



Journal of Intellectual Capital

Managers' views on how intellectual capital is recognized and managed in practice: A multiple case study of four Swedish firms

Daniel Tyskbo,

Article information:

To cite this document:

Daniel Tyskbo, (2019) "Managers' views on how intellectual capital is recognized and managed in practice: A multiple case study of four Swedish firms", Journal of Intellectual Capital, <https://doi.org/10.1108/JIC-01-2018-0017>

Permanent link to this document:

<https://doi.org/10.1108/JIC-01-2018-0017>

Downloaded on: 19 March 2019, At: 06:24 (PT)

References: this document contains references to 58 other documents.

To copy this document: permissions@emeraldinsight.com



Access to this document was granted through an Emerald subscription provided by emerald-srm:232583 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Managers' views on how intellectual capital is recognized and managed in practice

A multiple case study of four Swedish firms

A multiple case study of four Swedish firms

Daniel Tyskbo

*Department of Business Administration, School of Business, Economics and Law,
University of Gothenburg, Gothenburg, Sweden*

Abstract

Purpose – The purpose of this paper is to advance the understanding of how intellectual capital (IC) unfolds in practice in organizations. This is done by answering the research question of how IC is recognized and managed in practice as expressed by managers.

Design/methodology/approach – An explorative, empirical and multiple case study was conducted, investigating four Swedish firms.

Findings – This paper illustrates how IC was recognized and managed in practice despite managers expressing uncertainty of what the IC concept means. More or less direct, formalized and purposeful ways were adopted. The IC elements and practices most important from a management perspective were those aligned with the overall strategy, but were seldom what was visible in financial reports.

Research limitations/implications – The use of an explorative, multiple case study limits the generalizability. However, the rich view gained of how IC unfolds in practice may not always be possible using large sample, survey-studies. Future research is therefore suggested to take this paper's insights further and investigate IC in other organizations and in other national contexts.

Originality/value – This paper responds to the calls for third stage IC research, by showing how IC management in practice may not be as clear and straightforward as researchers tend to assume. It also adds to the importance debate on IC accountingization, by reflecting on how an accounting dominance may not fully capture IC inside organizations. A number of practical contributions are also made.

Keywords Intellectual capital, Practice-based approach, Case studies, Measurement, Resource allocation, Sweden

Paper type Research paper

1. Introduction

The increased importance of intellectual capital (IC) in today's knowledge economy has spurred scholarly interest, and has now become a considerable debate in the academic literature. IC research has evolved over the past decades in four stages with a change in focus (Guthrie *et al.*, 2012). Research in the first stage was mainly based on the work of practitioners and focused on raising awareness of IC. Research in the second stage made IC visible by developing normative IC guidelines and frameworks, to demonstrate the impact of IC on financial performance and value creation (Guthrie *et al.*, 2012). The third stage has recently begun (Dumay, 2014), and involves practice-based research focusing on how IC elements and practices unfold in practice within organizations (Dumay and Garanina, 2013). The fourth stage involves extending the boundaries of IC into a wider ecosystem (Dumay, 2013; Secundo *et al.*, 2018), and thus showing awareness of how IC is important not only for creating economic value, but also in relation to ecological, social and demographic aspects (Massaro *et al.*, 2018). Despite the increasing interest among both practitioners and researchers, and the evolution beyond the stages of research, the IC literature is still limited in several important ways.

First, the majority of IC research continues to be of a normative and ostensive character, adopting top-down research approaches such as content analysis and value added intellectual coefficient (VAIC), which at best promotes awareness of IC (Dumay, 2014).



Much research therefore still tends to be stuck in the second stage of IC research (Dumay and Garanina, 2013). To transform the IC research, it is however required to use bottom-up (performative) approaches, based on practitioners' own understandings and interpretations, when studying how IC works in organizations (Dumay, 2014; Massaro *et al.*, 2018; Mouritsen, 2006, 2009).

Second, IC has mainly been studied from a strict accounting perspective and by that creating a narrow focus (Dumay, 2014). There is for example a predomination of articles concerned with external reporting that may have influenced the perception of IC as only an accounting issue, and thus ignoring important IC management processes (Chiucchi and Dumay, 2015). However, studies have suggested that although IC is not explicitly represented in financial reports, it can still be recognized and managed as an important aspect by organizations (Galabova, 2014). Further research is therefore needed that recognizes IC as also a management issue, in which the intersection with strategy and other management processes is acknowledged (Dumay, 2014).

This paper is an attempt to mitigate these mentioned shortcomings by aiming at advancing the understanding of how IC unfolds in practice in organizations. The study makes use of an exploratory multiple case study of four Swedish firms, to answer the following research question:

RQ1. How is IC recognized and managed in practice as expressed by managers?

This paper makes a number of contributions. First, it responds to the calls for third stage IC research (e.g. Dumay, 2014; Mouritsen, 2006), by using a performative and bottom-up approach to increase the understanding and knowledge of how IC unfolds in practice within organizations. Despite managers' blurred understanding of IC, it was still recognized and managed in practice, in which more or less direct, formalized, and purposeful ways were adopted. Contributing to knowledge of how managers are moving from their understanding of IC to how they are managing it inside their organizations (Giuliani *et al.*, 2016; Manes Rossi *et al.*, 2016), it is suggested that IC management in practice may not be as clear and straightforward as researchers tend to assume. Second, the paper contributes to the important debate on IC accountingization (Chiucchi and Dumay, 2015; Dumay, 2014) by extending the theoretical understanding of IC in practice, and reflecting on how an accounting dominance may not fully capture IC inside organizations. For management, various IC elements and practices were highly important, and these were often described as aligned with strategy, but often differed from what was visible in financial reports. In contrast to the accounting domination in much prior IC research, this paper therefore suggests more attention being paid to IC as a management issue. Third, the paper offers a number of practical contributions; for example related to providing practitioners with an opportunity to excavate their assumptions and make them reflect more critically. It also offers communicative and collaborative insights for organizational teams for improving their acceptance and understandings of different interests and needs.

The paper is organized as follows. First, the IC literature is reviewed, and second, the research method is presented. Third, the findings are presented for each studied firm, and in line with the research question. Finally, a discussion with conclusion is presented.

2. Literature review

The IC literature has been fast moving, and there are good review papers (e.g. Guthrie *et al.*, 2012; Dumay and Garanina, 2013; Dumay and Cai, 2015), which provide key sources for a more encompassing understanding of the field. In this section, the broad contours of the field are drawn, and the current study is positioned within the four stages of IC research (Guthrie *et al.*, 2012), with a focus on how IC has been recognized and managed within organizations.

Despite a variation in terms of names and definitions used for IC (Skoog, 2003; Lev, 2001; Andriessen, 2004), many researchers seem to share the understanding of IC as consisting of three elements; human capital (HC), structural capital (SC) and relational capital (RC), known as the tripartite classification of IC (Sveiby, 1997; Lev, 2001). Others types of capitals or sub-categories have been suggested, but the original classification still remains a solid reference for IC researchers (Guthrie *et al.*, 2006; Marzo and Scarpino, 2016).

HC is often seen as including competencies, knowledge, skills, and motivation of employees (Edvinsson and Malone, 1997), and is part of the organizational HC as long as the employees stay with the organization. Within the three categories, HC is often regarded as the most important asset (Gates and Langevin, 2010; Johanson *et al.*, 1999), mainly because people are seen as the source to knowledge, ideas, inspiration and innovation in all organizations. SC is often seen as what the organization can hold on to even if the employees stop working there (Edvinsson and Malone, 1997; Adams, 2008). It includes the knowledge from organizational processes, including patents, databases, software, trade secrets, culture, management systems and processes. RC is including external relationships with for example customers, suppliers, shareholders, other stakeholders such as the government and society at large (Edvinsson and Malone, 1997). Brand names, reputations and goodwill are also seen as belonging to RC (Petty and Guthrie, 2000).

The development of IC as a research topic has been grounded in this mentioned appealing tripartite categorization (Marzo and Scarpino, 2016), and can further be seen as following four stages (Guthrie *et al.*, 2012).

