



UNIVERSITY
OF TAMPERE

This document has been downloaded from
Tampub – The Institutional Repository of University of Tampere

Publisher's version

Authors: Kihn Lili-Anne, Näsi Salme
Name of article: Research strategic analysis of the Finnish doctoral dissertations in management accounting from 1990 to 2009
Year of publication: 2010
Name of journal: Liiketaloudellinen Aikakauskirja
Volume: 59
Number of issue: 1
Pages: 41-86
ISSN: 0024-3469
Discipline: Social sciences / Business and Management
Language: en
School/Other Unit: School of Management

URN: <http://urn.fi/urn:nbn:uta-3-496>

All material supplied via TamPub is protected by copyright and other intellectual property rights, and duplication or sale of all part of any of the repository collections is not permitted, except that material may be duplicated by you for your research use or educational purposes in electronic or print form. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone who is not an authorized user.

LILI-ANNE KIHN & SALME NÄSI

Research strategic analysis of the Finnish doctoral dissertations in management accounting from 1990 to 2009*

ABSTRACT

This paper presents a research strategic analysis of 43 doctoral dissertations in management accounting published in Finland during the past twenty years (i.e., from 1990 to 2009). The results synthesize the research themes, methodological approaches and types of publications of the dissertations. Our findings not only indicate diversity of research themes and methodologies, but also some “loose clustering”. Impacts of internationalization are seen in that most of the dissertations were written in English and the share of international articles collections increased over time. Suggestions for future research topics are made based on our findings.

Key words: *Doctoral education, literature analysis, management accounting, management accounting innovations, research methodologies, research themes*

* We would like to thank Kari Lukka, the Kataja 2009 GSA Workshop in Management Accounting participants, and the two anonymous reviewers for their helpful comments on the previous versions of the paper, and Lauri Lepistö and Riikka Mäki for research assistance. We gratefully acknowledge financial support from Liikesivistysrahasto and the first author also from the Academy of Finland.

LILI-ANNE KIHN, Professori (ma.), dosentti, akatemiattutkija, KTT

Tampereen yliopiston kauppakorkeakoulu, Taloustieteiden laitos • e-mail: lili.kihn@uta.fi

SALME NÄSI, Professori, KTT

Tampereen yliopiston kauppakorkeakoulu, Taloustieteiden laitos • e-mail: salme.nasi@uta.fi

INTRODUCTION

Management accounting as university subject and field of research has developed alongside the rise and development of business school education during the 20th century. The focus during the first half of the 20th century was on (full) cost accounting. In the middle of the century the scope of accounting widened to cover a wide range of management tools and techniques, such as break-even analysis, capital investment calculations, and operating budgeting, that were meant to support managerial decision-making and control. Management accounting doctrine was also widely reformed during the last two decades of the 20th century, at least in part in response to the “relevance lost” critique by Johnson and Kaplan in 1987. A general idea and trend has been to develop management accounting to more firmly support the strategic management of organizations.

The new management accounting techniques have been labeled as “*management accounting innovations*” (Malmi, 1999, 650; Chenhall, 2008, 525; Narjanjo-Gil, Maas & Hartmann 2009), “*new and innovative management accounting practices*” (Lukka & Shields, 1999), “*contemporary developments*,” “*horizontal accounting*” (Chenhall, 2008), and “*new techniques innovated*” (Jänkälä, 2007, 16) referring to the perceived novelty of the ideas.¹ Many scholars have also referred to at least some of the new techniques as “*strategically oriented management ideas*” (Granlund, 1998, 119) and “*strategic management accounting (SMA)*” (Järvenpää, 1998, 123; Laitinen, 2001, 10–11; Puolamäki, 2004, Chenhall, 2008; Bhimani, Horngren, Datar & Foster, 2008, 770). According to Guilding, Cravens and Tayles (2000), SMA techniques demonstrate degrees of environmental (outward-looking) and long-term (forward-looking) orientation. In line with Roslender and Hart’s (2003) definition of SMA, the new techniques often relate to external factors such as customers, markets and competitors, as well as to non-financial and internally generated information, and attempt to integrate insights from disciplines such as marketing management and management accounting within a strategic management framework.

Doctoral education has also grown exponentially in the past two decades in the Finnish university system, including that in business studies. In many other areas doctoral education has been even more prolific than in business and accounting, but in the latter field, too, more dissertations have been presented in these last two decades than ever before. The total number of dissertations in the field of management accounting from 1990 through 2009 was forty-three. This means that a huge amount of research has been conducted in this field and that it is possible to form a comprehensive picture of it only on the basis of a systematic analysis of the studies.

¹ According to Webster’s College Dictionary (1998, 673), innovations refer to “something new or different introduced.” In Rogers’ (1995, 11–17) view, the key is that innovations are *perceived* as new.

The objective of this study is to analyze and synthesize the management accounting doctoral research published in Finland in the past two decades (i.e., from 1990 to 2009), specifically by means of a research strategic analysis. In each dissertation two key matters are studied, *the research theme* and *the methodological approach used*. These reveal *what* in accounting has been studied and *how*. In addition, the language and type of each publication are examined. Our point of departure is education, i.e., our aim is to arrive at a systematic – dissertation by dissertation – based analysis and a synthesizing and comprehensive picture of management accounting doctoral research in the past two decades in Finland, both for the use of accounting education at master's and doctoral level and also to management accounting scholars and practitioners interested in research accomplished in this field.

The remainder of this paper comprises five sections. The following section introduces classifications of management accounting research themes and methodological approaches. Since management accounting practice, doctrine and research themes have changed over time, the paper will also present our own slightly modified (updated) classifications. Thereafter, our data and research methods are described. We next describe, analyze and synthesize the doctoral dissertations produced in Finland according to their research themes, methodologies, and type of publication. The final section presents our summary and conclusions, including suggestions for future research.

CLASSIFYING MANAGEMENT ACCOUNTING RESEARCH

Classifying management accounting research themes

In the classification of studies by research theme, we adopted a classification slightly modified from that by Hesford, Lee, Van der Stede and Young (2007, 6). The starting point of their classification is the generally accepted distinction between *cost (accounting)* and *(management) control*, allowing for other specific topics, such as accounting information systems and strategic management, to be classified separately as *other*. Following Hesford et al. (2007, 7), cost accounting is further divided into cost allocation, other cost accounting topics, and the study of cost practices. Cost allocation studies involve studies focused on the allocation of overhead and joint costs, cost driver analysis, activity-based costing (ABC), and capacity costs. We also include activity-based cost management (ABCM) and activity-based profitability analysis here since they require the use of ABC. Other cost accounting topics include, for example, the study of cost variances and the use of cost information for decision-making. Furthermore, we include the following five new and innovative techniques in the cost category, which, according to Cadez & Guilding (2008), represent strategic rather than conventional cost accounting: attribute costing, life-cycle costing, quality costing, target costing, and value-chain costing. We have also added backflush accounting into this category.

Finally, studies of cost practices are concerned with the emergence, development or decline of cost systems over time or in specific places (e.g., country-specific cost accounting systems, see Hesford et al., 2007). We also include all pricing themes including strategic and transfer pricing studies in this category, since pricing calculations typically need to be based on cost accounting information at least in part.

In line with Hesford et al. (2007, 7), we further classify control into the following subcategories: operating budgeting, capital budgeting, performance measurement and evaluation, and organizational and international control. The category operating budgeting includes studies focused on budget target setting, budget participation, and budget-related dysfunctional behaviors. Capital budgeting studies investigate investment decisions, including resource allocation decisions and issues of opportunity, relevant, and sunk costs. Performance measurement and evaluation involves the study of the various aspects of performance measurement and incentive system design (such as the balanced scorecards and performance measures used for incentives), as well as their consequences for organizational behavior and performance. Finally, in our study, the organizational and international control subcategory includes all studies remotely related to control systems in organizations not otherwise classifiable in the other control-specific categories.

Following Hesford et al. (2007, 7), we also identify the following *other* research themes: accounting information system (AIS, in our analysis also including enterprise resource planning, ERP, systems), benchmarking, total quality management (TQM), just-in-time (JIT), research methods, and strategic management. These distinctions between different theme categories are not always clear. Hesford et al. (2007) provided the following examples: AIS and strategic management articles can be somewhat similar to organizational control in that both examine the organizational impacts of accounting systems. AIS, however, is different in its focus on computer-based accounting information systems instead of management control systems more broadly. Strategic management articles, in turn, focus on the link between management control and strategy, whereas organizational control examines management control in organizational contexts without specifically focusing on strategy.

We include the historical and change of management accounting studies in the same category of *others*. Although historical studies and accounting change studies could both be seen as categories in their own right, all these studies have at least two features in common – a longer time perspective and analysis of change. Historical studies often examine accounting (thought, doctrine, etc.) change and development at more general level, whereas accounting change studies are often case studies concerning accounting change in a particular organizational context.

New management (accounting) techniques (for definitions, see Appendix 1) are found in each category of management accounting: ‘cost’, ‘control’ and ‘other’. While several philosophies and techniques can be deemed as innovative or strategic (cf. Hoque, 2001; Laitinen, 2001), in

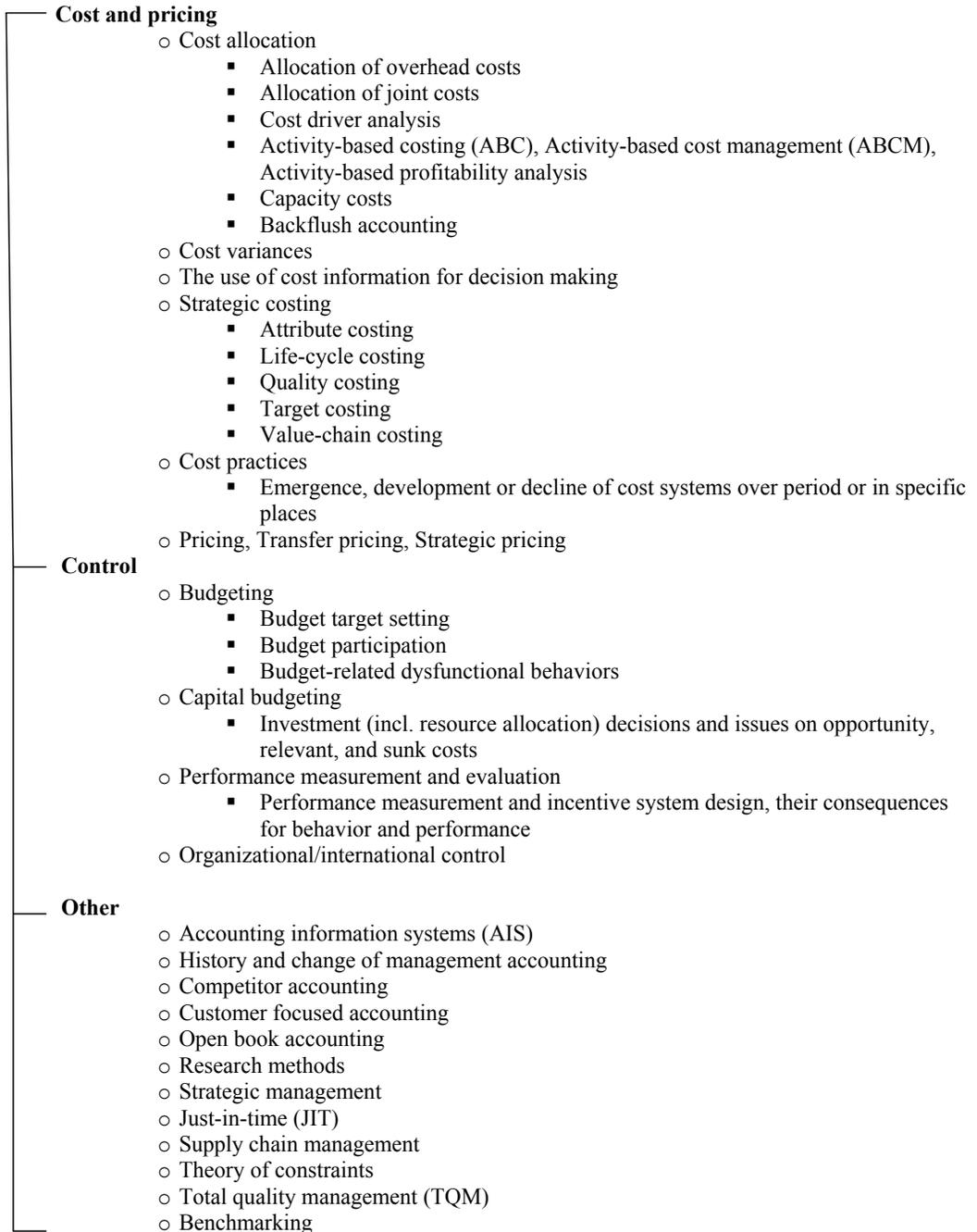


FIGURE 1. Classification of research themes in management accounting (modified from Hesford et al. 2007 and Cadez and Guilding, 2008).

our analysis, the following new techniques are also included in the category *other*: competitor accounting, customer focused accounting, open book accounting, theory of constraints and supply chain management.

Classifying research methodologies

Research methodology generally includes the rules, commitments and methods, which the researcher has accepted and applied, and which govern his or her work. In the Finnish accounting research, the research methodologies have traditionally been classified according to the Neilimo and Näsi (1980) classification (see also Lukka, Majala, Paasio & Pihlanto, 1984; Ferm, 1994; Näsi, 1980; Laine, Mäkinen & Näsi, 1993; Näsi and Näsi, 1985, 1996). The classification distinguishes the following four different approaches: nomothetic, decision-oriented, action-oriented, and conceptual approach. A fifth approach, the constructive approach, was later added by Kasanen, Lukka and Siitonen (1991, 1993). While distinctions are not always clear-cut, the basic underlying difference between these approaches is the division between the Aristotelian and Galileian philosophy of science. The first refers to an ‘understanding’ way and the latter to a ‘causal’ explanation way to do research. Figure 1 summarizes the main characteristics of each approach.

