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# Identification and ranking of selection criteria during the selection of an external accounting service provider among Finnish SMEs

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# Abstract

The goal of this study is to uncover and evaluate the importance of criteria that affects selection of an external accounting service provider by Finnish SMEs. Existing academic literature that explores outsourcing of accounting processes is rather limited and is mostly dedicated to the motivations behind outsourcing, types of processes outsourced, and relationship between a firm and an external provider. However, the way companies select accounting service providers is still unexplored.

This study aims to fill this gap by identifying a set of concrete criteria that affect SME's choice of an accounting service provider and ranking their importance. The study treats two components of the outsourcing decision – selection of the external accountant and selection of accounting information system – as a bundle. The first step of the research took form of a series of expert interviews a performed and the set of selection criteria is identified. After that, data from 165 respondents is collected through a choice-based conjoint (CBC) survey in order to determine relative importance of each criterion on the overall decision.

As a result of the study, seven selection criteria were identified: overall cost of the bundle, customer references, accountant's certification, level of personal service, service development, software usability, and software accessibility. The role of each criterion in the decision making process as well as preference towards levels within each criterion were determined using discrete choice experiment in the form of full profile choice-based conjoint analysis.

The results of the discrete choice experiment have shown that all seven criteria played significant role in the decision making process. The top three criteria were software usability, software accessibility and accountant's certification. The finding signals high importance SMEs place on the accounting software and professional expertise of the accountant. In the light of growing discussion about the shift in the accounting profession towards providing more advisory services, the results also showed that the traditional 'shoe-box' accounting is not attractive to SMEs while a certain pre-agreed amount of personal counselling service is slightly preferred to the dynamic when an accountant proactively provides advisory services to the client.

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# 1. Introduction

## 1.1. Outsourcing and SMEs

Business management has become more challenging due to economic globalization, increasing customer demands, rapid technological change and high degree of competition (Lamminmaki, 2007, Espino-Rodríguez & Padrón-Robaina, 2004). More often than not companies are in a position of limited internal resources and lack expertise in non-core areas of the business (Kamyabi & Devi, 2011c). From a resource-based view (RBV) such resource gaps make smaller firms more vulnerable in a competitive market (Gooderham et al., 2004; Espino-Rodríguez & Padrón-Robaina, 2004). One way to solve the problem of internal resource constraints is through outsourcing of non-core functions (Lamminmaki, 2008; Kotabe & Mol, 2009). By doing this SMEs can gain access to the required resources that are not available inside the firm, and in this way increase competitiveness (Gooderham et al., 2004).

One such function is financial accounting. Typically, it is a non-core, complementary activity within a firm (Elango, 2008) and is well suited for outsourcing. At the same time effective handling of accounting information is an important contributor to a firm's success. It facilitates efficient resource management (Nandan, 2010), cost reduction and generation of business growth (Mahmoodzadeh et al., 2009). Management accounting information was found to be of crucial importance as a basis for decision-making and client interaction, resource allocation, pricing of products and services, and overall performance of an SME (Coman et al., 2012; Nandan, 2010).

The study focuses at uncovering outsourcing practices of Finnish small and medium enterprises (SMEs). SMEs make a significant contribution to the economic development and are responsible for the large share of employment, gross domestic product and general stabilization of national economies (Ale-Ebrahim et al., 2010). SMEs are also less efficient than large enterprises in resource allocation and utilization (Gooderham et al., 2004), which makes outsourcing of accounting functions more attractive.

Past research has identified several motivations for SMEs to outsource accounting, such as resource constraint, access to specialized knowledge, decision to focus on core activities of the company (Kamyabi & Devi, 2011c, Gooderham et al., 2004, Espino-Rodríguez & Padrón-Robaina, 2004, Lamminmaki, 2008; Kotabe & Mol, 2009). However, to this day, research of accounting outsourcing among SMEs remains limited (Kamyabi & Devi, 2011a; Brandau & Hoffjan, 2010) and further investigation is required (Hafeez and Andersen, 2014). This study aims to fill this gap by identifying a set of concrete criteria that affect SME's choice of an accounting service provider and ranking their importance.

## 1.2. Financial accounting services in Finland

Financial accounting tasks are widely outsourced to external providers by Finnish SMEs and the market of financial administration services in Finland is highly competitive. There are more than 4000 independent accounting firms and more than 150 supporting information systems, some of which are cloud-based. Some providers are large, Nordic-wide players, but the majority are small privately-owned accounting firms. In most cases, software vendors sell their software to the end-customer through accounting firms. Accounting firms bundle financial administration services they provide with the most suitable software option and sell the service to their clients (Asatiani and Penttinen, 2015).

Provision of accounting services in Finland does not require any certification. However, both accounting firms and individual accountants can be voluntarily certified by the Finnish Association of Financial Accountants (Talloushallintoliitto). Individual accountants can get such certifications as KLT (kirjanpidon ja laskennan tutkinto – bookkeeping and accounting certification) and PHT (palkkahallinto tilitoimisto – accounting firm certified to perform payroll administration).

