GUEST EDITORIAL

Intangibles and the transparent enterprise: new strands of knowledge

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Abstract *Examines the new challenges that have been posed by the information society and the new demands posed on management. The term "knowledge-based economy" has become universal, the rules of business are being rewitten and the industrial era enterprise models are no longer adequate to meet the dynamic condition of a changing world market. Companies have become aware of the importance of managing the external communication since this issue is considered important for the company's ability to generate value. Various studies of investors and analysts' request for information indicate a substantial difference between the amount of information found in companies' annual reports and the type of information demanded by the market. The articles in this special edition of* Journal of Intellectual Capital *represent main current research activities into the area of intellectual capital (IC) in Europe and also Australia. The articles represent the wide scope of research that is being carried out in the expansive field of the measurement, analysis and management of IC.*

Introduction

Firms are facing new challenges posed by the information society. This is likely to pose new demands on management also. The term "knowledge-based economy" has become universal and it is generally accepted that the source of value creation increasingly is to be found in the creation and manipulation of information, knowledge and ideas. It is often stated that the rules of business are being rewritten and that the industrial era enterprise models are no longer adequate to meet the dynamic condition of a changing world market.

Accordingly, there has in recent years been an unprecedented increase in the use of the terms IC, intangibles, knowledge or knowledge resources with a variety of applications. Often the terms, intangibles, knowledge resources and intellectual capital, are used to refer to almost the same set of concepts. Both are applied to non-physical resources or activities that may or may not appear in corporate financial reports.

Knowledge resources have increasingly been seen as an integral part of firm's value creating processes (e.g. Low, 2000; Sullivan, 2000) and we have experienced a boom in the literature on knowledge management. In the same vein, companies have become aware of the importance of managing the external communication regarding, e.g. managerial qualities, expertise, experience and integrity, customer relations and personnel competencies –

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all factors related to IC – since these issues are considered important for the company's ability to generate value. However, various studies of investors and analysts' request for information indicate a substantial difference between the amount of information of this type found in companies' annual reports and the type of information demanded by the market (e.g. Eccles *et al.*, 2001).

Current streams of research

The recent interest in IC has been driven by practise and most research has been empirical oriented or at least driven by practical considerations. Being a rather new field of research the area tends to be divided into several branches of research, each with its own set of problems to be addressed and with its preferred theories and methodologies.

A substantial amount of research is accounting orientated and has traditionally focused on the value relevance of specific IC indicators, e.g. research and development expenses (Lev and Sougiannis, 1996), possibly even with the purpose of showing how intangibles could be capitalized (e.g. Gu and Lev, 2001). From a "traditional" accounting perspective this first branch of literature often focuses on how various categories of intangible assets often classified as traditional intangibles, e.g. goodwill, brand names or patents, and deferred charges, e.g. advertising, research and development or training costs (see Hendriksen and van Breda, 1992) relate to financial performance and decision making based on this. Cañibano *et al.* (2000) review a number of studies where the value relevance of other elements of IC, e.g. research and development expenses, advertising, patents, brands, customer satisfaction and human resources, are studied.

Another branch of literature is more loosely coupled to accounting focussing on the interconnectedness of the specific parts of IC, possibly with the purpose of showing how integrated reports on IC could be designed and used (e.g. Collier, 2001; Mouritsen *et al.*, 2001). Very often (e.g. Bukh *et al.*, 2001; Mouritsen *et al.*, 2001, 2002; Johanson *et al.*, 2001b) the relationships between the indicators of IC and the interpretation of the interconnectedness of the indicators in relation to the specific firm are the main interests of the researchers and often whole IC reports are studied and not only separate indicators. In relation to this a management control orientated part of the accounting related literature (see e.g. Johanson *et al.*, 2001a,b) focussed on how the IC indicators can be used for management control purposes.

From the management perspective, many authors see the knowledge based economy as calling forth a new managing approach. (e.g. Allee, 2000; von Krogh *et al.*, 2002) where intangibles are in the limelight. A substantial amount of research has, until now, focused on how to identify and classify the greater hidden value of the firm (Cañibano and Sánchez, 2003) and many frameworks have been suggested. It is, however, a remaining question whether firms know how to manage this important value in order to get the right values for future development.

