises.

Figure 5.1 *Capital market changes (1), information market changes (2), and new questions to companies (3)*



Feedback mechanisms

Market feedback information came from two sources: the stock market; and the market for information. In the stock market, the case companies received specific feedback in terms of changes in their share price performance relative to the direct competition, the broader sector and the market, as well as information on broader changes in

market sentiment about national markets and sectors. Other market information such as relative liquidity, volume of trading and volatility of shares were also important, as well as the market weightings of companies relative to key market indices. The stock market price and other concrete numeric market feedback was often further amplified through market for information feedback from fund managers and analysts during one-to-one meetings and in the larger semi-public meetings.

In the market for information, the case companies received specific and general feedback about consensus and outlier views of the company. This was in the form of information about changing behaviour and expectations of fund managers, analysts and other participants in the market for information. This information was available in the form of changes in collective (herd) behaviour and the consensus of major fund managers and analysts concerning expected company earnings and strategic actions. It also included changes in fund manager action (trading, investing, share holding) and the behaviour and expectations of outlier fund managers and analysts concerning individual companies. The changes in the observed collective behaviour of major fund managers, for example increased stakes in high technology companies and decreased stakes in banks, provided information on the inferred consensus of these major market players. A shift in outlier fund manager behaviour, for example out of equities or oil companies and into cash, provided information on their unique expectations about all companies, sectors or specific companies. These observed actions and inferred expectations were often backed up by public statements by both 'herd' (consensus) and outlier fund managers.

Similar changes in action, behaviour and expectation could be observed in the collective and outlier behaviour of the major sell side analysts. One of the main problems with such market feedback was that, as company economic transformation processes became more knowledge-intensive and difficult to understand, then this increased

estimation problems. This appeared to increase the volatility of stock market parameters, such as expectations about value, risk, returns and liquidity, and information market parameters such as the consensus, outliers, the significance of market versus fundamentals information and hence increased the volatility of the feedback.

Problems faced by fund managers and analysts in processing corporate intellectual capital information

The case companies perceived that corporate supplied information on intangibles was used within a wide variety of fund manager and analyst decisions at ascending stock, sector, portfolio and economy contextual levels and a broad range of valuation models. The first level involved a holistic or mosaic view employed by fund managers and analysts in their valuation models of individual companies. Over time, fund managers and analysts were seen to be seeking to acquire a broadly based understanding of company supplied, intellectual capital based value-creation information. However, at any point in time it was perceived by the companies that these financial market participants only employed that fragment or part of it that fitted into the mosaic and was perceived to be price relevant and hence relevant to the current fund manager or analyst buy, hold or sell decisions or advice.

This company level information set was perceived to be placed in turn within a larger user view or level. In the case of fund managers this was a wider portfolio context and in the case of analysts a wider sector and economy context. Both of these were further set within the level of wider fund manager and analyst decision or internal value-creation processes. Finally, in both cases this information was seen to be set within a larger market 'story' or fashion concerning the role of technology and knowledge-intensive intangibles in corporate value-creation in general.

At all of these levels companies recognised that fund managers and analysts faced problems of processing corporate information on intangibles. There were also problems of conflicts of interest at these levels for information market participants arising from analysts facing pressures from corporate finance colleagues in investment banks, as well as more conventional problems of receiving price sensitive information during private meetings. These perceptions of use and problems of use altered the case companies' views of disclosure content and behaviour.

For example, at the level of valuation of individual companies, the case companies disclosed information on value-creation intangibles to their core fund managers, analysts, and other market participants. Fund managers and analysts already had spreadsheet valuation models with forecast earnings and cash flow, derived from public domain sources. The function of the private information on corporate intellectual capital was to adapt these public forecasts using unique information. As a result, qualitative data on human and structural capital were combined with publicly derived and internal sources of quantitative data to create a new basis for adapting and re-estimating financial numbers and company valuations. This was recognised by the case companies as problematic because of the subjective nature of much intellectual capital information.

Company management, in contrast, required a more stable view of the corporate value-creation process and of the associated information set. Such a view revealed the wide rift between company managers, and fund managers and analysts, as to what was relevant intellectual capital information. At times this formed a serious barrier to communication between these parties. Management 'relevant' information was relatively stable and comprehensive, covering all of the value-creation process, whereas fund manager and analyst relevant information was transient, seen as part of a mosaic of information, contingent on unique decisions and circumstances, and often quite narrowly conceived. (See Appendix One for more details.)

The critical role of analysts' access to information on corporate intangibles is indicated by the AIMR's (2001) comment on the 'sense of strategy', or as indicated in this report, the 'coherence and internal consistency of strategy':

Business strategies are often very complicated. To understand a firm's strategy and its implications takes a lot of study, a deep knowledge of the industry, the firm's position in the industry, and the position of the industry in the general economy. We do not believe that it is possible for a firm to convey a sense of its strategy to all members of the investing public at the same time. We believe that to adequately communicate the implications of a business strategy takes research, consideration, interpretation, and dialogue. This is the kind of information that can only be elicited in one-on-one discussions. We strongly believe that these discussions are critical for the eventual dissemination of that information to the public in any meaningful way. (AIMR, 2001).

Despite analysts and fund managers showing such a strong interest in intangibles, the case companies were sceptical about the information processing skills of fund managers, analysts, auditors, credit raters, financial journalists, and investment bankers, concerning company intellectual capital intensive value-creation processes and their valuation effects. During the 1997-2000 'dotcom' boom case company management experienced strong pressures from these information market participants to explain and change their strategy and value-creation processes consistent with this new technology fashion.

Since then, Enron in the US and Marconi in the UK are examples of how rapidly a change in the company value-creation processes has created systemic problems in the market for information. In both cases, the company value-creation processes switched out of a heavy use of tangibles: Enron in physical energy production, Marconi in electrical goods and services, into a perceived increased use of intangibles such

as energy trading skills, and the provision of high technology services. The changes were not fully understood by the wider information market, and they might have been partially encouraged by this market because of a widely shared belief in the benefits of technology and of a 'dotcom' strategy during 1997-2000. Indeed this report suggests that much of the information and valuation crisis in world stock markets over the period 1997-2002 can be traced to the changing company value-creation processes, the high significance of knowledge-intensive intangibles in such changes, and the difficulties faced by companies, analysts, fund managers and other information market participants in creating reliable intangible information-bases and information-processes for corporate valuations.

Valuation models used by analysts, especially sell side analysts

The case companies also observed the actual valuation models that analysts were using within the mosaic approach. These ranged from very quantitative and detailed analyst model builders to more judgmental analysts who used broader, qualitative, story level information to adjust simpler spreadsheet valuation models to determine the price (P) of shares. The analytic model builders used extensive spreadsheet models to generate a range of earnings estimates before and after tax and depreciation. For example earnings included earnings before interest taxes and depreciation (EBITDA) and this was used as proxy measure for cash flow. Earnings also included earnings before interest, and taxes (EBIT) or net earnings (E). They then used an elaborate set of ratios such as P:E, P:EBIT, P:EBITDA for actual valuation. There was a strong emphasis on the use of heuristics or 'rules of thumb' in valuation and the use of market relative methods of valuation. In a few cases discounted cash flow (DCF) valuation methods were used for valuation. As noted above, these analytic model builders were also very interested in the qualitative information on value-creation drivers

and they used this to alter their existing estimates of specific variables in their spreadsheets.

The case companies observed that a wide range of models were in use for any one company, by different market participants and that market-relative models were preferred over absolute (company specific) models, and that a variety of qualitative and quantitative valuation styles were also employed, even within the same fund management teams. The use of these valuation models appeared 'elastic' in the sense that the models provided a veneer of objectivity to a highly subjective process. The sell side analyst was perceived as fickle, subject to fashion biased and faced conflicts of interests. As interviewee in case 14 (retail) noted:

The analysts vary quite a bit. Some of them have very numbers based models and they just want to tick particular variables. Others, at the other end of the spectrum, deal with gut feelings and this dominates the way that they look at the world. Despite the variation in analysts models, they contain two common elements. First of all, they value the company on existing earnings, cash flows and risk and they then add on the extra value from our future growth potential. They can develop precise numbers for our existing business but they have to make a lot of blue-sky guesses for the growth options being created in the business. A large element of growth deals with the intangibles such as do they believe the company story and plans. So, the critical variables here are: the management quality; the record to date; and the ability of the management to deliver promises. Eventual numbers here in terms of actual performance are critical. They provide feedback on the credibility of the story. The brokers' analysts and the fund managers may not necessarily make links between intangibles, tangibles and financial effects. They may not formally model these. They may, in fact, use their view of management confidence and credibility as a short cut. If they believe the story we are talking about and it makes sense relative to the competition then they will use this to tweak their P:E relatives and be more optimistic in them.

In other words, they will miss out the intervening logic about how we create value and go straight to their P:E models and this is how many of these intangibles do get into the share price.'