Technological progress has led to automation of many accounting processes. Accounting information systems, which have been around for several decades now, have significantly improved accounting processes in many ways, e.g. increasing efficiency and accuracy. Recent technological advancements in cloud computing, data management and analytics have been successfully applied in accounting information systems, while widespread use of mobile devices and high-speed Internet connectivity

have enabled the development of new business models. Providers of accounting software increasingly sell their solutions directly to customers providing them with automated handling of many accounting tasks, visual analytics tools and real-time access to data.

In light of the developments in accounting information systems, there is a lot of conversation about the need for accounting professionals to change their value proposition, for example by focusing on provision of consulting services. The notion is that the accountant is uniquely positioned in a way that they access the information first.

The profile of a consumer of accounting services, the SMEs, is changing as well. Increased in entrepreneurship, increased technological awareness, new generation of business owners taking over family businesses all shape a new type of consumer, the one who has a better understanding of the value of accounting information, want to access business data in real-time, and makes data-driven decisions. In order to compete successfully, providers of accounting services to SMEs need to have solid understanding of what their potential clients look for when they decide to outsource their accounting.

### 1.3. Aim and methods of the study

The study aims to deepen the understanding of the behavior of Finnish SMEs when outsourcing financial accounting to an external service provider. Specifically, the goal of this study is to uncover what Finnish SMEs value when choosing an accounting service provider through identifying criteria that play role in the decision-making process and ranking these criteria according to the weight each criterion has on the final decision.

Hence two research questions were formulated.

*Research question 1: What criteria do Finnish SMEs use when selecting an external provider of accounting services?*

*Research question 2: What is the effect each of the decision criteria has on the choice of the external provider of accounting services?*

In order to accomplish this task, a two-step method was used. The first step was explorative in nature and the goal of the exploration was to determine what criteria plays role during the decision-making process. The task of criteria definition was accomplished through a series of interviews with experts who work in the Finnish financial accounting industry. The experts have been involved in many negotiations with SMEs throughout their careers and have a solid overall understanding of the accounting services industry. Experts included a chairman of the association of accounting firms in Finland, three owners of small accounting firm, a CTO of a leading Finnish provider of accounting software.

The second step was to determine how each criterion identified in the first step influences the overall choice. Choice-based conjoint (CBC) analysis was selected as the quantitative method for this study. The main reason for that was the ability to create a survey task that rather closely simulated real life market situation. In CBC analysis the identified criteria serve as attributes that describe service offerings. Service offerings are differentiated from one another by through attribute levels that are predefined for each attribute.

Respondents had to consider several profiles of service offerings selecting one that is the most attractive to them. Each respondent repeated the choice task ten times, which required them to make trade-offs, meaning that the respondents had to prioritize some attributes over the other. In the end, it was possible to calculate how much each attribute influences the choice.

In the discussion and conclusion chapter of the report, the results are interpreted to explain why certain criteria were more important and the other less important. Moreover, the preferred levels within attributes were analyzed, shedding more light into what SMEs are looking for in the external accounting service. The results of the study are useful for business practitioners and can be used in order to improve financial accounting services offered to Finnish SMEs. Finally, the results of the study provide avenues for further research.

# 2. Literature review

This section of the thesis provides review of academic literature dedicated to the subjects that form premise of this study – outsourcing of accounting processes by SMEs, Accounting information systems, and vendor selection. Throughout the chapter, the covered subjects are also reviewed in relation to Finnish context in order to provide a deeper understanding of the current situation in the Finnish market.

The first section of the chapter introduces outsourcing of accounting processes by SMEs covering such dimensions as motivations and benefits of outsourcing, factors that affect the relationship between a client company and the accountant, and trends in the industry of external financial accounting services. The second part of the chapter is dedicated to the subject of Accounting information systems (AIS) and covers such issues as the main functions of AIS, automation of accounting processes and other technological trends (i.e. cloud-based system), benefits of AIS adoption for SMEs, among other.

The third part of the chapter is dedicated to the problem of supplier (vendor) selection and reviews quantitative techniques that are used to determine the factors that play role in decision-making process during vendor selection. In this light, multi-criteria decision making techniques and discrete choice experiment techniques that have been commonly applied in previous studies are reviewed.

## 2.1. Outsourcing of accounting processes by SMEs

Effective use of accounting information strongly impacts the performance of a company by facilitating efficient resource management (Nandan, 2010), cost reduction and generation of business growth (Mahmoodzadeh et al., 2009) as well as better decision-making and client interaction, resource allocation, pricing of products and services (Coman et al., 2012; Nandan, 2010). At the same time, SMEs tend to lack in resources and expertise required for efficient internal handling of accounting functions (Kamyabi & Devi, 2011b).

Since accounting is a non-core, complementary activity within a firm (Elango, 2008), the above-mentioned problem can be solved through outsourcing of accounting functions to an external provider. Outsourcing of non-core processes allows

companies to allocate more resources to the core processes of the business, strengthening and sustaining their competitive advantage. Hafeez and Andersen (2014) argue that SMEs with resource constraint should outsource in-house accounting functions to the external professional accountant. Jiang and Qureshi (2006) found that outsourcing leads to improvements in internal quality due to access to external resources such as specialized expertise.

