

**Research Executive Summaries Series**

Exploring Intellectual Capital Practice in the Irish  
ICT Sector

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The Full Report can be downloaded from the Resources section of the CIMA website at [www.cimaglobal.com](http://www.cimaglobal.com)

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# Research Summary: Exploring Intellectual Capital Practice in the Irish Information and Communications Technology (ICT) Sector.

## Overview

This study of Irish SME's in the ICT sector represents an initial attempt to contour management, governance and reporting practice in relation to intellectual capital. It also offers an opportunity to encourage chief financial officers (CFOs) and others involved at a decision-making level in the ICT sector to actively engage with the best practice activities of various pioneering ICT companies operating internationally.

The key points to emerge from this study are:

- Intellectual capital is perceived to be the principal source of value for firms operating in the ICT sector, accounting for 59% of firm value.
- Human competencies, skills, know-how and relationships account for 55% of intellectual capital.
- Internal structures (22%) and external structures (23%) are the other elements contributing to intellectual capital value.
- Typically there is no comprehensive attempt to explicitly measure or monitor the intellectual capital component of firm value.
- There is little evidence of any significant differences in accounting, human resource, reporting, or governance cultures between firms operating in the ICT sector and more traditional firms.
- Senior management are making strategic and operational decisions, in relation to key intangible resources, without the benefit of integrated or sophisticated management accounting systems.
- The remuneration packages prevalent in this sector are not significantly different from those found in more traditional sectors.
- The workforce is highly educated: a third-level qualification is fast becoming the entry norm.
- The majority of firms in this sector are profitable and conservatively financed (equity financed).
- With the exception of e-financial management, CFO involvement lags e-business implementation.
- Accountants and CFOs can and should be more proactive in identifying and implementing best practices in relation to intellectual capital and its management.

## 1. Introduction

Accounting practices have been designed with the intention of fulfilling a fundamental stewardship role. Accounting has found it much more difficult to deal with items to which its limited conceptual framework can assign neither value nor tangible existence. Thus, to a large extent, the intangible resource base of firms is neither recognised nor measured. However, the realisation that intangible assets can no longer be dismissed as the incidental and troublesome offspring of activities undertaken by relatively few, albeit large, entities, has considerable implications. Unless the accounting model can be extended to embrace these challenges then it will become increasingly irrelevant to firms operating in the ICT sector.

Employing the generic term 'intellectual capital' to capture the intangible resources referred to, the report seeks to provide some insight into practice in the ICT sector in relation to the following:

- The role and nature of intellectual capital as a source of competitive advantage and value.
- Perceived sources and indicators of such advantage and value.
- Managerial, structural and human resource responses to consequent challenges and opportunities.
- Financial reporting and managerial accounting responses to the recognition, measurement, internal control and investment appraisal issues raised by the emergence of intellectual capital as a key source of wealth.
- The effect of 'new economy' dynamics on the role and perception of management accounting.
- The evolving role of the CFO in the context of e-business.

Focusing upon the ways in which practitioners are responding in situ to the recognition, measurement and management challenges posed by this phenomenon, it is hoped that the findings from this preliminary investigation will facilitate a more informed response by firms, CFOs and the accounting profession to a changing environment.

The full research report:

- Looks at the incidence of intellectual capital in ICT firms and the extent to which it contributes to corporate value. It also analyses the manner in which different aspects of firm activity and resources contribute to intellectual capital. It concludes with an investigation of some of the issues surrounding intellectual property rights.
- Addresses corporate governance cultures, and investigates the extent to which 'new economy' and 'e-business' dynamics may have resulted in changes in the ways in which firms are structured and operated. This is prompted by media and industry speculation that more inclusive and democratic forms are challenging traditional models of ownership and control.
- Reviews the financial performance and structure of firms operating in the ICT sector. It investigates and analyses characteristics such as profitability and gearing with a view to delineating the financial characteristics of the sector. It also explores the question of the valuation of such firms, focusing on the extent to which intellectual capital can be employed to explain the significant gulf that exists between net asset (book) value and perceived market value.
- Provides feedback as to whether and how firms are using management accounting systems and techniques to manage these intangible resources.
- Looks specifically at how the sector is managing and rewarding what is now accepted as its key resource – people.
- In the context of the advent of 'e-business' and new forms of work, control and ownership, the report is devoted to looking at the extent to which these are impacting upon the role of the CFO.
- Examines the impact of 'new economy' dynamics on the accounting model and profession and considers the threats posed and opportunities offered to traditional guardians of corporate control such as accountants.