According to Neilimo & Näsi (1980), the conceptual (or concept analytical) approach follows Aristotelian tradition and is used in philosophy in particular. It uses the method of reasoning and argumentation. It aims to develop new concepts and conceptual systems – consisting of mental and linguistic systems – through conceptual analysis and synthesis.

Nomothetic research methodology, in turn, follows the Galileian tradition and its ideals are hence close to those of the natural sciences. The nomothetical approach is positivist-empirical and emphasizes the need for large samples of data. Causality, explanation and verification are emphasized, likewise testing hypotheses and finding evidence. The key characteristics include discovering invariances, generalizations, patterns, recurrences, and obediences to “laws”. (Näsi et al., 1993)

The decision-oriented (or decision-analytical) approach is also based on positivism, but it has more specific goals than the nomothetical approach. It usually aims to find normative rules to help a firm’s management run their company, most commonly by building different models for decision-making. As the name reveals, in this approach decision-making is analyzed in its entirety and therefore logic is emphasized and close relations kept to management science and operations research. (Näsi et al., 1993)

According to Neilimo and Näsi (1980), the action-oriented (or action-analytical) approach follows the Aristotelian tradition and seeks to further in-depth understanding of case studies, histories, or dialogues. Case studies (single and multiple case studies and even cross-sectional field studies, see Lillis and Mundy, 2005) most often represent action-oriented research. The

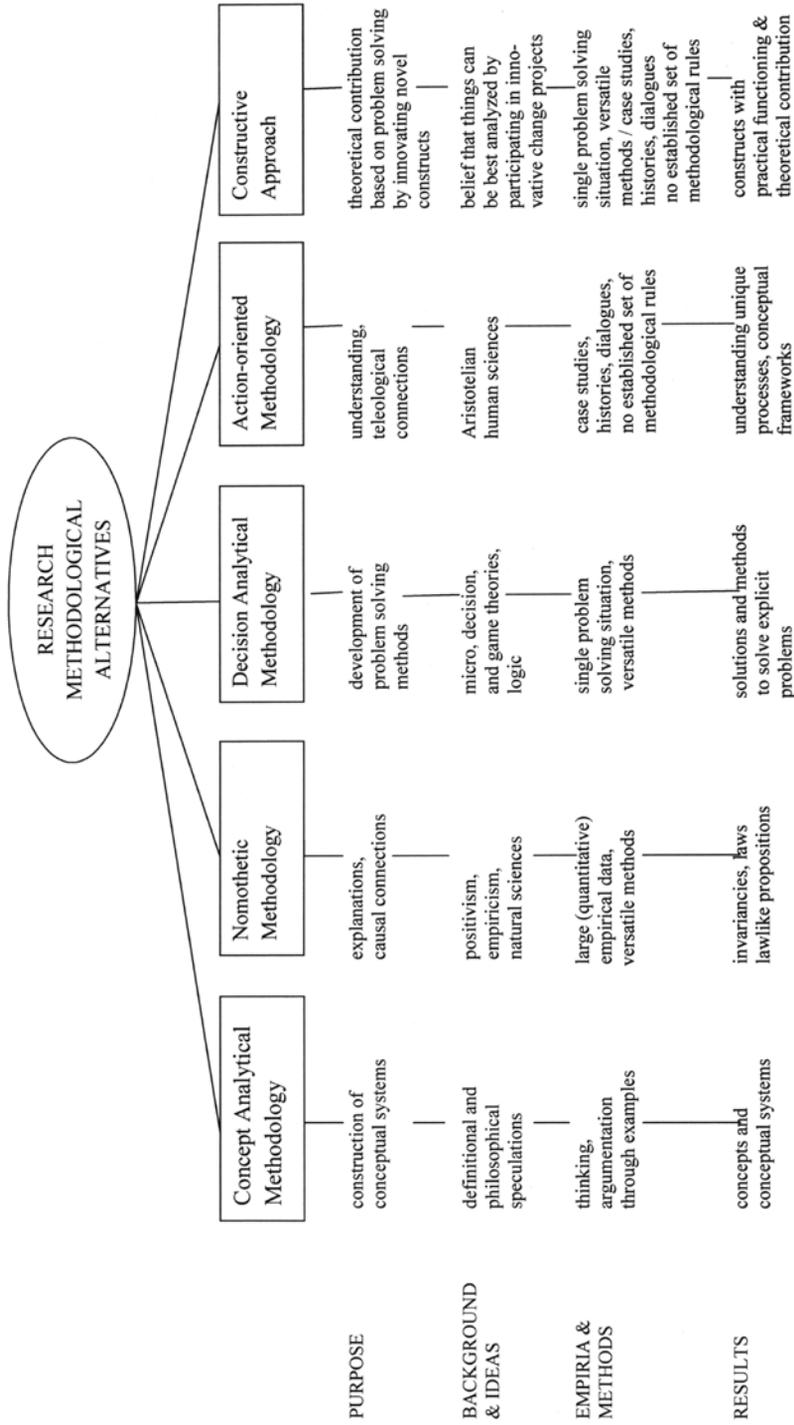


FIGURE 2. The research methodological alternatives (constructed from Näsi, 1980; Neilimo & Näsi, 1980; Kasanen, Lukka & Sitonen, 1993).

concept of action is taken as something broader than the concept of behavior, which is thought to be only a part of action. The human core of a firm is emphasized and the approach tries to produce not just understanding but also conceptual systems, frameworks and languages.

According to Kasanen et al. (1991, 1993), the purpose of constructive management accounting research is to solve managerial problems through the construction of innovative models, diagrams, plans, organizations, etc. An essential part of the constructive approach is to tie a practically relevant problem and its solution to accumulated theoretical knowledge. The novelty and the actual functioning of the solution have to be demonstrated as well. Constructive research can thus be divided into the following phases, the order of which may vary (Lukka, 2006, 114–121): 1. find such a practically significant problem that also has potential for a theoretical contribution, 2. find out if there are opportunities for long-term research co-operation with a case company, 3. obtain an in-depth understanding of the research topic both practically and theoretically, 4. innovate (i.e., construct) a solution idea, and develop such a construction that solves the problem and may also make a theoretical contribution, 5. implement the solution and test whether it works, 6. examine the scope of the applicability of the solution, 7. identify and analyze the theoretical contribution.

According to Kasanen et al. (1991, 1993), the constructive approach has a lot in common with the decision-oriented and action-oriented approaches. Both in the constructive and decision-oriented approaches, theoretical analysis, thinking, etc. play an important role leading to the creation of a new entity. But, as they note, there are also differences such as that the decision-oriented approach typically uses the method of deduction while heuristic innovations are characteristic of the constructive approach. Decision-oriented approach emphasizes theoretical modeling, but constructive approach entails an attempt to explicitly demonstrate the practical usability of the constructed solution. The constructive approach is close to action-oriented approach in the empirical phase of the studies in which the case method is usually applied. Both approaches presuppose a thorough understanding of organizational processes and that the researcher adopts a role of a “change agent”. A clear difference is, however, that action-oriented research does not aim at creating any explicit managerial constructions. In certain cases decision-oriented or action-oriented studies may, however, correspond to a constructive one, too.

DATA AND THE RESEARCH METHODS

This study is in the nature of a historical investigation. Based on the selected dissertations, it tries to produce as comprehensive a picture as possible of the development of management accounting doctoral dissertation research. In particular, we analyze and classify the management accounting doctoral dissertation research based on its themes and methodological approaches.

The focus of this research is on such Finnish doctoral dissertations that are in the field of management accounting and were published in the period 1990 to 2009. This time period was selected because it begins around the time several new management accounting techniques came into being. While the role of theory was not addressed in our study, an in-depth analysis of such questions has been provided by Järvenpää and Pellinen (2005) in their study on about ten qualitative management accounting dissertations published in 1997–2005. Note also that while earlier time periods were not analyzed in our study, they have been covered in earlier studies. For example, Näsi and Näsi (1985) studied Finnish accounting dissertations published during 1944–1984. In another study, Näsi and Näsi (1996) analyzed the development of accounting and business economics in Finland as an academic subject from turn of the century until 1996. Näsi et al. (1993) analyzed the research strategies of Finnish accounting dissertations published during 1940 to 1992. Finally, Kihn and Näsi (2010) analyzed innovative developments in topics, theoretical traditions and methodologies in Finnish management accounting dissertations throughout the ages (i.e., from 1940s to the present time).

Our data collection and analysis involved several steps. First, those Finnish universities were identified with doctoral students in the field of business economics, accounting and finance during the past twenty years. The search focused on departments offering corporate accounting. Other departments such as departments offering public sector accounting and industrial economics were excluded from the search. As a result, accounting departments in a total of nine such universities were identified in which doctoral dissertations had been published in the field of accounting during the period of this study. The universities, in alphabetical order, are: Helsinki School of Economics (HSE), Lappeenranta University of Technology (LUT), Swedish School of Economics (Hanken), Turku School of Economics (TSE), University of Jyväskylä, University of Oulu, University of Tampere, University of Vaasa, and Åbo Akademi University (ÅA).

Second, the names of the scholars and the bibliographic details of their dissertations were collected. Both university and departmental level web-pages were searched, likewise library databases. If no information was available at all, or not all the way to year 1990, information was requested from and provided by representatives of the accounting departments in question. The search resulted in a total of 95 accounting and finance dissertations published during 1990–2009.

Third, the doctoral dissertations identified were classified further. While many of the 95 dissertations were in the field of financial accounting, finance or auditing, almost half of them (43 dissertations, about 45 per cent) were in the field of management accounting. Table 2 summarizes the management accounting dissertations by name of scholar, dissertation title, methodological approach, type of publication and year of publication. Based on the title, most of these dissertations could be easily classified as studies in management accounting. Even though, e.g., Näsi's

TABLE 1. Management accounting doctoral dissertations published in Finland in 1990–2009.

Author	Title	Research methodology	Publication type	Year
1. LUMIJÄRVI, Olli-Pekka (TSE) ¹	Gameplaying in capital budgeting	Action-oriented; multiple case study	Monograph	1990
2. NÄSI, Salmé (TAY) ²	Laskenta-ajattelun kehitys viime vuosidan puolivälstä nykypäivän – suomenkieliseen laskentatoimen kirjallisuuteen perustuva historiantutkimus	1. Concept analytical 2. Action-oriented; historical	Monograph	1990
3. LEPPÄALHO, Markku (TAY)	Yrityksen kehitysvaiheet ja liiketoimintastrategian muotoutumisprosessit	Action-oriented; historical; multiple case study	Monograph	1991
4. HASSEL, Lars (ÅA) ³	The Effectiveness of Budgetary Control in a Multinational Context	Nomothetic	Collection of essays	1992
5. RÄNNÄRI, Osmo (HSE) ⁴	Electricity Pricing Behaviour in Finland	Nomothetic	Monograph	1992
6. WIKMAN, Ossi (TSE)	Yrityksen investointiprosessi ja siihen vaikuttavia tekijöitä	Action-oriented	Monograph	1993
7. KAIKKONEN, Viljo (TAY)	Ihminen, strategia-ajattelu ja laskentatoimi. Hermeneuttinen tutkimus	Action-oriented	Monograph	1994
8. AHOLA, Jyrki (LUT) ⁵	Yrityksen strategiaprosessi. Näkökohtia strategisen johtamisen kehittämiseksi konserniorganisaatiossa	1. Action-oriented 2. Decision-analytical	Monograph	1995
9. IHANTOLA, Eeva-Mari (TAY)	Organisaation budjetointi-ilmapäärin ymmärtäminen organisatorissosiaalisessa kontekstissaan.	Action-oriented	Monograph	1997
10. KIHIN, Lili-Anne (TSE)	International strategies, relative financial controls and performance evaluations of overseas managers – empirical evidence from Finnish firms	Nomothetic	Monograph	1997
11. MALMI, Teemu (HSE)	Adoption and implementation of activity-based costing: practice, problems and motives	1. Nomothetic 2. Action-oriented	Collection of articles	1997
12. PELLINEN, Jukka (JY) ⁶	Unfolding a management accounting system change	1. Action-oriented 2. Constructive approach	Monograph	1997

13. GRANLUND, Markus (TSE)	The challenge of management accounting change. A case study of the interplay between management accounting, change and stability	Action-oriented	Collection of essays	1998
14. AGBEJULE, Adebayo (VY) ⁷	An administrative and institutional perspective of activity-based costing implementation	Action-oriented; multiple case study	Monograph	2000
15. HUSSAIN, Md. Mostaque (VY)	Management accounting systems in services: empirical evidence with non-financial performance measures in Finnish, Swedish and Japanese banks and other financial institutions	1. Action-oriented; cross-sectional field study 2. Nomothetic	Collection of essays	2000
16. KURUNMÄKI, Liisa (IY)	Power relations in the health care field: accounting, accountants, and economic reasoning in the new public management reforms in Finland	Action-oriented; multiple case study	Collection of articles	2000
17. PARTANEN, Vesa (TSE)	Muuttuva johdon laskentatoimi ja organisatorinen oppiminen: Field-tutkimus laskentahenkilöstön roolin muutoksen ja uusien laskentainnovaatioiden käyttöönoton seurauksista	Action-oriented; multiple case study	Monograph	2001
18. VAIVIO, Juhani (HSE)	Non-financial measurement in an organizational context. Three perspectives	Action-oriented; multiple case study	Collection of articles	2001
19. JÄRVENPÄÄ, Marko (TSE)	Johdon laskentatoimen liiketoimintaan suuntautuminen laskentakulttuurisena muutoksena – vertaileva case-tutkimus	Action-oriented; multiple case study	Monograph	2002
20. KASURINEN, Tommi (HSE)	Exploring management accounting change in the balanced scorecard context – three perspectives	Action-oriented; multiple case study	Collection of articles	2003
21. PUOLAMÄKI, Esa (TSE)	Strategic management accounting constructions in organizations. A structuration analysis of two divisional strategy processes	Constructive; multiple case study	Monograph	2004
22. VIHTONEN, Tiina (LUT)	Tuote- vai liiketoimintaosaamista? Pienten ja keskisuurten leipomoalan yritysten strategiset valinnat, liikkeenjohdon käytännöt ja menestyminen	Nomothetic	Monograph	2004
23. YLINEN, Mika (VY)	Management control systems in technical and administrative development projects	Nomothetic	Monograph	2004
24. JÄRVINEN, Janne (OY) ⁸	Rationale for adopting activity-based costing in hospitals: three longitudinal case studies	Action-oriented; multiple case study	Collection of essays	2005

