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The Possibilities of Digitalization in Accounting

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The Possibilities of Digitalization in Accounting

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Abstract

Accounting firms provide substantial assistance for the economic development by facilitating the functioning of small and medium-sized enterprises (SMEs). However, there has been very little explicit theoretical and empirical research on the future revenue logics of accounting firms. The qualitative data for the inductive analysis was collected through 21 semi-structured face-to-face interviews in Finland. Based on the findings of this study, the Finnish Accounting firms can be condensed into three categories by perception of representing an expanding awareness of technology. There are clear future markets in the field of accounting. There seem to be two future trends: routine work is going to be automated and the new fast-growing sector in accounting business is advisory. This research contributes to the literature on Management Accounting by theorizing scenarios and future strategies of accounting firms. As the managerial implication for the field of accounting, the new market areas (e.g. business analytics by data utilization) were identified. Cloud services combined with business analytics might give a change to solve global business problems in the future.

Keywords: Accounting, Digitalization, Finland, Future business

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Introduction

In the 2000s the research focus has been on management accounting change (Nandan 2010, p. 75; see also Burns and Scapens, 2000; Scapens et al., 2003). In fact the, management accounting change has not been keeping pace with environmental and technological change (Nandan 2010, p. 68). Very much has happened in the last few years. The development and challenges in Finland are very similar to those in other Nordic countries, e.g. Norway and Sweden. The cooperation between Finland, Norway and Finland through NAF (Nordic Accountants Association) is a valuable input to accounting work. The financial management industries in Finland and Sweden are not regulated by law such as in Norway. (<http://www.srfkonsult.se/press-och-opinion/nordic-accountant-federation-naf/> accessed on 21 March 2016)

The European Commission set a new directive in June 2013, based on which the Finnish Ministry of Employment and the Economy's working committee composed a proposal to renew the current accounting law. The new accounting law will simplify accounting processes and enable a completely electronic way of accounting. The objective of the study is to create an overview of the future of the financial management industry and the business of accounting firms. In this paper we will find knowledge for the research questions: How do accounting firm entrepreneurs evaluate the future of the accounting firm business?

The rest of the study is structured as follows. The second section will briefly present the relevant literature regarding the accounting business. The third section will present the empirical study with the methods used, followed by the empirical results. Finally, I will conclude the paper by presenting the key findings of the study.

Theoretical Background: Related Literature

According to prior studies, accounting firms and professional accountants play an important role all over the world. The smaller the firm, the greater is the need for outsourcing of accounting functions (Kamyabi and Devi 2011, p. 185). Small accounting practices (SAPs) operate as small businesses (Kirby and King, 1997). In fact, they are confronted with many professional services and decisions (for reviews, see e.g. Ciccotosto, et al., 2008; Gibbins and Wright, 1999 and Sarens et al. 2011). It is obvious that these include, among others, management accounting and information systems, financial planning, forensic accounting and pricing decisions (Arnold et al., 1984; Kirby and King, 1997; see also Marriot and Marriott, 2000; Ciccotosto et al., 2008; Nandan and Ciccotosto, 2007; and also cites therein, Alam and Nandan, 2007; Nandan, 2010).

In recent years, external accountants' advisory services have inspired many scholars (Berry et al., 2006; Bennett and Robson, 1999; Carey, 2015; Devi and Samujh, 2010; Gooderham et al., 2004; Jay and Schaper, 2003; Sjögren et al.,

2014). Many empirical studies in the UK show that smaller enterprises used professional accountants as a source of advisory and support services (Berry et al., 2006; Kirby et al., 1997; Lucas et al., 2013; Scott and Irwin, 2009). Furthermore, Lucas and colleagues (2013) have found that there is scope for a wider dissemination of the accountant as a 'business partner' concept both among SME executives and accountants.