By outsourcing accounting functions small companies can survive and grow in the competitive market (Lamminmaki, 2007; Gooderham et al., 2004). Moreover, high degree of competitive pressure makes the expertise of external accountants even more vital if a company aims to cut costs for achieving sustainable competitive advantages (Delmotte and Sels, 2008; Jiang & Qureshi, 2006).

Due to the timely access to financial information of the company and expertise in financial accounting, an external accountant is well-positioned to provide support to the management of small companies (Breen et al., 2004) in setting business objectives for the long run (Ismail and King, 2005; Devi and Samujh, 2010). By outsourcing accounting processes, SMEs can considerably boost their competitiveness (Jayabalan et al., 2009; Everaert et al., 2010). In their study of accounting outsourcing among Belgian SMEs Everaert et al. (2007) found that access to knowledge and skills of the external accountant was the main reason for going forward with the outsourcing decision.

Currently, the industry of financial accounting services is undergoing big changes. In 2010 Chartered Institute of Management Accountants (CIMA) conducted a survey of senior finance and non-finance professionals worldwide, and found that one of the strongest trends in the accounting industry is the shift of the responsibilities of the accountant from traditional accounting tasks towards provision of strategic management guidance and support. The trend, which is viewed as a consequence of the 2008 global financial crisis, shows increasing value that accountants provide to their clients. Bhattacharya et al. (2002) argued that the accounting profession needs to continue to transform from being ‘attesters of historical and single-firm financial statements’ to becoming providers of more value-adding services in the scope of the connected world of today. Unfortunately, the knowledge among business

owners/managers about additional value-added services has been historically lacking (Oran, 1988 and Shannon, 1986, as cited in Breen et al., 2004).

Prior research has shown that companies use accounting services differently at different stages of their development. Banham and He (2014) found that with growth, the SMEs' demand for accounting services increases. Companies at the start-up phase are more predisposed to a consultation with external accountants than more mature companies (Gorton, 1999). Start-up phase is also the time when companies are most open towards adoption of new software. With growth come new challenges and companies start requiring more financial administration services. McMahon (2001) argued that the most effective way to improve financial control in growing SMEs is through a substantial upgrading of financial reporting systems. This underlines the importance of the accounting service provider's ability to satisfy increasing financial management needs of growth companies.

Many studies look at the relationship between an external service provider and outsourcing through the TCE prospective (Everaert et al., 2010; Greenberg et al., 2008; Kamyabi & Devi, 2011a). Hafeez and Anderson (2014) examined factors that affect the firm's accounting outsourcing decision from the perspective of transaction cost economics and resource-based views in the Pakistani context. The scholars found that the search for external accountants will take more effort when the management accounting activities are highly asset specific. The research results found that the asset specificity has a significant negative relationship with accounting outsourcing.

Several studies have found that frequency of transactions is statistically and negatively correlated with outsourcing of routine and non-routine accounting tasks (Everaert et al., 2010), which is consistent with the TCE as it predicts that activities performed with higher frequency can be more efficiently performed internally, as they generate economies of scale. Hafeez and Anderseen (2014) found no support to the frequency claim of TCE and argued that the higher frequency of non-routine accounting tasks, the higher the likelihood of them being outsourced to an external service provider.

Several studies looked at asset specificity as a factor influencing firms' willingness to outsource accounting. There are two types of specific assets – tangible assets and

intangible assets. In the context of accounting services, an example of a tangible asset is accounting information system, while expertise of an accountant in particular business matter or a certain accounting function is an example of an intangible asset. Prior research has found significant relationship between asset specificity and accounting outsourcing (Everaert et al., 2010, Hafeez and Anderseen, 2014).

One important factor in the relationship between a firm and an external service provider is trust. SME management has to trust an external provider on a number of things, such as possession of necessary knowledge and expertise (Lamminmaki, 2007), ability to perform legal obligations (Kamyabi & Devi, 2011b), responsibility to deliver the service according to agreement (Espino-Rodríguez & Padrón-Robaina, 2004), fair pricing of services and resistance of opportunism (Everaert et al., 2010). TCE predicts that the higher degree of anticipated trust in the external service provider, the higher is the willingness of the SME's management to outsource accounting tasks (Lee et al., 2008; Everaert et al., 2010; Verwaal et al., 2008; Greenberg et al., 2008).

In 2015 BDO, an international network of public accounting, tax and advisory firms, together with the Finnish Financial Management Association (Talloushallintoliitto) did a survey-based study about outsourcing of financial management by medium-sized enterprises in Finland. Mid-sized companies were defined as companies with 50-500 employees. The results showed that the quality of external financial services, the level of expertise of the accountant and smooth cooperation are perceived as very important, while a price was not regarded as a particularly important factor.

## 2.2. Accounting information systems

Fontinelle (2011) defines an Accounting Information System (AIS) as a "computer-based method for tracking accounting activity in conjunction with information technology resource". The main tasks of an AIS are collection, storage and processing of financial and accounting data to support internal management decision making (Belfo and Trigo, 2013). Reporting is often considered to be the most frequently performed activity by accountants and one of the most important features in Accounting Information Systems (Trigo et al., 2014).

Hall (2010) decomposes an accounting information system into three major subsystems – (1) Transaction Processing System (TPS) that supports daily business operations, (2) General Ledger System and Financial Reporting System (GLS/FRS) and (3) the Management Reporting System (as cited in Belfo and Trigo, 2013).