The first stage of IC research mainly focused on raising awareness and understanding of why IC is relevant and important for creating and managing competitive advantage (Petty and Guthrie, 2000; Dumay and Garanina, 2013; Dumay, 2013). Much of the work in the first stage was performed by practitioners, and there was little support provided by empirical research (Dumay and Garanina, 2013). The second stage followed the shortcomings in the first stage, and was mainly focused on making IC visible and showing how it positively impacts financial performance and value creation. Research in this stage was occupied with measuring, managing and reporting IC from a top-down perspective, but the often adopted methodologies of content analysis and VAIC were criticized for lacking validity and new contributions (Dumay and Garanina, 2013). Research was also focusing on creating guidelines, standards and frameworks (Dumay, 2013; Dumay and Garanina, 2013), where multiple methods or frameworks were created and prescribed during this stage. The adoption of these frameworks has however not been so widespread among organizations (Dumay, 2009; Veltri and Bronzetti, 2015), where many organizations even have been reluctant to take up many of the IC frameworks (Chiucchi and Dumay, 2015). The third stage of IC research has recently begun (Dumay, 2014), and mainly emanates from the almost lack of evidence that many of the proposed IC frameworks would be common practice in organizations (Dumay, 2016). So, instead of taking much of the assumptions made in previous IC research for granted, researchers are encouraged to conduct empirical research in order to increase our understanding of how IC is implemented within organizations. There is an emerging call for more practice-based IC research that is based on a critical and performative analysis of IC practices in action (Guthrie *et al.*, 2012; Mouritsen, 2006). It is specifically this line of research this paper draws on and aims at contributing to. Taking a critical and performative approach means a change in focus, from asking what IC is in theory to asking how IC works in organizations (Dumay and Garanina, 2013; Guthrie *et al.*, 2012). This bottom-up perspective also implies challenging the current taken for granted assumptions (Chiucchi and Montemari, 2016), with a focus on developing models and frameworks specific to how IC is implemented and managed via practices in specific organizations (Dumay and Garanina, 2013). As mentioned in the introduction, a fourth stage of IC research has also been suggested, with a focus on the wider ecosystem and beyond the

boundaries of the firm (Dumay, 2013; Secundo *et al.*, 2018). The importance is thus to incorporate in addition to economic value, other dimensions such ecological, social and demographic (Massaro *et al.*, 2018).

When studying how IC is recognized and managed in practice, many scholars have focused on the three generally accepted elements of IC. Some studies have for example used a quite clear distinction between the elements (e.g. April *et al.*, 2003; Galabova, 2014), and even used a predefined definition when approaching the respondents (e.g. Manes Rossi *et al.*, 2016). HC has often been regarded as the most valuable element. April *et al.* (2003) for example showed how managers in mining companies noted and valued HC way ahead other elements, despite relying heavily on hard, tangible assets. HC was also considered essential to how innovations were introduced into an organization (Cavicchi and Vagnoni, 2018). In addition, Galabova (2014) when studying Bulgarian entrepreneurial firms and how they identified and managed intangibles in practice, found that intangibles were identified through not only the three elements of IC, but also through well-being as a fourth element. In contrast, Marzo and Scarpino (2016) point out that it is not possible to sharply divide the three elements. In their in-depth case study of an Italian SME, they instead highlighted and put forward a dynamic view, consisting of activities and processes, when aiming at understanding how firms manage IC in practice.

Other scholars have focused on how financial and non-financial measures are used in practice. Chiucchi (2013) for example, included two large firms and one small firm, and generally concluded that managers in both type of firms were not used to non-financial measures. They felt unease with them as they were perceived as lacking objectivity. All firms had a tradition of using predominantly financial measures, which the author analyzed as a barrier to managing IC in practice. Building on this study, Chiucchi and Montemari (2016), focused on how and why IC may end up not being used. They showed how IC was not recognized and managed as a result of IC numbers being criticized by the company's subjects. The authors illustrated how different perspectives and expectations regarding IC can hinder the use in practice.

Moreover, scholars have also highlighted a quite blurred understanding of IC among managers inside organizations. Benevene *et al.* (2017) studied the representations that senior managers of Italian social enterprises had about their organization's IC. They found a divide between theory and practice, and a general limited awareness among the managers about IC components. In addition, when studying how organizations make sense of IC, Giuliani (2016) found that different types of sensemaking processes were present, which also influenced how IC was managed. One important finding was how IC was recognized, where it was very much like "an empty box" (Giuliani, 2016, p. 231). Despite how all respondents recognized IC as something relevant, various understandings and ideas existed. In relation to these findings, it has been argued that it is still possible to effectively manage IC in practice without necessarily having concrete IC measures (Dumay and Rooney, 2011). Galabova (2014) for example showed how intangibles do not need to be explicitly represented in any official financial report, in order to be recognized and managed successfully. This has to some extent been argued as more prevalent in SMEs, with studies showing how these firms tend to recognize and manage IC in more informal ways by adopting informal systems to a higher extent than larger firms (Marzo and Scarpino, 2016). Many scholars have therefore been proposing that SMEs do not seem to manage IC as large firms do, and urging future research to pay more attention to in-depth comparisons between small and large firms regarding IC in practice (Durst and Edvardsson, 2012; Guthrie *et al.*, 2012; Marzo and Scarpino, 2016).

Despite the above advancements in the third stage of IC research, and regarding how IC is recognized and managed inside organizations, these questions are still in need for greater attention by researchers (Massaro *et al.*, 2018; Giuliani, 2016). Calls are still being made for

more in-depth case studies of how managers recognize IC, and how they move from this understanding to managing IC inside their organizations (Giuliani *et al.*, 2016; Loulou-Baklouti and Triki, 2018; Manes Rossi *et al.*, 2016). These calls therefore aim to shed light not on *a priori* or predetermined features, functions or theoretical conceptualizations of IC, but rather how IC unfolds in practice through respondents' own understandings and interpretations (Dumay, 2013; Dumay and Garanina, 2013; Guthrie *et al.*, 2012; Massaro *et al.*, 2018; Mouritsen, 2006, 2009).

3. Methodology

3.1 Research approach

This study is aiming at advancing the understanding of how IC unfolds in practice in organizations, through managers' perspectives. Striving to provide a deeper understanding of this phenomenon in practice, a multiple case study methodology was adopted (Eisenhardt, 1989). This method was further appropriate since in contrast to the reliance on content – and VAIC analysis in the first and second stages of IC research, the third stage of IC research evolves around the case study methodology (Mouritsen, 2006). In addition, there is limited research exploring how IC is managed within organizations in practice (Dumay and Garanina, 2013), an inductive and explorative study approach to the research was thus appropriate (Eisenhardt, 1989; Yin, 2003).

This multiple case study has been conducted within four firms in Sweden. Since there are limited empirical studies focusing on how IC is actually unfolding in practice, a purposeful sampling technique was adopted, with the overriding logic in selecting information-rich cases (Lincoln and Guba, 1985; Patton, 2002).

Initially, Swedish firms were sampled because they are expected to be especially interesting. For example, as a developed country Sweden has come relatively far in the shift toward a knowledge-based economy (Lin and Edvinsson, 2008), and with a high degree of IC it can be expected that firms are well aware of IC and are explicitly managing IC (Chaminade and Johanson, 2003; Nazari *et al.*, 2011), and thus constituting an revelatory context where the dynamics of interest would be more transparent (see Patton, 2002; Yin, 2003). To further increase the analytical value and to allow for interesting comparison among the set of cases (Eisenhardt and Graebner, 2007), large (defined here as employing more than 250 employees) and small firms (employing less than 250 employees) were also purposely sampled, because they are expected to differ in how they manage IC, and because small firms have been under-researched in general (Marzo and Scarpino, 2016; Durst and Edvardsson, 2012).

By adopting a purposeful sampling technique in order to generate theoretical insight, the final selection of the four firms was highly motivated by the expansive site access they afforded. Arguments put forward in grounded theory about a requirement of considerable exposure to the empirical context or subject area of research, were therefore considered (Strauss and Corbin, 1998; Suddaby, 2006). This selection of cases is further in line with previous IC studies (e.g. Chiuichi, 2013; Chiuichi and Montemari, 2016; Secundo *et al.*, 2015), and motivated by various prominent IC scholars (e.g. Dumay, 2014; Guthrie *et al.*, 2012), highlighting the difficulty of gaining access to study inside organizations (Alvesson and Deetz, 2000).

3.2 Data collection

As suggested by Secundo *et al.* (2018) data were collected through multiple sources, via in-depth, semi-structured interviews, on-site observations and document analysis. The interviews were conducted with senior managers across key functional areas. Respondents were selected on the basis of their role and understanding of IC, specifically in practice. Each firm was contacted by phone and the researchers were then directed to key informants,

which all held high managerial positions such as CEO, CFO and CMO. Senior level managers were considered as having broad knowledge about their firm's strategies, business practices, and IC, and were thus expected to understand the research problem better than lower level management and employees.