In the recent work on guidelines for IC reporting (e.g. Meritum, 2001; DATI, 2000; DMSTI, 2003) the managerial perspective has been brought together with the accounting perspective in the development of frameworks for identifying, managing and reporting on IC. Although the areas of IC can be quite diverse, for example value relevance studies, knowledge management, and management control, these separate areas have become more closely related since the recent work on IC guidelines, for example, Meritum which concerns identification, management and reporting of IC. Some will argue that the framework proposed in the guidelines is still too narrow because management of intangibles is also about enabling the creation of new intangibles or knowledge (von Krogh *et al.*, 2002). We fully acknowledge this important view and it emphasises that the management of intangibles is still a diverse and expansive area. The latter is illustrated by the different contributions to the present special issue.

The special issue

The seven main papers and three commentaries in this special issue of *JIC* were originally part of the International conference titled "The transparent enterprise. the value of intangibles" held at the Autonomous University of Madrid, on 25-26 November, 2002. This conference was organized by E*KNOW-NET, under the auspices of the OECD and the Spanish Ministries of Economy and of Science and Technology. The main aim of the conference was to act as an exchange platform for different practices, research initiatives and policies with regard to the management, measurement and disclosure of information on intangibles, both at national and firm level world-wide.

This general objective of the conference was divided into the following specific objectives:

- *Network (exchange and build)*: to enhance and consolidate relationships between enterprises, research centres and other existing and potential users of information and knowledge on IC.
- *Disseminate*: to exploit and make more visible at European level the results obtained in previous research projects on intangibles, making them available to a larger number of agents.
- *Forecast*: to signal to changes in knowledge management within companies and promote a discussion with users of information on intangibles in order to detect opportunities for new innovation policy, benchmarking exercises and research and training activities, in the context of the EU 6th framework program.

The papers and commentaries in this special edition of the *JIC* represent main current research activities into the area of IC in Europe and also Australia. The papers represent the wide scope of research that is being carried out in the expansive field of the measurement, analysis and management of IC. The

papers also convey the aim of recent research to bring together the various research traditions within the field of intangibles.

The main papers

In the first paper, Marr *et al.* (2003) based on a review of the research in the field of IC measurement, provide theoretical rationales of why firms measure IC and existing empirical evidence that tests, and helps to prove the theoretical assertion that the measurement of IC is valuable. The paper provides a taxonomy of drivers as to why organisations measure their IC and discusses whether the extant research lends any credence to the thesis that measuring IC delivers business benefits.

The authors conclude that the majority of research within the field of IC measurement remains at the theory building stage, with little of those theories purported having been fully tested. The field of IC risks losing credibility, the author state, if researchers fail to provide tests that validate existing theories, rather than further adding to the already expansive body of literature, and theoretical discussions on the measurement of IC. Furthermore, without the support of rigorous research and testing the field of IC can not move beyond the stage of only assuming that the measurement of IC is worthwhile. Finally, Marr, Gray and Neely outline, in their paper, several possible avenues for scholars to pursue, in order to develop and validate the field of IC measurement.

One of these critical areas where we still need to see convincing evidence is in the capital markets use of information on IC. Much literature has taken as a point of departure that information on IC should be reported to the capital market because companies increasingly base their competitive strength and thus the value of their company on know-how, patents, skilled employees and other intangibles (e.g. Eustace, 2001; FASB, 2001; Upton, 2001). However the capital market participants face major problems partially arising in the processing of corporate IC. This area is addressed in the second paper where Holland and Johanson (2003) provide an exploratory study into the systematic problems within capital markets concerning the use of information on corporate intangibles.

The aim of Holland and Johanson's paper is to investigate systematic problems within capital markets concerning the use of information on corporate intangibles. The paper is structured into two complementary lines of investigation. First, the nature and structure of the information market is outlined, and using the concept of the value creation chain the authors explore how value relevant information on corporate intangibles is used by market participants in the market. Second, the paper discusses the problems and barriers that the market participants, such as fund managers and analysts, are expected to face when creating and processing information on corporate intangibles.

Their paper concludes that there is a strong demand for corporate IC information by fund managers and analysts. However, it also outlines the

significant difficulties that market participants face in meeting this demand. With the IC related capital market "information crisis" in mind, the authors attempt to provide insight into the barriers and difficulty faced on both the supply and demand side. Focusing on the difficulties faced by fund managers and analysts in understanding and processing IC information and in value creating activities, the authors suggest direct study of analyst and fund manager value creation chains, and the role of the analyst and fund mangers within these chains. They also propose that training of such market participants could increase the value of IC information within the market.