Disclosure implications

The case companies perceived that fund managers and analysts faced problems in using relevant fragments of corporate intellectual capital information within their mosaic or 'jigsaw' information processing activities. Such information was also used within a broad range of valuation models. Chapter four has shown how the value-creation story as a disclosure mechanism is a joint construction of both the case companies and of the information market participants. It provides the means to disclose information on qualitative factors or the intangibles that are driving value. It provides a coherent means to tie together this information in a broader picture and to assess the impact on corporate valuations and provides a means to check corporate promises against reality. It does not overcome the problems of processing intellectual capital information, but it does provide the means to create and test such information.

However, company case managers cannot legally provide the precise piece of information missing from an individual sell side or buy side analyst's model. This is because it could be price sensitive information. However, the companies can deduce from the probing by fund managers and analysts over many periods what general categories of value-relevant information are useful to a wide body of market users. As indicated above, much of these information categories have to do with intangibles, their role in value-creation, and the corporate advantages arising from specific intangibles and recent changes. The case companies perceive that understanding and disclosing the types of information affecting their company valuation was more important than understanding the detailed nature of the changing, varied valuation

models and very narrowly focused accounting models used by external assessors.

Changes in the structure of the market for information

Market feedback to the case companies began to change with changes in the market for information. The structure of the UK segment of the global market for information in 2000 and 2001 was recognised by the case companies as quite different from its form a decade before.

Internationalisation had occurred in this market in response to the growing integration of world financial and real markets. The increasing concentration of corporate ownership by fund managers and the increased demand for equity investments were both encouraged, *inter alia*, by the increasing aging population in the UK, Germany, Japan, US and elsewhere in the OECD countries. The demand for equity investment may have fallen somewhat since 2000, but given the need for pension fund assets, fund manager growth in assets under management and the increasing concentration of ownership is likely to continue over the next decade. Internationalisation and the growing size of fund managers had also played a role in creating a strong international dimension to security broking houses and their sell side analysts.

The growth in size of both fund managers and brokerage houses has also coincided with economies of scale in the buy side and sell side research and analysis functions, and this in turn has increased the concentration and sophistication of the information market. As a result in London, large FTSE 100 and FTSE 250 case companies increasingly find that their sell side analysts are reorganising around European, if not global, sectors or industries. The change in sector focus means that the largest UK companies are being benchmarked in London against their EU and possibly global competitors as noted by interviewee in case 18 (consumer):

There have now been big changes with European fund managers now looking at European sectors and us being one of several branded consumer goods companies in Europe. There has also been the globalisation of fund managers and some of them are now looking right across the globe in terms of which branded consumer goods companies they have in their portfolio. We now also have managers investing in the company from the United States and from the European Union other than the UK and we have some fund managers from Asia and the Far East. These kind of global changes in Europe and global markets and big investors from overseas have had a big impact on us. There is much more of a demand from fund managers for information from us. We find the UK and European Union fund managers are becoming more like the US fund managers. The demand for information is levelling out across these countries and moving towards US standards. We think the expertise of the internal analysts in the fund managers is increasing and they and the fund managers are becoming more influential. This is because the increase in size of the fund management groups means they are getting internal economies of scale in internal research. We think the brokers' analysts are becoming less influential. There are major conflicts of interest here when they are part of a large broking house and when mergers and acquisition activity come along there are real conflicts. The brokers' analysts are more sounding boards now than helping fund managers with buy and sell decisions.'

Problems of bias in the market for information

In addition, the emergence of securitisation and the integration of investment and commercial banking has placed the sell side analyst within a larger financial conglomerate, in which many other commercial and investment banking functions also co-exist. These functions have multiple relationships with companies involving

information collection and financial transactions. This has created strong incentives for sell side analysts to work closely with other bank functions dealing with securities especially when exploiting relationship information. Misuse of the latter is controlled by insider dealing law, but the wider range of conglomerate and company relationships has created many opportunities for conflicts of interest. It has also made sell side analysts more wary of undermining other functions in the conglomerate.

The bulk of London brokerage houses dealing with the case companies were part of such larger financial conglomerates, including investment banking and fund manager arms. The investment banking arms were heavily involved in the stock underwriting and debt offerings for client companies. The fund manager arms of these conglomerates were also likely to have such stocks on their 'preferred' investment lists (Shaikh, 2000).

One effect of this change was that, in some cases, the sell side analyst-company relationship effectively merged with the investment banker-company relationship. This increased the quality of private company information to the sell side analyst and hence improved their understanding of the company. This combined with the increased sophistication of analyst training by increased adoption of AIMR qualifications, and the increased scale of research functions in large brokers. As a result, the case companies perceived that the role of sell side analysts in providing detailed, sector or company specific reports and other processed information to fund managers was enhanced. However, their roles in providing unbiased earnings forecasts and unbiased buy/hold/sell recommendations to fund managers were diminished (Shaikh, 2000). The latter roles were only likely to survive in those sell side analysts who could demonstrate that they were not just the optimistic mouthpiece of the company or of their own investment banking arm. Similar issues of analyst behaviour were to be observed in New York over the same 1997-2000 period (Morgensen, 2001).

The FSA recognised in 2002 that given the different internal incentives faced by analysts many potential conflicts of interest arise in terms of the release of information. The FSA (2002) comments:

These other functions can give the analysts diverse incentives and the interests of retail investors are likely to be forgotten. In addition there are the conventional (agency) possibilities of bias and opportunism in the production of public domain 'information'.

Fund managers have also responded to such sell side bias with greater scepticism, and this situation increased their incentive to internalise the analyst function and to rely on a smaller number of core external analysts who avoided such pressures from other parts of their financial conglomerate. In practice, the larger the fund manager, the more they concentrated on their own internal research function and exploited internal economies of scale in research, and the less dependent they became on these external sources for company valuation and for buy/sell recommendations. However, the improved information provision and research reporting roles of the sell side analyst were still very useful in checking or confirming internal research.

Increasing sophistication

An insight into the pressure for increased analyst sophistication has been the decision by the UK analysts (sell and buy side) body, the IIMR, in 2000, to accept the US AIMR standards and exams for their professional qualifications. However, such sophistication also depends on the scale of the analyst and fund manager research activity and how this matches the corporate scale and complexity, as interviewee in case five (oil) explained:

Very few fund managers are informed enough to distinguish between the top oil companies. Maybe the top five to ten investment fund managers can do this. They are really the only people who have the

research resources and the time to look at big complex companies like us. The top ten companies are going to be very big and very complex and only the top ten fund managers will know enough about them. Maybe there is something similar in the top one hundred companies whereby they are matched by the top fifty fund managers who only really have the expertise to understand these companies. Even there the top fifty fund managers will not know them in depth. The rest of the hierarchy here is that most of the analysts focus on the FTSE 100 and they will specialise on a sector level basis and provide this information to smaller fund managers. So, as you go down the hierarchy the next two hundred fund managers outside the top fifty will not have these resources and will almost rely entirely on the analysts focusing on the FTSE 100. So we see this breakdown of information capabilities, research and understanding capabilities and reliance on internal versus external resources amongst the fund managers. This clearly affects their ability to understand these businesses, especially the intangibles side of the business.'

New structures and increasing shareholder wealth pressures

Thus the 1990s saw an increased size and international dimension to the London based market for information and to its major fund manager, sell side analyst, and media elements. This encouraged the case companies to focus their communications on their core group of say top 20 to 30 fund managers owning the majority of shares, and the top tier of well informed analysts and brokerage houses within their sector. A matching concentration of effort (and economy) has emerged on the supply side as well as the demand side of the market for information. As a result, a 'wholesale market' for information has emerged whereby the top 250 companies are matched across the market by the top 100 fund managers by size, and the top six broking houses by size. This market for information has become even more concentrated

on the demand side within the FTSE100 group of companies. This high capitalisation sector of the market sees the heaviest investment in analyst functions, both sell side in the brokers and buy side in the large fund managers. The top 50 fund managers by size now also make extensive use of direct contact with FTSE 100 companies. Each of the case companies could have up to 100 or more one-to-one meetings with their core fund managers within a year.

The growing concentration of the fund managers has seen them using their power to secure direct access to the case companies when required, to further amplify and focus stock market price feedback signals, and to require companies to think in terms of shareholder wealth creation terms. The development of commercial value-based corporate performance systems has enhanced their ability to do this.

Implications for disclosure

The changes in the structure of the market for information and in particular the two tier structure in the wholesale end of the market have had major implications for corporate voluntary disclosure. Compared to the previous decade, the case companies face a more sophisticated, more influential, more European-wide and global, and more probing market for information. This has resulted in a more sophisticated and informed performance and disclosure standard for the case companies. As a result, the 'value relevant' information set, especially information on the role of intangibles in the corporate value-creation story, is now more sophisticated than it had been in the early 1990s. The case companies have responded by professionalising their financial communication functions, by improving market access to key company decision makers, by ensuring that the information disclosed is related to shareholder wealth concerns and is more substantive in terms of value-creation processes, and by targeting their disclosures to a core group of fund managers and analysts.

