

CHAPTER 5

DESCRIPTIVE ANALYSIS

5.0 INTRODUCTION

Before analysing the determinants of intellectual capital (IC) disclosure, this chapter seeks to provide a general understanding of the ‘shape’ of IC disclosure practice in the annual report of the firms sampled, to show the importance of IC information, and to provide a descriptive analysis of the variables expected to impact on IC disclosure. Example extracts are reproduced from annual reports to demonstrate IC disclosures captured.

‘Shape’ of IC disclosure is explored from five perspectives:

- 1) it is explored via three disclosure measures: variety (a 183 format item index - DI), volume (word count - WC) and focus (word count percentage - WC%);
- 2) it is explored via three categories of IC, i.e. human capital (HIC), structural capital (SIC) and relational capital (RIC);
- 3) it is explored via a detailed analysis of 61 IC items;
- 4) it is explored via the presentational format of IC disclosure captured in the annual report. Unlike most previous research, this study captures IC disclosure in its text, number and graph/picture forms; and
- 5) it is explored by the location of IC disclosure in annual reports.

The structure of this chapter is arranged as follows. Section 5.1 provides descriptive statistics of IC disclosure at both overall and subcategory levels via three measures. Section 5.2 examines the presentational formats of IC disclosure. It is then followed by analysis of IC disclosure at item level in Section 5.3. Locations of IC disclosure are discussed in Section 5.4. Section 5.5 provides some example extracts from annual

reports. Section 5.6 presents the descriptive statistics for the independent variables to be examined in the next four chapters. Section 5.7 concludes the chapter.

5.1 DESCRIPTIVE STATISTICS FOR MEASURES OF IC DISCLOSURE

The analysis of IC disclosure practice in 100 LSE-listed UK firms covers the annual reports for the financial year end ranging from March 2004 to February 2005. Descriptive statistics of each IC disclosure measure (i.e. variety-DI, volume-WC, and focus-WC%) at both overall and subcategory (i.e. human capital-HIC, structural capital-SIC, and relational capital-RIC) levels for the sampled firms are shown in Table 5.1.¹

Table 5.1 Descriptive Statistics for IC Disclosure Measures

	Mean	Median	Min	Max	Std. Dev.
ICDI	0.363	0.360	0.160	0.563	0.083
ICWC	10488	8551	1234	51430	8901.2
ICWC%	0.263	0.259	0.089	0.426	0.072
HICDI	0.355	0.348	0.212	0.561	0.073
SICDI	0.371	0.370	0.130	0.574	0.092
RICDI	0.365	0.349	0.111	0.667	0.122
HICWC	2945	2558	545	8507	1598.2
SICWC	3551	2526	466	23648	3467.6
RICWC	3992	2689	223	29993	4634.6
HICWC%	0.083	0.080	0.033	0.174	0.026
SICWC%	0.090	0.084	0.026	0.281	0.039
RICWC%	0.090	0.083	0.020	0.266	0.047

It can be seen from the table that the IC disclosure index (ICDI) ranges from a minimum of 0.160 to a maximum of 0.563 with an aggregate mean of 0.363 out of a possible maximum score of 1.000. The statistics also indicate slight variations in the variety of human, structural and relational capital disclosures.

As for the volume of IC disclosure (ICWC), the mean aggregate word count is 10,488

¹ The volume of IC disclosure was measured by the number of words disclosed in the annual report, i.e. word count (ICWC). Therefore, the volumes of human (HICWC), structural (SICWC) and relational (RICWC) capital disclosure were also measured by word count. The computation of disclosure index for the three IC categories, i.e. HICDI, SICDI and RICDI, is shown in Appendix 5-A. The computation of focus of disclosure on the three IC categories, i.e. HICWC%, SICWC% and RICWC%, is based on the disclosure word count over the total word count of the annual report. Boxplots are also included (see Appendix 5-B), which demonstrate whether there are extreme outliers for IC disclosure measures. The plots suggest no extreme outliers for IC disclosure measures of ICDI, ICWC%, HICDI, SICDI, RICDI, HICWC, HICWC% and RICWC%, while the plots for ICWC, SICWC, RICWC and SICWC% indicate the existence of extreme outliers. As are shown in later chapters, i.e. Chapters 6 and 7, the IC disclosure measures that are not normally distributed are transformed using either the logarithmic or the square root transformation, which also solves the problem of outliers. The boxplots for LnICWC, LnSICWC, LnRICWC and LnSICWC% suggest no extreme outliers.

words. ICWC ranges from 1,234 to 51,430 words, which accounts for 26.3% of the overall annual report word count, ranging from 8.9% to 42.6%.²

The rankings of means for human, structural and relational capital disclosure change according to the disclosure measure employed. Structural capital ranks highest (37.1%) for the disclosure index followed by relational capital (36.5%) then human capital (35.5%); relational capital ranks highest in terms of word count; and structural and relational are joint highest for focus, each forming 9% of the total annual report word count with human capital disclosure accounting for 8.3%. In all cases, human capital is in third place, although not far behind the other two IC categories.

The relational-structural-human capital disclosure ranking for word count (38%, 34%, and 28% of total IC disclosure word count respectively) is consistent with findings from prior IC disclosure studies (e.g. Guthrie and Petty, 2000; April et al., 2003; Bozzolan et al., 2003; Goh and Lim, 2004; Vandemaele et al., 2005),³ demonstrating systematic differences in the level of reporting on IC elements across firms and countries. If firms focus on the disclosure of those IC elements that are perceived to be most stakeholder relevant (e.g. Gray et al., 2004; Burgman and Roos, 2007; Vergauwen et al., 2007), relational capital would seem to be most important in this regard, given it was the form of IC identified as most prominently disclosed.⁴

The descriptive statistics shown in Table 5.1 indicate a high level of awareness of IC related issues amongst the sampled UK listed firms. The disclosure of IC-related information covers a wide variety of IC items listed in the designed research instrument of the study and on average accounts for over a quarter of the sampled

² Given that previous IC disclosure studies have adopted different research instruments, it is not possible to make meaningful comparison of the levels of such disclosure identified in this study with previous studies.

³ For example, Bozzolan et al. (2003) find relational capital to be the most disclosed (49%), followed by structural (30%) and human (21%) capital. April et al. (2003) find external capital to be the most disclosed (40%) with the rest of disclosures evenly distributed for internal and human capital. Overall, relational capital disclosure ranked first (40-49% of total IC disclosure), followed by structural (20-37%) and human (22-36%) capital.

⁴ Relational capital disclosure is also shown to have greater variation than structural and human capital disclosures (indicated by the standard deviation) in all three measures.

firms' annual reports. The high level of disclosure identified in the study suggests that the annual report is still very important for IC communication, despite the argument that annual reports are losing their attraction to information users, while other communication channels become more attractive, such as corporate websites (Unerman et al., 2007).

5.2 FORMATS OF IC DISCLOSURE

Prior IC disclosure studies have typically focused on the pure presence/absence of items in the checklist (e.g. Guthrie and Petty, 2000; Brennan, 2001; Williams, 2001), or frequencies of IC items' occurrence in the annual report (Beattie and Thomson, 2007). Few studies distinguish the presentational formats of the information disclosed. In this study, three main formats are considered, i.e. text, number and graph/picture, which enhance the understanding of IC disclosure practice.

The results for IC disclosure under three categories (22 human capital items, 18 structural capital items, and 21 relational capital items) in three formats are shown in Table 5.2. The table includes the minimum, maximum and average number of IC items disclosed by the 100 sampled listed UK firms under each of the three IC categories in three presentational formats, which can be compared to the maximum possible number of items that could be disclosed. Results for the disclosure of items in any format and all three formats are also presented in the table.

On average, 66 (36%) of all the 183 format items (i.e. 61 items in three formats) in the research instrument were disclosed. This translates to 23 (35%) of all 66 human capital format items (i.e. 22 items in three formats), 20 (37%) of all 54 structural capital format items (i.e. 18 items in three formats), and 23 (36%) of all 63 relational capital format items (i.e. 21 items in three formats) in the research instrument.

It can be seen from the table that human, structural and relational capital were

disclosed in all three formats in the sample annual reports. However, a few firms did not provide any graphical/pictorial disclosure for one or more IC item. On average, 43 (70%) of the 61 IC items in the research instrument have text disclosures, with the minimum at just over 30% (19 items) and the maximum at 93% (57 items). This falls to 29% (17 items) disclosure in number form, ranging between 11%-62% (7-38 items), and 8% (5 items) in graph/picture form. While a few firms chose not to employ graphs/pictures, at the other extreme, some firms disclosed one-third of the IC items in this form.