25. MÄÄTTÄ, Seppo (TSE)	Strategian ja strategisen informaation tulkintahorisontteja	Action-oriented	Monograph	2005
26. WINGREN, Tom (VY)	Essays on activity-based costing mass-tailorization, implementation and new applications	Constructive; multiple case study	Collection of articles	2005
27. JOKIPII, Annukka (VY)	The structure and effectiveness of internal control: a contingency approach	Nomothetic	Monograph	2006
28. VIRTANEN, Tuija (HSE)	Johdon ohjausjärjestelmät muuttuvassa toimintaympäristössä	Action-oriented	Collection of articles	2006
29. VUORENMAA, Erkki (TSE)	Trust, control and international corporate integration	Action-oriented; multiple case study	Monograph	2006
30. HYVÄRI, Irja (HSE)	Project management effectiveness in different organizational conditions	1. Nomothetic 2. Action-oriented; multiple case study	Collection of articles	2007
31. JÄNKÄLÄ, Simikka (OY)	Management control systems (MCS) in the small business context. Linking effects of contextual factors with MCS and financial performance of small firms	Nomothetic	Monograph	2007
32. SILVOLA, Hanna (OY)	Management accounting and control systems used by R&D intensive firms in different organizational life-cycle stages	1. Nomothetic 2. Action-oriented	Collection of essays	2007
33. UUSITALO, Kari (TAY)	Asiakaspalautetta rekisteröivän informaatiojärjestelmän kehittämisen kohdeyrityksen asiakaslähtöisen johtamisen tueksi. Case: Teknisen tukukaupan asiakastoimitusprosessi	Constructive	Monograph	2007
34. HYVÖNEN, Johanna (OY)	Linking management accounting and control systems, strategy, information technology, manufacturing technology and organizational performance of the firm in contingency framework	1. Nomothetic 2. Action-oriented; multiple case study	Collection of essays	2008
35. MOILANEN, Simikka (OY)	The role of accounting in management control systems of firms having subsidiaries in the former Soviet Union	Action-oriented; multiple case study	Collection of articles	2008

36. SIPPOLA, Kari (OY)	Two case studies on real time quality cost measurement in software business	Constructive; multiple case study	Monograph	2008
37. TANNINEN, Kati (LUT)	Diffusion of administrative innovation: TQM implementation and effectiveness in a global organization	Nomothetic	Monograph	2008
38. TEITINEN, Henri (JY)	Näkömätön ERP: Taloudellisen toiminnanohjauksen rakentuminen	Action-oriented	Monograph	2008
39. VELCU, Oana (Hanken) ⁹	Drivers of ERP system's business value	1. Nomothetic 2. Action-oriented; multiple case study	Collection of essays	2008
40. YIGITBASIOGLU, Ogan (Hanken)	Determinants and consequences of information sharing with key suppliers	Nomothetic	Monograph	2008
41. BURKLAND, Sirle (VY)	Managing the development of valuable intellectual capital. The role of management control	Action-oriented; multiple case study	Monograph	2009
42. HUIKKU, Jari (HSE)	Post-Completion Auditing of Capital Investments and Organizational Learning	Action-oriented; multiple case (field) study	Collection of articles	2009
43. PÄTÄRI, Satu (LUT)	On Value Creation at an Industrial Intersection – Bioenergy in the Forest and Energy Sectors	1. Action-oriented 2. Nomothetic	Collection of articles	2009

¹ Turku School of Economics (TSE)

² Tampereen yliopisto (TAY), University of Tampere

³ Åbo Akademi (ÅA)

⁴ Helsinki School of Economics (HSE)

⁵ Lappeenranta University of Technology (LUT)

⁶ Jyväskylän yliopisto (JY), University of Jyväskylä

⁷ Vaasan yliopisto (VY), University of Vaasa

⁸ Oulun yliopisto (OY), University of Oulu

⁹ Svenska Handelshögskolan (Hanken), The Swedish School of Economics

(1990) study could also be classified as a study in accounting in general, Kurunmäki's (2000)'s, Järvinen's (2005) and Määttä's (2005) studies in public sector accounting, and Jokipii's (2006) a study in auditing (in a broad sense), they are also included in the current study due to the scope of management accounting themes.

Fourth, the research theme and methodological approach categories presented above were used to analyze and classify the management accounting dissertations as follows:

- whether their themes are related to cost, control, or other areas with several sub-themes in each three main categories (see Figure 1 above),
- what their methodological approach is on the basis of the Neilimo & Näsi (1980) and Kasanen et al. (1993) classifications (see Figure 2 above), and
- is the dissertation in the form of a monograph or a collection of essays or published articles (if the dissertation consisted of less than two published articles we labeled it a collection of essays, if it consisted of at least two published articles, we labeled it a collection of articles),
- in what language the thesis was published.

In the following, a brief description of the 43 dissertations will be provided mainly in chronological order, starting from the beginning of 1990 and advancing through 2009. However, note that where multiple dissertations were published during a year, an alphabetical, rather than chronological, order will be followed.

FINNISH DISSERTATIONS IN MANAGEMENT ACCOUNTING FROM 1990 TO 2009

Years 1990 to 1999: A decade of steady development in management accounting doctoral research

A total of 13 dissertations were published in the field of management accounting during the first decade, from 1990 to 1999. Two dissertations were published in 1990, one in 1991, two in 1992, one in 1993, one in 1994, one in 1995, four in 1997 and one in 1998. A brief description of the essential characteristics of each study follows. In particular, we focus on the research theme and methodological approach of each study.

(1) Olli-Pekka Lumijärvi's (1990) dissertation is on capital budgeting. It analyzed capital budgeting in general, and game-playing in capital budgeting in particular. The purpose of his study was to investigate: 1) how the capital budgeting process works in a large decentralized company, 2) what kinds of games people employ in a capital budgeting process, and 3) which factors underlie

people's gameplaying behaviors. Field investigation was conducted in a publicly traded Fortune International 500 company, one of the largest enterprises in Finland. Data were collected with 71 interviews, informal discussions and from documents. A total of eight investment cases were used to demonstrate the complex and multifaceted nature of capital budgeting and game-playing in different kinds of investments. The following five games were identified: selling, manipulation of profitability calculations, bypassing procedures, manipulation of post-audit reports, and external gameplaying. Personal factors, control system, organization and environment were identified as factors that may either diminish or enhance people's game-playing. The study resulted in a new framework that merged the above findings (see Lumijärvi, 1990, 275). The methodology of the multiple case study was closest to action-oriented.

(2) Salme Näsi's dissertation (1990) analyzes and synthesizes the development of accounting thinking – understood as a counterpart to accounting practice – in Finnish accounting doctrine. The study covered the whole field of accounting, including both financial and cost and management accounting. The most important business economics and accounting textbooks as well as accounting related articles in business journals formed the main source material for this study of accounting history. Näsi's study represented functional and traditional accounting research, the focus being on the roots and developments of cost accounting and management control tools and systems in Finnish accounting thinking. The study covered the time from the middle of the 19th century to the end of the 1980s. The first part of the 20th century witnessed developments of full costing in industrial environments. During the 1950's innovations – such as marginal costing, budgeting, and capital budgeting – became part of management accounting thinking. The development of management accounting was cumulative and slow. As to the research methodology, Näsi's study is concept analytical, tracing the development of Finnish accounting terms and concepts but also action-oriented and historical, one of the main interests being in actors (academics and professionals) with significant influence on business accounting thinking in Finland.

(3) Markku Leppälho's (1991) dissertation examines the life-cycle stages and business strategy formation processes of the firm, using theories of business strategy and structure. The study was based on the hypothesis that the formation of business strategy varies according to the different life-cycle stages of a firm. Emphasizing the human factor of the firm, the objective of the study was to answer the following questions: How do the business strategies of a firm vary in its different life-cycle stages, and does strategic change in a firm occur by certain threshold stages? The study followed the action research methodology, and because of the long period of investigation covering the entire history (60–80 years) of the three case firms, historical research methods were also applied. The case firms of the study were medium-sized family businesses. The

topic and the findings of the study are not directly linked to accounting but to strategic management.

(4) Lars Hassel's (1992) dissertation consists of a summary and three essays of which one was a published article. The contingency theoretic study is primarily on budgetary control, but also related to international control and performance measurement and evaluation. The study is nomothetic. Surveys were used as the main data collection method and sent to domestic and foreign subsidiary managers with profit center responsibilities. Each group consisted of 40 managers. Based on usable responses from 36 managers of domestic units (95% usable response rate) and 31 managers of foreign units (84% usable response rate) of a Finnish-based multinational company (MNC), Hassel reported several differences in the control between domestic and foreign units. As the overall conclusion of his study, Hassel wrote that there are greater problems in budget communication to foreign than domestic units, but headquarters' reliance on accounting performance measures is, nevertheless, cost-effective in foreign (multi-domestic) subunits even if they experience high dynamism.

(5) Osmo Rännäri's dissertation (1992) explores and explains the pricing behavior of Finnish electricity suppliers. The research hypotheses and the three-level structural model of pricing behavior relied on general theoretical, well-accepted concepts such as economies of scale, economies of scope, and perceived management objectives and attitudes. Data were collected with questionnaires and hypotheses analyzed with statistical tools (such as factor analysis and multiple regression analysis). Thus, the study was inherently nomothetic. It unravelled cross-sectionally the variation in the price level for electricity suppliers, and found variables that causally explain the pricing behavior.

(6) Ossi Wikman's (1993) behavioral dissertation is on capital budgeting. He studied the phases of the investment process and the factors influencing it. Wikman first developed a theoretical framework and then used it as a starting point in an empirical investigation of the investment behavior of a case firm. Wikman selected an action-oriented research methodology based on hermeneutics and subjectivistic assumptions of the ontology, epistemology and human nature. The goal was not to develop new hypotheses, but to present ideas for further research and to further understanding of investment behavior from many points of view. The study sheds light on the following four phases of the investment process: initiation of the process, definition, evaluation and decision-making. The following kinds of factors influencing the investment behavior of the firm were examined and found: culture, strategy, organization and personality. The empirical results also indicate that the investment process includes various kinds of qualitative and quantitative information that is largely informal.

(7) Viljo Kaikkonen's (1994) thesis consists of three elements: man, strategic thinking and accounting. The research problem of the thesis was set as follows: "Can accounting – and if it can, in what way – serve strategic thinking in a business firm?" The study was profoundly philosophical in nature: It took the human element and human knowledge into consideration. The philosophical point of departure was thus an ontological analysis of man. The nature of the firm, accounting, strategic thinking, and other phenomena were studied and understood from this point of departure. The study was based on hermeneutics; it sought understanding and interpretation concerning human knowledge, reality and linkages between different phenomena. Even though no empirical data in traditional meaning were collected and used in this study, we classify this work as action-oriented.

(8) Jyrki Ahola's (1995) dissertation is on strategic management. Based on previous strategic literature, the theoretical part of the study created a theoretical framework for the strategy process and management of a group-type company. The empirical part was carried out as a case study, during which the crucial problem areas of the strategy process were charted and their causes were analyzed in order to define the emphases and directions for the strategy process development. Ahola's own methodological choices were action-oriented and decision analytical approaches. They were both used in the study and, therefore, Ahola's dissertation has been classified to represent these two methodological approaches. The study determines the critical areas related to the strategy process of the firm, the tasks of group management in the strategy process, and creates a normative strategy process model for a group-type company.

(9) Eeva-Mari Ihanhola's (1997) doctoral dissertation is on budgetary control. Budgeting and human behavior were analyzed in their organizational and social contexts with the aid of Rauhala's (1986) holistic concept of man. The empirical analysis was based on a longitudinal case-study conducted in a profit center of a forest sector company from 1983 to 1992. The methodological approach was action-oriented. The study improved the understanding of the organizational budgeting climate, how it is involved in the budgeting process, and how it is formed over time.

(10) Lili-Anne Kihn's (1997) monograph dissertation examines relationships between strategy and controls in MNCs. The research theme could be classified as organizational control, international control or performance measurement and evaluation. Following the Hesford et al. (2005) classification, we, however, here call it a study of strategic management. Notably, the aim of the study was to analyze whether there are statistically significant direct and/or indirect links (through decentralization, company goals and/or transfer pricing) between the degree of multidomestic (global) strategy and senior managers' control mix in the performance evaluations of overseas

managers. These questions were analyzed with the aid of strategic and organizational (contingency) theoretic approaches. The study represents nomothetic research methodology. Survey evidence was obtained from 103 senior managers (58.5 per cent response rate) of about 60 Finnish-based MNCs. A total of seven hypotheses were tested with the current, past, and predicted values of the dependent variable using correlations, regression and path analysis. The results suggest that international strategy appears to at least partially impact the emphasis on controls. The findings do not support indirect links but they do suggest direct links such as that between the degree of multidomestic (global) strategy and controls.

(11) Teemu Malmi's (1997) dissertation is on cost allocations and on ABC in particular. It comprises three articles and an introduction. The first article described the substance of ABC by presenting statistical description and analysis of 287 survey responses (41.8 per cent response rate) collected from large and medium-sized units in metal and engineering industries. Seventy-two of the responses were selected to the ABC sub-group. The second study explained ABC failure. While several existing frameworks (e.g., on levers of control, organizational power and culture, and resistance to accounting change) were used as an initial focus, the explanations came from the evidence of a longitudinal case study conducted in Sisu Inc. Data were collected by interview and by initially participating in a project team that was in charge of developing one of the first ABC applications in Finland. The third article analyzed with the aid of Abrahamson's (1997) framework how and why management accounting innovations, such as ABC, diffuse. An inductive case study that triangulated survey, interview and archival data was used to build a dynamic model to explain management accounting diffusion. Statistical methods, such as correlations, T-tests and Mann-Whitney test, were used in the data analysis. Whilst the first and third articles represent nomothetic research, the second article is closest to action-oriented.