The case companies also recognise that their sophisticated core fund managers and the wider stock market will see through a purely opportunistic and biased disclosure policy. They expect a negative price feedback to such company behaviour indicating a lower credibility level of private disclosure. As a result, most sophisticated finance directors and senior executives in the case companies recognise that they need to have disclosure relationships with sell side analysts and corporate brokers that enhance their private disclosure credibility and do not undermine it. Such reputational effects are also thought likely to affect analysts and brokers as well. This may have acted as a constraint on biased disclosure behaviour. However, the 'dotcom' period seemed to suggest otherwise at certain times.

Placing the corporate story within the market story

The period 1997-2000 saw major changes in stock market sentiment concerning 'dotcom' companies and high technology companies. The resulting stock price boom of 1997-2000 and its subsequent collapse in March 2000 affected the way fund managers viewed their portfolio of 'old' and 'new' stocks, and had major implications for the way the case companies understood and communicated information about their value-creation processes. More specifically, the 'dotcom' and technology 'bubble' created many valuation problems for fund managers, and many strategy and disclosure problems for the case companies. This was much commented on during the company interviews, as described by interviewee in case four (bank):

There is an element of fashion in the stock market and it could be argued that the high volatility at present is not justified. The fashion for Internet and technology stocks was very active up until January and then collapsed in March [2000]. Now this kind of change in the stock market is not justified by changes in our real business and its cash flows. This must make it very difficult for savers who must

wonder what is going on as they see their investments going up and down in such a volatile way. The valuation of intangibles and qualitative factors is subject to this larger volatility in the market and the fashion to the market. It just makes you wonder what kind of information has been employed in valuations if such volatility can be so effective in dropping our share price when there has been no substantial change in the fundamentals of this business. This shows you how difficult it is to conceptualise what these intangible factors might be and how they play a role in share prices. It is very difficult to understand how the confidence factors are connected. All these things make it very difficult for the analysts to guess who is likely to be the winner or the loser in a particular market place and who has the right combination of management quality, brands and technology to grab the cash flows. This all makes for a volatile share price.'

Corporate perceptions of current market sentiment and fashions in valuing companies were critical to corporate concepts of value-creation and to subsequent disclosure behaviour. The case companies were well established, mature, large UK companies and hence generally fell into the 'old economy' category. However, certain pharmaceutical and telecoms companies in the sample, had internet and high technology elements to their value-creation process and hence were perceived to have 'new economy' components to their stock price during 1997-2000.

The case companies argued that this period of market volatility appeared to have been driven by a combination of real company factors and financial system factors. These included the growth in pension saving in major OECD countries, and the development of increasingly knowledge-intensive and intangibles-based value-creation processes in companies, and the related development of radical ideas about the emergence of a 'new economy'. This combined with the existing behaviour and incentives in financial and information markets. The latter included the very strong sensitivity of fund managers to

information on changes in concrete numeric market data such as stock market prices (overall market, sector, and company), as well as to information on changes in trading volumes and liquidity. Fund managers were also very sensitive to information about consensus and outlier views of the company to be observed or inferred in the collective behaviour of participants in the market for information.

Another important factor was the desire of pension funds and insurance based fund managers to remain close to stock market weightings for company stocks and their preference for staying close to the overall market index (*quasi* indexing). Fund managers also faced intense performance pressures to produce better than benchmark returns. Dramatic stock market changes (as during 1997–2000) and institutional performance considerations became the major drivers of the majority of fund manager decisions at stock, sector, and portfolio wide levels, and became far more important than company and information market derived information on the fundamentals of value-creation. Very few fund managers tried to take decisions counter to these market changes and to act as exceptions or outliers from the ‘herd’ consensus or adopt contrarian strategies.

Analysts also faced pressures to help their investment bankers make profits out of the ‘dotcom’ boom and create new income to further cover the cost of such analysts ‘research’. Elements of the financial media also had a strong interest in reporting the new economy phenomena and to focus on its ‘newsworthy’ extremes rather than to focus on relatively mundane but profitable business stories in the old economy. Shiller (2000) argued that there were similar factors at work in the US.

From the perspective of the case companies, in the old economy stocks there was normally a track record (five to ten years) of regular value-creation, of private and public story telling about the current story, and regular checks against reality in the form of long-term corporate

actions and financial performance (earnings, EPS, cash flow, and actual growth in these), both consistent with the value-creation story.

Value, as seen by the case companies, was therefore based on a conventional disclosure protocol that allowed connections to be made between the fundamentals of the company value-creation story, company responsiveness to macro and competitive conditions, reality checks against corporate actions, and the financial performance track record. The value of the company was normally conceived as the current output of a complex combination of these connected fundamentals in the form of current earnings, growth prospects based on a company value-creation story, track record, and confidence factors. The fund managers and analysts were normally thought to be betting against changes in an established and well checked out story on the basis of recently reinforced confidence.

However by 1997 a new kind of betting emerged in world stock markets. This speculative betting was based on radical ideas about the emergence of a 'new economy'. The latter included ideas about the internet as a global phenomenon, new ways of using the internet to advertise, to sell, and to transact, the union of computers and telecommunications, and the fusion of video, voice and data communication. The expected penetration of the home as well as business by these developments, had generated many radical ideas about how companies were expected to create value in the decades ahead.

This was the 'big idea' or market wide value-creation story that had an impact on market perceptions of the future trajectory of both old and new economy companies. In the case of the 'old economy' companies, the companies had solid track records of performance and of making and keeping many promises. From the 'old economy' case company view little had actually changed in 1997-2000 in terms of company and sector level fundamentals, and current cash flows and earnings were unaffected by the 'dotcom' euphoria. However their 1997-2000 value-creation stories did not have strong internet and new

technology elements (with the exception of two or three technology oriented companies) and their basic value-creation story, especially the role of their technology and their intangibles, was being challenged by new economy debate. In the case of the 'new economy' (non case) companies, the companies had no track records of performance or of keeping many promises. However their 1997-2000 value-creation stories had very strong internet and new technology elements and were consistent with, and were driving the larger 'big idea' debate or market wide idea of a value-creation story. In addition, the dramatic shifts in productivity improvements, arising from the big idea, were expected to be of such a scale that the new economy companies could overcome the business cycle of booms and recession.

It appears that the market assessed the balance of probabilities for the old and new economy company companies and came down very strongly in favour of the new economy companies. This suggests that the uncertainty created by the 'big idea' or the larger market story, and the absence of internet and new technology elements, created high uncertainty about old economy companies, their value-creation stories, and the role of their technology and their knowledge-intensive intangibles.

In contrast, the uncertainty about new economy (non case) companies was moderated by the match between their value-creation stories and the 'big idea', and historical track records were seen as irrelevant in this kind of uncertainty. This reveals how fragile long established value-creation stories and their associated credibility and performance track records were in a period of economic uncertainty, and how conventional private disclosure protocols based on these elements could be ignored as noted by interviewee in case 14 (retail):

There has been the 'dotcom' effect, of course, in the last year and there has been some irrational valuation criteria being used in the United Kingdom. There was considerable hype about the new economy and a new paradigm for business. However, reality is now biting in. Real

business principles have to apply to these 'dotcom' businesses. Can they grow the business? Can they manage the cash flows when they are generated? Do they have the management skills to maintain the business and keep creating value? I think that these are questions being asked about these companies and they have been shown wanting. Of course, if you ask the same questions here you get very positive answers. This is what a track record is about, connecting up a vision, a story, with actual performance. That performance can be in terms of opening the stores on time at the right capacity. That performance can be about ensuring that stores within a country are profitable on time. It can also be about group profitability reflecting group strategy. So there are many reality checks on the story through time. Every time our story has been checked out by reality, it has worked.

What were the implications of the above stock market behaviour for corporate value-creation and disclosure behaviour?

During 1997 to 2000 the market effectively had lost interest in those old economy companies with long term and credible value-creation stories and with good records of financial performance as measured by earnings. As a result, at specific moments of high turbulence in this period, the existence of 'dotcom' and technology stock fashions and sentiment made corporate disclosure of fundamentals on the corporate value-creation process appear, at times, quite irrelevant to corporate valuation.

The case companies learnt during this 1997-2000 period that the new economy value-creation story dominated the old economy value-creation story, despite the lack of any supporting evidence. New information on stock price changes dominated fund manager thinking. The market abandoned information on corporate fundamentals and with it the conventional disclosure protocol. The companies recognised how fragile their long established value-creation stories, benchmarks,

credibility, and track records were when a dramatic switch in market fashion and sentiment occurred.

Despite this, during these periods of stock market change and volatility, the case companies sought to continue communicating their basic value-creation message in the hope of alleviating the worst effects of such sentiment, in showing that the company was responsive to or unaffected by the new valuation fashions, and to ensure that it had ready listeners for its story when the market 'storm' was over. Fund managers still actively engaged the case companies in dialogue on this value-creation story but information on such fundamentals did not appear to be an important driver of old economy company stock prices.