Table 5.2 Descriptive Statistics for Formats of IC Disclosure

Categories	Format	Min	%	Max	%	Max Possible	Mean	%	Std. Dev.
Human Capital (HIC)	Text	9	41	20	91	22	15.87	72	2.44
	Numbers	3	14	12	55	22	6	27	2.11
	Graphs/pictures	0	0	8	36	22	1.54	7	1.33
	Any format	10	45	21	95	22	16.28	74	2.46
	All 3 formats	14	21	37	56	66	23.41	35	4.82
Structural Capital (SIC)	Text	5	28	18	1	18	13.21	73	2.49
	Numbers	1	6	12	67	18	5.42	30	2.3
	Graphs/pictures	0	0	6	33	18	1.42	8	1.49
	Any format	5	28	18	100	18	13.14	73	2.49
	All 3 formats	7	13	31	57	54	20.05	37	4.99
Relational Capital (RIC)	Text	3	14	20	95	21	13.52	64	3.33
	Numbers	1	5	15	71	21	7.05	34	3.35
	Graphs/pictures	0	0	10	48	21	2.41	11	2.43
	Any format	4	19	20	95	21	13.44	64	3.3
	All 3 formats	7	11	42	67	63	22.98	36	7.67
Intellectual Capital (IC)	Text	19	31	57	93	61	42.6	70	7.07
	Numbers	7	11	38	62	61	17.44	29	6.95
	Graphs/pictures	0	0	20	33	61	4.91	8	5
	Any format	20	33	57	93	61	42.7	70	7.02
	All 3 formats	29	16	103	56	183	66.44	36	15.52

At IC subcategory level, in the order of disclosure in text, number and graph/picture forms, on average, 72%, 27% and 7% (i.e. 16, 6 and 1.5 items) of the 22 human capital items, 73%, 30% and 8% (i.e. 13, 5.4 and 1.4 items) of the 18 structural capital items, and 64%, 34% and 11% (13.5, 7 and 2.4 items) of the 21 relational capital items, were disclosed. It can be observed that structural capital ranks highest in text form and relational capital ranks highest in number and graph/picture forms. Only structural

capital disclosure in text form can be observed in all possible items. In addition, results of disclosure of IC items in any format are broadly similar to those in text form.

The results confirm that IC disclosures are still mainly in text form, in line with the findings of previous studies (e.g. Guthrie and Petty, 2000; Brennan, 2001; Goh and Lim, 2004; Guthrie et al., 2007). It supports the argument made by Brown and Duguid (2000) that people learn best from stories and that a convincing narrative is the most effective way of communicating knowledge. Furthermore, Habersam and Piper (2003) argue that IC indicators remain at the surface of what happens in an organisation and may mislead interpretations and actions based on it by seeming so clear and unambiguous, hence the importance of text disclosure. Therefore, the substantial use of text could be due to firms' attempts to achieve the maximum impact when constructing their story.

Although Guthrie and Petty (2000) and Brennan (2001) argue that the IC disclosures identified were empty rhetoric, and both discursive and vague in content, the extensive use of numerical information in such disclosure, as identified in this study, is very encouraging, supporting the finding of Sujan and Abeysekera (2007). Nevertheless, the level of quantified IC information reported is still lower than text disclosure (also see Section 5.3 of this chapter), which is not surprising given there is no single agreed method to measure IC and its elements at present. There is an urgent need to develop a uniform IC measurement framework that can be adapted by firms in different industries and across countries.

The use of graphs and pictures in the disclosure of many IC items, which has hitherto been largely ignored by other studies, is the lowest of the three disclosure formats examined, but for some firms appears to be an important format. Beattie and Jones (1992, 2001, 2002) call for attention for the use of graphical communication. It was

found by Davison and Skerratt (2007) that the majority of the graphs and pictures included in annual reports and reviews are intangible asset related. This is mainly because Davison and Skerratt (2007) measure the frequency of occurrence of pictures and graphs, whereas this study only examines the presence or absence of graph/picture information for each of the 61 IC items in the research instrument. It is, therefore, expected that the use of graphs and pictures will be particularly popular for certain IC items, such as pictures of employees, customers and brands, figures showing market presence, and photographs demonstrating relationships with various stakeholders (see Table 5.3). Disclosures in number and graph/picture forms are found to be applied most to relational capital.

5.3 DESCRIPTIVE ANALYSIS OF IC DISCLOSURE BY ITEM

After the descriptive analysis of IC disclosure by its category and presentational format, this section provides further analysis of such disclosure in annual reports at item level, enabling a better understanding of such practice. Table 5.3 presents the frequencies of firms disclosing each of the 61 IC items in the checklist under three categories in three presentational formats. From Table 5.3, it can be observed that most IC items are highly disclosed in the sampled annual reports. The following three subsections examine the disclosure of human, structural and relational capital items respectively.

5.3.1 DESCRIPTIVE ANALYSIS OF HUMAN CAPITAL ITEMS

As can be seen from panel A of Table 5.3, the proportion of firms disclosing a particular human capital item varied between 10%-100% in text form, 0%-100% in number form, and 0%-85% in graph/picture form. This indicates that all human capital items were disclosed by at least ten firms in text form, while there were items not being disclosed in number or graph/picture forms. Only employee education had

Table 5.3 Number of Firms Disclosing IC Items in the Checklist under Three Formats⁵

A - Human Capital (HIC)	T	N	GP	WC	B - Relational Capital (RIC)	T	N	GP	WC	C - Structural Capital (SIC)	T	N	GP	WC
Number of employees	100	99	9	101	Customers	99	82	48	965	Intellectual property	58	38	5	215
Employee age	67	95	0	19	Market presence	92	71	26	382	Process	100	78	21	605
Employee diversity	44	13	3	18	Customer relationships	90	47	15	295	Management philosophy	100	21	14	422
Employee equality	92	1	0	79	Customer acquisition	78	42	6	116	Corporate culture	58	1	2	32
Employee relationship	99	45	6	307	Customer retention	65	25	4	45	Organisation flexibility/adaptability	40	0	0	17
Employee education	51	0	0	15	Customer training & education	17	1	1	9	Organisation structure	89	43	9	455
Skills/know-how/expertise/knowledge	92	14	5	114	Customer involvement	18	2	1	7	Organisation learning	33	0	0	26
Employee work-related competences	100	53	0	417	Company image/reputation	65	6	12	46	Research & development	94	63	11	382
Employee work-related knowledge	91	24	0	142	Company awards	39	2	13	47	Innovation	71	15	15	108
Employee attitudes/ behaviour	72	15	15	63	Public relations	69	63	11	165	Technology	98	46	21	220
Employee commitments	88	59	0	114	Diffusion & networking	47	12	3	47	Financial dealings	100	80	5	386
Employee motivation	100	100	12	605	Brands	69	19	18	153	Customer support function	53	21	3	68
Employee productivity	17	5	0	3	Distribution channels	50	20	5	76	Knowledge-based infrastructure	69	14	0	65
Employee training	78	9	1	45	Relationship with suppliers	96	81	2	116	Quality management and improvement	82	13	7	87
Vocational qualifications	10	2	0	3	Business collaboration	78	49	14	212	Accreditations (certificate)	51	7	4	57
Employee development	95	24	4	404	Business agreements	59	34	5	198	Overall infrastructure/capability	97	62	13	272
Employee flexibility	24	9	0	8	Favourite contract	64	45	17	237	Networking	63	4	0	23
Entrepreneurial spirit	96	8	1	125	Research collaboration	22	6	0	26	Distribution network	65	36	12	111
Employee capabilities	74	2	1	31	Marketing	50	21	9	73					
Employee teamwork	51	3	9	22	Relationship with stakeholders	94	42	23	623					
Employee involvement with community	46	19	3	34	Market leadership	91	35	8	154					
Other employee features	100	2	85	276										

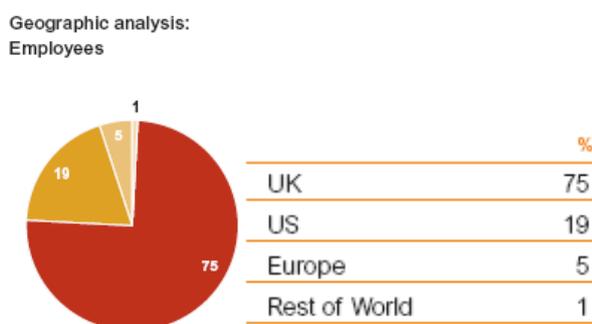
⁵ T, N, and GP represent the number of firms providing disclosure in text, number and graph/picture respectively; WC represents the average number of words disclosed by the sample firms.

disclosure in neither number nor graph/picture form. Items including vocational qualification and employee age, equality, work-related competence and knowledge, commitments, productivity and flexibility, had no disclosure in graph/picture form.