Many financial administration tasks have been automated, which has led to the reduction of the amount of manual input along with corresponding inaccuracy and costs (Abu-Musa, 2005). Examples of such tasks are recording of sales and purchase invoices, preparation of financial statements, payroll, and preparations of tax reports among other. Moreover, accounting software packages increased overall operational effectiveness by improving both the quantity and quality of management information available (Collins, 1999; Fisher and Fisher, 2001).

Automation is seen by many as a threat to the accounting profession. However, some research shows that there is also an opportunity. Breen et al. (2004) found that among small firms in Australia, the users of computerized accounting systems used the services of an accountant more than those, who didn't have such systems in place. Such users also met with an accountant more frequently. The services sought by the users of accounting software tend to be more value-adding to the management of the client company (e.g. advisory) and more profitable for the accountant.

The ongoing trend within the accounting profession towards increased provision of advisory and management support, described in the earlier section, represents a challenge to the developers of AIS who need to find proper technological solutions that would enable accounting professionals provide meaningful management support (Belfo and Trigo, 2013). At the same time, certain traditional accounting tasks also pose challenges for software developers to address and should not be neglected (Belfo and Trigo, 2013). In Finland, providers of financial administration software have been very active in automating basic accounting tasks. This has led to urgent need for an accountant profession to transform toward increased provision of value-adding advisory services (Nyberg, 2014).

The market of SME ICT spending is large and growing and is characterized by high level of saturation and competitiveness. The current market situation is such that each of the Nordic markets is dominated by one local player, but many other software

options are also available (from an interview with Lauri Lehtonen, Appendix 4). Some accounting firms have developed their own accounting software, which they use to serve their customer, while others work with software provided by specialized vendors. Software companies also distribute cloud-based solutions directly to SMEs, bypassing the accounting firm.

Previous AIS research has shown that the adoption of computerized accounting systems has had several positive effects on SMEs. With the proper use of the new technology companies can improve business processes (Breen et al., 2004, Grande et al., 2011, Ismail and King, 2005), save time on interaction with banks and central administration (Ismail and King, 2005), reduce operating costs and increase in profitability (Rahman et al., 2015, Grande et al., 2011, Ismail and King, 2005), achieve higher level of responsibility and accountability of business operations (Rahman et al., 2015). On the other hand, low level of adoption of accounting information systems can have negative consequences for SMEs, e.g., higher costs associated with tax compliance SMEs (Ming and Arifin, 2011).

Researchers also paid attention to strategic motivations for AIS adoption. Several scholars argued that appropriate use of AIS gives management better understanding of the firm's performance and helps to identify opportunities for future growth and set strategic direction and goals (Rahman et al., 2015,). Breen et al. (2004) noted that sound application of AIS can have a positive effect on the overall financial management of small businesses, which is crucial for the long-term success of the firm. Hamdan (2012) found that in the case of Jordanian SMEs automated accounting systems had a positive and considerable effect on the timeliness of decision-making and business development, and that the management sees increases in operating expenses and higher level of technological knowledge as key prerequisites for implementation. At the same time, the scholars found that in most cases adoption of computerized accounting systems was driven by expected increase in operational efficiency and is rarely motivated by strategic goals (Breen et al., 2004), which echoed earlier findings by Lai (1994).

While many of the routine tasks that are typically performed by an accountant have been automated, Belfo and Trigo (2013) identified accounting challenges that still lack proper technological responses. These challenges were external and compliance

reporting, strategic analysis, benchmarking forecasting, internal auditing internal controls, risk management, access to and reporting of nonfinancial data, analysis of historical data, and tailor-made and interactive reporting. The scholars also identified technological responses to the challenges in the Accounting domain. These technologies include web services, mobile devices, cloud computing, environmental scanning, business intelligence, enterprise application integration, business process management, computer assisted auditing tools and techniques, and big data.

Cloud-based accounting information systems have been seen as a disruptive force for the accounting industry (Asatiani and Penttinen, 2015). Cloud computing is attractive to businesses as it enables economical, scalable and flexible delivery of resources (Motahari-Nezhad et al., 2009). More and more people are using cloud-based services in their personal lives, which encourages the interest in moving business processes to the cloud as well. Dubey and Wagle (2007) (as cited in Belfo and Trigo, 2013) found that SaaS model offers such advantages as frequent and likely easier software updates, lower cost of ownership, and higher level of service from the vendor. Cloud-based systems enable various users access financial information that is updated in real time. Additionally, users can access the information anywhere where there is internet connection. On the other hand, deployment of cloud systems can be accompanied by problems with integration with existing databases and other software, both cloud-based and not (Willcocks et al., 2013).

Providers of cloud-based accounting information systems emphasize the functionality that allows all parties access financial data in real time – the accountant, the client company, and the auditor. Such arrangement reduces the costs of switching between different accounting firms, provided they use the same software to service their companies (Asatiani and Penttinen, 2015).

It is becoming more and more common for business professionals to keep up-to-date with accounting information through mobile devices. When accessing real-time accounting information on the go, users expect it to be focused on metrics and be visually easy to access, which is different from the way accountants traditionally approached reporting (Trigo et al., 2014).