(12) Jukka Pellinen's (1997) doctoral dissertation focuses on a change in the management accounting system of a case company. A change was needed to improve the relevance of the management accounting system as well as the reliability and validity of accounting information. The study reported changes in the systems from administrative-centered to more production-oriented and in the focus of accounting reporting from organization to customers. It was related to management accounting innovations in that quality management and new cost accounting systems were used as a means of making the organization focus on quality and cost efficiency in production. Pellinen used the development inquiry approach (see Tamminen, 1993) in his study. Even though this approach has similarities with the constructive approach, we have interpreted Pellinen's methodology to be closer to action-oriented approach and only secondary to constructive approach.

(13) Markus Granlund's (1998) dissertation comprises four essays on management accounting change. The study analyzed challenges of change in particular. The analysis of challenges was directed both towards structural-technical changes in management accounting systems and changes in the roles and meaning of management accounting systems. Data were collected from documents, with 38 interviews with 22 people, and with extensive participatory observations. The longitudinal case study was mainly descriptive and used an interpretive action-oriented approach. Overall, the findings contribute to our understanding of the challenges of management accounting change by interpreting the interplay between management accounting, change, and stability in a case company.

The years 2000–2009: Management accounting doctoral research gains a stronger foothold

A total of 30 management accounting doctoral dissertations were published from 2000 to 2009. Three of the dissertations were published in 2000, two in 2001, one in 2002, one in 2003, three in 2004, three in 2005, three in 2006, four in 2007, seven in 2008 and three in 2009.

(14) Adebayo Agbejule's (2000) thesis is on ABC implementation. He studied the implementation of ABC from an administrative and an institutional perspective. Based on earlier ABC literature and empirical evidence collected from three longitudinal case studies and two field survey interviews, Agbejule's study showed how different perspectives affect, and become important for, different stages of the ABC implementation process. The study adds knowledge of factors that can be used as a behavioral implementation model to improve the understanding and success of ABC implementation. The methodological approach was closest to action-oriented.

(15) Mostaque Hussain's (2000) dissertation is primarily on non-financial performance measurement and to a smaller extent on ABC. He examined aspects of non-financial performance measurement and ABC in service sector companies utilizing New Institutional Sociology (NIS) theory. In his first essay, Hussain discussed the shortcomings of traditional management accounting systems and the usefulness of the ABC approach in financial services. In the second essay, he reported descriptive results of representatives of 32 Finnish small and medium sized service firms on ABC implementation. In his third essay, which accounted for the major part of the thesis, Hussain investigated the role of management accounting in non-financial performance measurement in Finnish, Swedish and Japanese banks and financial institutions. The methodological approach used in this field study was action-oriented.

(16) Liisa Kurunmäki's (2000) dissertation is on organizational control. Her thesis consists of three

independent yet interrelated articles and a summary on the roles of accounting, accountants and economic reasoning in the Finnish hospital field. These three articles focus on the power relationships between healthcare financiers and medical professionals, between hospital managers and healthcare professionals, and between accountants and medical professionals. Kurunmäki conducted her studies in the New Public Management (NPM) framework, which has transferred several management and accounting innovations from the business sector to the public sector. When applied within the healthcare sector, the NPM-related reforms have brought medical professionals into closer contact with accounting and accountants than ever before. Kurunmäki's dissertation was based on field research conducted in six hospitals. Qualitative data collected by means of interviews, observation of meetings and documentary material. Methodologically this thesis represents an action-oriented approach.

(17) Vesa Partanen's (2001) dissertation is on management accounting change. He analyzed the role and significance of organizational learning in the management accounting change process. The effects of the adoption and implementation of new management accounting techniques (such as BSC and ABC) and the changing role of management accountants were examined. Partanen's interpretive dissertation represents action-oriented and ethnographic (grounded theory) research. The empirical part of the dissertation comprises a multiple case study. Five case organizations were chosen in such a way that it was possible to analyze different accounting change processes in different organizational contexts in the light of organizational learning. Open and theme interviews and analysis of written material were used as methods of data gathering. The main findings contribute to our knowledge of the role model of controllers in the light of different metaphors, different interfaces in organizational learning, and organizational learning styles in accounting development.

(18) Juhani Vaivio's (2001) dissertation is primarily related to the themes of performance measurement and evaluation. It consisted of three articles. In the first article, Vaivio examined the emergence of non-financial measures in the organizational context of Lever Industrial, U.K. In the second article, "The Quantified Customer", a subsidiary of Unilever was examined. The paper provided a detailed account of how customer information was transformed into quantitative knowledge. In the third article, Vaivio analyzed the workings of non-financial measures within the processes of knowledge creation. His argument was that non-financial measurement could offer a medium for connecting management accounting with systematic efforts of organizational knowledge creation. Such an orientation could enhance the role of the business oriented controller as an active change agent. The research methodology of Vaivio's multiple case study was action-oriented.

(19) Marko Järvenpää's (2002) dissertation is related to changing management accounting. He analyzed the business orientation of management accounting as a cultural change focusing on the reasons for, development of, and outcomes of, increasing business orientation of the management accounting function. On the basis of accounting change studies, culture-related organizational theories, institutional theory and theories concerning human individuals, Järvenpää developed a new theoretical framework. He used it for the empirical analysis and interpretation of data collected with a comparative and longitudinal case study at three case sites in large Finnish companies 1995–2001. The data were collected through theme interviews, supporting telephone and e-mail interviews and some participatory observation. The dissertation represents ethnographic sociology, interpretative and action oriented research. The results contribute to our knowledge of business orientation in general, and to the business orientation of the management accounting function from the cultural change point of view in particular.

(20) Tommi Kasurinen's (2003) dissertation focuses on BSC. In particular, his studies addressed short-term changes in management accounting in the BSC context. The first of his three articles contributed to theories of accounting change by analyzing the context of change and by focusing on factors which can hinder, delay or prevent change. In the second article, Kasurinen examined the process in which new management accounting ideas are converted into organizational routines. The study explained why BSC introduction only had a limited influence on the actual management processes. In the third study, Kasurinen investigated the management accounting change process at a more specific level in order to understand how the characteristics of a new rule will be encoded in an organizational context and what is the role of the context itself in the encoding process. The research methodology was action-oriented based on qualitative empirical data from multiple case studies.

(21) Esa Puolamäki's (2004) monograph dissertation is related to both strategic management and performance measurement and evaluation, but we classify it here as primarily a study of performance measurement and evaluation. Puolamäki addressed the role of SMA in the manager-driven constitution of organizational practices. The first case focused on portfolio techniques, the strategic performance measurement system and competitor-focused accounting. The second case investigated the development process of a BSC type strategic performance measurement system. The formal strategy processes were examined with the analytic tools provided by the structuration theory. The study was conducted in two case organizations and the main data collection methods were participation, participant observation and retrospective semi-structured interviews of the key actors. The dissertation emphasized strong intervention and participation in practical development work and was characterized as constructive research by the scholar. The findings contribute to our knowledge of the technical and social roles of SMA.

(22) Tiina Vihtonen's (2004) dissertation is related to strategic management and to management accounting innovations. She examined the combinations of two strategic views (innovativeness and dynamic capabilities), certain management practices (such as management accounting and quality management), and the performance of enterprises. Methodologically Vihtonen's study represents the nomothetic approach. The empirical evidence was collected with a mail questionnaire from 90 small Finnish firms in the bakery industry. Four groups of firms were classified according to the respondents' strategic views with the aid of cluster analysis. The results suggested that innovativeness and dynamic capabilities had a great influence on performance. In addition, many of the management accounting and quality control practices analyzed were found to be significant for the performance of the firms.

(23) Mika Ylinen's (2004) monograph dissertation addresses organizational control. The study applied contingency theory and developed a model to examine links between interactive and diagnostic use of project feedback and measurement systems, task characteristics, project innovativeness and performance. A total of 11 hypotheses were developed and tested in two subsamples consisting of administrative and technical type development projects. Survey evidence was collected from 119 project managers (a response rate of about 50 per cent). Partial least squares analysis was utilized in testing the hypotheses. The study, hence, represents nomothetic research. The empirical findings suggest that while innovation requires a high degree of flexibility in the structural and communication processes, formal project control also has an important role in project management. The type of project, level of uncertainty and manager's tolerance of ambiguity seemed to affect the interactive and diagnostic use of project control.

(24) Janne Järvinen's (2005) dissertation consists of three essays and a summary of ABC. The aim of his dissertation was to analyze the motivation and rationale for adopting activity-based costing in hospitals. In particular, Järvinen analyzed whether an organization's rational and efficiency-seeking actions are constrained by both economic (bounded rationality) and institutional factors. Institutional theory was used to interpret the findings of three case studies conducted in two public sector hospitals and a private sector hospital. According to Järvinen, his dissertation represents action research, where the scholar was actively involved in the design and construction of the cost accounting systems studied, with opportunities to influence the decisions taken and the outcomes achieved, but where less attention was paid to practical contributions. The main finding of the study was that while institutional theory may lead people to think that managerial accounting systems may be converging due to institutional pressures, evidence from the case studies supported the notion that the convergence seems limited to the adoption of systems.

(25) Seppo Määttä's (2005) monograph dissertation is clearly on strategic management. His study investigated different interpretative horizons of strategy and strategic information from the viewpoint of organizational actors. The following three horizons were selected: rational-analytic, holistic individual image and organizational-social. The study focused on how strategy related issues, actions and meanings are seen, constructed, interpreted and transformed by organizational actors. The study appears to principally apply an interpretive research tradition. Määttä characterizes his research paradigm as action-oriented case research rooted in hermeneutics. The empirical world was approached as a single case study of the Ministry of Finance, Finland. The findings indicate that every interpretive horizon is both enabled and limited by its basic assumptions and that therefore none of the horizons alone can solve a complex problem. However, each of them broadens understanding by shedding light on some particular aspect of the nature, the process and the actors of the strategy and strategic information.

(26) Tom Wingren's (2005) dissertation consists of four articles and an introduction and focuses on ABC and ABCM. The primary aim of his study was to develop the existing theory by introducing a new mass/tailored ABC concept. An interpretive approach to research was selected. Empirical evidence was collected with interviews, observations and questionnaires from several case companies representing different business areas. The study was classified as constructive research, although the scholar noted that some of his articles were closer to action-oriented approach in part. The study adds to our knowledge of the implementation and learning processes of ABC and ABCM, and presents a conceptual model of how the relationship between strategic priorities, key success factors, performance measurers and management accounting can be improved with the developed mass-tailored ABC system.

(27) Annukka Jokipii's (2006) monograph dissertation is on internal control. The objective of her study was to examine hypotheses on contingency characteristics that may affect internal control structure and its effectiveness. A contingency theoretic approach was applied. The data of the study were collected from the chief executive officers of Finnish firms. A total of 741 responses were received (response rate of 51.9 per cent). Mediation and moderation models were analyzed using structural equation modeling. The statistical results suggest that internal control structure plays a mediating role between contingency characteristics and internal control effectiveness. Among the contingency characteristics examined, prospector strategy and high perceived uncertainty were the most important characteristics affecting internal control structure and its effectiveness. The dissertation can be classified as nomothetic research.

(28) Tuija Virtanen's (2006) dissertation is on strategic management and is built on a summary

introduction and three articles. The study analyzed the need for change in strategies and management control systems in changing business environments and investigated the interplay between management control systems and strategies, as companies attempt to adapt to their changing business environment. It approached management accounting in strategic control in a changing business environment from three different perspectives using Simons' (1995) framework of four levers of strategic control. A longitudinal dynamic examination of the strategies and management control systems of the case company, the Finnair Group, was conducted throughout the 1990s into the first years of the 2000s to determine the effect of environmental change on corporate and competitive strategies and management control systems. Furthermore, the use of management control systems as levers of strategic change at different organizational control levels was examined. According to the scholar, her study represents strategic theoretic and action-oriented research.

(29) Erkki Vuorenmaa's (2006) monograph dissertation is on international control. He interpreted the relationship and interplay between trust and control in general, and the importance of trust and control at different levels of corporate integration in particular. Vuorenmaa collected empirical evidence from documents and from 33 interviews with 26 people in two global case companies – one of which was a Finnish parent company and the other one its subsidiary in Holland. According to the scholar, an iterative grounded theory methodology was selected. Based on the Neilimo & Näsi (1981) classification, we classify Vuorenmaa's field study closest to action-oriented research. Overall, the findings add to the knowledge of trust, control, and the critical factors of integration.

(30) Irja Hyväri's (2007) dissertation on internal control consists of three articles and a summary. Her study addressed project management effectiveness in different organizational conditions. The approaches selected appear closest to organizational and contingency theory. The first study was a descriptive and exploratory case study conducted in two large companies over a ten-year period. It included action-oriented elements. The latter two articles relied primarily on survey results obtained from 25 respondents. The data of the second article were analyzed with t-test for Equality of Means and Spearman's rank correlation test and the data of the third article with non-parametric chi-squared test. The other two articles, hence, represent nomothetic research. The findings identify several managerial and organizational factors that can contribute to successful project management in different organizational conditions.

(31) Sinikka Jänkälä's (2007) monograph dissertation is related to strategic management. Her contingency theoretic study analyzed associations between the use of MCS practices and infor-

mation, contextual factors (such as strategy, environment and organizational structure), and performance. An MCS was understood as a system that includes information characteristics of both advanced (broad scope and strategically oriented) and more traditional techniques and practices of management accounting. Build and harvest strategies were analyzed in particular. Two theoretical models were developed. Twenty hypotheses were developed and tested using structural equation modeling with usable survey data collected from 183 managing directors of small Finnish firms. Jänkälä's dissertation can be classified as nomothetic research. The results add to our knowledge of the diffusion and penetration of MCS in small firms and of the factors that increase the use of MCS.