## 2. Intellectual capital

For the purposes of the report, IC is understood to embrace 'that portion of the intangible asset base of an enterprise comprising of people, internal structures and external structures.'

The dynamics of the 'new economy' bring to the fore resources not recognised or measured by the traditional models of control. The characteristics of these resources, in particular their intangible nature, present significant challenges for firms, for CFOs and for the accounting profession in general.

In summary the main findings are:

- IC emerges as the most significant source of company value. Therefore, it is critical that firms succeed in recognising, measuring and incorporating it into internal control and resource allocation models in order to exploit its full potential and yield competitive advantage.
- The people element is viewed as the single biggest contributory factor. The implication is that finding, developing and retaining people with appropriate and adaptable knowledge skills will be a significant factor in determining corporate survival and success.
- IC is more than IP (intellectual property), which can be more properly understood as knowledge-based assets whose ownership has been definitively captured by the firm.
- Licenses are the most popular method by which firms attempt to establish and protect their IP rights.
- Firms seek to secure ownership of all knowledge-based products, processes and services developed by their employees during the course of their employment and employees are generally not contesting this.

These findings also confirm the extent of the challenge for functions such as accounting, in that currently these resources are largely absent from many of the internal management reporting processes intended to facilitate resource allocation, decision-making and investment appraisal (see Chapter 5 of full report). Unless the traditional guardians of corporate control and management develop techniques and conceptual frameworks within which IC can be captured, the capacity of firms to manage these resources will be compromised.

### 3. Corporate Governance

The emergence of the ICT sector over the last decade has paralleled considerable debate amongst governments, regulators and professionals as to the best and most efficient ways of governing and controlling firms. There has been much talk of corporate responsibility, good governance practices and the need to recognise the rights of a broader range of 'stakeholders'. In particular, the realisation that employees are now incontestably a firm's most critical resource has prompted a reconsideration of the 'balance of power' between the providers of financial capital and the providers of intellectual capital.

The research provides little evidence of any significant democratisation of the governance culture in firms operating in the ICT sector. Indeed, it would appear that this sector has a governance culture quite similar to that prevalent in traditional firms.

In summary, the full report shows that:

- Boards are still dominated by males, with females providing a token presence.
- Non-executive directors form a minority of the board, but play an increasingly important role.
- Venture capitalists secure their investment with representation on the board.
- Lip service is paid to some aspects of best practice.
- There is little evidence of a democratisation of ownership to embrace a wider set of stakeholders.

### 4. Financial performance, structure and valuation

The report states that the most obvious conclusion to be drawn from an analysis of the financial performance and structure of private indigenous Irish firms in this sector is their relatively robust state of health.

- Most firms are profitable and showing growth in revenues. However, a significant and growing minority of firms is incurring losses;
- The funding arrangements of most firms are rather basic with the bulk of funding deriving from equity investment. The industry can be characterised as 'low-g geared' with a unsophisticated, but robust, financial profile typical of any industry at an early stage of development;

- CFOs remain confident that a change in market sentiment will mean a return to high valuations in the short to medium term; and
- While allowing that the accounting model does not pretend to calculate firm 'value', a market-to-book ratio of over 11:1 (see chapter 4) provides some measure of the deficiencies of the current accounting model, as well as some indication of the optimism common to this sector.

### 5. Management accounting issues

The report uncovered little evidence that firms in the private, indigenous Irish ICT sector have embraced contemporary management accounting processes or systems. In general, the results in the study showed that firms rely largely on traditional financial performance indicators and budgetary control to manage their business activities. The results also suggested that firms supplement this to a moderate extent with a range of ad hoc information from sources other than the mainstream cost accounting system.

In summary, the results show:

- Very low usage of contemporary management accounting systems and applications such as balanced scorecard or MRP/ERP/EVA/SVA.
- Moderate usage of a traditional budgetary control/standard costing framework coupled with the adoption of job costing and some application of activity based costing principles as well as rolling forecasts and estimates.
- Management accounting practice operates in a command/control context rather than in a spirit of empowerment.
- Little evidence of external positioning/benchmarking or of a strategic management accounting focus.
- Very low importance given to capital investment appraisal/allocation information.
- Some recognition given to the importance of non-financial performance indicators.
- No comprehensive attempt to measure or monitor the IC value within a firm.