In 2014 study, Nyberg identified advantages and disadvantages of electronic financial management software from the accountant's perspective in Finland. Increasing adoption of modern cloud-based software greatly increases efficiency of both accountant and business owner. However, the mean age of accountants in Finland is rather high (Nyberg, 2014). This makes the adoption rates lower as learning new ways of working is often met with resistance by those, who have worked with different processes for many years. The new generation, on the other hand, is eager to adopt the new technology. With routine tasks automated and the ongoing shift to provisioning of more value-adding services, recent graduates increasingly see the accounting profession as more challenging and fulfilling (Nyberg, 2014). Such development has potential to attract many young talents to the accounting profession in Finland.

The availability of several different accounting software options introduces the choice problem. The choice of the right accounting software has become an important decision for many organizations (Abu-Musa, 2005, Bagranoff and Simkin, 1992). Abu-Musa (2005) studied the main factors that an organization should take into account when selecting accounting information system. In the context of international accounting software Adhikari et al. (2004) considered general selection criteria and have reduced ten individual items to three general selection criteria factors: security and support, cost and flexibility, and hardware and operating platforms. Among these security and support considerations are considered the most important in the selection of international accounting software.

Adhikari et al. (2004) identify system fit (i.e. the degree of alignment between system capabilities and user requirements) as a considerable concern when selecting international accounting software. One reason for that could be the firm's potential inability to define requirements for the international accounting software solution. (Adhikari et al., 2004).

Luftman (2003) argue that the degree of alignment between the IS and business needs in terms of communications, competency and value measurement, governance, partnership, technological scope or skills is one of the determinants of successful IS implementation is. Ismail and King (2007) studied the alignment between accounting information requirements and the capacity of accounting systems to generate the required information, in the context of Malaysian SMEs. Researchers found that

accounting information system alignment was related to the firm's (1) level of IT maturity, (2) level of owner/manager's accounting and IT knowledge; (3) use of expertise from government agencies and accounting firms; and (4) presence of internal IT staff.

When it comes to the selection of the most suitable AIS, in their review of accounting information systems research, Bhattacharya et al. (2002), conclude that the outsourcing of IS functions must coincide with the outsourcing of the business processes. One way to select the most suitable accounting software is by using the recommendation of the accounting specialist. Breen et al., 2004 found business owners/managers trust accountants in recommending the most appropriate accounting software.

Bagranoff and Simkin (1992) assign high importance to the selection of accounting software due to several factors such as the availability of a wide range of options, differences among options, and varying associated costs. The scholars suggest the use of multi-criteria decision making technique when evaluation software packages. The scholars recognize that the choice involves several criteria and that it is important to understand the imminent trade-offs in order to choose the most suitable software.

## 2.3. Vendor selection

The purpose of this section is to describe the multi-criteria nature of vendor selection problem and review various methodologies that have been applied in vendor selection research. The later part of the chapter covers extensively the emerging trend of cloud outsourcing, which has had great impact on the outsourcing of financial accounting services from technological and organizational perspectives.

With technological advancement, globalization and pressure to focus on core activities, more and more companies choose to outsource some of their business processes. Selection of a good vendor can lead to great improvements in firm performance while a poor choice can have opposite results. Widespread outsourcing activities, along with uncertainty regarding the outcome of outsourcing relationship, has led to a large number of research dedicated to vendor selection.

During vendor selection, the cost factor often plays a decisive role in the decision making process. However, for a long time vendor selection has been treated as a strategic decision and the one that is affected by multiple considerations. Parthiban et al. (2013) argued that single criterion approaches that are typically cost-centric do not properly reflect the performance of the vendors, and such criteria as quality, delivery, and service dominate the cost criterion during the evaluation process.

In the 1966 study, Dickson (as cited in Weber et al., 1991) identified 23 criteria that played role in vendor evaluation, concluding that three most significant criteria were quality, delivery, and performance history. In a follow-up review, Weber et al. (1991) reviewed 74 studies that were published after 1966 in order to identify factors that played role in vendor decision problem. The conclusion was that the most impactful factors were (in order) price, quality, delivery, performance history.

In a later study (Weber et al., 1998) analyzed vendor selection from a strategic perspective and concluded that geographical location and environmental effects play important roles in supplier evaluation. Ghodsypour and O'Brien (1998) identified cost, quality, and service to be the most significant factors. The list of evaluation criteria identified by Ho et al. (2010) included quality, delivery, price, manufacturing capability, service, management, technology, flexibility, among other.

Reviewing methodological approaches used in vendor selection research, Agarwal et al. (2011) performed a review of 68 studies published since 2000. The review showed that the most frequently used approaches were data envelopment analysis (DEA), mathematical models, analytic hierarchy process (AHP), linear programming, analytic network process (ANP), specific, measurable, attainable, relevant and timely (SMART). The main reason for DEA being the most commonly used approach is its robustness (Mohajeri and Amin 2010, Songhori et al. 2011, Agarwal et al. 2011).