Another fundamental aspect of the capital markets use of IC information is whether it is the right information that is reported. Beattie *et al.* (2002) has in a review of recent proposals for disclosure concluded that the reporting should give the capital market actors an opportunity to see the firm "through the eyes of management" which implies that it is the IC information that is used in managing the firm that should be reported. Thus, we turn the interest to the management control side of accounting where Skoog (2003) in his paper looks at value creation and management control systems through the concepts of time and place/space.

The paper investigates the management control system features of importance for organisations in comprehending and allocating attention to their value creation. He outlines that the role of intangibles is increasingly being understood as imperative to an organisation's value creation process. In order to analyse an organisation's ability to understand, and focus on, their value creation, Skoog uses the case study of the Swedish bank and investigates their management control system within the context of IC information.

Skoog concludes from his study of the Swedish bank that its management control system contains at least three general features that enable support for organisational value creation: connectivity; regularity; and stability. These three features have, he argues, a potential to assist more comprehensively in allocating attention to, and control of, the organisation in relation to the defined value creation agenda. The value creation framework provided in this paper provides a distinctive and fresh perspective on the creation, measurement and management of IC within firms.

Fletcher *et al.* (2003) present an interesting paper on the value dimensions of a non-profit organisation from the perspective of the external stakeholder. The subject of this study is the Australian Red Cross Blood Service (ARCBS), and through careful examination, the authors aim to better understand the value that ARCBS holds for its diverse stakeholder groups. They report on the perceptions of stakeholders through the creation of a value hierarchy that consists of nine key performance areas (KPAs).

The study revealed a high level of agreement amongst stakeholders on both the structure of the value hierarchy. They outline the importance of managing

the intangible resources of ARCBS – its human, structural and relationship resources. They also identify the KPAs in which ARCBS has already been successful in orchestrating and provides information for ARCBS to achieve more efficient value creation for all its stakeholders. Furthermore, the study uses a methodology that provides a means for understanding stakeholder perspectives, both in their paper and for future papers.

Both Skoog's (2003) and Fletcher *et al.*'s (2003) paper are representative for the IC field in the sense that they adopt very different methodologies. Even though each paper, within the perspective adopted, clearly states the implications for practice, users and producers of financial statements probably need more specific advice with respect to how the widespread call for more transparency should be addressed. While it probably premature to propose firm accounting standards in the area, a coherent policy for the reporting of IC could still enhance consistency and also help to discharge more comprehensively the stewardship responsibilities of management.

One of the difficulties in this respect is cultural differences in the management and reporting of IC. Chaminade and Johanson (2003) consider the impact hereof in their paper. They argue that cross-country guidelines cannot be established without first recognising the different cultural characteristics such as mentality, assumption of knowledge, context for social interaction and the creation and adoption of new knowledge. Using the Meritum guidelines as a basis, they examine the differences in the application of these guidelines in Spain and Sweden. These differences are discussed in relation to:

- the interest and experience of IC among firms; and
- the way firms develop IC management and IC reporting.

The study found that culture affected the assumptions of knowledge as well as the creation and the adoption of new knowledge. Therefore, they argue, culture can govern the emergence of new knowledge, such as IC reporting and management. However, no cultural difference was reported with respect to the development of IC reporting and management. Their paper affirms that cultural differences should be considered when creating IC guidelines, and furthermore, individual countries may see need, after further research, to create their own individual policies relating to IC management and reporting.

Bozzolan *et al.* (2003) present an empirical analysis of intellectual capital disclosure (ICD) by analysing the annual reports of a number of Italian listed companies. The study aims to answer the following two questions:

(1) What is the amount and content of ICD in the annual reports of the Italian listed companies?

(2) What are the factors that can explain the observed differences in voluntary disclosure patterns?

The paper also compares the observed ICD of Italian listed companies with the results of a study conducted by Guthrie and Petty (2002) which uses the same methodology to analyse the ICD of Australian companies.