The most frequently disclosed items in text form are number of employees, employee motivation, work-related competence and other employee features. Other commonly disclosed items in text form include entrepreneurial spirit, and employee relationship, development and training, work-related knowledge, age, equality, skills and commitment. Items least disclosed are vocational qualifications, employee productivity and flexibility. These findings are further confirmed by the word count measure.

The high level of human capital disclosure can be expected, given the increasing importance of human resources for competitive advantage in a knowledge-based economy (Subbarao and Zéghal, 1997). All sample firms provided disclosure of number of employees, with some firms disclosing detailed breakdown of each department, its change, and the reasons behind such changes. The results indicate that only nine firms used graphs to show the distribution of their employees. See Figure 5.1 for an example.

Figure 5.1 Number of Employees (Geographic Analysis)



Source: Royal Bank of Scotland plc Annual Report (2004: 3)

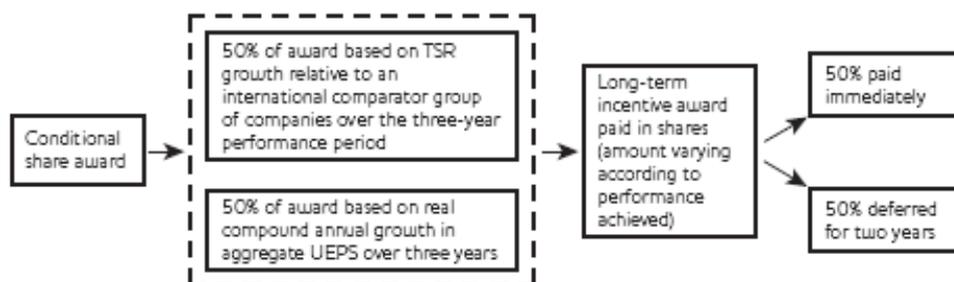
Employee work-related competence was disclosed by all sampled firms in text form, which is mainly due to the substantial disclosure about board directors. Further analysis indicates that the disclosure of the item was mainly captured from the Board

of Directors section in the annual report. This is consistent with the findings of Holland (2006a) that information users, such as analysts and fund managers, consider management quality to be very important in a firm's valuation. Disclosure of directors' competence can be decision-useful, which demonstrates the quality of the management team. Disclosures commonly identified were directors' current positions held outside the firm, professional recognition and qualifications, and external awards. None of the sampled firms provided competence metrics of their employees.

All sampled firms had text and numerical disclosures of employee motivation, which covers programmes, plans and incentives that could motivate directors and employees.⁶ Twelve firms disclosed such information in graphs, such as incentive structures. Figure 5.2 provides an example of such disclosures. Some firms also provided indicators for this item, such as information about staff turnover. An example is shown below.

'Staff turnover in the UK was around 26% for the year ended 31 December 2003, an average figure for the media sector.' (Emap plc 2004)

Figure 5.2 Employee Motivation – Incentive Structure



Source: Cadbury Schweppes plc Annual Report (2004: 38)

As for other employee related features, the majority of firms included pictures of employees in the annual report. Further analysis of employee age disclosures reveals that they mainly concerned the age of board directors. Such information can be considered to be value-relevant, as directors' ages may reflect their experience, which may also indicate their ability to work for the firm in subsequent years (e.g. near

⁶ Only the information about how and why the disclosed incentives could contribute to motivating employees was considered to be relevant in this study.

retirement). However, there is no standard benchmark for such evaluations, which makes comparison between directors both within and across firms difficult. Few firms reported on their age distribution. Emap plc in its 2004 annual report disclosed that

‘... 67% of this total [of employees] being under 35 compared to 3% being over 55, reflecting the nature of the media and publishing business.’

Employee equality information captured was mainly in text form providing information about the firm’s employee policies and practices on equal opportunities with some of them providing externally verified information, e.g. The Capita Group plc in their 2004 annual report discloses:

‘Disability award: Capita has won the Warrington Disability Partnership ‘Positive Action’ Award in recognition of its work in supporting disabled employees in its contact centre in Darwen, Lancashire.’

Only one firm provided numerical information about the item. ITV plc in its 2004 annual report disclosed ‘... 1.2% of employees declared themselves to have a disability’.

Nearly half of the sampled firms employed numerical disclosures to accompany the narrative descriptions of their relationships with employees. Some firms discussed, for instance, their relationships with trade unions, activities that enable employee work and family balance, working environment, and health & safety issues. Some disclosed information about employee satisfaction, while others used externally verified information to demonstrate their efforts in building employee relations, such as ‘Investor in People’ and ‘Employer of the Year’ awards. Pictures or graphs were rarely used. Examples are presented in Figures 5.3 and 5.4.

Figure 5.3 Employee Relationships – Investor in People Award



Our two UK businesses have been awarded the prestigious ‘Investors in People’ accreditation which demonstrates our commitment to providing training and development opportunities for our employees.

Source: Alliance UniChem plc Annual Report (2004: 34)

Figure 5.4 Employee Relationships – Employee Satisfaction



Source: EMAP plc Annual Report (2004: 13, 17, 21)

Just over half of the sampled firms disclosed employee educational information in text form, mostly board directors related, indicated by further analysis of the information captured. None deployed numerical indicators or graphs/pictures to show the overall educational background of the employees.

Eighty-eight per cent of the sampled firms disclosed employee commitment information, with over half of the firms having numerical disclosures. The numerical disclosures were mainly related to the attendance at various meetings by board directors. Although such disclosure is recommended by the Combined Code (2006), it was considered that it reflects the commitment of the directors to the firm. Other employee commitment related disclosures were mainly vague text descriptions, such as

‘... commitment of our people determines our success as a business.’
(Mouchel Parkman plc 2004)

Some of the disclosures suggest that firms measure the item by an indicator, but many

without providing numerical data, which may be for proprietary reasons. Two example extracts from annual reports are shown below:

‘The recent Leadership Survey showed over 90 per cent believe that “people in their department show commitment to performance with integrity”.’ (GlaxoSmithKline plc 2004)

‘The commitment of our colleagues remains a key competitive advantage for us and one which we believe cannot be replicated ... Colleague advocacy is a critical measure of performance in this area, which is tracked monthly across the Group by MORI.’

(HBOS plc 2004)

Employee behaviour is the second most disclosed item in graph/picture form. Pictures of employees showing their attitudes, such as being happy, cheerful, welcoming, hard working or concentrated, were captured under this item.

Employee training is also commonly disclosed, where nine of the sampled firms provided numerical information, for instance information relating to investment in training programmes, number of employees participating in training programmes, and training hours. Indicators such as effectiveness of training programmes and return on training investment were not found in any of the sampled annual reports. This could be due to the inability of firms to capture and measure such information. The implication is that procedures of evaluation of training activities need to be put in place to complement current accounting information systems. The one firm that provided visual IC disclosure is British Sky Broadcasting plc in its 2004 annual report (see Figure 5.5).

Figure 5.5 Employee Training



Source: British Sky Broadcasting plc Annual Report (2004: 10)

In addition, the lack of disclosure in vocational qualifications, employee productivity and flexibility could also be due to the inability of the current accounting system to

measure and report such information. Other explanations for the low level of disclosure for these items could be attributed to the competition sensitivity of related issues, such as employee productivity, or the lack of awareness of the importance of such issues. There could be various other reasons, such as the availability of the information from other sources, that those issues were less mentioned in the annual report.