Ho et al. (2010) reviewed studies dated from 2000 to 2008 analyzing commonness of various techniques and their shortcomings. The results of the study showed that multi-criteria decision-making approaches are better than approaches that focus on cost as a single factor. Nevertheless, the review revealed that, perhaps due to their simplicity, individual approaches were slightly more common. Parthiban et al. (2013) noted that existing techniques reflect only current performance, ignoring those vendor

capabilities that have the biggest influence on future performance. The scholars noted that such approaches as mathematical programming or linear weighted models (e.g. AHP) possess certain shortcomings. One example is the difficulty of quantifying qualitative considerations for the use in mathematical programming methods, while the AHP is built mostly on human judgments.

Parthiban et al. (2013) conclude that integrated approach in the decision-making process for vendor selection is preferred to overcome these weaknesses. And proposed a method that takes advantage of several techniques – fuzzy logic, SWOT, and DEA. The use of SWOT was motivated by the method's capability to reflect both the current performance and the future capabilities of vendors. The main idea behind the use of the integrated fuzzy SWOT–DEA approach was overcoming the vagueness of data and comparison of the vendors to the best performing vendors.

Several scholars proposed hybrid models hat account for both quantitative and qualitative factors that play role during the decision-making process. Ha and Krishnan (2008) integrated multiple techniques such as AHP, DEA and neural networks in order to generate supplier maps and their scores.

In recent years cloud outsourcing has become increasingly popular due to the many benefits of cloud technology and service models (Liu et al., 2016). Reduction of costs associated with information systems is one of the key reasons for outsourcing to cloud. Due to elasticity and scalability of cloud services, pay-per-use pricing models have emerged and the need for companies to buy/develop and maintain their own information systems have disappeared (Armbrust et al., 2010; Marston et al., 2011; Truong, 2010). Lin and Chen (2012) found that selection of cloud services over traditional IT systems operated in-house turns fixed costs into variable costs, saves a lot of money and time, improves efficiency of operations and adds agility to the organizational structure.

From a technological perspective, there are clear benefits of using cloud-based software such as accurate data, higher operating efficiency (Misra & Mondal, 2011). Previous research found cloud computing to be more useful, easy and accurate (Brynjolfsson et al., 2010). At the same time, there are important considerations regarding reliability, security, privacy, trust and regulatory restrictions (Benlian and

Hess, 2011; Subashini & Kavitha, 2011; Wu et al., 2011). In evaluating technological benefits of outsourcing to cloud the following considerations influence the final decision: usefulness, ease of use, accuracy, reliability, security, and trust (Liu et al., 2016; Benlian et al., 2012; Lin & Chen, 2012; Messerschmidt & Hinz, 2013).

From the organizational dimension, cloud outsourcing allows firms to outsource non-core activities to the cloud information systems provider and dedicate more resources to the core activities of the firm, which is especially beneficial in a situation with scarce resources (Wang & Yang, 2007). Finally, environmental factors have been identified to have an impact on firms' decision to outsource to a cloud service provider. Low et al. (2011) found that companies tend to pay attention to and follow the way their competitors adopt new technologies. Moreover, several studies conclude that pressure coming from a trading partner can have a significant effect on IT adoption due to the fact that many companies rely on their trading partners for IT design and implementation (Lin & Lin, 2008; Messerschmidt & Hinz, 2013).

Due to the fact that cloud technology is a recent technological development, cloud vendor selection is still an under searched area, but more studies are emerging (e.g. Martens & Teuteberg, 2012; Misra & Mondal, 2011). So far scholars have focused mostly on studying the problem from either technology or cost perspective. In practice, companies have recognized that emphasizing cost as the single most important criteria is not efficient and other factors significantly impact vendor selection decisions (Parthiban et al. 2013). Similar to the case of traditional vendor selection problems, multiple criteria decision making techniques have been used more and more in cloud vendor selection problems to account for environmental, social, and uncontrollable factors as well as traditional criteria such as cost, service, quality, delivery, among other.

Looking at the problem of cloud vendor selection, Liu et al. (2016) proposed a multi-attribute group decision-making (MAGDM) approach to help firms to evaluate cloud computing vendor. The scholars argued that both objective attributes (e.g. cost) and subjective attributes (attributes related to technology, organization, and environment) should be incorporated in the evaluation process.

Polyviou et al. (2014) identified the factors that have the highest effect on SaaS selection from both customer's and vendor's points of view. The scholars have clustered factors into four groups – Technical, Strategic & Organizational, Economic, and Political & Legislative. In the study the scholars looked at different types of client companies – freelancers, micro companies, SMEs, and large companies. From the client companies' point of view, two Technical factors, functionality and usability, were mentioned the most across all types of companies. Apart from that, for SMEs, support and training level, brand name (which was a proxy for trust and reputation), start-up time, and pricing were important factors. From the vendors' point of view, those whose main customer segment was SME, considered backup & damage recovery, flexibility, brand name, start-up time, pricing, and legal compliance. One explanation of the divergence in perceptions is that the customers tend to value factors that are softer and more perceptual, and are difficult to quantify (Michell & Fitzerald, 1997).

Prior research shows that usability of cloud solutions is an important factor that influences software selection by client companies. Kerke et al. (1995) note that usability is one of the core factors that influence customer satisfaction from the earliest in-house software packages. Polyviou et al. (2014) found that both vendors and client companies consider usability as one of the most important factor when evaluation a cloud/based software solution. Repschlaeger et al. (2012), through analysis of literature and interviews with experts, concluded that functionality was among the factors that influence the selection of SaaS solutions.