In Norway, Gooderham et al. (2004) revealed that professional accountants are reliable providers of advisory services and support in small companies. Kamyabi et al. (2011) found a positive association between the utilization of advisory services and technical competence in Iran. Both Gooderham et al. (2004) and Kamyabi et al. (2011) indicated that business advice of external accountants was not related to the degree of competition. Bennett and Robson (1999) categorized three growth dimensions: declining/stable, medium and fast growth. Lucas emphasizes (2013) in the UK that for all enterprises there is typically no in-house accountant and the only contact with accountants is through small accounting practice (SAP), which provides statutory compliance and taxation services.

Sjögren et al. (2014) pointed out that "the larger the firm is, the more important management accounting practices are and the more sophisticated tools are used" (see also Doving and Gooderham, 2005; McEvily and Marcus, 2005 and Storey, 1994). In Canadian, Greenwood et al. (2002) and in Finland, Sjögren et al. (2014) show that it takes time before professional accountants are willing to offer "the extra accountants' services" (e.g. the management accounting information). Sarens et al. (2015) remark in Belgium that it is important to make a distinction between accounting firms and self-employed accountants (see more Sarens et al. 2015, p. 156).

An accounting firm entrepreneur or an accountant will be a key support person in the client's firm's business. Therefore, an accounting firm is expected to have strategic agility and capability as well as a high level of expertise and know-how (Lucas et al., 2013). Future accountants are seen as the strategic advisors of the business rather than as backroom workers who focus on daily bookkeeping (Marriot et al., 2000; Sjögren et al., 2014). Management Accounting studies have begun to understand the role of professional accountants and the problems, challenges and opportunities that management accounting can cause to small and medium-sized enterprises (Nandan, 2010; Lucas et al., 2013).

However, there is a research gap related to future business strategies of accounting firms and the relationships between accounting firms and their clients. Furthermore, it could include more information about both future educational and professional needs.

Research Process

Description of the Firms and Respondents

The enterprises studied are accounting firms operating in Finland. None of the accounting firms belonged to any national or international chain. All the interviewees were accounting firm entrepreneurs and owners. Eleven accounting firms were authorized by the Association of Finnish Accountancy Companies and thirteen interviewees were authorized accountants. Six interviewees represented 1–4 person accounting firms, seven represented 5–9 person firms, and eight represented firms with 10 or more employees. 15 interviewees were from South of Finland, four from the Helsinki area and two from Eastern Finland. The interviewees were between 37 and 61 years old. Ten of them were women and eleven were men. The interviewees had between five and 37 years of work experience in accounting firms. The accounting firms' age was between two and 52 years. The accounting firms that participated in the interview had approximately 5 600 customers altogether and the combined revenue of the offices was about 27.3 million EUR.

Research Method and Data Collection

The empirical data for this study was gathered through interviews (McKinnon, 1988; Robson, 2003). The semi-structured face-to-face interviews were conducted between February and March 2015. Semi-structured interviews enabled the researcher to ask probing questions. Details of the interviews are presented in Appendix 1. The interviews were carried out in Finnish. The interview data was transcribed in Finnish and later translated into English.

Appendix 2 presents the themes and the questions that are used as a starting point for the interview. In subsequent interviews the interesting and firm-specific topics raised in the first interview were explored in more detail. The data consists of 21 interviews lasting on average one hour. After the official part of the interviews, i.e. the tape-recorded interviews, the items were discussed informally and the actual time spent in companies was therefore longer. All findings are presented anonymously by mutual agreement. The topics for the interviews were defined beforehand, but the structure and final content might vary between the interviews.

In addition to the face-to-face interviews, secondary data for this study were collected from internet presentations and other publicly available documents from the accounting firms. Various documents relate to the accounting business and knowledge has been a relevant source of secondary data. In addition to official data, issues arising from the interviews were discussed with the interviewees informally on the phone and via e-mail.