(32) Hanna Silvola's (2007) dissertation applies contingency theory to study control and capital budgeting. Her dissertation consists of a published article and three essays. Management accounting and control systems used by R&D intensive high technology firms were analyzed in different organizational life-cycle stages. Empirical data were collected with three surveys, and 100 to 105 responses were received each time (with mostly about 20 per cent response rates). The participants of the first study represented small firms, the participants of the second study the 500 largest companies, and the participants of the third study all sizes and all industries. Statistical methods (such as multi-nomial logistic regression, t-tests, ANOVA and Mann-Whitney U-test) were used in hypotheses testing. Data for the fourth study, representing a theory illustrating case study (cf. Keating, 1995), were collected from a case company with 12 semi-structured interviews. The first three studies represented nomothetic research and the fourth action-oriented research. The main findings shed light on the evaluation and financing of investment projects, how firms use management control systems, and how investors control their investments in R&D intensive high technology firms.

(33) Kari Uusitalo's (2007) monograph dissertation is related to multiple management accounting innovations, such as customer accounting, continuous improvement, ABCM, and TQM. The aim of his study was to develop and to put into practice a customer feedback information system to support market oriented management. The theoretical background of the study was based on the philosophy of market orientation within the broad framework of customer oriented business economics doctrine. A constructive study was conducted in a case company in the technical wholesale business. The researcher's empirical intervention was documented to be explicit and strong. During the project the personnel committed to the new construction, the necessary software was developed, assembled to the information system and tested in operative use. The implementation process was documented to have been perceived as a success.

(34) Johanna Hyvönen's (2008) dissertation consists of an introduction, two articles and two essays. It is primarily related to strategic management. Using a contingency framework, she analyzed links between management accounting and control systems, strategy, information technology, manufacturing technology and organizational performance. Hypotheses were tested with statistical analyses such as factor analysis and moderated regression analysis using data collected from 51 survey participants (39 % response rate) from mainly large companies operating in the forest, metal and electronics industries. All these studies were clearly nomothetic in nature. Hyvönen's fourth study resulted in a descriptive (theory specification) case study (cf. Keating, 1995), the purpose being to examine management accounting systems and their relationships to strategy and information technology. In that study, qualitative data were collected from six case companies. The methodological approach of the fourth study was closest to action-oriented. Overall, the findings contribute to 1) the adoption and benefits of management accounting practices, 2) relationships between customer-focused strategy, performance measurement techniques, information technology and their link to customer performance, and 3) the relationships between differentiation strategy, advanced manufacturing technology, advanced information technology and organizational performance.

(35) Sinikka Moilanen's (2008) dissertation is on international control. It analyzed how Finnish firms control and steer the operations of their subsidiaries in Russia and the Baltic countries, and the role of accounting in their management control systems. Using Latour's (1987) actor-network theory, the first of the three articles that constitute the dissertation examined the changing role of accounting in a knowledge transfer process between a head office and subsidiaries. The second article illustrated how a central social position of an individual can be reproduced and how it affects accounting and formal reporting in the control system. It applied old institutional economics. The third article examined the role and power of an intermediate subsidiary in using accounting for controlling and steering the operations of its subsidiaries. The primary data of the dissertation consisted of 41 semi-structured interviews conducted in three case organizations. The research methodology applied appears closest to action-oriented.

(36) Kari Sippola's (2008) monograph dissertation is related to quality costing. The purpose of his study was to develop a model for measuring quality costs in software development. The study applied quality cost measurement theories to the software business to examine how to measure quality costs on a real time basis, how the characteristics of software business impact on the accounting of quality costs, and how to use quality cost measurement as a management accounting tool. According to the scholar, an empirical analysis was conducted in two case companies using the constructive research approach proposed by Kasanen et al. (1993). The empirical results

indicated that the quality measurement system developed could be constructed irrespective of the cost accounting environment or the software used.

(37) Kati Tanninen's (2008) monograph dissertation is on TQM. The purpose of her study was to analyze TQM adoption, diffusion and effectiveness. Hypotheses were derived from innovation diffusion theory and total quality management theories. The empirical research was implemented as a longitudinal quantitative case study in a global company that had taken the decision to adopt TQM over 22 years earlier. In addition to triangulating interview and archival data, Tanninen collected a large sample of survey data (493 respondents, 54% response rate). Pearson's correlation coefficients, logistic and linear regression analysis were used in the statistical analysis of the data. Given a positivist-empirical nature, her study clearly used a nomothetic research methodology. Overall, the findings shed light on the whole innovation implementation process and on the organizational, individual and environmental factors affecting the innovation adoption and diffusion.

(38) Henri Teittinen's (2008) monograph dissertation is on accounting information systems. He studied the construction of ERP using Latour's (1987) actor-network theory, object studies of science and literature on technology and invisibility. Integration in that study did not only mean integration between software modules and organizations but also integration between actors' invisible realities. The research methodology of this study is action-oriented. Data were collected from documents published in the Internet and through interviews conducted in a case study. Overall, the findings increase our understanding of ERP from the viewpoints of system vendors, top management and end users.

(39) Oana Velcu's (2008) contingency theoretic dissertation is also on accounting information systems. Her dissertation comprises a summary and three essays. Overall, she examined key drivers of successful ERP implementations and their contribution to business performance in organizations. First, she analyzed the impact of the quality of ERP implementations on business value by testing two hypotheses (using Mann-Whitney U test and regression analysis). Empirical data collected from 43 companies implementing ERP between 1997 and 2001 were utilized. Second, she explored the effects of ERP systems on organizational performance. A total of fourteen semi-structured interviews were conducted in eight Finnish companies and analyzed with content analysis. Thirdly, she addressed the role of alignment between ERP and business strategies for the realization of business value from ERP use. Seven hypotheses were tested with partial least squares analysis with data obtained from 88 respondents (3.4 per cent response rate) that represented the largest companies in the Nordic countries. The research methodology of Velcu's first and last essays was nomothetic, but the second essay had action-oriented elements.

(40) Ogan Yigitbasioglu's (2008) monograph research is on supply chain management. He examined the determinants and consequences of information sharing with key suppliers. The study explains why differences in the intensity of information shared between buyers and their key suppliers exist and how this affects the focal firm's performance. An organizational, contingency theoretic, logic was selected to gain insight into why not all companies share as much information as possible. Drawing on mainly transaction cost economics, contingency factors were identified and used to develop a model. A total of eight hypotheses were tested with survey data obtained from 221 purchasing managers representing 11.5 per cent of the Finnish and 10.2 per cent of the Swedish managers surveyed. The study meets the criteria of nomothetic research methodology.

(41) Sirle Bürkland's (2009) monograph dissertation is on organizational control. Her study addressed the question of how the creation and application of valuable intellectual capital can be affected by managerial intervention. Data were collected from documents, observations and 53 interviews conducted in three SMEs operating in the Finnish biotechnology sector. Latour's (1987) actor-network theory was applied in interpreting the case data. Given the qualitative and in part descriptive nature of the research and the small number of companies analyzed, the research paradigm of the study appears closest to action-oriented. The study helps to clarify the role of management and its effects on the creation of organizational knowledge and capabilities. In particular, the findings shed light on the role of outcome controls that can allow for direct managerial intervention in the knowledge objects and behavioral control that may direct the focus onto the behavior of human actors.

(42) Jari Huikku's (2009) dissertation focuses on capital budgeting. His dissertation consisting of an introduction and three articles analyzed the relationship between post-completion auditing of capital investments and organizational learning. The theoretical underpinnings of the study – organizational learning, cybernetic and management control – seem to represent organizational theory. A cross-sectional and comparative field study was conducted collecting data from the 30 largest Finnish industrial companies with 49 interviews. Data analysis methods included both qualitative and quantitative (descriptive statistics) methods. Following Lillis and Mundy (2005), the cross-sectional field study was suggested to be positioned in the functionalist management accounting research stream adopting objectivism as a philosophy of science, and to lie somewhere between an in-depth case study and a broad-based survey. Based on the Neilimo & Näsi (1980) classification, Huikku's dissertation appears closest to action-oriented research given its highly qualitative and descriptive nature. The findings help to explain non-adoption, managerial uses, and design of post-completion auditing of capital investments for organizational learning.

(43) Satu Pätäri's (2009) dissertation, consisting of an introduction and four articles, is related to strategic management. She analyzed value creation borrowing perspectives from strategic management accounting, strategic management and futures studies. Her research setting was explorative in nature. Some of the articles utilized primarily qualitative methods and the others quantitative methods (such as analysis of variance and cluster analysis). Her dissertation, thus, included elements of both action-oriented and nomothetic research. The findings add to our knowledge of the sources of sustainable competitive advantage and value-creation opportunities that are emerging at the intersection of the forest and energy industries.

SYNTHESIS

Some facts about the dissertations published

The number of management accounting doctoral dissertations published in Finland increased significantly during the past twenty years. Whilst 13 (30.2%) of the 43 dissertations were published between 1990 and 1999, the number of dissertations more than doubled during the period 2000 to 2009, being 30 (69.8%). These results suggest that more resources have been spent on doctoral education in this field over the years and management accounting has become a popular area of research.

The 43 doctoral dissertations published in the field of management accounting in 1990–2009 were conducted in the following nine universities:

• Turku School of Economics:	9 (20.9 %)
• Helsinki School of Economics:	7 (16.3 %)
• University of Oulu:	6 (14.0 %)
• University of Vaasa:	6 (14.0 %)
• University of Tampere:	5 (11.6 %)
• University of Lappeenranta:	4 (9.3 %)
• University of Jyväskylä:	3 (7.0 %)
• The Swedish School of Economics:	2 (4.7 %)
• Åbo Akademi University:	1 (2.3 %)

This distribution indicates that doctoral studies in management accounting have been conducted in all these institutions. Doctoral education in management accounting has clearly been strong at the Turku School of Economics, since over one fifth of the dissertations were completed there. A large number of doctoral theses was also completed at the Helsinki School of Economics, although the number is only slightly higher in Helsinki than in Oulu, Vaasa or Tampere. During the

TABLE 2. Management accounting doctoral dissertation classification according to the sex of scholars.

Sex of scholars:	1990–2009	1990–1999	2000–2009
Men	27 (62.8 %)	10 (76.9%)	17 (56.7%)
Women	16 (37.2 %)	3 (23.1%)	13 (43.3%)
Total	43 (100 %)	13 (100 %)	30 (100%)

past two decades, there have not been so many dissertations in the field of management accounting in the more established Swedish-speaking universities.

Our results presented in the second column of Table 2 indicate that during the past two decades, 27 (about 63 per cent) of the authors of the 43 doctoral dissertations were men and 16 (about 37 per cent) women. In 1990–1999, about 77 percent of the authors were men and 23 percent women (see the second column of Table 2). From 2000 to 2009, about 57 per cent of the dissertations were written by men and about 43 percent by women (see the third column of Table 2). These results indicate a substantial and rapid increase in the proportion of female scholars in the field of management accounting.

Synthesis of the research themes

To examine whether the increase in the number of dissertations has also led to a diversification of themes studied, we classified all 43 studies into three main categories: (1) cost and pricing, (2) control and (3) other topic areas. As the first column of Table 3 shows, about 14 per cent of the dissertations focus on cost and pricing, 37 per cent on control and almost one half on a range of other topics. Compared to the period 1990 to 1999, the more recent years 2000–2009 show not only absolute increases in all these topic areas but also slight changes in the relative shares from cost and pricing and other topics to control. Research on cost and pricing has focused on cost allocation in general, and on ABC in particular. One dissertation was conducted on strategic (quality) costing. The other cost accounting topics and cost practices have not been addressed at all. A more dramatic shift can be seen in the research on control, which has shifted from operating and capital budgeting to organizational and international control, and to performance measurement and evaluation. All the main research categories of control have thus been covered over the past two decades in our study.

Our findings also indicate a significant change in the analysis of *other* research themes. Whilst research of both strategic management and historical and change research has continued and become more common, analysis of several newer topics – such as ERP systems, TQM, multiple contemporary methods, and supply chain management – has begun. However, topics such as benchmarking and JIT have not been considered. Furthermore, several management account-

TABLE 3. Specific themes of the 43 management accounting doctoral dissertations published in Finland in 1990–2009

Topic areas:	F %	1990–1999	F %	2000–2009	F %
1. Cost and pricing	6 (14.0%)		2 (15.4%)		4 (13.3%)
Cost allocation		Malmi (1997)		Abgejule (2000), Järvinen (2005), Wingren (2005)	
Strategic costing				Sippola (2008)	
Pricing		Rännäri (1992)			
2. Control	16 (37.2%)		4 (30.8%)		12 (40.0%)
Operating budgeting		Hassell (1992), Ihantola (1997)			
Capital budgeting		Lumijärvi (1990), Wikman (1993)		Silvola (2007), Huikka (2009)	
Performance measurement and evaluation				Hussain (2000), Vaivio (2000), Puolamäki (2004)	
Organizational/international control				Kurumäki (2000), Ylinen (2004), Jokipii (2006), Vuoremaa (2006), Hyväri (2007), Moilanen (2008), Bürkland (2009)	
3. Other	21 (48.8%)		7 (53.8%)		14 (46.7%)
Accounting information systems (AIS)				Teittinen (2008), Velcu (2008)	
Historical and change research		Näsi (1990), Pellinen (1997), Granlund (1998)		Partanen (2001), Järvenpää (2002), Kasurinen (2003)	
Strategic management		Leppäaho (1991), Ahola (1995), Kihn (1997)		Vihtonen (2004), Määttä (2005), Virtanen (2006), Jänkälä (2007), Hyvönen (2008), Pätäri (2009)	
Philosophical background and research methods		Kaikkonen (1994)			
Multiple contemporary methods				Uusitalo (2007)	
Total quality management (TQM)				Tanninen (2008)	
Supply chain management				Yigitbasoglu (2008)	
Total:	43 (100%)	13 (100%)	7 (100%)	23 (100%)	30 (100%)

ing innovations (see Appendix 1) – such as most of the strategic cost accounting techniques, competitor accounting, backflush accounting, open book accounting and the theory of constraints – have not been addressed in these studies.