To consider the issue from another point of view, Table 5.4 provides a summary of the number of human capital items disclosed in three formats by the 100 sample firms. It can be seen from the table that all firms had disclosures of human capital items to various extents by covering 9-20 of the 22 items in text form. The majority (78%) disclosed between 13-18 items. This suggests that firms were generally aware of the human capital items included in the research instrument and practices were available to make the information available to the users of their annual reports. However, human capital disclosures in numerical form were less prevalent. Nearly all (95%) firms provided numerical disclosure of less than 10 items. Furthermore, it can be seen from the table that 12 firms did not have any human capital disclosure in graph/picture form. Eighty-three per cent of the sampled firms provided such disclosures for 1-4 items, common ones being number of employees, employee behaviour, motivation, teamwork, relationship, and other employee features. Therefore, apart from graphs of number of employees, diagrams of incentive structures and pictures of employees, other human capital items were seldom communicated via graphs or pictures.

Table 5.4 Frequency of Human Capital Items Disclosed in Three Formats

Text		Number		Graph/Picture	
No. of Items	No. of Firms	No. of Items	No. of Firms	No. of Items	No. of Firms
Min-Max 0-22	0	Min 0	0	Min 0	12
9-12	8	3	9	1-2	73
13-14	21	4-6	57	3-4	10
15-16	28	7-9	29	5-6	4
17-18	29	10-12	5	7-8	1
19-20	14	Max 22	0	Max 22	0
Total	100	Total	100	Total	100

5.3.2 DESCRIPTIVE ANALYSIS OF STRUCTURAL CAPITAL ITEMS

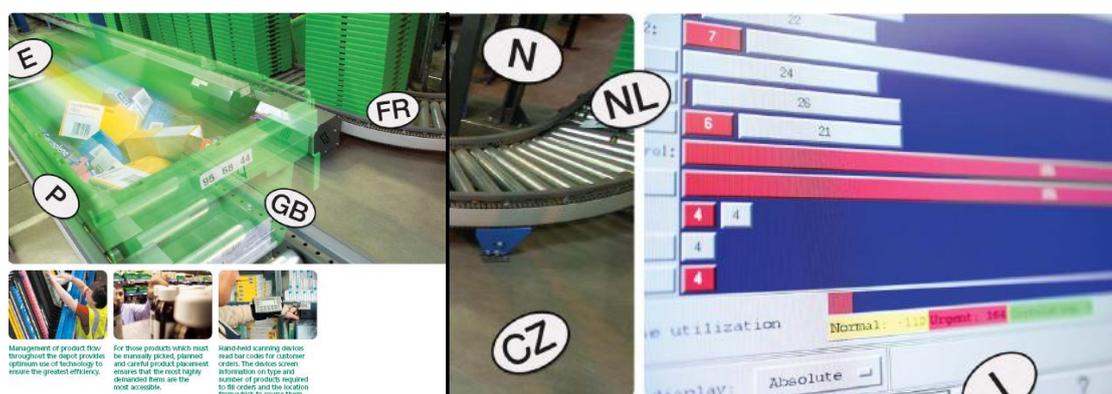
Concerning structural capital disclosure, a generally high level of coverage by sampled annual reports can also be observed (see Table 5.3, panel C). The percentage of firms disclosing a particular structural capital item varied between 33%-100% in text form, 0%-80% in number form, and 0%-21% in graph/picture form. This suggests that all structural capital items were disclosed by at least 33 firms in text form, while there were items not being disclosed in number and graph/picture forms. Organisation flexibility and learning were found to have no disclosure in both number and graph/picture forms, while knowledge-based infrastructure and networking had no disclosure in graph/picture form.

The most frequently disclosed structural capital items in text form are business process, management philosophy and financial dealings. Other commonly disclosed items in text form include technology, research and development (R&D), overall infrastructure, organisation structure, and quality management and improvement. Items least disclosed are organisation learning and flexibility, which may be due to lack of an established accounting system and framework for such information to be captured, measured and disclosed, or due to proprietary reasons. The word count measure confirms the above findings.

With regard to disclosures in number form, the most disclosed items are financial dealings, business processes, R&D and overall infrastructure. Items least disclosed in number form are organisation learning and flexibility, corporate culture, accreditation and networking. Various indicators and measures regarding to, for instance, the awareness of corporate culture among employees, and information about the cost and length of time taken for the approval of certificates for product quality, could be very decision-useful.

Similar to human capital disclosure, disclosure in graph/picture form was least used for structural capital items. The most disclosed items in graph/picture form are business process and technology. An example is shown in Figure 5.6. In all three formats, the most disclosed structural capital items are business process, technology, R&D, overall infrastructure and distribution network.

Figure 5.6 Processes and Technology



Source: Alliance UniChem plc Annual Report (2004: 6-7)

All sample firms provided disclosure of business process, with 78 and 21 firms providing disclosures in number and graph/picture form respectively. Firms provided various information about this item, such as the utilisation of organisation resources, descriptions of processes/procedures/routines, and documentation of processes. Indicators of the item, such as efficiency, effectiveness, and productivity, are also found from time to time.

Sampled firms all provided information about how the firm has been, and will be, managed. Such disclosures were mainly in text form. Disclosure of management philosophy enables the readers to understand the direction in which a firm is being managed, which assists investment and credit decision making.

Information on financial dealings has also been disclosed by all sampled firms in text form, with 80 firms providing numerical information. Disclosures identified were often

about favourable relationships the firm has with investors, banks, fund managers, and analysts, its financial ratings, financial facilities available, and listings.

As for technology, disclosures of the item refer to techniques, machines, IT (such as computer hardware and software), and information systems (such as databases). The item was disclosed in all three formats. Similar to business process, technology is the item most disclosed in graph/picture form among structural capital items.

R&D has also been widely disclosed by the sampled firms, where nearly half of the firms that had such disclosures provided numerical information and one in eight provided graphical/pictorial information (e.g. R&D model, see Figure 5.7; R&D progress, see Figure 5.8; and R&D expenditure, see Figure 5.9). Information captured often refers to R&D policies, programmes, planning, progress, and budgets. There were also disclosures about such things as success rate, and value added by R&D activities. R&D has often been connected with high-tech firms, although, in reality, most firms can have R&D activities. For example, Penna Consulting plc (a business support service provider) disclosed that *'We are also investing in the development of new services that will add extra value to our clients'*, and Tribal Group plc (a business support service provider) disclosed that *'The Group continues to invest in research and development. This has resulted in a number of new products being launched recently which are expected to contribute to the growth of the business'*. Nevertheless, high-tech firms, such as biotechnology, pharmaceutical and IT firms were more inclined to provide disclosures of R&D activities in various formats with greater detail. An example from the 2004 annual report of AstraZeneca plc is shown below:

'Success in Research and Development is essential to our strategy and it is good to see the emergence of an impressive early development portfolio with 40% more projects in phase 2 clinical trials than this time last year. We also have more new development candidates emerging from Discovery than ever before.'

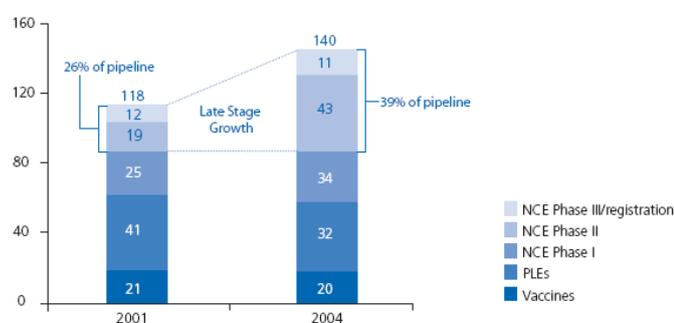
Figure 5.7 Research and Development Model

The R&D model



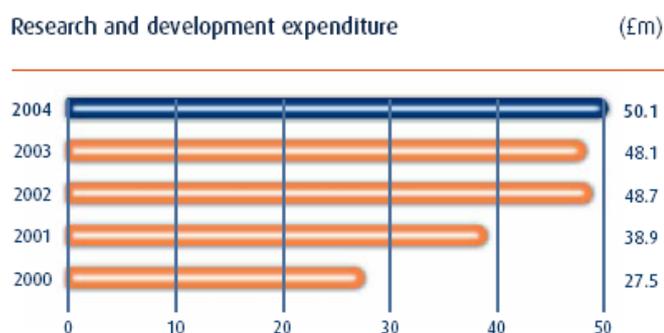
Source: GlaxoSmithKline plc Annual Report (2004: 9)

Figure 5.8 Research and Development Progress



Source: GlaxoSmithKline plc Annual Report (2004: 14)

Figure 5.9 Research and Development Expenditure



Source: ARM Holdings plc Annual Report (2004: 2)

The firm also discloses information of their R&D investment in relation to their sales level in all three formats. The information is decision-useful in the evaluation of the firm's future growth and earnings potential. It also signals the firm's commitment to R&D activity, which potentially helps the firm in building and sustaining its competitive advantage. An example of such disclosures in graphical form is shown in Figure 5.10.