# 3. Methodology

This chapter is dedicated to the methodology applied in order to reach research objectives and answer the research questions. Sections of the chapter describe the research process and the theory behind the methods applied – expert interviews and choice-based conjoint analysis. The preparation and execution of both expert interviews and CBC survey for this study is described in Chapter 4.

The research process included two steps. The first step was to perform an explorative study in order to identify criteria that plays role during the selection of an external accounting service provider. This was done through a series of expert interviews. The second step was to identify the importance each of the identified criteria plays in the decision-making process. This was done through a quantitative study using choice-based conjoint (CBC) analysis. Attributes and levels for the CBC survey were developed based on the expert interviews and academic and practical recommendations about the design of CBC studies. The survey was distributed among a sample of Finnish SMEs provided by Suomen Yrittäjät (Federation of Finnish Enterprises). The results of the quantitative study was analyzed at an aggregate and segment level.

## 3.1. Expert interviews

In order to identify the selection criteria used by Finnish SMEs in order to select external providers of accounting services, and thus answer the first research questions, a qualitative study in the form of expert interviews was performed.

Interviews are one of the most wide-spread methods of collecting data. In most cases, due to its versatility and flexibility semi structured interview format is the technique of choice (DiCicco-Bloom & Crabtree 2006). Some other advantages of the semi-structure interview method include enabling of reciprocity between an interviewer and interviewee (Galletta, 2013), providing the interviewer with a possibility to ask additional questions based on the responses of the interviewee (Rubin & Rubin 2005).

In a semi-structured interview design, the questions are based on a previous knowledge of the research area. Hence, in order to obtain quality results from semi-structured interviews, the interviewer is required to have a solid knowledge of the

topics of discussion (Kelly, 2010). The questions for the interview and the interview plan, covering the main topics, should be formulated before the interview (Rubin & Rubin 2005). During the interview, the interview plan should be used to give the interview process structure, but the plan should not be followed strictly in order to allow interviewees to talk about the topics freely (Gill et al., 2008).

Such approach fitted well for the purposes of this study. While the interviewer possessed solid understanding of the research areas through prior literature review and previous work experience, the goal was to collect as much of the expert's knowledge regarding the selection of an accounting service provider as possible. For this reason, while providing the structure for the interviews and asking the key questions, the semi-structure interview format allowed experts to share their knowledge more freely.

### 3.2. Choice-based conjoint survey

The second step of the research process is the quantitative study aimed at identifying importance that each criteria plays in the decision making process. Choice-based conjoint analysis was chosen as the quantitative method because the task of choosing a preferred concept resembles what buyers do in the marketplace when they have to select a preferred product from a group of products. Since CBC is based on hierarchical Bayesian estimation, it is possible to estimate part-worth utilities at the individual-level, which makes it possible to analyze the results for different subgroups of respondents, which can be identified through the answers to background questions that precede the CBC task. The remaining part of this section is to introduce conjoint measurement models and their relevance in multiple criteria decision making. It concludes with justification of the choice of conjoint analysis as the method for this particular study.

Bouyssou and Pirlot (2005) introduce conjoint measurement as a set of tools and results that originated first in Economics and Psychology (Luce and Tukey, 1964) in the early 1960s. Since its introduction, conjoint analysis has been one of the most-widely used techniques in studying how buyers or decision makers make trade-offs among competing products, services or suppliers (Green and Rao 1971). Researchers in many fields have used the technique to measure, among other things, consumer preferences and demand, as well as develop products (e.g., Green, Krieger, and Wind 2001).

Angur and Lotfi (1997) refer to conjoint analysis as a set of methods used to predict preferences of a decision maker/buyer for a multi-attribute product. Green and Srinivasan (1978, p. 104) describe conjoint analysis as "any decompositional method that estimates the structure of a consumer's preferences (i.e., estimates preference parameters such as part-worths, importance weights, ideal points), given his or her overall evaluations of a set of alternatives that are pre-specified in terms of levels of different attributes."

One of the most commonly used market research methods for conjoint analysis is a class of hybrid techniques referred to as choice-based conjoint (CBC) analysis (Agarwal et al., 2014). Choice-based conjoint (CBC) refers to a collection of hybrid techniques that are among the most popular market research methods for conjoint analysis (Toubia et al., 2004).

In conjoint analysis, decision makers (respondents) are asked to choose from or evaluate hypothetical profiles that combine multiple attributes. The conjoint survey consists of several such tasks, in which some or all levels that describe attributes vary from task to task. The profiles can be presented in one of the following ways: either as a tradeoff matrix with two attributes at a time, or as a full profile using all of the predefined attributes.

Both trade-off and full-profile approaches utilize combinations of attributes set at discrete levels (Angur and Lotfi, 1997). In the tradeoff approach, the decision maker evaluates each combination of levels of two attributes at the scale from the least preferred to the most preferred. In the full-profile approach, the decision maker is given several choice tasks that include all attributes that define the product, service or supplier. In this case the decision maker is required to pick the profile that suits his preferences best.