The interviews took place where the interviewee normally works, lasted from 60 to 90 min, and were all recorded and transcribed verbatim. The questions were open-ended (Silverman, 2006) and encouraged participants to talk freely and openly about their opinions and experiences. Questions included for example, how the managers define IC, what may be important IC elements and practices for the firm, how they relate to performance, how this IC can be measured, and how they are allocated resources. In line with the third stage of IC research (e.g. Mouritsen, 2009; Dumay, 2013; Guthrie *et al.*, 2012), the study did not use a predetermined definition of IC, since the aim was to explore the conceptualization of the studied firms.

Before and or after the interviews, observations (Czarniawska, 2004) were also performed. During these on-site observations, it was possible to observe relationships in a natural setting, in terms of informal discussions and meetings. They did not have a formal agenda, but often consisted of small talks of how the participants viewed the firm as a workplace, what the firm's most important assets were and what strategy the firms had. During these occasions it was also possible to observe the physical workspace, and by that understand if meeting places for employees, and other on-site facilities existed and its potential relation to HC. These observations were thus helpful to get a sense of the culture at the firms. During these occasions, notes were taken in a field diary. Occasionally we refer directly to some of these observations, but they also broadly confirmed the impressions from interviews.

Various documents were also collected, both internally from the respondents and externally from public resources. These documents were for example related to HRM, investments calculations, project prospects, financial reports and investor relations. They were used for background information, and to triangulate the information collected in interviews, such as what elements of IC that were visible on the balance sheet, investments and developmental aspects related to the staff, and how they presented themselves as firms in general.

3.3 Data analysis

The data analysis was inspired by a grounded theory approach (Glaser and Strauss, 1967; Martin and Turner, 1986), while also being informed by the existing IC literature. A manual line-by-line coding of the interview transcripts into first-order themes was first performed (Martin and Turner, 1986), which is similar to the notion of open coding (Strauss and Corbin, 1998). In this first order analysis we adhered faithfully to interviewees' terms and focused on their experiences and understandings of what IC is and how it is managed inside their organizations. The approximately 35 first-order themes generated were for example related to: unclear concept, importance, costs and assets, employees, competencies and knowledge, systems, platform, relationships, suppliers, models, financial and non-financial measures, trends, prioritization, investments, spending money, tradition, previous experiences, strategy. These themes were then entered into NVivo for further analysis, where they were compared with each other to search for potential connections. Observations and documents were also coded and categorized, and compared with the interviews. The interviewees accounts were in this way triangulated (Silverman, 2006), by cross-checking with documents and observations. After generating the first-order themes that captured managers' understandings, experiences and actions in relation to IC, we grouped similar first-order themes together, identifying second-order themes that would more parsimoniously describe the experiences, understandings and actions we coded

(Gioia *et al.*, 2013). These second-order themes included: Recognizing and managing IC despite being an unclear concept (relation to first-order themes included; unclear concept but still described, attributed great importance and managed in day-to-day operations) the tripartition of IC as an empirical question, recognizing IC not only through financial documents, the use of financial and non-financial measures and models in practice. By the end of this process, we thus had second-order themes that captured how IC was both recognized and managed in practice, from the perspective of managers. So, when analyzing similarities and differences in manager's experiences, understandings and actions, we found it useful to draw on existing arguments put forward in the IC literature. These arguments were for example a general lack of a unified definition, empty box, the three elements of IC, visibility in financial documents, and financial and non-financial measures and models. The constant comparison of data therefore also allowed the discovery of these relevant theoretical concepts useful to address the study. The findings section is therefore a result of moving to a higher level of abstraction (Martin and Turner, 1986), and is presented in line with the research question and the analytical themes. In addition, the findings section ends with two tables presenting a concise comparison of the four firms. The rows in the tables are representing the first-order themes in an aggregated manner.

4. Findings

4.1 Case study 1 – firm A

Firm A was founded in 1999 with headquarters in Sweden, and a subsidiary in the UK. The firm is developing and offering wireless internet solutions for trains and buses. They sell entire internet systems, everything from hardware to software. They are today a world leading provider of open internet solutions for public transport. Their services are used by more than 30 million internet users in approximately 20 countries.

Firm A has a turnover of approximately 80 million SEK (SEK = Swedish Crowns; exchange rate 12 December 2018 \$1 = SEK9.12 and €1 = SEK10.35), and employs about 40 people. According to the balance sheet, the firm has no intangible assets or balanced expenses for developmental work. The assets are instead constituted of all material assets.

The manager, also the CEO of the firm, strives to increase the firm's profit margin. He has been working in various leading – and management positions in other firms, and often been extensively involved with management control, budgeting processes and R&D activities.

4.1.1 Recognizing IC. The manager comments that it exists uncertainty about what IC is, "Some people mean that IC is only about patents and trademark" (Interviewee 1, Firm A), and further explains how IC also can mean and include additional aspects, such as research and development, and human resources with important knowledge and competence.

Human capital. The firm's employees constitute an important part of the IC, and the manager strives to have satisfied and motivated employees. Resources are spent on both measuring the overall employee satisfaction, and on developing follow-up actions, such as training and development. Internal documents related to staff development documented that employees were rewarded with challenging projects to promote an environment of realizing potential. Taking care of the employees is also seen as supporting the firm to build a strong and valuable employer branding. The firm believes that employer branding is grounded in staff well-being (which can be seen as overlapping with the RC). The manager also explains how the work with developing a strong firm culture (which overlaps with the SC) and workplace satisfaction is aiming at decreasing turnover. By decreasing turnover the firm is hoping to keep important competencies and knowledge within the firm.

Structural capital. The firm also has SC with regards to systems and product development. The firm's unique system and product development is part of IC for the firm.

The firm is writing its own software that runs on an open system. The manager explains how their unique platform is firm specific which gives them a competitive advantage. The manager also explains how market potential in combination with the firm's products is seen as an important IC element for the firm.

Relational capital. As mentioned, the firm is working hard on building up a strong brand image, not only in terms of employer branding but also its trademark in general. From interviews and some of the external documents it became evident how the firm strives to increase its reputation and image, and become attractive in the market. This is done by meeting customers' needs, in which customer relationships as well as existing customers are treated as important IC elements. Documents indicated that the firm was not just offering a price and selling a product, but was also committed to become expert advisors, a strategic guide, with long-term support and honest pricing up front. During interviews, the manager explains how having satisfied customers is very important since recruiting new ones is much more difficult. In order to expand, the firm also needs to recruit new customers, and the manager explains how the marketing related activities therefore constitute important IC elements for the firm.

4.1.2 Managing IC. Measuring. The firm does not use any specific or encompassing models to measure IC. The manager argues that it is difficult to measure IC in a reliable way, and to foresee what spent resources will generate. The manager describes that it is easier to use non-financial measures to depict and assess IC. One example is how the firm is trying to work a lot with trends as the managers believes that, "Everything is about trends" (Interviewee 1, Firm A).

The HC, especially employee satisfaction, is a good example of IC that can be measured with the help of trends. The manager argues that because individuals often have different preferences it becomes difficult to interpret what a six (on a scale from one to ten) means for one person compared to another. However, by using trends it becomes possible to follow the development over time.

The firm culture is another example of an IC element that can be measured with trends. To measure firm culture at a single point in time is difficult and not very useful, since people may have different preferences over time.

The manager mentions time to market as a non-financial measure used to depict the product development and new projects. Time to market is explained as an assessment of how long time a project takes, and when a product or service is ready to be launched on the market. Another measure is market potential, which together with time to market needs to be considered when managing IC, especially for depiction and allocation of resources.

The product development of software is an ongoing process. The manager argues that it is measured by concrete measures based on observable facts. Examples of these measures are quality, and return on investment (ROI), which are used as measures for different projects related to product development. The manager explains that evaluating the market at the time of launching a project/service is very important, and is achieved with market potential as a measure. The product or service may be inaccurate if the market has changed, which in turn hinders the progress. The product or service may also be ahead of its time, and the market may not be ready for it. This means the firm needs to postpone the project schedule and view it in longer terms. Time-to-market and market potential are measures used also for profitability assessments of IC.

To manage customer relations and satisfied customers, the firm is using repeat sales, i.e. reoccurring customers, as a measure. Measuring marketing related IC practices is done mainly by using diffuse and soft measures. The manager briefly mentions evaluations of markets as an example of these measures.

Resource allocation. With experience from various firms, the manager points out that different amounts of money are spent on IC, such as R&D, depending on how the firms want

their trademark to be perceived. Firm A spends a lot of money on talented scientists and development, in order to be in the forefront within their industry. This large resource allocation is a way to also attract investors and customers. A way to reach the firm's vision of being a world leading supplier of open internet connections for public transports, is to already in the budget and resource allocation process, determine how the brand image will be perceived. The resource allocation is in this way aligned with the strategy and what market position to strive for.