The market debate about valuation eventually turned back to the old economy stocks and their value-creation processes by April 2000. The old economy companies found that their story of fundamentals and their track record had again become centre stage in market valuation and they were now more attractive to fund managers. As a result their persistence paid off. They survived the 'dotcom' episode, and fund managers and analysts returned to the conventional disclosure protocol, as company fundamentals became fashionable again. In addition, their combination of coherent story telling, plus track record in keeping promises, plus performance, plus persistence, all paid off in the longer term, as the market re-recognised the significance of the established disclosure protocol.

However, the presence of 'dotcom' and high technology stocks in the FTSE 100 during 1997-2000 meant that the assumptions associated with these businesses were on the private and public agenda. This pressure forced the bulk of the case companies to rethink their strategies in line with the new ideas on value-creation. They faced constant pressure from the market for information to show that their new value-creation story included an internet and new technology element. As a result, new technology, the internet, and associated

changes in strategy were firmly placed on the old economy companies' private disclosure agenda.

This further twist and shift in the private dialogue and in the role of knowledge-intensive intangible assets reveals the significance of the two key contexts, of the wider information market dialogue and of stock market sentiment, on the company story. These were the key contexts within which corporate disclosure was set and both of these could also influence corporate value-creation behaviour. This was a good example of how the company value-creation story was, in part, negotiated between the company and participants in the market for information and the stock market. Of course, innovation within the firm, and changes in consumer behaviour and competitive markets were also primary drivers of this value-creation story.

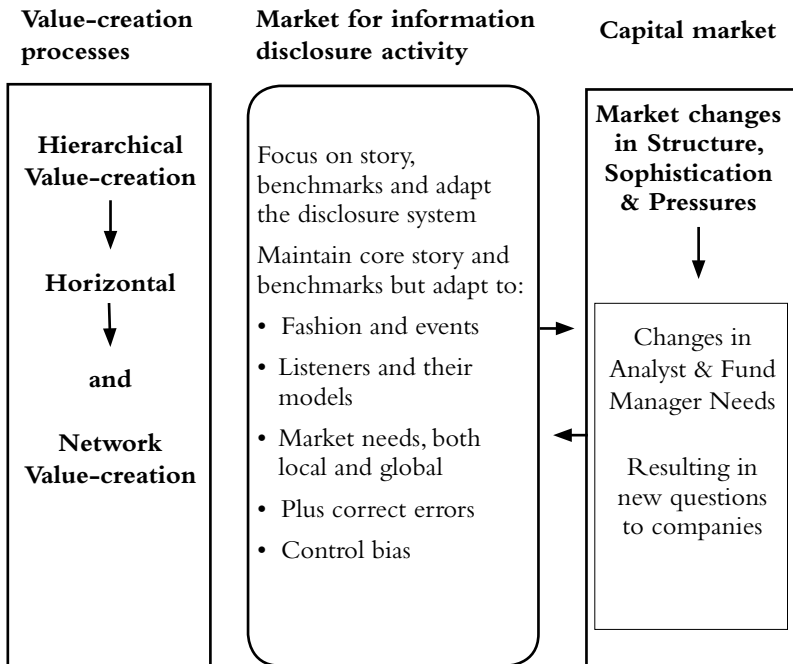
Corporate responses to market changes

Figure 5.2 extends Figure 5.1 to illustrate (in the centre of the diagram) how the case companies dealt with changing market information needs and how they made various corporate disclosure responses to these changes and to the ongoing change process.

The case companies could understand the larger change processes occurring in financial markets, but found it difficult at times to understand how this impinged on the use of corporate information at the various decision levels of fund managers and analysts. Indeed, they faced general problems of understanding how these market participants understood and used company supplied information at these fund manager and analyst decision levels. These larger market level changes were thought to alter fund manager and analysts' ongoing tasks and information needs in unknown ways, but these changes were explicitly manifest in the changing diet of questions posed by fund managers and analysts during the private one-to-one meetings with the case companies.

These in turn changed the case companies’ perceptions of what was value-relevant information, especially in the area of intangibles and their contribution to value. In addition, the financial change process taught the case companies to develop a high degree of disclosure (content) responsiveness to this changing set of questions about corporate value-creation and its impact on the share price. In particular, the current market story or fashion for the role of intangibles in value-creation was recognised as a critical context for disclosure and for changing disclosure content.

Figure 5.2 Changes in disclosure behaviour and content



As a result, the extent to which such company side ‘fundamental’ information was used in valuation was perceived as contingent on changing user decision needs. It was also perceived as transient, subject to fashion, and to changes in the processing sophistication and structure of the market for informati

A number of points emerge from these observations. First, this study has noted the changing structure of the market for information in terms of: (i) greater concentration; (ii) the larger size of fund managers and broking houses; (iii) the potential for bias in external analysts working within financial conglomerates; (iv) the internalisation of analyst functions within fund managers; and (v) greater internationalisation and sophistication of these main participants in the market for information. This, in turn, influenced the case companies in terms of who they prioritised their private contacts with, who they preferentially disclosed information to, who they told their value-creation story to, and how they disclosed information on intangibles down specific channels. This also encouraged case companies to improve the sophistication of their own financial communications function. Their core nucleus of fund managers and analysts, set within a concentrated (wholesale) market for information, formed primary channels for private disclosure and concentrated and clarified the feedback signals from markets. The changes also altered their perceptions of possible bias and conflicts of interest in the market for information.

Second, continuous feedback from the market for information determined the case companies’ views of what kind of company supplied information was likely to be shareholder value relevant to the stock market. The case companies perceived that the market used similar categories of company level information to those identified in chapter three, such as common categories of intangibles and information on the three connected value-creation processes. It may not be coincidental that long term interactions between the companies and fund managers and analysts may have jointly determined this agenda.

Clarity in disclosure of the company story and the role of intangibles was considered to be the best means to overcome the analyst and fund manager problems noted with processing such information.

Third, feedback from the market also encouraged corporate learning about appropriate disclosure mechanisms. In particular this highlighted the importance of:

- A company story or narrative connecting the three value-creation processes of hierarchical, horizontal and network, and revealing the connected role of key intangibles within each process (chapter four);
- How the company story related to larger market fashions or stories about corporate value-creation such as during the 'dotcom' period;
- Supporting benchmark information for key intangibles in the company story;
- How the story and benchmarking were key means to help fund managers and analysts overcome the information asymmetry and processing problems associated with intellectual capital or intangible assets information; and
- Taking considerable care during disclosure to deal with perceived conflicts of interest within analyst functions, especially the release of price sensitive information.

The market determined value-relevant information set dominated disclosure demands on a minute by minute basis but the corporate determined value-creation information set was important to disclosure over a longer period. As a result, the corporate value-creation story and relative benchmarks were recognised as key adaptive and flexible means to tie together these different views of information. They provided mechanisms to both disclose the central and continuing (core)

company value-creation story and to adapt it to current circumstances and to the larger market fashions and the story.

Fourth, the case companies learnt that they had to build in a high degree of flexibility and responsiveness to the story, including benchmarks, protocol, and other disclosure content and behaviour elements. These were therefore designed to be very adaptive to changing circumstances, both in real markets and in financial markets. All of these sources of information were adapted and adjusted to various market pressures and demands especially the larger (current) market story on the role of intangibles in value-creation.

In particular the corporate disclosure of intangibles and value-creation information was adjusted to the following needs or problems expressed at two levels:

- Fund manager, analyst and company level:
 - respond to the variety of user valuation models, and their mosaic approach;
 - recognise that company information was used within a larger user sector/portfolio context, and within a larger fund manager or analyst value-creation process;
 - overcome individual user problems with intellectual capital information;
 - control company bias for optimism;
 - avoid manipulation by perceived conflicts of interest of analysts; and
 - correct perceived biases and errors amongst sell side analysts and fund managers, especially in analyst reports and forecasts, and in fund managers' private understandings.

- Overall market level (often *via* above):
 - satisfy the increasing demand for shareholder wealth oriented information;
 - respond to higher levels of user sophistication;
 - reflect and respond to current stock market and information market fashions especially the larger (current) market story on the role of intangibles in value-creation;
 - reflect current corporate and competitive circumstances and events;
 - secure credibility for disclosure, and the general confidence of the market; and
 - match the nature and needs of the global market place for information with local variations.

Hence the actual disclosure content by the case companies was determined by a mixture of supply side and demand side factors. On the supply side the increasingly knowledge-intensive value-creation processes were creating a new information agenda about corporate economic processes. On the demand side, new pressures and developments were altering market demands for value relevant information, especially the current market story or fashion on the role of intangibles in value-creation. Both sources of change revealed problems with conventional disclosure vehicles such as the financial report. Both encouraged the use of subjective, adaptive disclosure mechanisms such as the corporate value-creation story and relative benchmarking. Both supply and demand side pressures revealed the need for the creation of adaptive corporate information systems. These were organised around the information categories and disclosure mechanisms identified above. They included responsive and adaptive components to disclosure content and behaviour, and to internal functions such as investor relations.