Data Analysis

The data analysis processed in parallel with data gathering, which enabled the researcher to ask about “deeply towards emerging themes” (Ahrens and Chapman, 2006; Vaivio 2008). The coding was done using three dimensions. The observation of the participant played a significant role in the study. This study seeks to understand and interpret the individual cases in their specific context. Next, an analysis proceeded from individual observations to more general arguments regarding the future of accounting firms and the development of services. The summaries describing the future of accounting firms were searched by identifying the similarities and differences in the interviewees’ opinions. Based on this, an overall picture of the future development challenges of accounting firm services and the accounting sector was formed.

Empirical Results

Depending on the depth of dialogue that evolved between the interviewer and the interviewee, the interviews can yield rich material. There was no clear model for processing data and presenting results. In this analysis, the focus is on “*The challenges of Digitalization on the future business*”, which had a strong presence in the topics of the interviews.

Technique/Internet Accounting

Internet accounting is a form of cloud service technology, which leading accounting firms have made available in the recent past. A paperless state is reached in the financial management manual process when all the document material is converted to an electronic format by scanning them afterwards. In practice, paperless accounting refers to the presentation of statutory accounting documents in an electronic form. Digital financial management is also paperless. A situation where the supplier sends an invoice in paper form and the recipient converts it into electronic form is, by definition, not digital financial management, but rather electronic financial management.

The following clusters were formed by adopting the innovation diffusion model of Rogers and colleagues (1976)¹. The diffusion in internet accounting among accounting firms and their clients has advanced to “Early Majority” (48%).

All 21 accounting firms had the technical capabilities for electronic financial management (either a licensed version or a cloud service version), but they did not want to force clients to change. The results show that adopters of Internet accounting perceive the service to be more convenient, less complex and more compatible to those who are ICT proficient.

¹Source: Rogers (1976) Diffusion of innovation model: Innovators 2,5%, Early Adopters 13,5%, Early Majority 34%, Late Majority 34% and Laggards 16%.

“*Early Adopters*” (19%) were also found to be eventually more innovative and proactive. The perception that adopters had about desirability, confidentiality, accessibility and economic benefits were viewed differently when compared with accounting firms and clients. An understanding of why the “*Late Majority*” (33%) and their clients are not accepting Internet Accounting and Cloud services more should help accounting firms to develop this service (see table 1).

Table 1. *Table Summarizing the Level of Internet Accounting Firms*

Attribute	Traditional receipt-based office	Intermediate	Internet Accounting and Cloud services
Eastern Finland		2	
Helsinki area		1	3
Southern Finland	7	7	1
	33 %	48 %	19 %

Cluster A, Traditional Accounting firm “*Late Majority*” (33%). The interviewees believe that the future of the accounting firm industry is online.

“... maybe it is a threat to us that we are such a traditional paper office. Probably at that stage we should think about different options and be renewed”. (case 19)

“...They still go with the paper model outside the Helsinki area. But yes, they will change it rapidly... and then we will even promote it”. (case 15)

“...the current financial management systems also enable remote work. We have the licensed version for security reasons. We don’t have cloud service version and will not get one. Security risk, this is why we don’t have a cloud service or will not get any. Client information must be secure and cannot be obtained by third parties”. (case 8)

Cluster B, Advanced Accounting firms “*Early Majority*” (48%).

They are an old form of service, since already in the late 1990s accounting firms were using ASP services (Application Service of Provider), which subsequently turned into SaaS (Software as a Service).

“...we have everything in electronic format... We have clients that are companies who have been operating over 30 years, and all of them don’t even have email so we could send them electronic income statements or anything else... And they don’t even want to receive those”. (case 3)

“...We have our own systems as a cloud service and... then we have it as

software. All the cloud services are also sold to clients". (case 4)

"Cloud services are already 2008 existing. They have been around for years, but in my opinion nothing else has happened besides this hype surrounding them. Providing a service is no longer a problem. It is more about selling it to the client in a way that they agree to pay for it". (case 18)

Cluster C, Modern Accounting firm "Early Adopters" (19%)

Digitalization is not just technology, but also changing the existing procedures. The idea is to offer accounting services anywhere and anytime.