When determining resource allocation for IC, the manager points out the importance of past events and experiences. The internal resource allocation is shaped by politics, clearly stated arguments and by promised success. The management team is not always making what the manager describes as rational decisions, but can be shaped by subjective emotions when allocating for IC. For example, if the R&D manager is convincing enough, resources may be allocated to this IC element if previous projects have been successful:

When it comes to resource allocation for IC, a lot is about politics, that's how it is. It's shaped by what the management team thinks of it ahead and if sales is going to increase (Interviewee 1, Firm A).

The manager explains how resource allocation to IC must follow the assessment of market potential. Market potential is possible to assess both when a project starts and when it is up and running. A project is often not requiring the whole budget initially, but requires distribution over time. A project is often allowed a specific amount or percentage that can be spent during a year, something the manager labels as burn rate. When the budget is decided, it is possible to know approximately the resources needed during a given time. The manager describes how resource allocation toward IC is mainly driven by measures such as ROI, time to market and market potential.

When assessing profitability of IC projects, the firm is trying to look for market potential and the market price of the product. The manager explains how they are doing assessments regarding how much impact their products have for customers. The budget is decided with regards to time to market. It is possible to assess approximately how much resources are required and to what burn rate, with the help of costs analysis.

4.2 Case study 2 – firm B

Firm B was founded in 2006, with main markets in Sweden and Norway. With 130 established windmills, it is a leading actor within the Swedish renewable energy industry. The business idea is to be an integrated wind power firm that handles the entire value-chain, from project development to distribution of green electricity through their own land based windmills.

Firm B has a turnover of approximately SEK595m, and employs about 40 people. According to the balance sheet, the firm has no intangible assets. According to the income statement, the firm has approximately SEK97m in costs for wind power development, which constitutes almost 31 percent of total costs. These costs for wind power development mainly involves developmental work the firm did together with suppliers, aimed at increasing the knowledge about wind behavior in different contexts.

The manager, also the CMO of the firm, is responsible for market related aspects as well as electricity hedging and certificates. He has a long experience from working in the heating and electricity industry.

4.2.1 Recognizing IC. The manager at Firm B describes IC as a fusion of the non-physical and additional elements. These additional elements were not included in IC before, but have been given increased importance in Firm B the past couple of years. The manager means that a fusion of these aspects constitutes the concept IC.

Human capital. The firm does not have a clear and well-structured recruitment policy. The manager does not describe any employee training or developmental programs. The importance of keeping employees was not mentioned. In contrast, the manager explains that even if certain key employees would leave the firm, much of the competence and knowledge they have built up would still remain within the firm. This is due to the system and processes the firm has built up, clarifying what needs to be done and by whom. Since the uniqueness of employees and their general importance was seldom mentioned in either internal or external documents, it was possible to confirm what was underlined by the manager. Following this, the firm does not seem to value its employees and HC to a great extent, since much of the knowledge and competences are instead described as tied to the firm as such, and instead pointing toward the importance of SC, which is further developed next.

Structural capital. The firm's most important IC practice is the internal system they have managed to build up together with the suppliers. This system does not only mean a unique information flow, but also a unique competence for developing the establishment and operation windmills over time, and is described as a competitive advantage for the firm. The manager comments that this system is under a continuous development and improvement with the aim to optimize the windmills that exist but also the ones that will be established. The system means improving the efficiency of all windmills, and is viewed as a non-tangible source contributing to competitive advantage. The developed system consists of knowledge and competence, which is mainly firm specific:

The system is made up of knowledge and competence that is not employee specific, at least not to a great extent. It's rather firm specific knowledge and competence (Interviewee 2, Firm B).

Thus, if certain key employees would leave the firm, much of the competence and knowledge the firm has built up would still remain. This is because they have built up a system that clearly recognizes what ought to be done, and can thus be understood as SC. Another important and related IC element for the firm is the fundament design that no other firm has. The manager explains that this design is a very important IC element because it is often used when setting up new windmills.

Relational capital. Another important IC practice is how the firm is continuously developing its suppliers. This is done by commenting and leaving suggestions on how to improve their product development. The firm spends a lot of time and resources on developing the suppliers' own wind mills, with a purpose of receiving better products in the future. This is part of the firm's IC despite not receiving money. Working with this as an operational issue, is important to increase the efficiency of their windmills, but also to reduce unnecessary service costs. The development of the suppliers mainly consists of a developed relational-based system that notifies errors as soon as they occur. The system also consists of error logs, which facilitates the development work and serves as a control system for the windmills. This is realized as an important part in the value-adding process, and is paid special attention.

How the firm is perceived externally by for example people and organizations close to the firm is important. The manager therefore explains how brand value becomes an important IC element. It is however not devoted much attention in daily operations.

4.2.2 Managing IC. Measuring. The manager explains they are not using any models specifically developed for measuring IC, which is attributed to how they from the start did not manage their IC, but rather focused on financial assets and their measures. The staff specific knowledge and skills are for example not managed or measured in the day-to-day operations.

Despite this lack of encompassing IC models, the manager stresses how they are still using certain measures to manage IC. These are the ones existing externally, often based on

financial character. Costs and ROI as well as time for break-even are the most common financial measures used. Financial measures are in focus and dominating both external documents such as annual reports, and internal documents such as windmill establishment prospects. The reason for using mainly financial measures to manage the firm's IC, is because the firm by tradition has used financial measures and has "got stuck in hold habits" (Interviewee 2, Firm B). As mentioned, the firm's most important IC element is the internal developed information system. The manager explains how they use measures such as approximate time, which is based on assessments, when managing this IC element. It is acknowledged that the firm would benefit from being able to measure its IC better, in a way to track how allocated resources actually benefit the firm, "We need to know what we're measuring in order to know what to improve" (Interviewee 2, Firm B).

It is difficult to manage and measure IC related to both the internal and relational-based developed systems. The manager argues that if improvements are made to the system, the firm will benefit from it. Conviction that improvements positively affect the firm, works as incentives to continue without specific measures. The firm's information system has been built up gradually, and measures capturing this IC element and for profitability assessments have also been used continuously. The manager explains how these measures are firm specific measures connected to the different established windmills. In retrospect, the manager explains how it would have been beneficial to measure all the costs related to the development of this system. With the help of these measures it would be easier to evaluate the efficiency improvements.

When it comes to the firm's brand value, it is important to clarify where in the firm it is measured. They are internally not measuring their own brand value, but this is instead performed externally, and is not an important issue for management control. It is however important for the firm that their brand value is seen as strong among the people and organizations close to its business.

The firm is comparing allocated resources to the development of more efficient fundamentals with the firm's income. The manager stresses that these fundamentals mean higher incomes which can serve as a measure for this IC element.

Allocating resources. Resources allocated to IC are decided by the management board. The allocation of resources is an ongoing process and is not always shaped by specific measures, but is most often based on previous experiences with similar projects and the knowledge of future improvements.

Following up on the measures mentioned in the previous section, the manager however explains how they sometimes use some of these when allocating resources to IC. For example, by using measures based on previous experiences, resources are allocated in relation to the different phases that exist toward a "ready-and-go" windmill.

The knowledge of being able to establish a new windmill more efficiently is often used as incentives for the management board to allocate more resources to specific IC elements and practices. The manager also explains that the allocated resources to develop the firm's system fundament in relation to generated income can serve as a measure for this specific IC element, and also shape the allocation of resources. This measure can also be used when allocating resources to similar developmental work. Another measure is how fast the firm can progress through the different phases existing from initial idea to ready-and-go windmill.

4.3 Case study 3 – firm C

Firm C was founded in 1988 with production mainly in Sweden but also in China and Lithuania. The firm is focused on industrial network products, based on in-house developed technical solutions. The business idea is to provide the industry with intelligent

communication technology between automatic units and networks, between multiple networks or between remote installations and operating centers.

Firm C has a turnover of approximately SEK952m, and employs about 270 people. According to the balance sheet, the firm has intangible assets of SEK285m, corresponding to more than 68 percent of all the assets. Goodwill amounts to the majority of this, and with a value of SEK236m. In addition, almost SEK49m consisted of development work. According to the income statement, the firm has SEK34.6m expensed as research and development, which accounts for approximately 17 percent of the firm's total expenses.

The manager, also the CFO of the firm, is responsible for accounting, finance, treasury, asset pricing and has long experience from various firms around the world.

4.3.1 Recognizing IC. The manager argues that the concept of IC is quite diffuse and broad. He does not give a direct definition, but goes on explaining how it is possible to make a distinction between IC elements that are activated (taken up as assets on the balance sheet), and those that are not activated.