Summary

This chapter illustrates how internal factors within analysts and fund managers, and external changes in the market for information, were major demand side drivers of corporate disclosure.

The case companies perceived that information supplied by them on their intangibles and value-creation was used within a wide variety of fund manager and analyst decisions at ascending stock, sector, portfolio and economy contextual levels. Fragments of such information were used within mosaic-based valuation models and at other levels. At all of these levels companies perceived that fund managers and analysts faced problems of processing corporate information on intangibles, as well as problems of conflicts of interest and of receiving price-sensitive information.

The increasing sophistication, globalisation, and concentration of financial markets and of the market for information were changing analyst and fund manager information demands on companies. Unanticipated changes in market fashions, sentiment, and growing shareholder pressures in these markets were having similar effects. The case companies noted that this wide range of market level changes changed the current or ongoing tasks in the various decision levels above and hence changed the contingent nature of information demands made on the case companies. In particular, the wider markets' change exacerbated the problems analysts and fund managers faced in processing intangibles information within their valuation and other portfolio level and sector decisions. These changes also contributed to increasing problems of conflict of interest amongst analysts, and problems of disclosing and receiving price-sensitive information.

As a result, analysts and fund managers were asking many new questions of the case companies. These questions influenced how companies perceived value-relevant information as a sub set of the

wider corporate value-creation information set. This in turn affected the corporate disclosure of information on intangibles.

Chapters three and four have revealed how company side factors played a central role in determining the corporate disclosure agenda. This chapter has revealed the way the case companies perceived the underlying and common information (structures) required on the demand side and how these were primary drivers of corporate disclosure. It has also revealed how the case companies perceived problems of information processing in the market for information, and how this market interpreted 'value relevant' information. These perceptions were at the heart of changes to the corporate disclosure (content) agenda and to improving corporate responsiveness to change.

For example, the company value-creation story was extensively used to disclose information on company fundamentals, especially intangibles, and to hence overcome some of the processing problems. This story was also adapted to the larger market story or fashion. The case companies also sought to correct some of the bias and error in the public domain information through their private one-on-one meetings. In addition, the case companies learnt over time who were the main influencers in the market for information and they concentrated their disclosure activities in the wholesale market for information consisting of their core fund managers and the most influential and informed group of analysts. They also learnt to be responsive to ever changing market needs. As a result, the case companies learnt many things by their interaction with the market for information and the market for share exchanges and adapted their disclosure accordingly.

CHAPTER SIX

POLICY IMPLICATIONS OF RESEARCH

This chapter begins by exploring the policy implications of the research and grounded theory by discussing the opportunities for improving the content of public disclosure. This is followed in section two by a comparison with Lev's (2002) proposals, and a comment on the UK OFR proposals in the new Companies Bill (DTI, 2002) (section three). A final section looks at ways of supporting regulatory arrangements.

Policy recommendations

Chapters three, four and five revealed that the story structure, the common categories of intangibles, and the common elements of value-creation formed a deeper structure to corporate value-creation. Policy makers could exploit this underlying structure, and adopt new solutions to overcome the disclosure problems discussed in chapter one.

For example, new disclosure guidance could be based on:

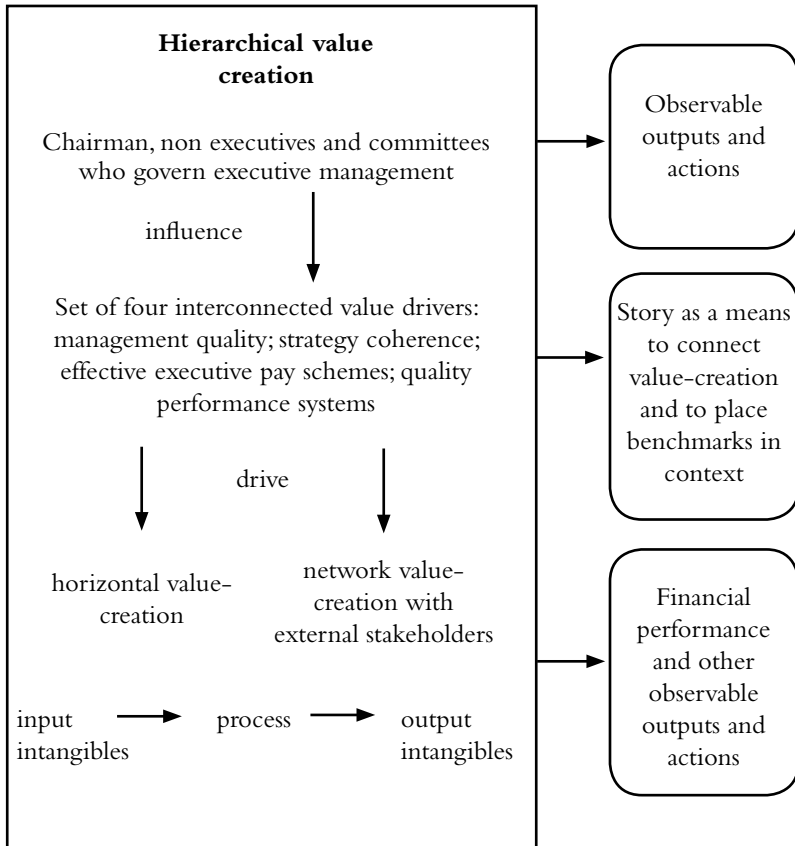
- Companies describing their value-creation story beginning with hierarchical value-creation, followed by horizontal value-creation, and then the network value-creation process.
- A clear structure that would provide a stable and solid organisation to each story and allow comparisons to be made within a sector and over time.

The guidance could also include companies describing:

- How they developed novel variants of common categories of intangibles within each value-creation sub-process.
- How these intangibles were connected in each value-creation sub-process and across the larger process.
- How they formed unique knowledge-intensive competitive advantages for the company.
- How major benchmark indicators were used internally and externally to measure these key advantages. The benchmark indicators within the corporate story of hierarchical, horizontal and network sub-processes, should not be disclosed as an *ad hoc* list unconnected to the value-creation story.

Figure 6.1 summarises these points and reveals how the above disclosures would be based on the ‘good practice’ identified in the cases. The main element of the story content consists of an oral or written narrative about how each case company created value through hierarchical, horizontal, and network value-creation sub-processes. The story connects key tangible and intangible factors in each value-creation process in a succinct way. It contains information about the strategic purpose of the organisation, its experiences and changes over time, the meaning of benchmarks, and the central role of key intangibles in value-creation. The story provides a narrative through time, historically, through to the present, and the future. It provides an informed context for corporate promises and for benchmarked value-creation intangibles.

Figure 6.1 The structure of corporate disclosure based on the structure of corporate value-creation



Diagrams, flowcharts, pictures and numbers are used to support the storyline. The story narrative is used to make visible the invisible or tacit content of corporate value-creation. The story is a flexible, two way, cumulative means to communicate. It is rooted in the memory of participants and, in some cases, stored as text. It is also used as an important means to vary disclosure according to company

circumstances, and to tailor disclosure to the current value-relevant criteria or fashion in security markets.

The story connects together many fragmented pieces of information that are already in the public domain, as well as adding unique insights derived from private dialogue. It can be interpreted as a shared form of bounded rationality negotiated between the corporate story-teller and the core fund manager and analyst listeners. It is recognised as a superior form of communication rather than just disclosing static, unconnected information in various value-creation, or intangible, categories.

These insights into the nature and significance of the story may be helpful to regulators as they seek to improve the OFR as debated in the 1998-2002 UK Company Law Review (DTI, 2001) and in the new Companies Bill, 'Modernising company law', DTI, 2002. Certainly, some formal statement of the corporate value-creation story appears to be required in a redesigned OFR. If this was available then it would allow OFR readers to assess the information content and value implications of various *ad hoc* events or corporate announcements and of existing benchmark indicators, in their own right, as well as relative to the corporate value-creation story. The latter is a major advantage enjoyed by insider fund managers and analysts at present and a level playing field is required here.

Regulators could also further develop such 'practice' guidance by matching it with insights available from the strategy literature's view of corporate value-creation in the modern enterprise. Hence the insights of authors such as Porter (1980, 1985), Barney (1991), and Kay (1993) could potentially extend the practical case concepts of hierarchical, horizontal, and network elements of value-creation and associated disclosures as indicated in Figure 6.1.