Figure 5.10 Research and Development Investment as of Sales

R&D investment \$m		Investment as % of sales
04	3,803	17.7
03	3,451	18.3
02	3,069	17.2

Source: AstraZeneca plc Annual Report (2004: 7)

Although intellectual property (IP) has only been disclosed by 58 sample firms, the average word count of disclosure for the item is similar to the disclosure of technology, one of the most disclosed structural capital items. This indicates that firms disclosing IP information provided considerable details, suggesting its importance to these firms. Disclosures of the item were typically about existing patents, trademarks, trade secrets, design rights, copyright, licences and marketing exclusivity, and the ones in application process. An example extract from the annual report is shown below:

‘Smith & Nephew also has a policy of protecting the Group’s products in the markets in which they are sold by registering trademarks as soon as possible under local laws... The present trademark portfolio of the Group consists of over 3,300 trademarks and design rights... Smith & Nephew’s principal products are protected by intellectual property comprising patents, licences and know how, and it strives to provide a collection of intellectual property for each major product that reduces the risk associated with failure of any individual piece of intellectual property... Currently, the Group’s patent portfolio stands at over 2,500 existing patents and patent applications.’ (Smith & Nephew plc 2004)

Over eighty per cent of sampled firms disclosed information on quality management and improvement. However, only thirteen per cent provided numerical information together with a text description. Disclosure of innovation was provided by 71 firms, with 15 of them providing numerical and graphical/pictorial information. Such disclosures were commonly related to description of innovative products/services or statements specifying the firm’s competitive advantage of being innovative.

On the other hand, Table 5.5 provides a summary of the number of structural capital items disclosed in the three formats by the sampled firms.

Table 5.5 Frequency of Structural Capital Items Disclosed in Three Formats

Text		Number		Graph/Picture	
No. of Items	No. of Firms	No. of Items	No. of Firms	No. of Items	No. of Firms
Min 0	0	Min 0	0	Min 0	34
5-7	2	1-2	10	1-2	45
8-10	11	3-4	21	3-4	16
11-13	37	5-6	39	5-6	5
14-16	42	7-8	25	Max 18	0
17	6	11-12	5	Total	100
Max 18	2	Max 18	0		
Total	100	Total	100		

It can be seen from the table that all firms provided disclosure for at least 5 structural capital items and 2 firms disclosed the maximum 18 items in text. The majority (79%) disclosed between 11-16 items in text form. Therefore, firms were aware of structural capital issues and were making the information available to information users.

Similar to human capital, structural capital disclosure in number form was less prominent than in text form, although 16 of the 18 items (see Table 5.3) had numerical disclosure in one or more of the sample annual reports. The maximum disclosed was 12 items by one firm, with the majority (95%) disclosing between 1-8 items in number form. Turning to graph/picture form, as shown in Table 5.5, 34 firms had no such disclosure at all, while the maximum disclosed was 6 items. The majority (61%) of the sampled firms disclosed between 1-4 items in graph/picture form, suggesting graphs and pictures to be the least used form for structural capital disclosure.

5.3.3 DESCRIPTIVE ANALYSIS OF RELATIONAL CAPITAL ITEMS

With regard to relational capital disclosure, all 21 items identified were disclosed to various extents by the sample firms (see panel B of Table 5.3). The proportion of firms disclosing a particular relational capital item varied between 17%-99% in text form, 1%-82% in numerical form, and 0%-48% in graph/picture form. This suggests that all relational capital items were disclosed by one or more firm in all three formats, with the exception of research collaboration that had no disclosure in graph/picture form.

The strategic importance of customer and supply chain relationships in IC disclosure⁷ is evidenced by the most disclosed items being customers, relationships with suppliers and stakeholders, market presence, customer relationships and market leadership, with over ninety per cent of sampled firms having disclosures of such items in text form. The most disclosed items in all three formats were customers, market presence, and relationship with stakeholders. Based on the average of word count, firms are shown to provide greater disclosure of business collaborations and agreements, favourite contracts, brands and customer acquisition than for relationship with suppliers. The least disclosed items are customer training & education, and involvement. One of the possible explanations for this is the lack of awareness of its importance by some firms. Other potential reasons could be the inadequacy of the accounting system for reporting on such issues or the availability of such information from other sources.

Disclosure of customers was provided by 99 firms, with 82 of them providing numerical information and 48 firms presenting graphs and/or pictures to assist the construction of the story. Information disclosed refers to general customer information, such as the type of customer, name of customers, reputation of customers, size of customer base, knowledge of customers or markets, and customer purchasing histories. Graphs/pictures relating to customers were commonly graphs showing the customer base and its change over time, pictures of customers, or images of customer names (examples are shown in Figure 5.11).

Figure 5.11 Customers



Source: Royal Bank of Scotland plc Annual Report (2004: 18 and 22)

⁷ Relational capital is identified as the most prominently disclosed among the three IC categories, see section 5.1 for a discussion.



Source: British Sky Broadcasting plc Annual Report (2004: 6)

Ninety-two per cent of sampled firms provided disclosure of market presence in text form, with 71 of them providing numerical information (e.g. percentage of sales by market segments and market share) and 26 of them showing figures of their market presence. See Figure 5.12 for an example of such disclosures.

Figure 5.12 Market Presence



Source: Compass Group plc Annual Report (2004: 3)

Disclosures of relationship with suppliers were mainly in text and number forms. Some firms merely provided vague statements about the favourable relationships they have with their suppliers, such as one disclosure made in the annual report of BT Group plc,

‘BT’s policy is to use its purchasing power fairly and to pay promptly and as agreed.’

while others provide such information in a more informative way. Two example extracts from annual reports are shown below:

‘Supplier relationships...have allowed us to strengthen our purchasing power and leverage better deals with suppliers. 70% of the \$5.2 million procurement savings have been achieved through renegotiating contracts with telecom and courier providers.’ (Regus plc 2004)

‘Improved supplier relationships

In 2004 we created a number of key strategic supplier relationships and these have helped contribute to gross margin improvements of 2.5%.’ (McFarlane Group plc 2004)

Disclosures of relationships with stakeholders mainly refer to firms’ relationships with the community, competitors, government and other governing bodies. Disclosure of relationships with the society and governing bodies signals the firm’s commitment to

being a sustainable business, which also helps in building a positive image of the firm. Such relationships could also form part of the firm's market knowledge and competitive advantage. Some of the firms stated the importance of their relationships with the stakeholders. Others disclosed their relevant activities in building such relationships. Disclosure of competitors assists information users in their decision-making with regard to the firm's market position and future potential. Some of the firms only provided reference to the information users by disclosing the names of their competitors. Some provided numerical information, such as market share occupied by each competitor in certain markets, to signal the firm's market position, for example:

'Smith & Nephew's main competitors and their estimated shares of the global arthroscopy market are: Mitek/Johnson & Johnson (17%), Linvatec/Conmed (14%), Arthrex (14%), Stryker (12%) and Arthrocare (7%).' (Smith & Nephew plc 2004)

Others provide information about the competition to signal its competitive advantage,

'Would-be new entrants face considerable barriers because of the front-end investment needed to meet service level requirements. These barriers to entry are firmly established in the UK, and we are building them rapidly in all our other markets.' (Electrocomponents plc 2004)

Recent years have witnessed a growing emphasis on developing stronger relationships with customers as evidenced by some banks having replaced the term *bank manager* with *relationship manager* (e.g. HSBC plc, Lloyds TSB Group plc, and Royal Bank of Scotland Group plc). Disclosures of customer relationships identified in this study were commonly: a description of a firm's current relationship with customers, such as level of customer satisfaction, loyalty, customer recommendation, dependence of key customers, and customer opinion of the firm's products and services; policies and programmes for building customer relationships, for instance customer loyalty schemes, customer satisfaction survey; and initiatives taken for improvement in customer satisfaction and complaint management. Information about activities that could enhance customer relationships, e.g. on-time deliveries and value for money, were also disclosed. Disclosures have also been made by quoting customers'

perceptions of the firm at times. Such disclosures could act as verified information and may be very persuasive.