The firm has two important IC elements that are activated, goodwill and activated developmental work. Despite constituting a major part on the balance sheet, the firm is not paying much operational attention to goodwill. The activated developmental work includes work the firm performs to improve its products, but also external costs for consultants, patent and brand value. The manager explains how the developmental work is performed by developing new product platforms.

Human capital. The firm has important engineers that would be costly to lose. It is thus very important to keep the employees and have a low turnover. The firm is spending large amounts of resources on staff, and important IC practices therefore include training and development activities, related to knowledge and competence. The manager also explains how all employees are given individualized training. This is partly to make them more secure in their position which is believed to reduce stress and increase efficiency. The firm is investing resources to HR in order for staff to be satisfied with their work. The notion of valuing employees is further strengthened when observing the physical design of the firm's facilities, with for example a gym and nice social areas the employees can use.

Structural capital. Despite how the firm is striving to keep valuable engineers as they possess unique knowledge and skills, the firm also has a high degree of firm specific knowledge. This knowledge is for example related to product development, involving around 100 people, and is considered an extremely important IC element for the firm. Product development concerns both the hardware and the software, and is divided in two major parts. The first part is about internal product development, improving the products used in house. The second part is about product development toward customer adaptations, which is also an important IC practice for the firm:

We cannot only develop our own products, but product development for the customers is also an important aspect in our strategic plan (Interviewee 3, Firm C).

Relational capital. A major IC practice for the firm, that is not visible on the balance sheet, is marketing activities. These activities are divided into three parts. The first part is product marketing, related to customer relations and product information showing the advantages and benefits with the firm's products. The second part is marketing communications and consists of websites and advertising, and is used by the firm's market units and distributors around the world. The third part is strategic marketing and consists of intelligence analysis of competitors and the business climate.

4.3.2 Managing IC. Measuring. The manager explains that no specific models are used to a large extent when measuring IC. Goodwill is for example not usually measured, but is mainly managed at times of merger and acquisitions. However, there are times when goodwill is valued and verified with the help of specific models. This is mainly performed in

relation to the firm's investors, and is more a question for the accountants than being an important operational question for management control. Measuring marketing activities is difficult, where the size of the costs has been used as a financial measure to capture these IC practices. Measuring is instead often performed with the help of non-financial measures, such as total amount of visits, tracking of requests and reason for showed interest in the firm's products. The manager argues that it is easier to use activities rather than specific measures when managing marketing practices. These activities are approved in a total budget and then used to manage the marketing related IC practices. The main measurement of marketing is however used for measuring what these investments generate, and not so much for depiction. For marketing there are not many profitability assessments made, but the manager rather argues that they are shaped by the amount of activities and the level of cost.

The firm is activating staff costs on the developmental side in relation to new development of technology platforms. The manager explains that they are not using any specific financial measure to capture knowledge within the firm. Employee satisfaction is instead measured on a monthly and yearly basis through surveys and turnover figures. The manager explains how they are measuring the education and training offered to employees. The measures vary with type of education and training. One of these measures is the knowledge level regarding the individual work tasks, where the succeeding of work is tracked. These measures are part of the individual developmental plan used to measure the employees' well-being and knowledge. Measures used to manage the product development are mainly of financial character, where the size of the activation is important. The manager describes that this assessment is based mainly on judgments of the cost development. Non-financial measures, such as efficiency of product development, are also used. This efficiency measure captures how well the product development delivers on time, and how the costs relate to customer agreements.

Allocating resources. The management board decides strategy, from which resources are allocated to various IC elements and practices. The first priority according to the strategy is developmental practices. Marketing activities and customer relations are then usually prioritized. The resource allocation to marketing related practices is determined by activities relevant to the firm's strategy, and the goals they want to achieve. These activities constitute management measures, and are the basis for the amount of resources allocated from a total budget. Thus, a lot is about future sales volume and net margins, serving as measures for resource allocation. No specific profitability assessment is done regarding marketing activities, and the manager explains that the important aspect is to decide what activities to allocate resources to and the costs. The manager explains how the management board has experience of the industry and the market development, and uses this knowledge when allocating resources to various IC elements and practices. Their decisions are not generally based on financial measures, but on cost prognosis and previous experiences. Additionally, subjective judgments exist when allocating resources to IC, "There are probably a lot of subjective judgments regarding this [resource allocation]" (Interviewee 3, Firm C). However, the manager still stresses that the firm has a well-structured way of allocating resources, and if a project is way off what the management board thinks of the market, resources will be denied. The board also has knowledge and experience of previous projects and marketing activities that have been successful in the past, and uses this to analyze and decide what IC elements and practices to allocate future resources.

Resource allocation to product development is dependent on what strategy the management board has decided. The manager explains that it is very important to allocate resources to developmental work, since the goal is to grow rapidly. Profitability assessments of product development are difficult to perform, since the products and product

platforms are part of many product groups, which makes it difficult to assess profitability for a specific platform. The assessment made is instead used for all product groups, and then compared to what is strategically important. Measures like ROI on initial activated developmental costs are difficult to calculate and use. The manager stresses that it is not of great importance to determine pay-back time, and that is why no direct measures are used to assess project profitability:

The life cycles on our platforms are so long [...] so if we just do the right initial work then we will be profitable. We know we get money back from what we are investing money in. It's affected by our industry being so conservative (Interviewee 3, Firm C).

4.4 Case study 4 – firm D

Firm D was founded in 2000 with operations in Sweden, Norway, Denmark, Finland and Poland. It is the leading local search engine in the media industry, and is specialized in local search, with information available through multiple different distribution channels, such as internet – and mobile services, printed catalogs, and offers directory enquiries and mobile services. The firm's vision is to be the number one symbol for local search, with a business idea of being the contributor with local information that facilitates for buyers and sellers to meet.

Firm D has a turnover of approximately SEK3,700m, and employs about 3,200 people. According to the balance sheet the firm has intangible assets of SEK7.3bn, which constitute more than 80 percent of the firm's total assets. Goodwill represents SEK6.1bn, brand value SEK923m, customer relations SEK20m and other intangible assets SEK242m. According to the income statement product development represents SEK327m, which constitutes almost 10 percent of the firm's total costs.

The manager, also the CFO of the firm, is responsible for the financing, which means an internal responsibility for internal reporting and planning. He also has external responsibilities in delivering information to stakeholders, such as banks and analytics.

4.4.1 Recognizing IC. The manager explains that IC is part of a wide spectrum, and can be seen as soft assets that are important for organizational survival. A distinction is made between IC that is visible on the balance sheet and IC that is not. Being a service firm, the manager explains that IC is very important:

The firm is soft, there is no production or factories here, but the value is only about the soft assets (Interviewee 4, Firm D).

IC visible on the balance sheet is brand value, customer relations and goodwill. These have been activated through mergers and especially from one specific merger, when the firm bought a Norwegian firm. The manager however explains that management does not work with goodwill in day-to-day operations.

Human capital. The staff is considered one of the most important assets in the firm. Following this, the manager explains how the sales department constitutes one of the firm's most important IC elements, which is not visible on the balance sheet. A lot of resources are spent on sales teams, and the firm has established a wide and competent staff group:

We have a competent sales squad that is a very important IC for us. We invest a lot of money in this, but it is not something that is seen in the books (Interviewee 4, Firm D).

The firm has an internal sales education for all staff within sales. In addition they are also offered individualized training and education, in a way to meet their respective work tasks and to develop. The manager values the staff to a high extent and explains how almost 70 percent of the firm's costs are related to staff. He acknowledges the staff as a movable asset, meaning risks of losing high performing employees, as they may leave the firm.

Structural capital. Product development is related to online services and is according to the manager one of the firm's most important IC practices. The product development consists of different activities following the formulated strategy. Just a small fraction of this IC is activated on the balance sheet, with the main part taken up as costs. The product development is of major importance for the firm's competitive advantage since it creates value and no direct material assets exist. Another part of the product development not visible externally is the firm's platform. This platform is not a service for customers, but is the specific way the firm stores and manages data.

Relational capital. Another important IC element for the firm is customer relations, which also can be seen as contributing to product development. How customers perceive the firm's services and as a firm as such (i.e. the firm's brand value and the extent to which customers are aware of the firm) is an important part of the firm's value. As a result, the firm is continuously working on making the service more attractive and strengthening the brand value.

4.4.2 Managing IC. Measuring. The manager at firm D explains that it is difficult to measure IC, but how they use certain models to manage their IC, especially the intangible assets visible on the balance sheet. These models are of a financial character and mainly directed toward performing profitability assessments. Based on financial aspects, the cash flow model and discounted future cash flows are the most important measures, and used to assess future values for the firm.