The paper finds that to Italian companies ICD is mainly confined to information regarding external structure, a case that was not comparable to the Australian study. The paper finds that the variations between companies in ICD was connected with the factors of industry and size. The paper highlights the cultural differences in ICD, and illustrates an efficient methodology for examining ICD through annual reports.

Finally, Thorbjørnsen and Mouritsen (2003) compare the use of competence measurements at three Danish companies: Danish Competition Authority, Andersen Management International, and Dansk International Efteruddanelse. By examining the technologies of managing employed by these three companies, the paper highlights the difficulties faced when accounting for, and managing, the individual. Whilst examining current practices into the accounting for the employee, they also question how and whether is it possible to manage the individual? As the individual's innermost feelings, sentiments and tacit knowledge remain elusive, is the management of knowledge then possible? Furthermore, is the IC statement a positive means to move this management process ahead?

The three case studies illustrate that the results from each competence measuring system depend on the work tasks being considered. For example, for the AMI and KS, with only a few standardised tasks, the broad meta-competences were important, but in the DIEU the operative standard competences were more important due to its more formalised course activities. Knowledge management was found to be exercised, not through the monitoring of employee, but by the setting up a good environment for efficient co-operative relations. The authors argue that an organisation with an increasing number of incentive factors and reduced focus on support factors with attract and secure the most qualified employees and subsequently have an increased commitment to the company's drive.

The commentaries

The commentaries published in this issue are based on the plenary session at the conference where various experts were invited to present their view on state-of-the-art research and practice in the intangibles field. In the first commentary Bukh and Johanson (2003) discuss the differences and similarities between the two guidelines developed by the Meritum research project (Meritum, 2001) and the Danish Ministry of Science Research, Technology and Innovation (DATI, 2000; DMSTI, 2003). The aim of these guidelines is to develop a new language that can assist external parties in understanding intangibles. Furthermore, the guidelines aim to help firms in the management and reporting of IC. The guidelines describe how to identify a company's

knowledge management strategy, including the identification of its objectives, initiatives and results in the formation, application and development of the company's knowledge resources.

They conclude that whilst the Meritum and E*Know Net and the Danish work has provided a successful start, a lot of questions remain lingering. They highlight the need for more practical guidelines for disclosing IC that will involve the stakeholders themselves, with guidelines that will form the basis of the markets' assessment of the company.

Eustace (2003) in his commentary presents a new perspective on the knowledge value-chain by reporting the results of the PRISM research initiative. PRISM involves eight academic institutions in seven European countries and is supported by an advisory council of experts from the business community. The results of the PRISM study highlight some of the challenges faced by the European policy community.

In particular, the paper highlights the urgent need for high-level EU support for funding under the 6th framework program to foster interdisciplinary research and promote further research where it is lacking. He contends that this will require a shift in mindset, away from old-world deterministic thinking of equilibrium economics, towards a greater understanding of the real drivers of competition and value, in particular, intangibles.

Finally, García-Ayuso (2003) in his commentary of the conference presents a brief summary of the most relevant aspects of our current knowledge on intangibles and suggests some directions for future research on the intangible determinants of the value of companies and for the improvement of management practices and policy making. He argues that in order to move forward in the field of intangibles the following steps are the key:

- researchers, business companies and policy makers should commit to the improvement of the accounting model;
- researchers should provide a means to measure benefits arising from an intangible investment;
- researchers and policy makers must be committed to the development of SMEs;
- governments and regulatory bodies must be strongly committed to the improvement corporate governance mechanisms; and
- the integration and uniting of all projects on ICD.

The author's final remarks on the conference present a rounded finish, and summary of current knowledge, to this special issue of *JIC*.

Conclusion

The IC literature has so far mainly been orientated to three branches of research, accounting, management control, and management, respectively. The

contributions at the Madrid conference, as well as to this journal, could be classified in these three branches of research but they could also be classified in another dimension for example, the shortcomings in present IC research, the potential of IC for policy making purposes, and the need for basic IC research.

With respect to the shortcomings in present IC research many of the contributions at the conference, as well as in this journal, demonstrate the shortcomings in relation to managing IC or managing IC information flows. For example, Thorbjornsen and Mouritsen highlight the difficulties faced when measuring competence and thereby managing the individual; Skoog proposes that there are some common features that have to be obtained to create a useful IC management control system; Bozzolan, Favotto and Ricceri analyse the lack of standard IC disclosure practices for annual reports; and Holland and Johanson explore the barriers in IC information flows in the capital market.