Overall, the above results differ significantly from the findings of Hesford et al. (2007), who analyzed management accounting articles published in Anglo-American journals over a 20-year period (1981–2000) and found that about 70% of the articles focused on control, 20% on cost, and 10% on a range of other topics. The most recent decade showed a slight shift from control to cost topics, particularly those addressing cost allocation issues. Their study also documented a change within the field of control, but somewhat different in that a shift in topics took place not only from budgeting but also from organizational control to performance measurement and evaluation.

Our results summarized in Table 3 not only indicate diversity of research themes, but also that several “loose clusters” can be identified on the basis of the research themes analyzed. The biggest cluster consists of nine studies on strategic management. It includes at least the dissertations by Leppäälho (1991), Ahola (1995), Kihn (1997), Vihtonen (2004), Määttä (2005), Virtanen (2006), Jänkälä (2007), Hyvönen (2008), and Pätäri (2009). The studies have adopted different perspectives and dimensions on strategic management. Two main streams of research can be identified. The first stream of studies was related to strategic management. Leppäälho (1991) addressed the life-cycle stages and business strategy formation processes of a firm. Ahola (1995) focused on the various aspects of the strategy process of a firm. Määttä (2005) studied interpretative horizons of strategy and strategic information in the ministry of finance. Pätäri (2009) investigated value creation and strategic management theoretical frameworks in forest and energy sectors. In addition to these, Puolamäki’s (2004) dissertation in part dealt with some aspects of strategy process.

The second stream of strategic management research examined how selected dimensions of strategy are related to certain aspects of management control systems. Kihn (1997) introduced this approach by analyzing the effects of multi-domestic and global strategies of MNCs on senior managers’ control mix. Vihtonen (2004) examined innovativeness and dynamic capabilities, Virtanen (2006) levers of strategic control, Jänkälä (2007) harvest and build strategies of small firms, and Hyvönen (2008) customer-focused and differentiation strategies. Overall, the nine dissertations on SMA have been conducted in five different universities.

The second largest cluster consists of seven dissertations addressing either organizational or international control. All the studies in this area are fairly recent. We included the following doctoral dissertations in the organizational control group: Kurunmäki (2000), Ylinen (2004), Jokipii (2006), Hyväri (2007) and Bürkland (2009). Kurunmäki analyzed power relations, Ylinen (2004) technical and administrative development projects, Jokipii (2006) internal control, Hyväri

(2004) project management and Bürkland (2009) management of intellectual capital. While Hassel's (1991) and Kihn's (1997) above mentioned studies were also related to international control in part, Vuorenmaa's (2006) and Moilanen's (2008) studies were primarily classified as studies of international control. Vuorenmaa's dissertation covered trust, control and international corporate integration. Moilanen's dissertation was concerned with the role of accounting in management control in firms having subsidiaries in the former Soviet Union. The seven dissertations were completed at five different universities. Three of them were conducted in Vaasa and thus comprise a tighter cluster.

Studies on historical and change research form the third largest cluster. Historical and change research are combined here as both focus on the analysis of change. This cluster includes the six studies written by Näsi (1990), Pellinen (1997), Grandlund (1998), Partanen (2001), Järvenpää (2002) and Kasurinen (2003). Näsi's (1990) study on the development of accounting thought in Finland was the very first dissertation in this field and differs from all the other studies in this cluster. Pellinen (1997) studied change in management accounting, Grandlund (1998) the challenges of management accounting change, Partanen (2001) the role and significance of organizational learning in the management accounting change process, Järvenpää (2002) the business orientation of management accounting as a cultural change and Kasurinen (2003) short-term changes in management accounting in the BSC context. In addition, Malmi's (1997) dissertation, which was primarily classified as a study on cost accounting, used ABC to study change of management accounting practice. Many of these studies were closely related to SMA.

Another third largest cluster is found in budgeting research. In this cluster, we include both operating and capital budgeting, since they both are essential parts of budgeting. It consists of the six studies of Lumijärvi (1990), Hassel (1992), Wikman (1993), Ihantola (1997), Silvola (2007) and Huikka (2009). Lumijärvi, Wikman, Silvola and Huikka studied capital budgeting. Lumijärvi's dissertation focused on game playing behavior in capital budgeting. Wikman's study was also behavioral and examined the phases of the investment process and the factors influencing it. Silvola conducted contingency analysis of capital budgeting in R&D intensive high-technology firms in different organizational life cycles. Huikka's dissertation focused on post-completion auditing of capital investments. Both Hassel and Ihantola studied budgetary control. Hassel's study addressed budgetary communication patterns in multinational companies and Ihantola analyzed the organizational budgeting climate. These studies have advanced the understanding of budgeting from quite different perspectives. The six dissertations were conducted in five different universities.

Dissertations on cost allocations and on ABC in particular comprise the fifth largest cluster in our study. The following four scholars are included in this cluster: Malmi (1997), Agbejule

(2000), Järvinen (2005) and Wingren (2005). Malmi (1997) was one of the first scholars to study ABC in Finland. His dissertation addressed adoption and implementation of ABC and analyzed practise, problems and motives of ABC. Abgejule (2000) continued the study of ABC from administrative and institutional perspectives. Similarly, Järvinen (2005) applied institutional theory to address the motivation and rationale for adopting ABC, but primarily in public sector hospitals. Finally, Wingren (2005) analyzed the mass-tailored ABC concept as well as the implementation and learning processes of ABC and ABCM. These four dissertations were conducted in three different universities.

The other clusters identified in this study were much smaller. While all the management accounting dissertations are more or less on performance measurement, studies in the sixth largest cluster are primarily on performance measurement and evaluation. It includes three dissertations. They are the dissertations by Hussain (2000), Vaivio (2000) and Puolamäki (2004). In addition, at least the thesis of, for example, Hassel (1991) and Kihn (1997), in part included analysis of performance measurement and evaluation. Both Vaivio (2000) and Hussain (2000) studied non-financial performance measurement. Puolamäki (2004) addressed, for example, strategic performance measurement system and competitor-focused accounting. Geographical clustering does not appear to be present since Vaivio graduated from Helsinki School of Economics, Hussain from the University of Vaasa and Puolamäki from Turku School of Economics.

A very small and recent cluster consisting of just two studies was identified in the area of AIS. Teittinen (2008) and Velcu (2008) conducted their dissertations in the area of AIS. Teittinen studied the construction of ERP and Velcu the drivers of ERP systems business value. The other five research themes identified in this study were much more rarely addressed. So far, Rännäri (1992) is the only one who has analyzed pricing, Uusitalo (2007) primarily mutiple contemporary management accounting, Sippola (2008) quality costing, Tanninen (2008) TQM and Yigitbasioglu (2008) supply chain management.

Synthesis of the methodological approaches applied

Table 4 summarizes the methodological approaches applied in the 43 Finnish management accounting dissertations in the past two decades. While most of the dissertations used a methodological approach, ten of them were catogorized as having two different methodological approaches. According to our results, the action analytical approach was by far the most popular in the past two decades. Nearly half (20, i.e., 47 per cent) of the scholars used it. The nomothetic approach ranks second. It was used in 9 (21 per cent) cases. The other approaches were utilized less. The constructive research approach was used in four (9 per cent) cases. The decision analytical, concept analytical and constructive research approaches were triangulated with the action-oriented approach in one case each. Seven of the dissertations combined nomothetic and

TABLE 4. Management accounting doctoral dissertation classification according to the methodological paradigms (see Neilimo & Näsi, 1980; Kasanen, Lukka and Siitonen, 1993)

Methodological approach	1990–2009	1990–1999	2000–2009
1. Action-oriented	20 (46.5%)	6 (46.2 %)	14 (46.7 %)
2. Decision analytical	0	0	0
3. Nomothetic	9 (20.9%)	3 (23.1 %)	6 (20.0 %)
4. Concept analytical	0	0	0
5. Constructive research	4 (9.3%)	0	4 (13.3 %)
6. Mixed methodologies:			
a) Concept analytical and action-oriented	1 (2.3%)	1 (7.7%)	0
b) Action-oriented and decision-analytical	1 (2.3%)	1 (7.7%)	0
c) Nomothetic and action-oriented	7 (16.4%)	1 (7.7%)	6 (20.0%)
d) Action-oriented and constructive	1 (2.3%)	1 (7.7%)	0
Total	43 (100%)	13 (100 %)	30 (100 %)

action-oriented methodological approaches. Hence, nearly all the doctoral dissertations analyzed represented empirical research and mostly case studies.

The two right-hand side columns of Table 4 indicate changes in the emphasis of the methodological approaches during the past two decades. The absolute number of action analytical studies more than doubled from 6 to 14, but their relative share remained about the same (about 46 vs. 47 per cent) from 1990–1999 to 2000–2009. At the same time the absolute number of nomothetic studies doubled from 3 (23 per cent) to 6 (20 per cent). The number of constructive studies significantly increased from zero during the period 1990–1999 to 4 (about 9 per cent) during the period 2000–2009. The number of mixed methodologies dissertations increased from 4 (31 per cent of 13) during the period 1990–1999 to six (20 per cent of 30) during the period 2000–2009. Whilst the diversity of mixed methodologies research was greater during the first decade, all the mixed methodologies dissertations combined nomothetic and action-oriented approaches during the most recent decade. Hence, while the relative share of action-oriented studies has remained about the same, the most recent decade shows a slight relative decrease in nomothetic and mixed methodological research in favor of constructive research.

As Table 5 shows, the doctoral dissertations conducted at the Universities of Tampere and Jyväskylä were primarily case studies consisting of action-oriented studies mostly. The studies conducted at the Turku School of Economics were also primarily action-oriented much more frequently than nomothetic or constructive. Both action-oriented and nomothetic studies were spread more evenly in Helsinki, Oulu, Vaasa and Lappeenranta. The constructive approach is fairly new and has been applied in five of the nine universities. The scholars of the Swedish School of Economics and Åbo Akademi University had few dissertations in management accounting, but

TABLE 5. The 42 management accounting doctoral dissertations classified according to the universities and methodological approaches.

University	Action-oriented	Decision analytical	Nomothetic	Concept analytical	Constructive	Concept analytic/Action-oriented	Action-oriented/Decision analyt.	Nomothetic/Action-oriented	Action-oriented/Constructive	Total
Helsinki School of Economics	4 57.1%	1 14.3%						2 28.6%		7 100%
Lappeenranta University of Technology			2 50.0%				1 25.0%	1 25.0%		4 100%
Swedish School of Economics			1 50.0%					1 50.0%		2 100%
Turku School of Economics	7 77.8%		1 11.1%		1 11.1%					9 100%
University of Jyväskylä	2 66.7%								1 33.3%	3 100%
University of Oulu	2 33.3%		1 16.7%		1 16.7%			2 33.3%		6 100%
University of Tampere	3 60.0%				1 20.0%	1 20.0%				5 100%
University of Vaasa	2 33.3%		2 33.3%		1 16.7%			1 16.7%		6 100%
Åbo Akademi			1 100%							1 100%
Total	20 46.5%	0 0%	9 20.9%	0 0%	4 9.3%	1 2.3%	1 2.3%	7 16.4%	1 2.3%	43 100%

had conducted mostly nomothetic research. In conclusion, further analysis of the methodological approaches applied suggests some loose clustering according to the universities.

Type of publication

In addition, we analyzed the publication type (monograph, essay collection or article collection) and language of the management accounting doctoral dissertations published in Finland in the past two decades. These results are presented in Tables 6 and 7. As Table 6 shows, overall, the majority of doctoral theses (61 per cent) were published as monographs, followed by article collections (23 per cent) and essay collections (16 per cent). Whilst the absolute numbers of monographs increased from 10 in the 1990s to 16 in the period 2000–2009, their relative share decreased from about 79 to 53 per cent. At the same time, the absolute number of article collections increased dramatically from 1 to 9 and their relative share more than tripled from about eight to 30 per cent. The relative share of essay collections increased slightly from about 15 to 17 per cent.

TABLE 6. Management accounting doctoral dissertation classification by the nature of publication.

Publication type:	1990–2009	1990–1999	2000–2009
Monograph	26 (60.5 %)	10 (76.9 %)	16 (53.3 %)
Essay collection	7 (16.3 %)	2 (15.4 %)	5 (16.7 %)
Article collection	10 (23.3 %)	1 (7.7 %)	9 (30.0 %)
Total	43 (100 %)	13 (100 %)	30 (100 %)

Table 7 describes the language distribution of the dissertations. Overall, more than two-thirds (30, 70 per cent) of doctoral dissertations published in Finland were written in English. Less than a third of them (13, 30 per cent) were written in Finnish and none in Swedish. The number of dissertations written in English more than tripled from 7 (53.8%) during the period of 1990 to 1999 to 23 (77 per cent) during the period of 2000 to 2009. At the same time, the absolute number of doctoral dissertations written in Finnish remained about the same (6 vs. 7), but their relative share decreased significantly (from about 46 to 23 per cent).

TABLE 7. Management accounting doctoral dissertation classification by the language of dissertations.