The manager argues that IC not visible on the firm's balance sheet is in general more difficult to measure. When it comes to the staff, a combination of financial- and non-financial measures is used, such as how the staff is experiencing the employer, staff turnover and how well they perform in relation to predetermined sales targets. The manager explains, "We are not setting a value on the staff, but we perform a yearly employee survey" (Interviewee 4, Firm D). They thus use surveys with scales to measure emotions, feelings, and experiences, with a focus on trends. The sales staff which is one of the most important IC elements is mainly measured through performance measures such as sales performance and sales figures. These measures are of a financial nature and create a certain sales culture, which was evident in the physical layout of the firm, in which individual sales targets and goals were posted on the wall for employees to follow. How each sales person performs is also measured in relation to predefined sales goals, and is used to measure this IC element. A specific sales model based on various activities is also used to track development. How far each sales team has progressed in these models is also used as a measure to capture the IC element.

The firm's product- and service development is mainly measured with non-financial measures, such as user experience and total number of visits. Profitability assessments are mainly done by financial calculations. Statistics such as the total number of visitors on the website is a measure also used as an indicator for how attractive their services are, which they measure on a daily basis. The total number of activities and the projects performed within the product development are also used as measures. When the firm is working with new projects or products, profitability assessments and calculations of sales as well as payback time are always done. The firm is always using investment calculations, and all IC elements and practices should generate a future value for the firm. Projects or products that may not generate income may still be accepted if they contribute to the firm's brand value.

Customer relations are measured by how customers perceive and experience the services and the expected percentage of repurchase. These measures are also used by the firm for sales arguments with an estimated ROI on their ads. They are measuring the amount of searches made on clients' names and how many people that have used their map directions.

Allocating resources. A lot of resources are allocated to the staff as it is considered one of the most important IC elements. The amount of resources being allocated is partly

determined by how successful previous investments have been, and how much they have generated. Educating and training the staff is contributing to a lower turnover, and to more people reaching their goals, and performance measures are thus used. Certain calculations estimating what education and training efforts should generate in increased sales and in decreased turnover are used. Being within a fast changing industry, an ongoing allocation of resources is also important.

The management board is the final decision-maker in terms of resource allocation, and the manager describes how previous experiences and subjective assessments shape decisions. It is an ongoing budgeting game in terms of what IC elements and practices that should be allocated resources. The board however asks for specific and explicit measures, and often allocates more resources to IC practices that provide this. The board often uses break-even as a measure when allocating resources to projects for product developments.

Profitability assessments are always performed for product development, and include a certain degree of subjectivity as they are made on how much the sales will increase as a result of product development. Approximate follow-ups are also done in order to understand if a wanted effect has been achieved or not.

It can be seen from the findings that the four case firms have certain commonalities and differences when it comes to how they recognize and manage IC elements and practices. Tables I and II offer a condensed comparison of the four case firms.

5. Discussion and conclusion

In this explorative multiple case study the following research question was asked:

RQ1. How is IC recognized and managed in practice as expressed by managers?

5.1 Recognizing and managing IC despite being an unclear concept

First, the findings illustrate how managers from all the studied firms, regardless of size, expressed an uncertainty regarding what the IC concept means. The uncertainty regarding how IC is recognized is perhaps no surprise, as a general lack of a unified definition and terminology of the concept has persisted (Johanson *et al.*, 2001; Inkinen, 2015). This finding therefore supports previous scholars describing how managers inside organizations, often have a blurred understanding of IC (Benevene *et al.*, 2017), or even treat it as an empty box (Giuliani, 2016). Moreover, this finding is especially interesting since it contrasts other arguments (Khaliq *et al.*, 2015), that almost seem to take for granted that firms within developed countries would easily recognize and understand what IC and intangibles are all about. The findings instead illustrate a possible uncertainty around IC, even among (large) firms in Sweden a country considered as developed and that has come a long way in the

	Firm A	Firm B	Firm C	Firm D
Explanation	Unclear concept Soft values	Unclear concept A fusion of the non-physical and additional elements	Unclear concept Activated or not activated	Unclear concept Soft assets Activated or not activated
Important IC elements and practices	HC: staff SC: product development RC: customer relations	HC: SC: information system, fundament design RC: relational-based system	HC: staff SC: product development RC: marketing activities, customer relations	HC: staff SC: product development RC: customer relations, brand value
Significance	Important	Important	Important	Important

Table I.
Recognizing intellectual capital

A multiple case study of four Swedish firms

	Firm A	Firm B	Firm C	Firm D
Specific models	None	None	Evaluation models for Goodwill	Cash flow models
Measures for depiction	HC: trends SC: time to market, market potential RC: repeat sales	HC: SC: estimations RC: firm specific measures	HC: decreased staff turnover, knowledge measures SC: size of activation, efficiency RC: activities, demand, input/output	HC: trends, knowledge measures, decreased staff turnover SC: website visits, user experience RC: repeated sales, website visitors
Measures for profitability assessments	(Expresses difficulty) Time to market Market potential ROI	(Expresses difficulty) Firm measures related to efficiency Break-even ROI	(Expresses difficulty) Knowledge level Cost level ROI	(Expresses difficulty) Income calculations Discounted cash flows Pay-back time Increased sales ROI
Financial/non-financial measures	A combination	Financial	A combination	A combination
What determines resource allocation	The strategy decided by the management board Previous experiences	The strategy decided by the management board Previous experiences	The strategy decided by the management board Previous experiences	The strategy decided by the management board Previous experiences
Measures for resource allocation	ROI of products Time to market for products Burn rate for products Market potential of products	Progression rate for establishing windmills Allocated resources/generated income-ratio for system fundament	Future sales volume for product development Net margins related to marketing activities	Performance measures for staff Break-even for product development

Table II.
Managing intellectual capital

shift toward a knowledge-based economy (Lin and Edvinsson, 2008), but also described as possessing a high degree of IC. This may therefore suggest that IC management in practice may not be as clear as researchers tend to assume.

Furthermore, despite expressing IC as an unclear concept, all managers still had an explanation of what IC was within their organizations, as they could recognize important IC elements and practices. They also all attributed IC great significance for their firm's competitive advantage and survival. This finding therefore adds important evidence for how it is still possible to (effectively) manage IC in practice without having concrete understandings and measures (Dumay and Rooney, 2011).

5.2 The tripartition of IC as an empirical question

Additional findings from the study build on the existing IC literature, and illustrate how the four case firms recognized and managed IC in line with the component elements, i.e. HC, SC and RC. This finding thus validates previous research highlighting the tripartition of IC as common in how organizations recognize and manage IC in practice (e.g. Galabova, 2014; Manes Rossi *et al.*, 2016; Marzo and Scarpino, 2016). However, and in contrast to earlier studies (e.g. April *et al.*, 2003; Cavicchi and Vagnoni, 2018; Gates and Langevin, 2010)

the managers did in general not stress HC as the most important element of their IC. The knowledge and competence was instead often described as firm specific, and something that would remain even in the case of staff leaving the firm. One important implication of this finding is that the commonly held argument that HC is the most important element of IC, cannot be taken for granted. Our findings thus add to existing arguments (e.g. Marzo and Scarpino, 2016), stressing how the importance of the tripartite of IC, the relation between the elements, and their respective importance are dynamic, contextual dependent and an empirical question rather than something to be predetermined *a priori*.

5.3 Recognizing IC not only through financial documents

Both similarities and differences were found when managers explained how they recognized IC. The two large firms are both making a distinction between IC that is activated and IC that is not activated. The smaller firms do not have any intangible assets on their balance sheets, and instead stressed the “soft” aspects of IC. This is in line with earlier research (Marzo and Scarpino; Durst and Edvardsson, 2012) suggesting that small firms differ from large firms in how they manage IC. Responding to scholars urging studies to pay more attention to comparisons between small and large firms regarding IC in practice (e.g. Durst and Edvardsson, 2012; Guthrie *et al.*, 2012; Marzo and Scarpino, 2016), we therefore add important, but initial insights relating to how IC may even be unrelated to financial documents in small firms. This is something we urge future research to explore in more detail.

Furthermore, this finding also supports arguments suggesting that although IC is not explicitly visible in any official financial document, it can still be considered valuable for both small and large organizations (Galabova, 2014). It may even indicate that it is only from an external accounting and disclosure perspective relevant with the requirements for assets, and how it may not have any relevance at all from a management control perspective (Meritum Project, 2002). As mentioned, managers from all firms expressed IC as an important aspect for competitive advantage, and thus providing empirical support for IC as a management issue. The IC elements and practices that were most important from a management perspective, and constituting day-to-day and operational questions, were the ones aligned with strategy, pointing toward a close relationship between IC and strategy (Sveiby, 2001). These were seldom the IC elements visible in financial reports that instead often constituted issues relevant for the accounting department only. This therefore suggests that IC needs to be aligned with strategy and strategic prioritizations in order to add value.