The above recommendations could be used to add to the explanatory text in financial statements and to make changes in the information released through stock market based company

announcements channels. The former could deal with structured and routine value-creation information expressed as a story. This information may not be currently price sensitive but it is likely to contribute to longer term learning by analysts and fund managers and hence play a role in setting prices as new events are interpreted in this informed context. Fund managers could deal with novel changes to the value-creation story, to changes in the benchmarked intangibles, and to changes in the risks faced by companies. Such changes could be price sensitive and thus should be disclosed. Disclosure of this information would create a 'level playing field' for all investors.

Turning to the demand side, policy makers could require companies to disclose what they perceive to be the value-relevant subset of the corporate creation story. Companies could disclose the most common questions asked of them in private by fund managers and analysts about their specific intangibles and value-creation practices, the text of their answers, and how such qualitative factors were measured. They could reveal which of their internal intangible quantitative indicators were of most interest to these users, and which external indicators were published by others but not generally available in the public domain. This information set would reveal how a practical concept of 'value relevant' information was changing over time.

Regulators could also demand that companies reveal how they have made their information systems more adaptive to the changing demands of information markets. Companies could be encouraged to be more explicit on how their disclosure was adapted to various user and market needs, and how the underlying information and disclosure systems developed to respond to ever changing market demands. In particular, companies should be encouraged to explain what principles they employed in adapting the value-creation story to different listeners and why they changed it in this way.

It is clear from the above that the market for information was defined by these companies which then supplied 'value relevant'

information in a partial, changing, transient, holistic, and negotiated sense. This was in sharp contrast to the conventional literature on market-based accounting research (MBAR), which defines 'value relevance' in a specific, unchanging way and is used by researchers to identify value-relevant information in a cumulative, systematic manner focusing on the information content of specific event categories and on the informativeness of disclosure mechanisms such as financial reporting. Both bases for understanding value-relevant information are important and could contribute to disclosure regulation. MBAR might identify specific event information for disclosure, and monitor changes in the informativeness of public disclosure mechanisms. The market for information view could ensure that the disclosure content and mechanisms for capturing this are adaptable and relevant to an ever changing market, and that new quantitative indicators are available for MBAR style empirical work. The difference in approach between market for information practitioners and the MBAR literature in defining value-relevant information is discussed and compared in the appendix. These two demand side approaches together point to the need to develop a more holistic and dynamic concept of 'value relevance' which could fully exploit both the changing market for information view and the insights of the more structured and systematic MBAR view. This in turn is likely to provide a wider conceptual base for policy making research on disclosure content and for MBAR research. Such market behaviour and its impact on disclosure may also be related to other strands in the literature such as the concept of 'Information inductance' (Prakash and Rappaport, 1977) whereby the behaviour of individuals is affected by the information they are required to communicate.

Baruch Lev and the Value Chain Scoreboard

The proposals outlined here have close links with the ideas proposed by Lev (2001, 2002). Lev (2001) has proposed a new intangibles information system, called the Value Chain Scoreboard. This is intended for use by both investors and managers. It seeks to report in a structured and standardised way about the innovation process and to illustrate the impact of intangibles on corporate performance and on company stock market valuation. Lev argues in an interview with Daum (2002) that:

The most relevant information to managers and investors concerns the enterprise's value chain. By value chain, I mean the fundamental economic process of innovation that starts with the discovery of new products, services or processes, proceeds through the development and the implementation phase of these discoveries and establishment of technological feasibility, and culminates in the commercialisation of the new products or services. And this innovation process is where economic value is created in today's knowledge based businesses from nearly all industries.

This research has identified three distinct but connected components to the corporate value chain. Lev's value chain has a close correspondence to the horizontal value-creation chain identified in the case companies. The network value-creation can be interpreted as a further extension of this idea. However, this research has also identified internal corporate governance and the four value drivers as key components in the hierarchical value-creation process. This hierarchical value-creation of management quality, strategy endurance, effective pay schemes and quality performance systems gives purpose and momentum to the horizontal and network value-creation process. The case companies perceived that fund managers and analysts were very interested in all three hierarchical, horizontal, and network value-

creation processes. However, they recognised that their core fund managers had a strong interest in information on hierarchical value-creation and saw this as a major driver of stock prices. Specialist sell side analysts were also perceived as having a strong interest in all three processes, but often had greater competence to understand the value implications of quite complex horizontal and network value-creation processes. Given these key user needs, disaggregated information on all of these value-creation processes should therefore form the basis of a more comprehensive intangibles disclosure information system.

Lev (2001, p.115) recommends that a scoreboard should contain intangibles indicators that satisfy three criteria. They should be quantitative, standardised, and they should be confirmed, by empirical evidence, as relevant to users. The active use by the case companies, fund managers and analysts of a series of benchmark indicators throughout the value-creation process suggests that the market for information agrees with Lev, and that many professional users are seeking such a solution in a pragmatic, iterative, and experimental manner. However, it should be noted that many of the benchmark indicators in the cases were 'measured' on a subjective, often sector relative basis such as in questionnaire surveys and in rankings of factors such as management quality. They did not necessarily satisfy Lev's criteria by being measurable in an absolute or objective sense or show a direct connection to shareholder wealth. The more objective benchmarks were also recognised as important in the cases. They included measures such as R&D expenditure and the numbers of new patents, and positive news here was considered to be associated with positive share price changes.

In addition, the strong demand side pressures for the use of story narratives and for much qualitative data on intangibles also suggests that this approach does not go far enough and does not provide sufficient information for such users. The proposal here is to use both the benchmark indicators, objective and subjective, and the story narrative

as the joint bases for disclosure. The story is intended to provide the wider information context to interpret the quantitative or relative indicators, and the indicators in turn can provide the evidence for the veracity of the story. Such benchmark indicators must be matched to each specific value-creation process in sequence, and hence to their position in the story narrative.

As a result, new disclosure systems should incorporate both of these market determined constructs into their fundamental design. If the benchmarks are matched with the three value-creation processes and to their position in the story narrative then they can provide the means to check and confirm the corporate value-creation story over time. Hence this report argues that the story narrative, supporting qualitative information and the benchmark indicators have all to be connected in one information 'package', and thus disclosed in a much more structured way. As a result, this approach recommends that improvements in disclosure should go beyond the use of a limited set of quantitative benchmark indicators set within a limited concept of the corporate value chain. Qualitative information, with subjective benchmarking, and the wider contextual information embedded in the story have to be disclosed in a systematic and structured way as suggested in Figure 6.1.

Finally, this research argues that despite the wide demand-side variety of information needs, these varying market needs should be built into a formal disclosure programme. The research highlights the importance of adaptability and responsiveness of new disclosure information systems and content. Such systems will have to demonstrate these characteristics if they are to respond to the contingent, and transient nature of capital market demands. They will have to demonstrate how the core corporate value-creation story can adapt and respond to changing circumstances, events and fashions, as well as to major differences in the information needs of information market users. They will also have to provide explanations of why

the story changes in this way and why such changes are not just an opportunistic manipulation of disclosures.

Current policy proposals

Many of the above ideas are consistent with the UK OFR proposals in the new Companies Bill, 'Modernising company law', (DTI, 2002) and the new ASB OFR guidance (2003). More specifically, the White Paper, sections 4.30 to 4.31 (p.38), argues that:

The Government agrees that companies should provide more qualitative and forward looking reporting, in addition to information that is quantitative (eg the balance sheet), historical (eg the financial results in the past year) or about internal company matters (eg the size of the workforce). It recognises that companies are increasingly reliant on intangible assets such as the skills and knowledge of their employees, their business relationships and their reputation. Information about future plans, opportunities, risks and strategies is just as important to users of financial reports as a historical review of performance.

also,

Directors need to take account of a wide range of factors within and outside the company which are relevant to achieving its objectives. These include relationships with employees, customers and suppliers and the company's impact on the wider community. They also include the company's impact on the environment which the Government believes every director needs to consider as first among equals. The OFR proposals would require information on all these factors, where relevant to an assessment of the company's business, to be covered in the narrative report. This will help give members the information they require to hold directors to account.

In June 2002, the Accounting Standards Board (ASB) published a revision of its 1993 Statement 'Operating and Financial Review' (OFR). A revised statement was published in January 2003 after consultation. The ASB's guidance recommends more disclosure on, for example, the dynamics of the business, forward-looking disclosures, and on intangible assets. This strongly reflects the White Paper and recommends that directors identify and comment on the 'key performance indicators' used in managing the business. It also recommends that discussion of objectives and performance may include both financial and non-financial measures, such as productivity and customer satisfaction. It should also place a stronger emphasis on the environmental risk facing the company and the importance of intangibles and resources not reflected in the balance sheet, and any intangible activity designed to boost future performance.