"There are artificial-intelligence-based things, identifications, and everything else. It reduces the routine work; that is what we have done since the electronic system has been in use". (case 15)

" ... a certain software exists that is being sold a lot even to smaller players like us, which means that soon, monthly accounting doesn't cost anything anymore. If you don't have a lot of accounting material, everything can be sent directly to the electronic accounting system via electronic images". (case 12)

"Certainly all these reporting codes, electronic balance sheets etc. will be used by us, when the pilot phase is properly gone through and software developers can access the electronic accounting industry". (case 12)

Based on the interviews, one of the main development trends in the industry is polarization, which means that the companies are growing bigger and the industry is becoming more concentrated. Many accounting firms are largely profiled based on the needs of the existing customer base. Despite their size, the accounting firms seek to offer their customers the most interesting and comprehensive services.

The interviewees see that the digital financial management does not depend on the size of the firm, but rather on the customers of the accounting firm. The manual work of financial management is more and more moving from processing of transactions into handling of exceptions, creating and maintaining processing rules and analyzing data (see figure 1).

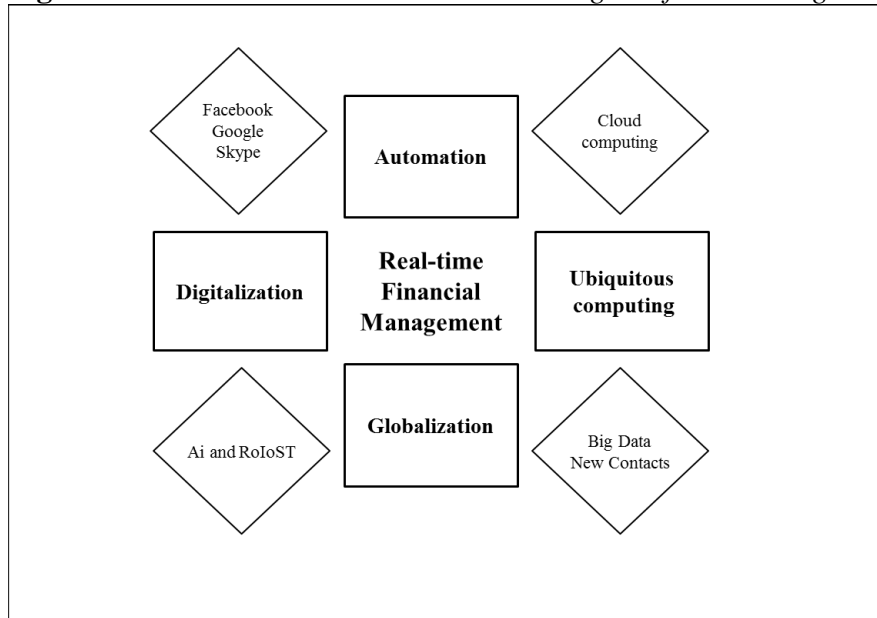
Table 2 summarizes the differences between traditional accounting firms and advanced accounting firms as well as modern accounting firms.

Table 2. *Table Summarizing the Differences between Traditional Accounting Firms and Advanced Accounting Firms as well as Modern Accounting Firms*