There are several implications of this finding. Despite how accounting is an integrated part of the IC paradigm (Dumay, 2014), the narrow focus adopted in much IC research with external reporting as the main data, is limiting the understanding of IC within organizations. Management issues may be loosely coupled from accounting issues. To truly understand how IC unfolds in practice in organizations, there is a need to follow the actors (Chiucchi and Dumay, 2015), and to base knowledge and understanding on bottom-up approaches.

5.4 The use of financial and non-financial measures and models in practice

Moving from the managers’ understandings to how they managed IC inside their organizations (Giuliani *et al.*, 2016; Loulou-Baklouti and Triki, 2018; Manes Rossi *et al.*, 2016), reveals both interesting differences and similarities. One example was with regards to the use of financial and non-financial models and measures in practice, and their relation to how the four studied firms measured IC and allocated resources. While firms A and B did not use any specific models when measuring IC, firms C and D did, but for firm C they were mainly connected to goodwill that did not constitute an operational question for management. Firm D used mainly cash flow models to measure their IC elements and practices. In addition, managers from all firms expressed a difficulty when assessing profitability for

various IC practices. Firms A, C and D all used a combination of financial and non-financial measures when managing their IC, but while Firm B mainly used financial measures. Finally, all four firms allocated resources to IC in line with the overall organizational strategy, decided by the management board. What strategy that is present is therefore shaping the resource allocation to IC.

There are a number of important implications of this finding. For example, one plausible explanation to why firm B mainly used financial measures and no specific models, and why firm A used no specific models, is how they by tradition have used only financial measures/models, and how they viewed existing ones as not capturing IC in a reliable way. This is also in line with previous studies illustrating how a tradition of using predominantly financial measures may serve as a possible barrier to managing IC in practice (Chiucchi, 2013; Chiucchi and Montemari, 2016). It seems if like the non-financial measures are perceived as lacking objectivity. However, and in addition to Chiucchi (2013) who found that both large and small firms were not used to non-financial measures, it seemed like the smaller firms in our study to a larger extent adopted financial measures, which therefore offers some first answers to the calls for more comparisons between small and large firms (e.g. Guthrie *et al.*, 2012). Taken together with the previous findings that the smaller firms did not have intangible assets on the balance sheets, it is therefore plausible to assume that smaller firms tend to recognize and manage IC in more informal ways through less formalized and purposefully systems (Marzo and Scarpino, 2016). Importantly, our emerging findings still strongly support that despite a reluctance to use non-financial measures, and perhaps formalized systems, it is still possible to manage IC in practice.

5.5 Contributions, limitations and further research

This paper contributes to the IC literature in a number of ways. First, by using a bottom-up approach, based on managers' own understandings, to increase the knowledge of how IC unfolds in practice within organizations, the paper answers the call for third stage IC research (e.g. Dumay, 2014; Mouritsen, 2006). In addition to how IC elements and practices can unfold differently in different organizations, it was also illustrated how managers may have a blurred understanding of IC. A novel contribution is made by further outlining how it is still possible to recognize and manage IC in practice, despite this uncertainty. The paper recognizes that organizations are managing IC more or less directly, and through more or less formal and purposeful ways. For example, the use of financial and non-financial measures and models to manage IC seems to be related to tradition and what has predominantly been used within an organization. The paper also adds important insights into how the tripartite of IC ought to be seen as dynamic and contextual dependent (Marzo and Scarpino, 2016), and thus becoming an empirical question rather than being predetermined when conducting IC research. In doing this, the paper also advances the knowledge of how managers move from their understanding of IC to managing it inside their organizations (Giuliani *et al.*, 2016; Loulou-Baklouti and Triki, 2018; Manes Rossi *et al.*, 2016), by providing some insights into how the management of IC in practice may not be as clear as researchers tend to assume, which also has important implications for theory and research.

Second, the paper contributes to the important accountingization debate in the IC literature (Chiucchi and Dumay, 2015; Dumay, 2014), by extending the theoretical understanding of how an accounting dominance may not fully capture the nuances of how IC unfolds inside organizations. More specifically, the paper sheds light on how IC can be considered valuable for both small and large organizations without being visible in any official financial document. From a management perspective it is even likely that the most important IC elements and practices that also constitute day-to-day and operational questions, are those aligned with strategy and strategic priorities, and are seldom visible in

financial reports (Sveiby, 2001). It is therefore also possible to question the ability of top-down research approaches such as for example content analysis and VAIC, in transforming IC research through the third stage.

In terms of practical implications, by studying how IC unfolds in practice rather than starting out from normative and predetermined definitions and understandings, it enables the potential to provide practitioners with a sense of what is more significant in their own practice. It can be said that no one-suits-all approach to recognizing and managing IC exists, and managers rather need to adapt approaches to their specific organizations. With this being said, the results may also help practitioners to excavate their unquestioned assumptions and make them start reflecting critically. By stepping back from their practice and reflecting on the entwined IC components, it is possible to provide practitioners with a clearer view of their understandings and actions, which hopefully enables them to see aspects they could not see before. For example, despite managing IC in more informal and less purposefully ways, it is still possible to benefit from working toward more structured approaches, in which for example a combination of financial and non-financial measures, and profitability assessments are used. This may increase both transparency and legitimacy. The study's results may also be of communicative and collaborative interest, for example to organizations' management and accounting teams, as it can improve their understandings of IC as multidisciplinary in nature, and therefore also improve both acceptance and understandings of the different teams' needs. The results can also be of interest to various external stakeholders (e.g. investors, customers, and suppliers) as they provide insights into how IC can still be important, valuable and managed in organizations despite being invisible in any external financial document.

As with all research, the current study has some limitations, which offer possible avenues for further research. First, the use of an explorative multiple case study of four Swedish firms, limits the generalizability. However, the rich and in-depth view gained of how IC unfolds in practice within organizations may not always be possible using quantitative, large sample and survey-studies. A suggestion for further research is therefore to take this study's insights further and investigate IC in other organizations and in other national contexts. Second, the current study took a managerialist orientation (focusing on senior management as study participants), limiting the findings to one type of perspective, future studies are therefore suggested to consider the orientations, needs and goals of other stakeholders as well.

References

- Adams, M. (2008), "Management 2.0: managing the growing intangible side of your business", *Business Strategy Series*, Vol. 9 No. 4, pp. 190-200.
- Alvesson, M. and Deetz, S. (2000), *Doing Critical Management Research*, Sage Publications, London.
- Andriessen, D. (2004), "IC valuation and measurement: classifying the state of the art", *Journal of Intellectual Capital*, Vol. 5 No. 2, pp. 230-242.
- April, K.A., Bosma, P. and Deglon, D.A. (2003), "IC measurement and reporting: establishing a practice in SA mining", *Journal of Intellectual Capital*, Vol. 4 No. 2, pp. 165-180.
- Benevene, P., Kong, E., Barbieri, B., Lucchesi, M. and Cortini, M. (2017), "Representation of intellectual capital's components amongst Italian social enterprises", *Journal of Intellectual Capital*, Vol. 18 No. 3, pp. 564-587.
- Cavicchi, C. and Vagnoni, E. (2018), "Intellectual capital in support of farm businesses' strategic management: a case study", *Journal of Intellectual Capital*, Vol. 19 No. 4, pp. 692-711.
- 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. 528-542.