The ideas outlined in this research report are also consistent with US proposals, notably those in the FASB Business Reporting Research Project (29 January 2001). The SEC has given this its approval in its comments on 'Current Accounting and Disclosure Issues' (31 March 2001). The SEC (2001), quoting Baruch Lev, argues that:

Registrants should consider the need for more extensive narrative and quantitative information about the intangibles that are important to their business. These disclosures often are appropriate in 'Description of Business' or 'Management's Discussion & Analysis'. Some disclosures required by GAAP or (SEC) Commission rules provide useful information to investors about intangibles, such as amounts annually expended for advertising and research and development. More insight could be provided if management elected to disaggregate those disclosed amounts by project or purpose. Statistics about workforce composition and turnover could highlight the condition of that human resource intangible. Disclosure of annual expenditures relating to training and new technologies could help investors distinguish one company's intangibles from another. More specific

information about patents, copyrights and licenses, including their duration, royalties, and competitive risks can be important to investors. Insight into the intangible value of management talent could be provided by supplementing financial information with performance measures used to assess management's effectiveness.

Such proposals are clearly consistent with the proposals in this report with the emphasis on a list of intangibles and the connected role of intangibles. However, these lists are *ad hoc* and will change over time, but a more systematic approach would overcome the transient character, fragmentation and *ad hoc* nature of the process for developing proposals for the disclosure of intangibles.

The central problem with the present policy formulation approach is that, at best, it can be described as *ad hoc*, incremental, and a 'muddling through' by regulators. In the UK there appears to be little in the way of systematic research by bodies such as the FSA or the ASB on how the content of value-creation varies across companies and what underlying, common structures might exist and how common patterns of disclosure could be encouraged. FASB (2001) did attempt to collect significant cross sector information on intangibles and indicators of their effectiveness and could be interpreted as a form of committee-driven grounded theory development. However, an even more systematic research-based approach, with fieldwork at its heart may be more productive. Through a combination of a grounded theory and a use of the existing literature and theory it may be possible to acquire insights on the appropriate value-creation disclosures and the broad structure of corporate value-creation reports, highlighting the optimum channels required for corporate disclosure of such qualitative information.

The present study provides some insights into the categories of qualitative information that are relevant to stock markets and to the underlying structure to value-creation information. In particular, it argues that disclosure should be based on the three corporate value-

creation processes, the broad categories of intangibles, the use of the value-creation story, and of benchmark indicators matched to their position in the story. This report suggests that the three corporate value-creation processes, narrated *via* the value-creation story, and dealing with the structure, its process and change, can provide an overall structure for the new OFR that is not apparent in the 2003 ASB OFR revision. The need for consistent and robust definitions and structures would therefore be underpinned by this research in order to provide the basis of a durable standard.

However, given the change processes to be observed in these corporate economic processes, further research is required to maintain a robust classification of such information as it changes over time. This could form the basis of a continuing durable standard for enhanced public disclosure of information on intangibles and their role in corporate value-creation processes. The existence of such a standard would create a level playing for disclosure for those investors not privy to direct one-to-one contact with companies. The existence of such a standard would provide a lever for the market for information to exercise more control over corporate disclosure. Given the increasing role of knowledge-intensive intangibles in contributing to, or reducing, environmental problems during corporate value-creation, the standard could also play a role in improving the quality of environmental disclosure. This could provide the means to connect the disclosure aims on intangibles and its environmental impact in the UK proposed OFR (DTI, 2002).

Supporting changes in regulatory arrangements

Changes in regulatory arrangements also need to be considered both with financial reporting regulators and stock market regulators of corporate disclosure. For example, a national regulatory body such as the ASB or the FSA could encourage or co-ordinate:

- Systematic surveys of current financial reporting practices which could provide evidence of absolute or objective measure of intangibles. For example, Ambler *et al.* (2001) provide an example of how marketing intangibles are being measured and disclosed in financial reports. The metrics include volume and value measures of market share and market size, and cost measures such as marketing investment.
- A wider public recognition of existing commercial services (eg MORI, NOP, or IR Society) that provide relative subjective ranking or benchmark information on the value implications of brands, management quality, customer satisfaction, strategy quality, corporate communication quality, and corporate environmental policies.
- Information on the sources companies use for their benchmarks to ensure that companies identify and summarise both the absolute benchmark measures, and the relative, subjective benchmarks in their sector.

The Final Report of Company Law Review (2001) has recommended new institutional arrangements for the regulation of disclosure, in particular that:

A Standards Board would: make detailed rules on accounting and reporting (including the OFR); make disclosure rules in areas such as the Combined Code and on information to be provided to shareholders.

This body, presumably the ASB or its successor, could control both the changes in the OFR and the monitoring of fragmented sources of information on intangibles in corporate value-creation.

Similarly, the FSA (especially the UK Listing Authority, UKLA unit) could redesign the price sensitive information guidance to refer to the same story element and the same categories of intangibles as

employed in a revamped OFR. The emphasis here would be on releasing information about substantial changes in the corporate story, changes in the relative ranking or effectiveness of benchmarked value-creation intangibles, changes in the risks faced by the company, and changes in the status of strategic options.

Finally, a body such as the FSA could play a role in surveying fund managers and other users as to the quality of corporate voluntary disclosure, both public and private, and provide wide publicity for the findings. This could monitor the information content of a revamped OFR and price sensitive information guidance, as well investigating how private communications were changing. The Myners (1995) report on good practice for private company-fund manager communications could be a basis to designing such surveys. The UK Investor Relations Society monitors corporate disclosure and investor communication across its UK membership, it surveys current practice and presents awards for best practice (see, for example, press release, 11 April 2003). It strongly supports the new OFR proposals (ASB, 2003) and recognises their significance for the investor relations profession. Such a body is well placed to provide public information on how private communications are changing. The combined effect of: (i) improving the OFR to reflect the role of intangibles in the corporate value-creation story; (ii) the wider publication of commercial information on the relative subjective ranking of intangibles and of absolute benchmarking; (iii) the UKLA's role in improving company price sensitive information and grey market announcements concerning changes in the above; and (iv) the improvement in the quality and availability of external benchmarks for corporate disclosure, could all play a positive role in further boosting the quality of corporate voluntary disclosure, both public and private. These changes may ensure that more of the corporate information set on the role of intangibles in value-creation is placed in the public domain. This can ensure that

comparisons can be made between companies within sectors, as well as comparisons for individual companies over time.

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APPENDIX ONE

IDENTIFYING AND MEASURING VALUE-RELEVANT INFORMATION

This appendix compares the existing ‘value-relevant’ academic literature with the case defined market feedback processes and explores how they individually provide distinct insights into market defined value-relevant information. These two demand side approaches together point to the need to develop a more holistic and dynamic concept of ‘value-relevance’ that can fully exploit both the changing market for information and the insights of the more structured and systematic market-based accounting research (MBAR) view. Together these could provide a wider conceptual base for MBAR research by identifying new events and placing specific classes of ‘information content’ events within a wider set of information relevant information. This may also prove helpful to policy makers and policy researchers when seeking to fully exploit the available corporate value-creation information in corporate disclosure content. As a result a more active dialogue between these different views of value relevance may be a more fruitful way to drive research in this area.

Market based accounting research (MBAR) and value relevant information

There are several competing approaches to defining and measuring value relevant information in the market based accounting research (MBAR) literature. For example, Schipper (2001) argues that the value relevance of financial statement information has been measured using three major constructs:

- 1 R squared from regressions, where the dependent variable is either the stock price (levels analysis) or 12 month stock returns (long windows returns analysis);
2. Market adjusted returns to perfect foresight trading portfolios; and
3. Unsigned abnormal stock returns (or abnormal trading volumes) on the day of the information release (event study or short window returns study).

These three approaches define significant sections of the MBAR field. As a topical example of the first approach, Lev and Zarowin (1999) have demonstrated that the information content of financial statements is at a historically low level and continues to decrease. An R-squared of 6% associating earnings and stock prices, over time, suggests a major failure here. In the second approach, Francis and Schipper (1999), argue that financial statement information should permit users to assess the future prospects of the firm as well the contemporaneous returns considered by Lev. They find, over the period 1952 to 1994, that returns to 'perfect foresight' trading strategies based on the sign and magnitude of earnings and on the level and change in earnings and book value have decreased over this period. In contrast, returns based upon cash flows and the sign of earnings have not changed over the 42-year period. In addition, the explanatory power of the book value of assets and liabilities for equity market values provides no evidence of a decline.

In the third approach, a multitude of event studies have been conducted on the market price reaction to corporate public disclosures in financial statements and in public announcements. If a reaction occurs then this implies that the public disclosure has information content for capital market participants. Market reaction studies have investigated how the stock market has reacted to firm specific events and information disclosures such as annual earnings announcements, interim earnings, dividend announcements, takeover bids, and rights share issues. These studies have indicated that the security market,

via the market for information, anticipates much of the news content or information in formal earnings announcements, and also seems to absorb much information on a continuous basis as it arises from firm specific events and other macroeconomic and industry level events (Brookfield and Morris, 1992). Walmsley *et al.* (1992) studied the information content of the company meeting programme of the Society of UK Investment Analysts. They found that company-analyst meetings were associated with increased share price volatility and this was consistent with trading on privileged information. If private company-analyst meetings have information content the same conclusion may well apply to private company-fund manager meetings and the private information agenda outlined in chapters three and four. It also implies that the private network of links between managers and analysts or fund managers play a key role in continuously producing information which in turn is rapidly impounded in share prices.