Taken together, the results are surprising, given the innovative nature of the sample population and its product profile. They suggest that senior management is making key strategic and operational decisions without the benefit of integrated and sophisticated management accounting systems. Consequently, it appears that they are relying largely on traditional historical financial performance indicators and long-established budgeting and forecasting practices to carry out their responsibilities. There is some evidence of ad hoc management information being generated from other sources. However, the quality, timeliness and relevance of such information are of some concern. Given the dynamics and velocity of change inherent in this sector, one would have expected strong evidence of innovative concepts and applications such as life cycle costing, functionality costing and target costing. Thus, the study confirms that management accounting systems and applications are not being exploited to their full potential.

Finally, it is obvious that the enormous advances in computing and software technology in recent years have not been reflected in the manner in which the management accounting function is carried out in the private indigenous ICT sector in Ireland. This raises critical questions as to the integrity of the information used by management in deciding on important issues such as pricing, product mix and customer-profitability-analysis. It is also consistent with the view that there is room for improvement in the management of these firms and that this should eventually be reflected in improved operating results.

#### **6. Remuneration and workforce issues**

The need to encourage innovation, while simultaneously ensuring that key employees are adequately rewarded, has posed particular challenges for the ICT sector in Ireland. Indeed, much media and industry comment has focused on the remuneration packages and work culture of the ICT sector.

The feedback indicates that basic salary represents by far the largest means of compensation. Indeed, performance-related bonuses form only a small part of the total remuneration package.

The main findings in the report are:

- Salary remains the primary component of remuneration packages.
- Performance-related bonuses are not a significant component of remuneration.
- Stock options are granted by less than half of firms and are not a significant component of remuneration.
- The average number of hours worked per week was 46.3 for managers and 40.9 for employees.
- Average age and tenure of managers is 36.7 and 5.9 years respectively.
- Average age and tenure of employees is 27.8 and 3.2 years respectively.
- Educational levels in the sector are high. A graduate, third level qualification is becoming the entry norm.
- A strong argument can be made for encouraging constructive dialogue between management accounting and HR professionals in managing intangible resources.

#### **7. e-Business, accounting and the CFO**

The knowledge economy and the growth in e-business challenge both the role of the CFO and the accounting function. However, there is as yet little clarity as to how specifically the role of the CFO and the position of the accounting profession and discipline will be affected by such trends. One perspective suggests that CFOs are likely to become more involved in corporate strategy across functions and throughout the entire e-value chain. An alternative perspective predicts that accounting as both a discipline and a profession is being downgraded, with a resultant diminution in the role and status of accountants and CFOs. The authors refer to this as the e-architect/foot-soldier question.

The report tentatively concludes that although there is evidence of both e-business implementation and of CFO involvement in this process, there remains quite some distance to be negotiated before either CFOs or accounting functions can claim to be strategic leaders or e-process architects in the e-business arena.

The authors state that:

- Medium range levels of e-business activity in the private, indigenous Irish ICT sector in the areas of e-market orientation, e-financial management, e-infrastructure management, e-information management and e-process management e-HR systems are, as yet, underdeveloped.
- No evidence to support the proposition that the CFO (or the accounting profession) is leading the e-business revolution within Irish ICT firms.
- CFO level involvement lags behind firm level implementation in all e-business areas, with the sole, if unsurprising, exception of e-financial management.
- Some broadening of the traditional CFO role (whether this emerging role extends beyond investment appraisal or otherwise, definitive conclusions cannot be drawn at this stage).
- That the future of the CFO/accounting role and power position remains far from clear.

### **8. Conclusions**

Overall, the research uncovered little in the way of innovative or imaginative use of newer performance templates in relation to management practice vis-à-vis intellectual capital. In fact, an explicit engagement with intellectual capital as a commercial reality has yet to emerge in this sector. There is, for example, only limited evidence that indigenous Irish firms are adopting any of the leading-edge intellectual capital solutions being employed internationally. Furthermore, in spite of the fact that the 'people' dimension of intellectual capital is perceived to be so critical, there is little or no dialogue between management accounting and human resource professionals.

If they are to reap the full benefits of the innovative operational and reward environment promised by the 'new economy', management, employees and other stakeholders in indigenous Irish ICT firms must be encouraged to look to international pioneers of best practice.