- Chiucchi, M.S. (2013), "Measuring and reporting intellectual capital: Lessons learnt from some interventionist research projects", *Journal of Intellectual Capital*, Vol. 14 No. 3, pp. 395-413.
- Chiucchi, M.S. and Dumay, J. (2015), "Unlocking intellectual capital", *Journal of Intellectual Capital*, Vol. 16 No. 2, pp. 305-330.
- Chiucchi, M.S. and Montemari, M. (2016), "Investigating the 'fate' of intellectual capital indicators: a case study", *Journal of Intellectual Capital*, Vol. 17 No. 2, pp. 238-254.
- Czarniawska, B. (2004), "On time, space, and action nets", *Organization*, Vol. 11 No. 6, pp. 773-791.
- Dumay, J. (2009), "Intellectual capital measurement: a critical approach", *Journal of Intellectual Capital*, Vol. 10 No. 2, pp. 190-210.
- Dumay, J. (2013), "The third stage of IC: towards a new IC future and beyond", *Journal of Intellectual Capital*, Vol. 14 No. 1, pp. 5-9.
- Dumay, J. (2014), "15 years of the journal of intellectual capital and counting: a manifesto for transformational IC research", *Journal of Intellectual Capital*, Vol. 15 No. 1, pp. 2-37.
- Dumay, J. (2016), "A critical reflection on the future of intellectual capital: from reporting to disclosure", *Journal of Intellectual Capital*, Vol. 17 No. 1, pp. 168-184.
- Dumay, J. and Cai, L. (2015), "Using content analysis as a research methodology for investigating intellectual capital disclosure: a critique", *Journal of Intellectual Capital*, Vol. 16 No. 1, pp. 121-155.
- Dumay, J. and Garanina, T. (2013), "Intellectual capital research: a critical examination of the third stage", *Journal of Intellectual Capital*, Vol. 14 No. 1, pp. 10-25.
- Dumay, J. and Rooney, J. (2011), "Measuring for managing? An IC practice case study", *Journal of Intellectual Capital*, Vol. 12 No. 3, pp. 344-355.
- Durst, S. and Edvardsson, I.R. (2012), "Knowledge management in SMEs: a literature review", *Journal of Knowledge Management*, Vol. 16 No. 6, pp. 879-903.
- Edvinsson, L. and Malone, M. (1997), *Intellectual Capital: Realising Your Company's True Value by Finding Its Hidden Brainpower*, Harper Collins, New York, NY.
- Eisenhardt, K.M. (1989), "Agency theory: an assessment and review", *Academy of Management Review*, Vol. 14 No. 1, pp. 7-74.
- Eisenhardt, K.M. and Graebner, M.E. (2007), "Theory building from cases: opportunities and challenges", *Academy of Management Journal*, Vol. 50 No. 1, pp. 25-32.
- Galabova, L. (2014), "Recognition and management of intangibles by Bulgarian entrepreneurial firms", *Journal of Intellectual Capital*, Vol. 15 No. 3, pp. 376-391.
- Gates, S. and Langevin, P. (2010), "Human capital measures, strategy, and performance: HR managers' perceptions", *Accounting, Auditing & Accountability Journal*, Vol. 23 No. 1, pp. 111-132.
- Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2013), "Seeking qualitative rigor in inductive research: notes on the Gioia methodology", *Organizational Research Methods*, Vol. 16 No. 1, pp. 15-31.
- Giuliani, M. (2016), "Sensemaking, sensegiving and sensebreaking: the case of intellectual capital measurements", *Journal of Intellectual Capital*, Vol. 17 No. 2, pp. 218-237.
- Giuliani, M., Chiucchi, M.S. and Marasca, S. (2016), "A history of intellectual capital measurements: from production to consumption", *Journal of Intellectual Capital*, Vol. 17 No. 3, pp. 590-606.
- Glaser, B.G. and Strauss, A.L. (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine de Gruyter, New York, NY.
- Guthrie, J., Petty, R. and Ricceri, F. (2006), "The voluntary reporting of intellectual capital: Comparing evidence from Hong Kong and Australia", *Journal of Intellectual Capital*, Vol. 7 Nos 1-2, pp. 254-271.
- Guthrie, J., Ricceri, F. and Dumay, J. (2012), "Reflections and projections: a decade of intellectual capital accounting research", *The British Accounting Review*, Vol. 44 No. 2, pp. 68-82.
- Inkinen, H. (2015), "Review of empirical research on intellectual capital and firm performance", *Journal of Intellectual Capital*, Vol. 16 No. 3, pp. 518-565.

- Johanson, U., Mårtensson, M. and Skoog, M. (1999), "Measuring and managing intangibles: eleven Swedish exploratory case studies", paper presented at the International Symposium Measuring Reporting Intellectual Capital: Experiences, Issues, and Prospects, OECD, Amsterdam, June.
- Johanson, U., Mårtensson, M. and Skoog, M. (2001), "Measuring to understand intangible performance drivers", *European Accounting Review*, Vol. 10 No. 3, pp. 407-437.
- Khalique, M., Bontis, N., Shaari, J.A.N. and Isa, A.H.B. (2015), "Intellectual capital in small and medium enterprises in Pakistan", *Journal of Intellectual Capital*, Vol. 16 No. 1, pp. 224-238.
- Lev, B. (2001), *Intangibles: Management, Measurement, and Reporting*, Brookings Institution Press, Washington, DC.
- Lin, C.Y.Y. and Edvinsson, L. (2008), "National intellectual capital: comparison of the Nordic countries", *Journal of Intellectual Capital*, Vol. 9 No. 4, pp. 525-545.
- Lincoln, Y.S. and Guba, E.E. (1985), *Naturalistic Enquiry*, Sage Publications, London.
- Loulou-Baklouti, S. and Triki, M. (2018), "Preparers' and users' perception of intellectual capital information usefulness: A Tunisian exploratory study", *Journal of Intellectual Capital*, Vol. 19 No. 3, pp. 617-643.
- Manes Rossi, F., Citro, F. and Bisogno, M. (2016), "Intellectual capital in action: evidence from Italian local governments", *Journal of Intellectual Capital*, Vol. 17 No. 4, pp. 696-713.
- Martin, P.Y. and Turner, B.A. (1986), "Grounded theory and organizational research", *The Journal of Applied Behavioral Science*, Vol. 22 No. 2, pp. 141-157.
- Marzo, G. and Scarpino, E. (2016), "Exploring intellectual capital management in SMEs: an in-depth Italian case study", *Journal of Intellectual Capital*, Vol. 17 No. 1, pp. 27-51.
- Massaro, M., Dumay, J., Garlatti, A. and Dal Mas, F. (2018), "Practitioners' views on intellectual capital and sustainability: from a performance-based to a worth-based perspective", *Journal of Intellectual Capital*, Vol. 19 No. 2, pp. 367-386.
- Meritum Project (2002), "Guidelines for managing and reporting on intangibles (intellectual capital report)", European Commission, Madrid.
- Mouritsen, J. (2006), "Problematising intellectual capital research: ostensive versus performative IC", *Accounting, Auditing & Accountability Journal*, Vol. 19 No. 6, pp. 820-841.
- Mouritsen, J. (2009), "Classification, measurement and the ontology of intellectual capital entities", *Journal of Human Resource Costing & Accounting*, Vol. 13 No. 2, pp. 154-162.
- Nazari, J.A., Herremans, I.M., Isaac, R.G., Manassian, A. and Kline, T.J. (2011), "Organizational culture, climate and IC: an interaction analysis", *Journal of Intellectual Capital*, Vol. 12 No. 2, pp. 224-248.
- Patton, M.Q. (2002), *Qualitative Research and Evaluation Methods*, 3rd ed., Sage, Thousand Oaks, CA.
- Petty, R. and Guthrie, J. (2000), "Intellectual capital literature review: measurement, reporting and management", *Journal of Intellectual Capital*, Vol. 1 No. 2, pp. 155-176.
- Secundo, G., Elena-Perez, S., Martinaitis, Ž. and Leitner, K.H. (2015), "An intellectual capital maturity model (ICMM) to improve strategic management in European universities: a dynamic approach", *Journal of Intellectual Capital*, Vol. 16 No. 2, pp. 419-442.
- Secundo, G., Massaro, M., Dumay, J. and Bagnoli, C. (2018), "Intellectual capital management in the fourth stage of IC research: a critical case study in university settings", *Journal of Intellectual Capital*, Vol. 19 No. 1, pp. 157-177.
- Silverman, D. (2006), *Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction*, Sage, London.
- Skoog, M. (2003), "Visualizing value creation through the management control of intangibles", *Journal of Intellectual Capital*, Vol. 4 No. 4, pp. 487-504.
- Strauss, A.L. and Corbin, J.M. (1998), *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, Sage Publications, Thousand Oaks, CA.
- Suddaby, R. (2006), "What grounded theory is not", *Academy of Management Journal*, Vol. 49 No. 4, pp. 633-642.

-
- Sveiby, K.E. (1997), "The intangible assets monitor", *Journal of Human Resource Costing & Accounting*, Vol. 2 No. 1, pp. 73-97.
- Sveiby, K.E. (2001), "A knowledge-based theory of the firm to guide in strategy formulation", *Journal of Intellectual Capital*, Vol. 2 No. 4, pp. 344-358.
- Veltri, S. and Bronzetti, G. (2015), "A critical analysis of the intellectual capital measuring, managing, and reporting practices in the non-profit sector: lessons learnt from a case study", *Journal of Business Ethics*, Vol. 131 No. 2, pp. 305-318.
- Yin, R.K. (2003), *Case Study Research: Design and Methods*, Sage, Thousand Oaks, CA.
-

A multiple case
study of four
Swedish firms

Corresponding author

Daniel Tyskbo can be contacted at: daniel.tyskbo@handels.gu.se

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com