Bookkeeping	Routine work, paper work Basic bookkeeping and budgeting reports	Routine work partially automated, some receipts in paper form In addition to basic bookkeeping and budgeting reports exact financial reports	Routine work completely automated, no paper receipts Treasury Services, CFO, CEO, HR Team New kinds of reports, in addition to ex-post reports also ex-ante reports, addition of management reports Real-time financial management
Nature of the work	Work-based thinking "The customer in the focus"	Expert-based thinking "The customer in the focus"	Strategic thinking "The customer in the focus"
Tools	Folders, paper receipts, paper archives, computers, ASP software, licenses, scanner, smart phones, Internet access	Folders, paper receipts, paper archives, smart phones, computers, licenses, ASP software. Internet access and an electronic archive, scanner and SaaS	Computers, smart phones, tablets, Internet access, programs, electronic archive, scanner, SaaS Facebook, Skype
Financial Statement/ Tax Returns	Work-intensive Semi-manual	Semi-manual, by pressing a button Electronic notifications	By pressing a button Electronic notifications
Need for workforce	Seasonal fluctuations, work overload, overtime, peak season helper	More equitable distribution of work, human vacations	Work can be predicted Work is scheduled Increased leisure time
Work efficiency	Low	Increased efficiency	High
Appreciation	Appreciate routines	Appreciate management consulting	Appreciate strategic financial management
Growth	No big growth	Moderate growth	Strong growth target
Role of accountant	Accounting controller	Business Controller	Strategic Controller Digital Controller Member of the management Board

Cloud services are, in a simplified way, IT services or other software services that are provided over the Internet. The new technologies are understood too, e.g. Ubiquitous computing, Artificial intelligence (Ai), Robotics (Ro) and Internet of Smart Things (IoST) (see Figure 1).

Figure 1. *The Future Scenarios and technologies of Accounting Business*



Future in Accounting Business

Digital financial management covers economic processes across the company and organizational borders. A synonym for digital and electronic financial management could also be automatic financial management.

"...digitalization will be a both restrictive and conducive factor and this is based on the size of the accounting firm. Small, individual accounting firms think that digitalization of the financial management is not a cheap solution, but it is a current way of doing things". (case 2)

"... currently the accounting firm industry is very much divided into two parts; on the one hand there are the offices who believe in digitalization and electronic formats, and on the other hand there are firms that work with the traditional methods. For sure, there are still enough customers for both of these" (case 2)

Specialization in a particular clientele has been considered as one of the coping mechanisms of small accounting firms.

"To specialize in one industry... Finland is such a small country still that the risk is too big". (case 15)

It has been suggested that the basic accounting services can be transferred from Finland to countries with lower costs, if the accounting firms do not offer other value-adding services besides basic bookkeeping. This is due to the emerging information systems.

” ...it will be done in Stockholm, if we can establish an office there... with Finnish methods..., take the development project there. ... it will work well, because international finance management is still at its infancy. Finland is like a leading country in the world... Finland is 20 years ahead of, for example, Germany or France”. (case 15)

The challenges of accounting expertise in the future; everything will be digitalized and becomes more demanding. Expertise and service will be emphasized.

“In the future, there can become a global computer program that will cover gate all”. (case 2)

” It is the revenue channel of the future and because of that many big chains probably want to own a part of a software company ... the smaller firms like us can't do the same, because it requires investments and funding. So, it may be that we do something similar with a smaller software firm. But I have a similar view than I had when the change happened with PCs”. (case 16)

“Accounting firms or service centers may start to develop their own applications look like their own (interface); smart watch mobile devices, glasses etc., robotics helping accountants”. (case 2)

”When thinking about the future scenario, I see banks as a threat or as a possible competitor. They may go directly into the systems and take the income statements and balance sheets of companies”. (case 16)

“Accountants must know how to program; the bit lines are moving between the banks and entries, the task of the accountant is to find and correct the errors”. (case 2)

It can be seen from the interviews that the interviewees believe that digitalization will bring more challenges for future business. The needs of the firm's financial management system will change as the business grows and expands its operations. The interviewees see that the digital financial management does not depend on the size of the firm, but rather on the customers of the accounting firm. The manual work of financial management is more moving from processing of transactions into handling of exceptions, creating and maintaining processing rules and analyzing data (see figure 1).