Another theme embedded in the contributions to this special issue as well as to the conference in Madrid concerns the curiosity to investigate for analytical reasons the potential of using IC concepts in new application areas. The paper by Fletcher, Guthrie, Steane, Roos and Pike is an example of this. A closely related theme is the argumentation for applying the IC issue in new areas. At the Madrid conference it was proposed that many of the SMEs are well positioned to work with IC due to the their limited amount of formalized systems and existing tacit knowledge transfer (Cañibano and Sánchez, 2003). However, most of them have not even heard about these issues. Thus a proactive and tailored approach to these companies should be made in order to enlarge the innovative capacities of these very important units. Another area of application was suggested to be higher education and research institutions (Warden, 2002).

A frequently discussed topic at the Madrid conference, as well as in relation to IC in general, concerns the potential of IC indicators for policymaking purposes. In Madrid it was suggested that policy makers will be the main users of eventual indicators on intangibles and IC (Cañibano and Sánchez, 2003). Scientific, technological and innovation policies will probably be more tuned and focused if based on homogeneous and accurate information on IC provided by companies. Apart from this the IC issue is truly an expansive area which affects many sectors, companies of all sizes, and many institutions of very different nature. It is exactly the type of issue that calls for international collaboration. It is also an area where national approaches are useless: The guidelines, the rules, the procedures have to be international in order to work. Therefore, Governmental support from both national and international bodies to encourage IC analysis and to foster international co-operation will certainly pay off.

The variety of the contributions to this journal, as well as at the conference, demonstrate the variety of ways that the IC-movement presently is taking. Almost all of the papers indicate that IC, despite about ten years of experience,

is still in an immature theoretical phase. For example, Marr, Gray and Neely hold that IC measurement remains at the theory building stage, and Chaminade and Johanson propose that the culture dimension has so far been neglected but should be considered in IC theory building. All the commentaries in this journal, i.e. the contributions from Bukh and Johanson, Eustace, and Garcia-Ayuso suggest that further basic research activities need to be undertaken. The latter need was also addressed at the Madrid conference. It was proposed that there is a clear need to further explore the characteristics of the knowledge production function (Cañibano and Sánchez, 2003). Knowledge is today the main driver of growth and the term "knowledge-based economy" has now become universal. However, we still know very little about how knowledge is produced, used, shared and diffused within a given institution.

The IC related capital market "information crisis" of 1997-2003 emphasises the demand, and value, for researchers to better understand the way in which knowledge is created, the way it operates, and how to manage it within organisations. However, the high quality and richness of these papers confirms that the frontier of our knowledge on intangibles and IC has moved forward.

References

Allee, V. (2000), "The value evolution", *Journal of Intellectual Capital*, Vol. 1 No. 1, pp. 7-32.

Beattie, V., McInnes, B. and Fearnley, S. (2002), *Through the Eyes of Management: A Study of Narrative Disclosures*, Centre for Business Performance, ICAEW.

Bozzolan, S., Favotto, F. and Ricceri, F. (2003), "Italian annual intellectual capital disclosure: an empirical analysis", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 539-54.

Bukh, P. and Johanson, U. (2003), "Research and knowledge interaction: guidelines for intellectual capital reporting: a note", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 572-83.

Bukh, P.N., Larsen, H.T. and Mouritsen, J. (2001), "Constructing intellectual capital statements", *Scandinavian Journal of Management*, Vol. 17 No. 1, pp. 87-108.

Cañibano, L. and Sánchez, M.P. (2003), "Measurement, management and reporting on intangibles: state-of-the-art", paper accepted for presentation at the American Accounting Association 2003 Annual Meeting, 3-6 August, Honolulu, HI, USA.

Cañibano, L., García-Ayuso, M. and Sánchez, M.P. (2000), "Accounting for intangibles: a literature review", *Journal of Accounting Literature*, Vol. 19, pp. 102-30.

Chaminade, C. and Johanson, U. (2003), "Can guidelines for intellectual capital management and reporting be considered without addressing cultural differences?", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 524-38.

Collier, P.M. (2001), "Valuing intellectual capital in the police", *Accounting, Auditing & Accountability Journal*, Vol. 14 No. 4, pp. 437-55.