## 9. Resource materials and further reading

Listed below is a selection of online resource materials and reading for an international perspective on the subject:

- Karl-Erik Sveiby's online library is an excellent point of departure for anyone new to this area: [www.sveiby.com](http://www.sveiby.com). See, for example, his review of methods for measuring intangible assets, including his own Intangible Assets Monitor™ (with [www.celemi.com](http://www.celemi.com)): <http://www.sveiby.com/library.html#mia>
- Leif Edvinsson produced the world's first IC addendum to an annual report for Scandia in Sweden almost ten years ago: [www.skandia.se/hem/hem.jsp](http://www.skandia.se/hem/hem.jsp). His book *Intellectual Capital* (Piatkus, London, 1997) with Michael Malone provides a very readable and practitioner oriented overview of the Skandia Navigator™.
- Denmark is a world leader in this area. The Danish Ministry of Science, Technology and Innovation's *New Guidelines* ([www.efs.dk/icaccounts](http://www.efs.dk/icaccounts)) were published in early 2003. Jan Mouritsen ([www.cbs.dk/staff/jan.mouritsen](http://www.cbs.dk/staff/jan.mouritsen)), Research Director for the Danish Intellectual Capital project, with Per Nicolaj Bukh ([www.pnbukh.com](http://www.pnbukh.com)) H.T. Larsen and others, have been actively involved with, followed, brought together and processed the experiences of more than 100 firms in developing, making use of, and publishing intellectual capital statements.
- Recent publications by Nick Bontis, Director of the McMaster World Congress on Intellectual Capital, are available at [www.bontis.com](http://www.bontis.com)
- The MERITUM project (Measuring Intangibles to Understand and Improve Innovation Management) has produced very significant findings: [www.uam.es/meritum](http://www.uam.es/meritum) and [www.kunne.no/meritum](http://www.kunne.no/meritum). E\*Know-Net: [www.eu-know.net](http://www.eu-know.net) is a follow up online network.
- The PRISM project, directed by Clark Eustace, held its final conference at CASS Business School, London on July 4th, 2003: [www.euintangibles.net](http://www.euintangibles.net)
- NORDIKA & FRAME are two Nordic projects for developing IC – 1999-2003: [www.icframe.net](http://www.icframe.net)
- Centre for Business Performance at CRANFIELD School of Management: [www.cranfield.ac.uk/som/cbp](http://www.cranfield.ac.uk/som/cbp). Performance Measurement Association: [www.performanceportal.org](http://www.performanceportal.org). Download recent joint CIMA/Cranfield publication on IC by Danka Starovic and Bernard Marr: <http://www.cimaglobal.com/downloads/intellectualcapital.pdf>
- Intellectual Capital Services, directed by Göran Roos, co-creator of the IC-Index (™): [www.intcap.com/downloads.html](http://www.intcap.com/downloads.html)
- Baruch Lev, perhaps the leading financial analyst in this area, creator of the Value Chain Scoreboard™, makes his work available: <http://pages.stern.nyu.edu/~blev/>
- José Maria Viedma Marti on IC Innovation/Operations Benchmarking: <http://intellectualcapitalmanagementsystems.com>
- Jürgen Daum is senior business consultant at SAP AG, Walldorf, Germany: [www.juergendaum.com](http://www.juergendaum.com)
- Daniel Andriessen [www.weightlesswealth.com](http://www.weightlesswealth.com) co-creator of KPMG's Value Explorer™.
- The Value Creation Index: [www.ca.cgey.com/news/invisible\\_advantage\\_mediakit/vci.pdf](http://www.ca.cgey.com/news/invisible_advantage_mediakit/vci.pdf)
- Ante Pulic's accounting tool: [www.measuring-ip.at/Papers/ham99txt.htm](http://www.measuring-ip.at/Papers/ham99txt.htm)
- PricewaterhouseCooper's ValueReporting: <http://www.cimaglobal.com/downloads/enron.pdf>
- The Balanced Scorecard Collaborative Online: [www.bscol.com](http://www.bscol.com)
- Recent research from CIMA <http://www.cimaglobal.com/main/resources/knowledge/search.htm?Form=1&Type=5>
- Accounting for People, UK Department of Trade & Industry: <http://www.accountingforpeople.gov.uk/consultation200503.pdf>

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