The MBAR research programme has been very successful in identifying many events with information content, and clarifying whether disclosure mechanisms such as financial reporting convey information which alter stock prices. In the latter case this has revealed problems arising with public disclosure, and the information content of the accounting numbers. However, it is clear from the present case research that there are many kinds of events or factors concerning intangibles which are difficult to define or to measure and these are not currently amenable to investigation using event studies. It is also clear from this work that companies opportunistically employ multiple disclosure channels including financial reporting, public announcements, and private disclosure, to achieve their aims. It is difficult, at present, to envisage how the above R-squared and perfect foresight research methods can investigate the informativeness of the ever changing, dynamic nature of these complex corporate disclosure systems, and the effects of corporate choice and opportunism concerning intangibles disclosure and their effect on the relative informativeness of a channel.

Comparing market for information and MBAR views of value relevance

Chapter five revealed how, on the demand side, the case companies perceived or how the market for information interpreted, what was value-relevant information. Value-relevant information, arising on the company side, was seen as focused on ‘fundamental information’ which contained a changing or contingent subset of the corporate value-creation information set outlined in chapters three and four and was normally expressed in a story or narrative form. However the extent to which such company side ‘fundamental’ information was used in valuation was perceived as transient, contingent on user needs, subject to fashion, and to changes in the processing sophistication and structure of the market for information. There was also corporate variety within these value-creation processes arising from unique knowledge-based advantages and competences in each company and sector. As a result, there was considerable variation in the corporate perception of the nature of their value-creation processes, of market information needs, and hence the content of the private agenda, and in the signals and information disclosed.

The market for information defined company supplied ‘value relevant’ information in a partial, changing, transient, holistic, and negotiated sense. It also employed concepts of value relevant learning and knowledge. In contrast, the conventional literature on market based accounting research (MBAR) defines ‘value relevance’ in a specific, unchanging way and this is being used by academics to identify value relevant information in a cumulative, systematic manner focusing on the information content of specific event categories, and on the informativeness of disclosure mechanisms such as financial reporting. The difference in approach between the MBAR literature and market for information practitioners in defining value relevant information can be summarised in Table A. The academic literature summary also contains examples of the analytic approach to defining value-relevant information.

These two demand side approaches together point to the need to develop a more holistic and dynamic concept of ‘value relevance’ which

could fully exploit both the changing market for information view and the insights of the more structured and systematic MBAR view.

Table A Comparing market for information and MBAR views of value relevant information

MANAGEMENT	FUND MANAGERS & ANALYSTS	MBAR APPROACH
<p>Focus on full information in corporate value-creation information set. Believe value-creation set should be value relevant set.</p> <p>But recognise that market has more specific and contingent views.</p> <p>Also know that company is constrained by own preferences, biases, secrecy.</p> <p>Adjust management view of value-creation information to value-relevant needs of analysts and Fund managers by adapting story.</p> <p>But recognise that they cannot know how information is used in various user decision levels.</p> <p>Focus on <i>ex ante</i> relevant information, which is also placed within the value-relevant learning and knowledge contexts.</p>	<p>Subset of company value-creation information set plus own sources, both public, private and self generated.</p> <p>Above is transient, and varies with market conditions <i>etc.</i></p> <p>The set of value-creation variables used depend on circumstances, sentiment.</p> <p>Could focus on events or parts of the value-creation process.</p> <p>Holistic as well as specific events – seek whole picture of value-creation through mosaic approach.</p> <p>Also place this company information within sector and portfolio contexts.</p> <p>Bias and conflicts of interest possible.</p> <p>Focus on <i>ex ante</i> relevant information, which is also placed within value-relevant learning and knowledge contexts.</p>	<p>Narrow focus on specific events or disclosure mechanisms, and their information impact on stock prices.</p> <p>For example:</p> <ul style="list-style-type: none"> - What is the impact on the share price of events or information releases measured through abnormal returns ? - What would have been earned as an excess return over time if prior knowledge of these disclosures had been known? - R squared – how has the information disclosed been associated with prices? <p>Analytic approaches</p> <ul style="list-style-type: none"> - EVPI – alter the probability and decisions due to new information. - Least surprise: information is value-relevant if it avoids surprises, and if it creates surprises. <p>Ex post and ex ante relevant information.</p>

For example, a combined view would reflect the following:

- Company supplied value-relevant information defined by the market for information would generally include some subset of the wider corporate value-creation information set and this would be combined with unique analyst and fund manager sourced information.
- The overall set of corporate value-creation information would provide an information system from which market participants could draw.
- Major contingencies and circumstances that define subsets of the above could be identified. For example, changing the board and management would require disclosure of information on the sector specific skills of new board members and managers and how they would be expected to add value to the company. Major innovation in R&D and in brand management in competitors would require specific disclosure of information by companies of changes in these intangibles. Thus specific subsets of information could be identified for important circumstances or events.
- That the placing of such event specific information within the context of a story is likely to improve the information content of both sources.
- The way in which changes in market sentiment alter the relative balance between company supplied information and security market information could be assessed. For example, during ‘dotcom’ type episodes where a high technology market story dominated, one would expect the surprise earnings announcement effects, to be less for old economy companies compared to new economy companies.
- The long term and continuing information content of specific event categories irrespective of the above changes in information

markets. Hence surprise earnings announcements would (as a broad class of events) be expected to have a price or information effect.

- The long term and continuing informativeness of specific disclosure channels irrespective of the above changes in information markets. Financial reports should be expected to be informative but their relative informativeness within a range of disclosure mechanisms may change over time with changes in corporate value-creation and disclosure behaviour.
- The specific information which should be continued to be disclosed down informative channels irrespective of market sentiment changes, *eg* accounting logic, numbers and outcomes within financial statements.

If these two approaches to ‘value relevant information’ could be combined in some coherent way then many benefits could emerge, especially in terms of providing a wider conceptual base for MBAR research concerning the market informativeness of events and disclosure channels. Such a wider concept of value relevance could also be used to enhance policy-making research on disclosure content.

The results of MBAR could be used by managers and fund managers to isolate events likely to have information content and disclosure mechanisms likely to have high informativeness despite the ever-changing character of the market for information. Managers and fund managers could see through the transient and dynamic character of information markets to focus on company side value-creation events that were likely to eventually have information content. They may also be able to identify periods of market sentiment when events which normally had ‘information content’ and disclosure channels which were informative, now had little or no impact on market prices. Understanding how the market for information perceived value relevant information (arising from company private and public

disclosure) could also help MBAR researchers to isolate disturbing events or processes which undermine their tests. They could also use such perspectives to identify new kinds of 'information content' events and new insights into the informativeness of individual and combined disclosure channels. They may also be able to place their narrowly focussed studies within a wider meaningful context which embraced complementary views of value relevance. All of the above may therefore play a role in diffusing MBAR results and findings more widely to company and fund managers. Thus the MBAR literature, when combined with more practical market for information views, is a potential source of new insights for research on disclosure content arising from market demand side factors.

Key to Appendix Two:

CHAIR	Chairman
FD	Finance Director
IR	Various titles for senior investor relations director
Dir Comm	Various titles for senior financial communications director

APPENDIX TWO

	Case	Industry	Rank range	Length of Interview (hours)	Period Interview	Position
A	1	Pharmaceuticals	1-10	2	9/00	FD, IR
B	2	Chemicals	60-70	2	10/00	IR
C	3	Technology	80-90	2.5	10/00	Dir Comm
D	4	Bank	1-10	1.5	9/00	FD
E	5	Oil	1-10	2	9/00	FD
F	6	Consumer	80-90	2	9/00	Dir Comm
G	7	Transport	90-100	2	8/00	FD
H	8	Property	80-90	2	10/00	FD
I	9	Insurance	50-60	2	9/00	Dir Comm
J	10	Insurance	10-20	1.5	8/00	IR
K	11	Media	230-240	1.5	10/00	Dir Comm
L	12	Consumer	40-50	1.5	10/00	FD
M	13	Technology	20-30	1.5	10/00	IR
N	14	Retail	20-30	2	9/00	IR
O	15	Telecom	20-30	2	11/00	IR
P	16	Utility	40-50	1.5	10/00	IR
Q	17	Transport	70-80	2	10/00	IR
R	18	Consumer	20-30	1.5	11/00	IR
S	19	Oil	1-10	1.5	9/00	IR
T	20	Tobacco	40-50	1.5	9/00	IR
U	21	Utility	40-50	1.5	8/00	FD
V	22	Utility	110-120	1.5	8/00	FD, IR
W	23	Hire	190-200	1.5	8/00	CHAIR
X	24	Bank	40-50	2	8/00	CHAIR, IR
Y	25	Insurance	30-40	2	11/00	IR