DATI (Danish Agency for Trade and Industry) (2000), *A Guideline for Intellectual Capital Statements: A Key to Knowledge Management*, Danish Agency for trade and Industry, Copenhagen.

DMSTI (Danish Ministry of Science, Technology and Innovation) (2002), *Intellectual Capital Statements – The New Guideline*, Danish Ministry of Science, Technology and Innovation, Copenhagen.

Eccles, R.G., Herz, R.H., Keegan, E.M. and Phillips, D.M. (2001), *The Value Reporting Revolution: Moving beyond the Earnings Game*, John Wiley & Sons, New York, NY.

Eustace, C. (2001), *The Intangible Economy: Impact and Policy Issues*, Report of the High Level Expert Group on the Intangible Economy, EU Commission.

Eustace, C. (2003), "A fresh perspective on the knowledge value-chain and its policy challenges: a note", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 584-92.

FASB (2001), *Improving Business Reporting: Insights into Enhancing Voluntary Disclosures*, Steering Committee Business, Reporting Research Project, Financial Accounting Standard Board.

Fletcher, A., Guthrie, J., Steane, P., Roos, G. and Pike, S. (2003), "Mapping stakeholder perceptions for a third sector organization", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 501-23.

García-Ayuso, M. (2003), "Intangibles: lessons from the past and a look into the future", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 593-600.

Gu, F. and Lev, B. (2001), "Intangible assets: measurement, drivers, usefulness", working paper, Boston University, Boston, MA.

Hendriksen, E.S. and van Breda, M.F. (1992), *Accounting Theory*, 5th ed., Irwin, Burr Ridge, IL.

Holland, J. and Johanson, U. (2003), "Value-relevant information on corporate intangibles – creation, use, and barriers in capital markets – 'between a rock and a hard place'", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 461-82.

Johanson, U., Mårtensson, M. and Skoog, M. (2001a), "Mobilizing change through the management control of intangibles", *Accounting, Organizations and Society*, Vol. 26 No. 7/8, pp. 715-33.

Johanson, U., Mårtensson, M. and Skoog, M. (2001b), "Measuring to understand intangible performance drivers", *European Accounting Review*, Vol. 10 No. 3, pp. 407-37.

Lev, B. and Sougiannis, T. (1996), "The capitalization, amortization and value relevance of R&D", *Journal of Accounting and Economics*, Vol. 21, pp. 107-38.

Low, J. (2000), "The value creation index", *Journal of Intellectual Capital*, Vol. 1 No. 3, pp. 252-62.

Marr, B., Gray, D. and Neely, A. (2003), "Why do firms measure their intellectual capital?", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 437-60.

Meritum (2001), *Meritum Measuring Intangibles to Understand and Improve Innovation Management*, European Commission, Target Socio-Economic Research.

Mouritsen, J., Bukh, P.N., Larsen, H.T. and Johansen, M.R. (2002), "Developing and managing knowledge through intellectual capital statements", *Journal of Intellectual Capital*, Vol. 3 No. 1, pp. 10-29.

Mouritsen, J., Larsen, H.T., Bukh, P.N. and Johansen, M.R. (2001), "Reading an intellectual capital statement: describing and prescribing knowledge management strategies", *Journal of Intellectual Capital*, Vol. 2 No. 4, pp. 359-83.

Skoog, M. (2003), "Visualizing value creation through the management control of intangibles", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 483-500.

Sullivan, P.J. (2000), *Value-Driven Intellectual Capital: How to Convert Intangible Corporate Assets into Market Value*, John Wiley & Sons, New York, NY.

Thorbjørnsen, S. and Mouritsen, J. (2003), "Accounting for the employee in the intellectual capital statement", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 555-71.

Upton, W.S. (2001), *Business and Financial Reporting: Challenges from the New Economy*, Special Report, Financial Accounting Standard Board.

Warden, C. (2002), "Valuing and managing intellectual capital in HEROs", paper presented at the International Conference, The transparent enterprise, the value of Intangibles, E*Know-net Knowledge Library, Madrid, available at: www.eu-know.net.

von Krogh, G., Nonaka, I. and Nishiguchi, T. (2002), *Knowledge Creation: A Source of Value*, Palgrave, Basingstoke.

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