Language:	1990–2009	1990–1999	2000–2009
Finnish	13 (30.2 %)	6 (46.2 %)	7 (23.3 %)
English	30 (69.8 %)	7 (53.8 %)	23 (76.7 %)
Swedish	0	0	0
Total	43 (100 %)	13 (100 %)	30 (100 %)

SUMMARY AND CONCLUSIONS

This study contributed to the research strategic analysis of management accounting doctoral dissertations published in Finland during 1990 to 2009. In line with Näsi and Näsi (1985) and Näsi et al. (1993), we identified substantial growth in doctoral education in the field of management accounting evidenced by the increasing number of dissertations published. According to Näsi and Näsi (1985) and Näsi et al. (1993), 20 (about 40 per cent) of 51 accounting dissertations were in the field of management accounting during the first 50 years from 1940 to 1989. In contrast, 43 (about 45 per cent) of the 95 accounting dissertations were in the field of management accounting during the period 1990 to 2009. Thirteen (30 per cent) of them were published in the 1990s and thirty (70 per cent) in the period 2000–2009. The relative share of management accounting dissertations has, hence, increased, but remained slightly under one half of all the dissertations in the field of accounting, finance and auditing. In the past twenty years, management accounting dissertations have been produced in nine different universities. Our findings also indicate rapid and substantial growth in the number of female scholars in the area of management accounting.

Following Hesford et al. (2007), our study provided a synthesis of researchers' interests in relation to management accounting research themes, but found a significantly higher interest in *other* topic areas including management accounting innovations. While 70 per cent of the articles in the Hesford et al. (2007) survey focused on control, one fifth on cost and only one tenth on a range of other topics, our results suggest that only 37 per cent of the Finnish dissertations focused on control, 14 per cent on cost and pricing, and almost one half on the other topics.

A clear shift can be seen in Finland in the research on control, which has shifted from operating and capital budgeting to performance measurement and evaluation, and to organizational and international control. A total of seven loose "clusters" could be identified according to the primary research themes of the dissertations. The relative shares of the clusters were as follows: about one fifth of the studies focused on strategic management accounting, close to 15 per cent of the studies were on organizational and international control, historical and change research, and operating and capital budgeting research each. The relative shares of all the other clusters (cost allocations, performance measurement and evaluation, and AIS) were less than ten per cent each.

In regards to methodological approaches, our analysis suggests that empirical and primarily descriptive (rather than normative) approaches were extremely popular in the past two decades. Case studies – consisting mostly of action-oriented studies and constructive studies to a smaller extent – formed the mainstream approach in the past two decades (cf., Järvenpää and Pellinen, 2005). The most recent decade shows that action-oriented approaches remained most popular, but the relative share of nomothetic and mixed methodologies dissertations decreased slightly and the relative share of constructive research increased slightly. While the use of constructive

research began as a new approach, and the concept analytic approach was used to an extent in all studies, the latter and decision analytic approaches were not used as primary approaches. Mixed methodologies dissertations combined an action-oriented approach most often with nomothetic approach. With a few exceptions such dissertations were article or essay collections using different methodological approaches in different papers. To some extent, loose clustering of methodological approaches was apparent in that it was possible to group universities according to their primary methodological approaches.

In line with Järvenpää and Pellinen (2005), we also analyzed whether the dissertations were published as monographs, collections of articles or essays. While our findings indicate that the majority of dissertations were still published as monographs, the share of article and essay collections increased in the past decade. Finally, the proportion of dissertations written in English (rather than in Finnish or Swedish) has increased. These findings are related to wider institutional changes such as the internationalization of academics and doctoral education.

The limitations of this study include the following: First, in categorizing the studies, we had to be flexible in selecting research themes and dissertations. A few research themes or dissertations could perhaps have been categorized or interpreted differently. Second, although we wished to provide as comprehensive a picture as possible, this study covers Finnish management accounting dissertations published over the past 20 years only. Given that we wished to provide brief descriptions and an analysis of each and every dissertation, it was not possible to analyze a longer period of time.

So far, there has been quite a lot of doctoral research. Overall, it seems that not only the conventional cost accounting and management control topics, but also many of the most common management accounting innovations were studied increasingly in the past two decades. It has become possible to analyze a relatively broad range of management accounting innovations at least in selected case companies. At the same time, many of the research themes identified in Figure 1 have not yet been addressed, although surveys indicate that such techniques are used in Finnish companies (see e.g., Lukka and Granlund, 1996; Laitinen, 2001; Silvola, 2008). At least the following techniques provide new areas for future research:

- backflush accounting
- benchmarking
- JIT
- open book accounting
- strategic costing, and attribute, life-cycle, target and value-chain costing in particular
- strategic and transfer pricing
- the theory of constraints.

The following are also some possible topics for future research: Historical analysis of management accounting doctoral education could be conducted using other types of methodological classifications than those used here. The theoretical perspectives, theories and contributions of the dissertations could be further analyzed. The institutional context and its effects on Finnish doctoral education could be explored. The extent and how the ideas presented in the (monograph) dissertations have been developed into journal articles could also be analyzed. The questions of how doctoral dissertations in general, and research strategic choices in particular, could be further developed might also be considered. Finally, what were the effects of the research on management accounting practice? ■

REFERENCES

- ABRAHAMSON, E.** (1991) Managerial fads and fashions: the diffusion and rejection of innovations. *Academy of Management Review*, 16, 3, 586–612.
- AGBEJULE, A.** (2000) *An Administrative and Institutional Perspective of Activity-Based Costing Implementation*. Acta Wasaensia, No. 74, Business Administration 29, Universitatis Vasaensis, Vaasa.
- AHOLA, J.** (1995) *Yrityksen strategiaprosessi. Näkökohtia strategisen johtamisen kehittämiseksi konserniorganisaatiossa*. Acta Universitatis Lappeenrantaensis, Research papers 44, Lappeenranta University of Technology.
- ATKINSON, A. A., KAPLAN, R. S., MATSUMURA, E. M. & YOUNG, S. M.** (2007) *Management Accounting*. Fifth Edition. Pearson Prentice Hall. Upper Saddle River, New Jersey.
- BHIMANI, A., HORNGREN, C. T., DATAR, S. M. & FOSTER, G.** (2008) *Management and Cost Accounting*. Fourth Edition. Prentice Hall Pearson Education, London.
- BROMWICH, M.** (1990) The case for strategic management accounting: The role of accounting information for strategy in competitive markets. *Accounting, Organizations and Society*, 15, 1–2, 27–46.
- BÜRKLAND, S.** (2009) *Managing the Development of Valuable Intellectual Capital. The Role of Management Control*. Acta Wasaensia, No. 207, Business Administration 87, Universitatis Vasaensis, Vaasa.
- CADEZ, S. & GUILDING, C.** (2008) An exploratory investigation of an integrated contingency model of strategic management accounting. *Accounting, Organizations and Society*, 33, 836–863.
- CHENHALL, R. H.** (2008) Accounting for the horizontal organization: A review essay. *Accounting, Organizations and Society*, 33, 517–550.
- COOPER, R.** (1987) The two-stage procedure in cost accounting. *Journal of Cost Management* (Summer), 43–51.
- COOPER, R.** (1988) The rise of activity-based costing – part one: what is an activity-based cost system? *Journal of Cost Management* (Summer), 45–54.
- FERM, T.** (1994) Laskentatoimen tutkielmissa käytettyjen tutkimusotteiden vertailu vuosilta 1982 ja 1992. *Liiketaloudellinen Aikakauskirja*, 3, 241–259.
- FISHER, J.** (1995) *Implementing target costing*. Cost Management, Summer, 50–59.
- GRANLUND, M.** (1998) *The Challenge of Management Accounting Change. A Case Study of the Interplay between Management Accounting, Change and Stability*. Publications of the Turku School of Economics and Business Administration, Series A-7:1998, Turku.
- GUILDING, C., CRAVENS, K. S. & TAYLES, M.** (2000) An international comparison of strategic management accounting practices. *Management Accounting Research*, 11, 113–135.
- HASSEL, L.** (1992) *The Effectiveness of Budgetary Control in a Multinational Context*. Åbo Akademi University, Doctoral thesis in Economics, Turku.
- HESFORD, J. W., LEE S. H., Van der STEDE, W. A. & YOUNG, S. M.** (2007) Management Accounting: A Bibliographic Study. In Chapman, Hopwood and Shields (Eds.) *Handbook of Management Accounting Research* Volume 1, Elsevier, Amsterdam, The Netherlands.

- HOQUE, Z.** (2001) *Strategic Management Accounting. Concepts, Processes and Issues*. 2nd Edition. Spiro Press.
- HORNGREN, C.T., BHIMANI, A., DATAR, S. M. & FOSTER, G.** (2002) *Management and Cost Accounting*. Second Edition. Prentice Hall Pearson Education, London.
- HUIKKU, J.** (2009) *Post-Completion Auditing of Capital Investments and Organizational Learning*. Acta Universitatis Oeconomicae Helsingiensis, A-347, Helsinki School of Economics, Helsinki.
- HUSSAIN, M.** (2000) *Management Accounting Systems in Services. Empirical Evidence with Non-Financial Performance Measurement in Finnish, Swedish and Japanese Banks and other Financial Institutions*. Acta Wasaensia, No. 78, Business Administration 32, Universitas Wasaensis, Vaasa.
- HYVÄRI, I.** (2007) *Project Management Effectiveness in Different Organizational Conditions*. Acta Universitatis Oeconomicae Helsingiensis, A-290, Helsinki School of Economics, Helsinki.
- HYVÖNEN, J.** (2008) *Linking Management Accounting and Control Systems, Strategy, Information Technology, Manufacturing Technology and Organizational Performance of the Firm in Contingency Framework*. Acta Universitatis Ouluensis, Oeconomica, G31, University of Oulu.
- IHANTOLA, E. M.** (1997) *Organisaation budjetointi-ilmapiirin ymmärtäminen organisatoris-sosiaalisessa kontekstissaan*. Acta Universitatis Tamperensis 537, University of Tampere.
- JIAMBALVO, J.** (2007) *Managerial Accounting*. Third Edition. John Wiley & Sons, Inc., Hoboken, NJ.
- JOHNSON, H. T. & KAPLAN, R. S.** (1987) *Relevance Lost: The Rise and Fall of Management Accounting*. Harvard Business School Press, Boston, MA.
- JOKIPII, A.** (2006) *The Structure and Effectiveness of Internal Control. A Contingency Approach*. Acta Wasaensia, No. 166, Business Administration 69, Universitas Wasaensis, Vaasa.
- JÄNKÄLÄ, S.** (2007) *Management Control Systems (MCS) in the Small Business Context. Linking Effects of Contextual Factors with MCS and Financial Performance of Small Firms*. Acta Universitatis Ouluensis, Oeconomica, G30, Oulu.
- JÄRVENPÄÄ, M.** (1998) *Strateginen johdon laskentatoimi ja talousjohdon muuttuva rooli*. Publications of the Turku School of Economics and Business Administration, Series D-1:1998, Turku.
- JÄRVENPÄÄ, M.** (2002) *Johdon laskentatoimen liiketoimintaan suuntautuminen laskentakulttuurisena muutoksena – vertaileva case-tutkimus*. Publications of the Turku School of Economics and Business Administration, Series A-5:2002, Turku.
- JÄRVENPÄÄ, M. & PELLINEN, J.** (2005) Teoria ja intervention suomalaisissa johdon laskentatoimen case- tai field-menetelmällä tehdyissä akateemisissa opinnäytteissä 1997–2005. In E. K. Laitinen & T. Laitinen (Eds.) *Contributions to Accounting, Finance and Management Science. Essays in Honour of Professor Timo Salmi*. Acta Wasaensia, No. 143, Business Administration 59, Universitas Wasaensis, Vaasa.
- JÄRVINEN, J.** (2005) *Rationale for Adopting Activity-Based Costing in Hospitals. Three Longitudinal Case Studies*. Acta Universitatis Ouluensis Oeconomica, G20, Oulu.
- KAIKKONEN, V.** (1994) *Ihminen, strategia-ajattelu ja laskentatoimi: hermeneuttinen tutkimus*. Acta Universitatis Tamperensis, Series A, Vol. 420, University of Tampere.
- KAPLAN, R.S. & NORTON, D.P.** (1992) The Balanced Scorecard – Measures That Drive Performance, *Harvard Business Review*, 70, 1, 71–79.
- KASANEN, E., LUKKA, K. & SIITONEN, A.** (1991) Konstruktiivinen tutkimusote liiketaloustieteessä. *Liiketaloudellinen Aikakauskirja*, 3, 301–325.
- KASANEN, E., LUKKA, K. & SIITONEN, A.** (1993) The constructive approach in management accounting research. *Journal of Management Accounting Research*, 5, 243–264.
- KASURINEN, T.** (2003) *Exploring Management Accounting Change in the Balanced Scorecard Context*. Acta Universitatis Oeconomicae Helsingiensis A-211, Helsinki.
- KEATING, P. J.** (1995) A framework for classifying and evaluating the theoretical contributions of case research in management accounting. *Journal of Management Accounting Research*, 17, 66–86.
- KIHN, L. A.** (1997) *International Strategies, Relative Financial Controls and the Performance Evaluation of Overseas Managers – Empirical Evidence from Finnish Firms*. Publications of the Turku School of Economics and Business Administration, Series A-3:1997, Turku.
- KIHN, L.A. & NÄSI, S.** (2010) Innovative Developments in Management Accounting Research: Research Strategic Analysis of Finnish Doctoral Dissertations through the Ages. The 33rd Annual Congress of the European Accounting Association, May 19–21, Istanbul, Turkey.