Discussion and Conclusion

The research method in this study consists of a literature review and information from specialists in accounting firms. The study will contribute to earlier research (i.e. Scapens 2006; Nandan, 2010; Lucas et al. 2013, Sjögren et al, 2014 and Sarens et al, 2015) and the scientific discussion by providing a better understanding of the doctrine of studies on changes in accounting. The results are consistent with previous studies.

The results prove that the new strategy will take the right path to take in accounting business (Alam and Nandan 2007; Nandan 2010; Scapens 2006). In the survival of corporate species, the most valuable strength is adaptability. The challenge in this context is to focus the competence of the digital accounting business in Finland, both identifying risks and facilitating new opportunities. The universities will create new advanced courses for digital accounting processes and analytics together with the clients, university students and partners. The management accounting education could contribute to an improved SME performance (Lucas 2013, p. 5).

The results of this study indicate that traditional statutory accounting tasks have become less labor intensive (Sarens et al. 2015, p. 171). Furthermore in the near future one mega trend in the accounting business sector will be digitalization. In recent years, digital management accounting systems have inspired many accounting entrepreneurs. Most of them emphasized the possibilities of using cloud technologies in accounting services. The possibilities of future in accounting context have also in other services, e.g. “Business Controller”, “Strategic Controller”, “Digital Controller” and also “Member of the Management Board”. The results show that the digital financial management also has the potential to develop a significant new export product for Finland, as well as a new business cluster.

There are limitations to this study. This study consists of 21 different accounting firms in Finland. However, these limitations can provide a basis for future research.

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Appendix 1

Semi-structured Interviews

Position	Date	Duration of record	Recording (Re) & transcribed (Tr)
Case 1	13. February 2015	65 min	Re &Tr
Case 2	13. February 2015	60 min	Re &Tr
Case 3	18. February 2015	65 min	Re &Tr
Case 4	23. February 2015	60 min	Re &Tr
Case 5	24. February 2015	60 min	Re &Tr
Case 6	25. February 2015	55 min	Re &Tr
Case 7	26. February 2015	55 min	Re &Tr
Case 8	2. March 2015	70 min	Re &Tr
Case 9	4. March 2015	65 min	Re &Tr
Case 10	4. March 2015	45 min	Re &Tr
Case 11	5. March 2015	60 min	Re &Tr
Case 12	6. March 2015	65 min	Re &Tr
Case 13	9. March 2015	65 min	Re &Tr
Case 14	9. March 2015	60 min	Re &Tr
Case 15	10. March 2015	60 min	Re &Tr
Case 16	11. March 2015	70 min	Re &Tr
Case 17	16. March 2015	60 min	Re &Tr
Case 18	16. March 2015	60 min	Re &Tr
Case 19	18. March 2015	45 min	Re &Tr
Case 20	20. March 2015	60 min	Re &Tr
Case 21	30. March 2015	55 min	Re &Tr

Total 21 interviewees

60 min of average length

Appendix 2

Interview questions/themes for case accounting firms

Part I Background information

Information about the respondent

- Sex (Female/Male)
- Educational background
- Previous working experience

Preliminary information

- Size of the company, net sales, number of employees, historical development by numbers
- Product and services
- Level of digitalization and intensity
- Level of internationalization
- How do you describe your current competition?
- What kind of applications are you using in your accounting firm (traditional, electric/cloud service)

Part II Entrepreneurship

- How did your firm start the business? How about yourself as an entrepreneur?
- Identify some characteristics (innovative, proactive)
- What kind of support do you have in your own area

Part III Business Model/ Revenue Logic

- How do you describe the current life-cycle stage of your company?
- Please describe any other relevant factors relating to your customers.
- What is the accounting firm`s economic success?

Part IV Estimating the Future – Strategic Planning

- What kind of role has digital accounting had in the development of company?
- Have there been any historical changes? How about the future?
- Are there any other factors that might affect the development of digital accounting in your company?
- What do you expect to happen “in the future 2020” and how has your company prepared for it?