Market leadership has also been highly disclosed by the sampled firms. Some firms provided a vague statement about their leadership in the market, such as ‘*The group is one of Europe’s largest food companies*’ (Associated British Food plc 2004), while others provided numerical information to back up their argument of being market leaders,

‘The beverage can industry has consolidated to three main players, Rexam being the leader with a market share of 43%.’
(Rexam plc 2004)

From the perspective of number of items disclosed by sample firms, Table 5.6 presents a summary of the number of relational capital items disclosed in three formats. It can be seen from the table that all firms had disclosures of relational capital items to various extents, covering between 3-20 items of the maximum 21 items in text form. Over half of the sampled firms (54%) disclosed 12-16 items in text form. Similar to human and structural capital, relational capital disclosure in number form was less prevalent. Sixty-one per cent of sampled firms had disclosure of between 4-9 items in number form. Graphs/pictures were also the least used for relational capital disclosure, with 25 firms having no such disclosures. Many other firms (37) only disclosed 1-2 items in graph/picture form, while 19 firms disclosing 3-4 items. Some examples of IC disclosure in graphs/pictures are presented in Appendix 4-D.

Table 5.6 Frequency of Relational Capital Items Disclosed in Three Formats

Text		Number		Graph/Picture	
No. of Items	No. of Firms	No. of Items	No. of Firms	No. of Items	No. of Firms
Min 0	0	Min 0	0	Min 0	25
3-7	2	1-3	15	1-2	37
8-11	24	4-6	33	3-4	19
12-16	54	7-9	28	5-6	12
17-20	20	10-12	16	7-8	4
Max 21	0	13-15	8	9-10	3
Total	100	Max 21	0	Max 21	0
		Total	100	Total	100

The above descriptive analyses provide a useful view on the shape of IC disclosure in

annual reports. The next section examines locations of such disclosure in annual reports.

5.4 LOCATIONS OF IC DISCLOSURE

This section makes brief reference to reporting location (see Section 4.2.2 in Chapter 4) by word count when disclosing IC information in annual reports. Views on the importance of disclosing information in different sections within annual reports are divided. Some authors argue that the location of disclosure in the annual report helps to formulate a view of the commitment to the development of IC (Guthrie and Petty, 2000) and to communicate the relative importance of the issue to the stakeholders (Abeysekera, 2003), while others argue that it is not easy to find a single, unique reason as to why a particular location is preferred for reporting given information (Gray et al., 1995a).⁸ Beattie and Thomson (2007: 141) suggest that analysing the different subcategories of IC information found in the same location of the annual report may be useful in identifying underlying relationships within the IC concept.

The impact of reporting content in different sections of the annual report has been reported in the literature. Gibson and Guthrie (1995) found important environmental issues to be featured, reported and discussed and less important issues to be absent or relegated to low-profile sections of the report. Hughes et al. (2001) found environmental issues to be reported in either a separate section or in a section that reviews the activities. Choon et al. (2000) found pre-emptive earnings to be mainly reported in the Chairman's report section. In terms of IC disclosure, few studies have reported results about location of such disclosure. Although it is indicated that locations of IC disclosure were recorded in Guthrie and Petty (2000), no reference was made in their findings.

⁸ Various arguments that propose the importance of location of information in the annual report are summarised in Gray et al. (1995a), which include: a) it is more likely to be read (Chairman's Statement); b) it indicates the importance attached to the issues (Separate Section or Separate Booklet); c) it falls within the auditor's ambit (Statutory Sections); d) it is covered by the auditor and demonstrates the high profile of the issue and/or its integration with mainstream matters of the company (Director's Report); and e) it is fully integrated with the mainstream activities of the organization (Review of the Year).

As described in Section 4.2.2 in Chapter 4 of this study, IC disclosures in annual reports were coded into nine sections, i.e. Chairman’s Statement (CS), Chief Executive Review (CER), Operating and Financial Review (OFR), Board of Directors (BD), Corporate Governance Report (CG), Corporate Social Responsibility (CSR), Directors’ Report (DR), Financial Statements & Notes to Accounts (FSN), and Others.

Table 5.7 shows the locations of IC disclosure captured in the form of concentration (average of the 100 sampled firms) in each of the nine sections. Table 5.8 on the other hand presents the average focus of each section on the disclosure of the three IC categories, i.e. human, structural, and relational capital.

Table 5.7 Concentration of IC Disclosure by Section

Average	CS	CER	OFR	BD	CG	DR	FSN	CSR	Others	Total%
ICWC	7.4%	14.5%	31.8%	7.7%	14.2%	6.7%	8.7%	4.3%	4.7%	100
HICWC	5.6%	3.8%	7.5%	26.4%	36.6%	9.9%	3.8%	4.9%	1.5%	100
SICWC	7.1%	16.5%	38.6%	0.8%	8%	5%	13.3%	2.9%	8%	100
RICWC	9%	20.6%	43.6%	0.1%	3.3%	5.8%	8.4%	5.1%	4%	100

Table 5.8 Focus on Disclosure of Three IC Categories by Section

Average	CS	CER	OFR	BD	CG	DR	FSN	CSR	Others
HIC	21.1%	7.4%	6.6%	96.0%	72.2%	41.6%	12.3%	32.0%	9.1%
SIC	32.3%	38.5%	41.1%	3.5%	19.0%	25.3%	51.0%	22.8%	58.2%
RIC	46.6%	54.1%	52.2%	0.5%	8.8%	33.1%	36.8%	45.2%	32.7%
Total% of IC	100	100	100	100	100	100	100	100	100

It can be seen from Table 5.7 that IC disclosure is most concentrated in the OFR section, accounting for almost 32% of total IC information captured. It confirms the view of Marston and Shrivs (1991) that OFR is ‘the main disclosure vehicle’ (p.197). IC disclosures captured in this section were predominantly relational (52%) and structural (41%) capital focused, with very little human capital information (7%), as shown in Table 5.8. The findings support the survey results by Company Reporting in July 2004, cited in Roberts et al. (2005), that employee information is seldom located in the OFR section.

Similarly, the main focus of IC disclosure in the Chief Executive Review section is on relational (54%) and structural (39%) capital, accounting for nearly 15% of total IC disclosure captured. It is the second most concentrated section in the annual report for IC disclosure.

Relational and structural capital disclosures are revealed to be most concentrated in the OFR section, followed by the Chief Executive Review section. The two sections together account for 64% and 55% of total relational and structural capital disclosure respectively, while only accounting for 11% of total human capital disclosure.

The Chairman's Statement and Corporate Social Responsibility sections also have greater focus on disclosure of relational capital than for structural and human capital. The former section accounts for 7% and the latter represents 4% of total IC disclosure captured. In combination, the two sections account for about 14% of total relational capital disclosure and about 10% each of total human and structural capital disclosures.

Two sections, which are Board of Directors and Corporate Governance, are predominantly human capital focused, accounting for 96% and 72% of IC information captured in each section respectively. The former section accounts for about 8% and the latter section represents 14% of total IC information disclosed. The Corporate Governance section mainly discloses information on board directors and senior management, such as executive incentive and motivation plans and programmes. The Board of Directors section covers biographical details of the management, their experiences, competence and capabilities. The two sections together account for 63% of total human capital disclosures in the annual report and are management focused.

The Director's Report section accounts for about 7% of total IC disclosure. Human capital (42%) ranks first in this section, followed by relational (33%) and structural (25%) capital. The section represents 10%, 6% and 5% of total human, relational and

structural capital disclosures respectively. This to some extent supports the survey results by Company Reporting, cited in Roberts et al. (2005), that employee information is mainly located in corporate social reporting or in the directors' report. Human capital information disclosed in Corporate Social Responsibility and Director's Report sections is more related to overall employees, such as employment policies on equal opportunities, diversity, and employee relations, motivations (e.g. health & safety, employee turnover), involvement, communication, training and development.

Overall, the findings suggest that none of the sampled firms has an exclusive section in the annual report for IC disclosure. IC information was found in virtually all sections of the annual report, although the extent of disclosure varies significantly, with the foremost focus on the OFR section. The OFR and Chief Executive Review sections were highly structural and relational capital concentrated, and the Board of Directors and Corporate Governance were human capital concentrated. Such concentrations may imply that structural and relational capital disclosures are more closely linked to each other than either is to human capital disclosure. It may be feasible to encourage firms to produce a separate document or devote sections exclusively or primarily for the communication of IC elements.