- KULMALA, H.** (2002) Open-book Accounting in Networks. *Liiketaloudellinen Aikakauskirja*, 2/2002, 157–177.
- KURUNMÄKI, L.** (2000) *Power Relations in the Health Care Field: Accounting, Accountants, and Economic Reasoning in the New Public Management Reforms in Finland*. University of Jyväskylä, School of Business and Economics, Jyväskylä.
- LAITINEN, E. K.** (2001) *Suomalaisten teknologiayritysten talouden ohjaujärjestelmät*. Levón-instituutti, Strategisen yritysjohtamisen tutkimusyksikkö, Julkaisuja, No. 95, University of Vaasa.
- LATOUR, B.** (1987) *Science in Action*. Harvard Business School Press. Cambridge, MA.
- LEPPÄALHO, M.** (1991) *Yrityksen kehitysvaiheet ja liiketoimintastrategian muotoutumisprosessit*. Acta Universitatis Tampensis, Series A 314, University of Tampere.
- LILLIS, A.M. & MUNDY, J.** (2005) Cross-sectional field studies in management accounting research – closing the gaps between surveys and case studies. *Journal of Management Accounting Research*, 17, 119–141.
- LUKKA, K.** (2006) Konstruktiivinen tutkimusote: luonne, prosessi ja arviointi. In Rolin, K., Kakkuri-Knuuttila, M.L. ja Henttonen, E. (Ed.) *Soveltava yhteiskuntatiede ja filosofia*. Gaudeamus, Helsinki.
- LUKKA, K. & GRANLUND, M.** (1996) Cost accounting in Finland: current practice and trends of development. *European Accounting Review*, 5, 1–28.
- LUKKA, K., MAJALA, R., PAASIO, A. & PIHLANTO, P.** (1984) Accounting research in Finland. In A.G. Hopwood & H. Schreuder (Ed.) *European Contributions to Accounting Research: The Achievements of the Last Decade*. Free University Press, Amsterdam.
- LUKKA, K. & SHIELDS, M.D.** (1999) Innovations in management accounting focus. *Management Accounting*, March 1999, 33–34.
- LUMIJÄRVI, O. P.** (1990) *Gameplaying in Capital Budgeting*. Publications of the Turku School of Economics and Business Administration, Series A-7:1990, Turku.
- MALMI, T.** (1997) *Adoption and Implementation of Activity-Based Costing: Practice, Problems and Motives*. Helsinki School of Economics and Business Administration. Acta Universitatis Oeconomicae Helsingiensis, A-128, Helsinki.
- MALMI, T.** (1999) Activity-based costing diffusion across organizations: an exploratory empirical analysis of Finnish firms. *Accounting, Organizations and Society*, 24, 649–672.
- MOILANEN, S.** (2008) *The Role of Accounting in Management Control Systems of Firms Having Subsidiaries in the Former Soviet Union*. Acta Universitatis Ouluensis, Oeconomica, G34, Oulu.
- MÄÄTTÄ, S.** (2005) *Strategian ja strategisen informaation tulkintahorisontteja*. Case Valtiovarainministeriö. Publications of the Turku School of Economics and Business Administration, Series A-2:2005, Turku School of Economics and Business Administration.
- NARJANJO-GIL, D., MAAS, V. S. & HARTMANN, F. G. H.** (2009) How CFOs determine management accounting innovation: An examination of direct and indirect effects. *European Accounting Review*, 18, 667–695.
- NEILIMO, K. & NÄSI, J.** (1980) *Nomoteettinen tutkimusote ja suomalainen yrityksen taloustiede*. Tutkimuspositivismin soveltamisesta. Yrityksen taloustieteen ja yksityisoikeuden laitoksen julkaisuja, Series A-2:12, University of Tampere.
- NÄSI, J.** (1980) *Yrityksen suunnittelun perusteet*. Käsitteelliset-metodologiset rakenteet ja tieteenfilosofinen tausta. Yrityksen taloustieteen ja yksityisoikeuden laitoksen julkaisuja, Series A 1, Tutkimuksia 15, University of Tampere.
- NÄSI, S.** (1990) *Laskenta-ajattelun kehitys viime vuosisadan puolivälistä nykypäiviin – suomenkieliseen laskentatoimen kirjallisuuteen perustuva historian tutkimus*. Acta Universitatis Tampensis, Series A, 291, University of Tampere.
- NÄSI, S., LAINE, P., MÄKINEN, V. & NÄSI, J.** (1993) *A Research Strategic Analysis of the Finnish Doctoral Dissertations in Accounting*. Paper presented in Nordiska Företagsekonomiska Årneskonferensen, Lund, 18–20.8.1993.
- NÄSI, S. & NÄSI, J.** (1985). *Suomalainen laskentatoimen tutkimus 1940-luvulta nykypäiviin*. Väitöskirjatuotannon tutkimusstrateginen analyysi. Yrityksen taloustieteen ja yksityisoikeuden laitoksen julkaisuja, Sarja A 2, Tutkielmia ja raportteja 3, University of Tampere.
- NÄSI, S. & NÄSI, J.** (1996) Accounting and business economics traditions in Finland – from a practical discipline into a scientific subject and field of research. *The European Accounting Review*, 6, 2, 199–229.

- PARTANEN, V.** (2001) *Muuttuva johdon laskentatoimi ja organisatorinen oppiminen: Field-tutkimus laskentatoimen henkilöstön roolin muutoksen ja uusien laskentainnovaatioiden käyttöönoton seurauksista*. Publications of the Turku School of Economics and Business Administration, Series A-6, Turku.
- PELLINEN, J.** (1997) *Unfolding a Management Accounting System Change*. Jyväskylä Studies in Computer Science, Economics and Statistics 39, University of Jyväskylä.
- PORTER, M.** (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press, New York.
- PUOLAMÄKI, E.** (2004) *Strategic Management Accounting Constructions in Organizations. A Structural Analysis of Two Divisional Strategy Processes*. Publications of the Turku School of Economics and Business Administration, Series A-10:2004.
- PÄTÄRI E.** (2000) *Essays on Portfolio Performance Measurement*. Acta Universitatis Lappeenrantaensis, No. 106, University of Lappeenranta.
- PÄTÄRI, S.** (2009) *On Value Creation at an Industrial Intersection – Bioenergy in the Forest and Energy Sectors*. Acta Universitatis Lappeenrantaensis 369, Lappeenranta University of Technology.
- RAUHALA, L.** (1986) *Ihmiskäsitys ihmistyössä*. Helsinki: Gaudeamus.
- ROGERS, E. M.** (2003) *Diffusion of Innovations*. 5. Edition. Free Press, New York.
- ROSLENDER, R. & HART, S. J.** (2003) In search of strategic management accounting: theoretical and field study perspectives. *Management Accounting Research*, 14, 3, 255–281.
- RÄNNÄRI, O.** (1992) *Electricity Pricing Behaviour in Finland*. Acta Academiae Oeconomicae Helsingiensis, A 83. Helsinki School of Economics and Business Administration, Helsinki.
- SILVOLA, H.** (2007) *Management Accounting and Control Systems Used by R&D Intensive Firms in Different Organizational Life-Cycle Stages*. Acta Universitatis Ouluensis, Oeconomica, G26, University of Oulu.
- SILVOLA, H.** (2008) Do organizational life-cycle and venture capital investors affect the management control systems used by the firm? *Advances in Accounting, incorporating Advances in International Accounting*, 24, 128–138.
- SIMONS, R.** (1995) *Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal*. Boston, MA, Harvard Business School Press.
- SIPPOLA, K.** (2008) *Two case studies on real time quality cost measurement in software business*. Acta Universitatis Ouluensis, Oeconomica, G36, University of Oulu.
- TAMMINEN, R.** (1993) *Tiedettä tekemään!* Jyväskylä, Atena, 1993.
- TANNINEN, K.** (2008) *Diffusion of Administrative Innovation: TQM Implementation and Effectiveness in a Global Organization*. Acta Universitatis Lappeenrantaensis, 304, Lappeenranta University of Technology.
- TEITTINEN, H.** (2008) Näkymätön ERP: *Taloudellisen toiminnanohjauksen rakentuminen*. Jyväskylä Studies in Business and Economics, No. 69, University of Jyväskylä.
- UUSITALO, K.** (2007) *Asiakaspalautetta rekisteröivän informaatiojärjestelmän kehittäminen kohdeyrityksen asiakaslähtöisen johtamisen tueksi – Case: Teknisen tukkukaupan asiakastoimitusprosessi*. Acta Universitatis Tampereensis, 1217, University of Tampere.
- VAIVIO, J.** (2001) *Non-Financial Measurement in an Organizational Context*. Helsinki School of Economics and Business Administration. Acta Universitatis Oeconomicae Helsingiensis, A-186, Helsinki School of Economics, Helsinki.
- VELCU, O.** (2008) *Drivers of ERP Systems' Business Value*. Publications of the Swedish School of Economics and Business Administration, No. 178, Helsinki.
- VIHTONEN, T.** 2004. *Tuote- vai liiketoimintaosaamista? Pienten ja keskisuurten leipomoalan yritysten strategiset valinnat, liikkeenjohdon käytännöt ja menestyminen*. Acta Universitatis Lappeenrantaensis 191, Lappeenranta University of Technology.
- VIRTANEN, T.** (2006) *Johdon ohjausjärjestelmät muuttuvassa toimintaympäristössä*. Series Acta Universitatis Oeconomicae Helsingiensis, A:270, Helsinki School of Economics, Helsinki.
- VUORENMAA, E.** (2006) *Trust, Control and International Corporate Integration*. Publications of the Turku School of Economics and Business Administration, Series A-6:2006.
- 84 **Webster's College Dictionary** (1998) Random House Inc., New York.
- WEYGAND, J. J., KIESO, D. E. & KIMMEL, P. D.** (2007) *Managerial Accounting. Tools for Business Decisions*. Third Edition. John Wiley & Sons, Inc., Hoboken, New Jersey.
- WIKMAN, O.** (1993) *Yrityksen investointiprosessi ja siihen vaikuttavia tekijöitä*. Publications of the Turku School of Economics and Business Administration, Series A 7:1993.

- WINGREN, T.** 2005. *Essays in Activity-Based Costing. Mass-Tailorization, Implemetation and New Applications.* Acta Wasaensia, No. 136, Business Administration 56, Universitas Wasaensis, Vaasa.
- VUORENMAA, E.** (2006) *Trust, Control and International Corporate Integration.* Publications of the Turku School of Economics, Series A-6:2006.
- YIGITBASIOGLU, O.** (2008) *Determinants and Consequences of Information Sharing with Key Suppliers.* Publications of the Swedish School of Economics and Business Administration, No. 177, Helsinki.
- YLINEN, M.** 2004. *Management Control Systems in Technical and Administrative Development Projects,* Acta Wasaensia, No. 126, Business Administration 49, Universitas Wasaensis, Vaasa.

APPENDIX 1. Descriptions of management accounting innovations.

Recent Management Accounting Techniques	Definition
<i>Activity-based costing (ABC) systems</i>	Systems based on activities linking organizational spending on resources to the products and services produced and delivered to customers (Cooper, 1987, 1988).
<i>Activity-based cost management (ABCM)</i>	ABC evolves to a management tool, which draws attention to cost management, i.e. not just to the allocation of costs.
<i>Activity-based profitability analysis</i>	ABC is used to assess profitability of activities. It can be used to enhance a strategic focus on customers.
<i>Attribute costing</i>	The costing of specific product attributes that appeal to customers (Bromwich, 1990).
<i>Balanced Scorecard (BSC)</i>	The BSC is a performance management system, which translates an organization's strategy into clear objectives, measures, targets and initiatives organized by the following four perspectives: financial, customer, internal business process, and learning and growth (Kaplan and Norton, 1992; Atkinson et al., 2007, 639).
<i>Competitor accounting</i>	Consists of competitor cost assessment, competitive position monitoring, and competitor performance appraisal (Cadez & Guilding, 2008).
<i>Customer accounting</i>	Includes customer profitability analysis, lifetime customer profitability analysis and valuation of customers as assets (Cadez & Guilding, 2008).
<i>Integrated (strategic) performance measurement systems</i>	Use both financial and non-financial measures to evaluate all aspects of an organization's operations in an integrated fashion.
<i>Life-cycle costing</i>	A system that tracks and accumulates the actual costs attributable to each product from start to finish, i.e., from its initial R&D to its final customer servicing and support (Horngren et al., 2002, 383).
<i>Open book accounting</i>	A firm reveals its cost structure to another firm in its supply chain in order to show commitment, to strengthen its position among competing firms, to learn about the other firm's operations, and to conduct joint cost-reduction efforts concerning the total cost of a supply chain's end product (Kulmala 2002, 158).

<i>Quality costing</i>	Costs incurred to prevent, or costs arising as a result of, the production of a low-quality product. Quality costs can be classified into prevention costs, appraisal costs, internal failure costs and external failure costs. (Bhimani et al. 2008, 702)
<i>Strategic costing (cost management)</i>	The use of cost data based on strategic and market information to develop and identify superior strategies that will produce a sustainable competitive advantage (Cadez & Guilding, 2008).
<i>Strategic pricing</i>	The analysis of strategic factors in the pricing decision process. These factors may include: competitor price reaction, elasticity, market growth, economics of scale, and experience (Cadez & Guilding, 2008).
<i>Supply chain management</i>	Refers to how the flow of goods, services and information are managed “from cradle to grave”, regardless of whether those activities occur in the same organization or other organizations (Horngren et al., 2002).
<i>Target costing (TC)</i>	Used during the planning cycle to reduce manufacturing costs to targeted levels (Fisher, 1995; Atkinson et al. 2007, 646). A target cost per unit refers to the estimated long-term cost per unit of a product that, when sold at the target price, enables the company to achieve the target operating profit per unit. (Bhimani et al. 2008, 384-385).
<i>Theory of constraints</i>	Refers to a management approach that maximizes the volume of production by identifying the conditions that constrain the efficient flow of a process. (Atkinson et al. 2007, 639, 646)
<i>Total quality management (TQM) systems</i>	Used to reduce defects in finished products. Attention to the measures, which employees can control (such as customer satisfaction and number of service calls), leads to increased profitability (Weygand et al. 2007, 20). It represents a shift in management thinking from business as usual to continuous improvement (Hoque, 2001, 94).
<i>Value chain analysis (VCA)</i>	A company analyzes all stages of its value chain, ranging from research and development to customer service in an effort to eliminate waste, improve productivity and profitability (Porter, 1985). According to a broader view, the value chain may also consist of the relationships and interactions of a company's internal operations with its suppliers and customers (see Jimbalvo, 2007, 14).
<i>Value chain costing</i>	An activity-based approach where costs are allocated to activities required to design, procure, produce, market, distribute, and service a product or service (Cadez & Guilding, 2008).