The OFR could be suitable for the task, given the concentration of IC disclosure already allocated by firms and all the resources firms have committed. A section for structural and relational capital could be included. In addition, the Board of Directors section could incorporate a section for human capital. Guidelines on what and where to disclose IC information would be beneficial to both information preparers and users. These approaches would help standardise IC disclosure practice, help information users in screening and understanding the IC information disclosed in annual reports, and help information preparers in making disclosure decisions.

5.5 IC DISCLOSURE IN ANNUAL REPORTS

After the descriptive analyses, this section reproduces some example extracts from sample annual reports to illustrate the nature of IC disclosures identified in the study.

Intellectual Capital: none of the sample firms expressly referred to ‘intellectual capital’ in the annual report.

Human Capital: the term ‘human capital’ has not been mentioned in the annual report of any sample firms, with exception of HBOS plc, which refers to ‘...*HBOS human capital reporting metrics are being developed to enable the Board to track our progress...*’

However, terms such as ‘employees’, ‘human resources’, ‘personnel’, ‘workforce’, ‘people’ and ‘staff’ were commonly used. GlaxoSmithKline plc in its 2004 annual report referred to human ‘intellect’, ‘*Their [employees] skills and intellect are key components in the successful implementation of the Group’s strategy.*’

Extracts from annual reports indicate that sample firms do perceive human capital to be an important asset. Some examples are shown below:

‘We recognise that our people are our principal asset and a fundamental part of our value proposition.’
(LogicaCMG plc 2004)

‘Our employees continue to be our most important asset and the key differentiator between our competitors and ourselves.’
(Jardine Lloyd Thompson Group plc 2004)

Penna Consulting plc and Corporate Services Group plc both mentioned ‘human capital’ in their annual reports, however, both refer to the management consulting services they provide. It implies that these firms are aware of ‘human capital’ related issues. However, both firms failed to refer to their people as ‘human capital’, suggesting that although firms are aware of the term ‘human capital’ commonly used by researchers, it does not yet form part of their vocabulary. This may be due to their hesitation in changing their vocabulary of communication with the market. However, it may also imply that

employees do not wish to be regarded as ‘capital’ with all its implications of control, and exploitation for profit. Therefore, in order to arrive at a more standardised IC disclosure practice, the awareness of the ‘intellectual capital’ concept needs to be raised further, not only within the boardroom of firms, but also in the wider market.

On the other hand, terms such as ‘competence’, ‘skills’, ‘knowledge’, ‘experiences’, ‘expertise’, ‘abilities’, ‘management team’, ‘employee training’, ‘employee development’, ‘employee involvement’, and ‘employee communication’ have often been disclosed. Terms such as ‘entrepreneurial leadership’, ‘entrepreneurship’, ‘teamwork’, ‘team spirit’ and ‘employee relations’ can also be found at times.

While firms recognise people as an important asset and consider related expenditure as investments, some firms still refer them as staff or employee costs and training costs. The implication is that some firms still need time to catch up with the development of IC and the changes evolved in the accounting system that comes with it.

Structural Capital: the term ‘structural capital’ has not been mentioned in the sampled annual reports. However, terms such as ‘intellectual property’, ‘patent’, ‘trade marks’, ‘processes’, ‘procedures’, ‘management philosophy’, ‘corporate culture’, ‘organisation structure’, ‘research and development’, ‘information system’, ‘innovation’, ‘technology’, and ‘quality [e.g. of products/services]’ are commonly disclosed. Unlike ‘human capital’ that has equivalents in firms’ vocabularies, structural capital items lack a uniform title to cover all items in a firm’s vocabulary. Structural capital items were often separately disclosed with some items having individual sections devoted to their disclosure, such as IP, technology, R&D, and product innovation, but not for all items. The importance of various structural capital items to firms was reflected separately in the annual report. Take IP as an example, GlaxoSmithKline in its 2004 annual report stresses the importance of the item to the firm:

‘Intellectual property is a key business asset for GlaxoSmithKline. The effective legal protection of intellectual property is critical in ensuring a reasonable return on investment in R&D. Intellectual property can be protected by patents, trade marks, registered designs, copyrights and domain name registrations. Patent and trade mark rights are regarded as particularly valuable.

All of GlaxoSmithKline’s pharmaceutical products are protected by registered trade marks in major markets. GlaxoSmithKline’s trade marks on pharmaceutical products generally assume an increasing importance when the patent for that product has expired in a particular country The Consumer Healthcare trade marks are particularly important, as ... many products do not have patent protection.’

British Sky Broadcasting plc in its annual report emphasises the importance of innovation to the firm: *‘Innovation in our products and services is the driving force behind Sky’s growth.’* Rexam plc specifies the importance of a piece of its technology by disclosing “*...Rexam’s proprietary rotary thermoforming technology provides a competitive advantage... .’*”

Overall, structural capital items were considered to be important assets of the sampled firms indicated by disclosures found in their annual reports.

Relational Capital: similarly, the term ‘relational capital’ was not disclosed in the sampled annual reports. Instead, terms such as ‘customers’, ‘customer relationships’, ‘customer relationship management’, ‘suppliers’, ‘relationship with stakeholders/community/society’, ‘reputation’, and ‘brands’ have been disclosed frequently. As with structural capital, firms do not have a single ‘word’ that covers all relational capital items in their vocabulary. While there was no single section that discloses all relational capital items together, there were separate sections devoted to various relational capital items, such as ‘relationship with community’, ‘relationship with suppliers’, ‘market participation [markets the firm operates in]’ and ‘brands’.

The importance of relational capital items has also been disclosed in the annual reports.

For example,

‘...the value of our key asset, our large and growing customer base...’.

(Sage Group plc)

‘The company’s reputation...is a vital asset and its protection is critically important.’
(Logica CMG plc)

‘The personal relationships that we build and maintain with our customers are vital.’
(Electrocomponents plc)

‘The trust and confidence of all our stakeholders, together with our reputation, are among our most valuable assets.’
(AstraZeneca plc)

To summarise, despite the high level of IC disclosure identified in the previous sections and the well-established terminology in the literature, it is observed in the study that in the sample of 100 annual reports examined, none specifically used the terms ‘intellectual capital’, ‘structural capital’ or ‘relational capital’, with one firm making a single mention of ‘human capital reporting metrics’. Terms regularly reported include, for instance, employees, human resource, intellectual property, customers, customer relationship, suppliers, and brand. This indicates that the terms commonly employed by researchers do not form part of managers’ vocabulary and highlights the need for greater agreement on terminology and definition of IC, in order to lead to more standardised IC disclosure practice.

In addition, none of the sample firms mentioned the use of an IC measurement framework, such as Intangible Assets Monitor and Balance Scorecard, with the exception that one firm mentioned ‘human capital reporting metrics’. Together with the relatively lower level of IC disclosure in number form compared to text form identified, it suggests a lack of an established IC measurement system among the sampled UK listed firms. Nevertheless, the findings confirm that firms were generally aware of the importance of IC elements and the need for their disclosure, and were making the information available to information users

After the description of the dependent variable of this study, IC disclosure, the next section provides descriptive analysis of the independent variables to be examined in the following four chapters.

5.6 DESCRIPTIVE STATISTICS FOR INDEPENDENT VARIABLES

Three groups of independent variables that are expected to be the determinants of IC disclosure in annual reports will be examined in the following four chapters, which are corporate governance factors, company characteristics and market factors. Among corporate governance factors, audit committee characteristics will be examined separately given their responsibility in overseeing financial reporting issues. The variables to be examined and the proposed hypotheses are listed in Chapter 4, Section 4.5. The descriptive statistics for the independent variables are shown in Table 5.9.

The means of corporate governance variables for sample firms indicate that less than half of the boards in the sample consist of independent non-executive directors (INED). The percentage of INEDs present on the boards of firms ranges from 18% to 75%. Further analysis reveals only 52 of the 100 sampled firms had 50% or more INED on the board. The mean for the cumulative significant shareholdings is 29.6%,⁹ while the mean for directors' shareholding is 8.9%. The minimum cumulative shareholding held by substantial shareholders is 0 and the maximum 79.2%, whereas the shareholdings held by board directors range from 0.0057% to 68.8%.

On average, the audit committee has more than three members, with the majority (86 of the 100 sampled firms) having three or more board directors on the audit committee, suggesting compliance with recommended best practice. In addition, the median for the audit committee meeting frequency is four times per year, with 83% of sampled firms meeting three or more times during the financial year, in line with the Price Waterhouse (1993) recommendation.

In terms of cross-directorship holdings by board directors among the 100 sampled firms, on average, over 70% of the directors sit on the board of other firms, ranging

⁹ Individual or institutions holding 3% or more of the total outstanding shares of the firm, excluding significant directors' shareholding

from as low as 16.7% to as high as 100%. In addition, the chairmen of the majority of the sampled firms (89 of 100 firms) hold cross-directorships.

As for role duality, only 9 of 100 sampled firms did not have clear separation of the roles for CEO and chairman, with 70 of the 100 chairmen being non-executive directors.

Table 5.9 Descriptive Statistics for Independent Variables (Untransformed)

Independent Variable	Mean	Median	Min	Max	SD
Company Characteristics					
Firm size (SA) (£m)	4036.68	383.05	0.00 ¹⁰	39792.17	8782.39
Listing age (AGE) (Years)	17.15	10.69	0.45	71.87	16.706
Profitability (return on assets: ROA) (%)	0.044	0.037	-0.095	0.187	0.058
Leverage (LEV) (%)	0.597	0.452	0	3.731	0.692
Assets-in-Place (AIP) (%)	0.170	0.116	0.0004	0.915	0.186
Auditor type (AUD) (Dummy)	0.91	1	0	1	0.288
Multiple listing (ML) (Dummy)	0.61	1	0	1	0.490
Corporate Governance Factors					
Board composition (INED) (%)	0.47	0.50	0.18	0.75	0.125
Ownership concentration (SCON) (%)	0.296	0.261	0 ¹¹	0.792	0.196
Directors' shareholding (DISH) (%)	0.089	0.011	0.000 ¹²	0.688	0.164
Directors with cross-directorships (XDIR) (%)	0.708	0.694	0.167	1.000	0.189
Chairman with cross-directorships (CXDIR) (Dummy)	0.890	1	0	1	0.314
Role duality (RDUAL) (Dummy)	0.09	0	0	1	0.288
Non-executive chairman (NEC) (Dummy)	0.70	1	0	1	0.461
Audit Committee Characteristics					
Audit committee size (SAC) (Number)	3.46	3	1	7	1.058
Frequency of audit committee meeting (MAC) (Number)	3.70	4	1	9	1.411
Audit committee independence ¹³ (INED_AC) (%)	0.848	1	0	1	0.219
Board chairman on audit committee (CHAC) (Dummy)	0.300	0	0	1	0.461
Audit committee directors' shareholding (ADISH) (%)	0.016	0.007	0.000	0.514	0.068
Audit committee directors with cross-directorships ¹⁴ (XDIR_AC) (%)	0.906	1	0	1	0.190
Market Factors					
'Hidden value' (market-to-book ratio: M2B) (%)	3.894	2.700	0.52	17.81	3.395
Share price volatility (SPV) (%)	0.802	0.589	0.162	3.727	0.732
Share turnover (STO) (%)	0.252	0.236	0.012	0.618	0.148

¹⁰ The firm is an active trading firm focusing on research and development. Although there were no sales recorded during the 2004 financial year, contracts were signed.

¹¹ Two firms reported that they had not been notified in accordance with sections 198 to 208 of the Companies Act 1985 of any member who had a notifiable interest ($\geq 3\%$) in the share capital of the firm. One firm only has one significant shareholder, who sits on the board of directors, hence has no significant outside shareholding.

¹² It is a very small number 0.000057.

¹³ The average number of INEDs on the audit committee of the 100 sampled firms was 2.98 (ranging from 0 to 7). The Smith Report (2003) recommends that an audit committee should consist of at least three INEDs; 63 of 100 sampled firms were in compliance, with 37 firms not complying with the recommendation.

¹⁴ The average number of directors in audit committees with cross-directorships is 3.16, ranging from 0 to 7.

The result for independence of audit committee reveals that, on average, nearly 85% of directors on audit committees are INEDs. Thirty firms have their chairperson sitting on the audit committee, contrary to the recommendation made by the Smith Report (2003). The means for audit committee directors' shareholdings and proportion of audit committee directors with cross-directorships are 1.6% and 90.6% respectively.

For company characteristics, samples selected cover both large and small firms with average sales revenue of £4,036.7 million for the financial year. The mean of listing age of the sampled firms, including both newly listed (the newest less than half a year) and long listed (the oldest nearly 72 years), is just over 17 years. The average return on assets is 0.044, with 81 of the 100 sampled firms being profitable and 19 firms making a loss. The leverage of the sampled firms, on average, is 0.597, with the minimum having no debt and the maximum a debt of 3.7 times its equity. In addition, the mean of assets-in-place is 0.17, with the most tangible asset focused having over 90% of its assets as tangible fixed assets and the least only 0.04%. The vast majority, 91 of the 100 sampled firms, were audited by the big-4 auditors. Sixty-one sampled firms were listed on one or more other stock exchange(s) in addition to their LSE domestic listing.

Turning to market factors, it can be seen that the mean for market-to-book ratio, a proxy for firms' 'hidden value', is 3.894,¹⁵ ranging from a minimum of 0.52 to a maximum of 17.81. It suggests that on average the market value of the sampled firms is nearly 4 times as much as the value shown on their balance sheet. The mean for share price volatility and share turnover is 0.802 and 0.252 respectively.

5.7 CONCLUSION

This chapter sought to provide descriptive analyses of intellectual capital (IC) disclosure in the annual reports of 100 LSE-listed UK firms at overall and subcategory

¹⁵ The average market-to-book ratio of all LSE listed firms is unknown for the year of the study. However, Beattie and Thomson (2005) document an average market-to-book ratio of 2.52 for 92 of the FTSE 100 for 2002/2003.

levels. The locations of IC disclosure and the descriptive statistics of independent variables were also explored.

The measures of IC disclosure are generally more comprehensive than earlier studies, employing a disclosure index (variety) and word count, both as an absolute figure (volume) and a proportion of annual report word count (focus). The disclosure index covers a 61-IC-item checklist distinguishing between text, number and graph/picture, i.e. a 183-format-item index score. It is argued in this study that, as well as the variety and volume of IC disclosure, it is meaningful to measure firms' IC disclosure focus (ICWC%). On average, twenty-six per cent of annual report disclosures were devoted to IC. Given that investors with smaller shareholdings often devote little time to reading these reports, this IC focus measure may play an important role in influencing resource allocation decisions. Other studies might usefully employ this measure.

In terms of IC disclosure by three categories, relational capital disclosure was identified as the most disclosed by volume, suggesting the strategic importance and value-relevance of relational capital to the sampled UK firms and information users. However, structural capital ranks highest for variety of disclosure and structural and relational are joint highest for focus. In all cases, human capital is in third place.

It is also observed that the IC disclosures captured remain mainly in text form, although there is also considerable numerical information. Graphs/pictures are less commonly employed in the communication of many IC elements, although they appear to be important for some sample firms (e.g. on human capital disclosures for business support services providers, and structural and relational capital disclosures for firms in the media and banking sectors). Davison and Skerratt (2007) call for greater attention to the use of graphs and pictures in the communication of intangible assets. The authors recommend that accountants should develop greater sensitivity to the messages

portrayed by discretionary words and pictures, and to the ways in which this narrative and visual material can enrich the communication provided by financial statements.

The findings of high level of disclosure of many IC items in the research instrument confirm that UK firms are generally aware of the importance of IC elements and the need for their disclosure, and are making the information available to information users via annual reports. However, results of the content analysis support the finding of Roslender and Fincham (2004) that the term ‘intellectual capital’ does not feature in UK firms’ vocabulary. Terms commonly employed by researchers do not form part of managers’ vocabulary, which highlights the need for raising the awareness of the IC concept not only within boardrooms but also in the wider market, and greater agreement on terminology and definition of IC, in order to arrive at more standardised IC disclosure practice.

The chapter also examined the location of IC disclosure in annual reports. The results support Guthrie et al.’s (2007) finding that few firms devote a separate section to IC. In this study, IC information was captured in virtually all sections of the annual report, although the extent of disclosure varies significantly. Structural and relational capital disclosures were highly concentrated in the OFR and Chief Executive Review sections, and human capital disclosure was mainly concentrated in the Board of Directors and Corporate Governance sections. The identification of locations of IC disclosure helps standardise such practice.

The descriptive picture painted in this chapter of IC disclosure practice of the 100 UK listed firms offers few clues on the factors that affect such disclosure. However, it offers a relevant context for the following chapters which explore the influence of corporate governance factors, company characteristics and market factors on the level of IC disclosure.