In their collection of essays in decision-making Angur and Lotfi (1997) note that, while both the trade-off and full-profile approaches have been used by scholars, the full-profile approach is preferred more often. The scholars indicate three reasons for this. Firstly, the full-profile approach is a more realistic representation of the real life choice problem as all factors are taken into account at the same time, when the option is being evaluated. Secondly, there is a possibility to use a ranking or rating scale

while evaluating the choice task. Thirdly, the decision maker has to make fewer evaluations in the full-profile approach than in the trade-off approach. It was reported that nearly 60 percent of conjoint studies utilized the full-profile approach, 10 percent made use of a hybrid approach, and only 6 percent opted for a trade-off approach (Wittink and Cattin, 1989).

In conjoint analysis, preferences of the decision-maker are modeled by adding the utilities associated with the various attribute levels. The utilities are estimated from the collected data, either through the full-profile or trade-off conjoint analysis approaches (Angur and Lotfi, 1997). This is done through inference of the decision makers' part-worths for attribute levels (for which various models exist), and entering the part-worths into buyer-choice simulators for predicting of buyers' choice among products, services or suppliers. Making respondents go through several choice tasks, enables a researcher to estimate the relative influence of each attribute level on the resulting choice or rating (Hainmueller et al., 2014).

Apart from a setup that realistically models real-life decision problems, widespread use of conjoint methods is justified by the reliability and validity of produced results. Bateson, Reibstein, and Boulding (1989) carried out a review of reliability of conjoint analysis studies, while Andeson and Donthu (1988) (as cited in Green and Srinivasan, 1990), Krishnamurthi (1988), Mohn (1990) addressed the validity aspect. The general approach to evaluate validity and reliability was to compare outcomes that were predicted using conjoint methods, with the actual outcomes. In their empirical review of conjoint studies, Green and Srinivasan (1990) concluded that conjoint analysis is a predictive technique.

Merino-Castello (2003) carried out a theoretical review of the most recent stated preference techniques utilized in identifying consumer preferences - contingent valuation and multi-attribute valuation techniques (including conjoint analysis and choice modeling approaches). While both techniques for eliciting stated preference use multinomial logit, they differ in the measurement scale for the dependent variable and, hence, the estimation method (Merino-Castello, 2003). The choice of the measurement scale has great implications for the outcome of the study. The most evident illustration of this is procedure reference reversal - the phenomenon of obtaining different results with different methods when assessing the same issue. Such

inconsistency highlights the importance of selecting the most suitable method for studying the importance of criteria involved in the selection of an accounting service provider.

The first method, contingent valuation, involves a respondent ranking a set of alternatives at the least/most-preferred basis. The method originates in welfare economics and the neo-classical concept of economic value based on maximization of individual utility. The questions are set in the hypothetical market that defines the good/service and the context in which the good/service is traded. The goal of the survey is to uncover the respondents' maximum willingness to pay for (or minimum willingness to accept) a hypothetical change in the way the good/service is provided. It is assumed that uncovered willingness-to-pay values are consistently related to respondents' underlying preferences (Hanley et al., 2001).

The contingent valuation has several key limitations in terms of value estimation. Firstly, respondents are only exposed to one attribute or scenario (this is not a limitation if a study aims to estimate values for a one-dimensional attribute). Secondly, since a scenario is hypothetical and it does not encourage trade-offs or choices, respondents may not provide accurate evaluations. Thirdly, the design encourages strategic behavior while answering.

Multi-attribute valuation techniques comprise a set of survey-based methodologies that aim at modeling respondents' preferences for goods or services in settings where several attributes are used to describe these goods/services. The attributes themselves take different values, which are described by attribute levels. The task for respondents can be either to rank/rate various alternatives or to choose the most-preferred ones. The theory behind the framework for multi-attribute valuation comes from Lancaster's characteristics theory of value. The theory assumes that consumers' utilities for the overall goods are comprised from utilities of attributes that define the good/service.

Bateman et al. (2002) outlined several advantages of multi-attribute valuation methods. Firstly, multi-attribute methods provide a natural way to estimate values of attributes and their levels. Secondly, the fact that multi-attribute design stem from the attribute theory of value, they can be easier combined with cost and hedonic price

models (when compared to contingent valuation). Thirdly, since attribute levels are usually designed as orthogonal, multi-attribute valuation methods can reduce problems related to extreme multicollinearity. Finally, multi-attribute valuation techniques utilize first-choice rule and the respondent has to select the most preferred option from the predefined set of available choices.

Overall, the main difference between the two methods is that contingent valuation involves one attribute of the product/service simultaneously, while multi-attribute valuation techniques can incorporate several attributes in the respondents' tasks. They enable for valuation of these attributes, marginal changes in these attributes and trade offs between the attributes.

In order achieve the goals of this study and understand what makes accounting service providers attractive or not attractive to Finnish SMEs and what drives consumers to make a choice towards a particular vendor, it is important to measure consumers' preferences. Preferences of consumers can be assessed using either revealed or stated data, which differ in their origin and collection method. The source of the revealed preference data is past behavior, while the stated preference data are obtained through surveys. For the purposes of identifying criteria that plays role during the selection of an accounting service provider as a package of an accounting firm and accounting information system among Finnish SMEs it is important to obtain stated preference data.

Taking into account the nature of this study, multi-attribute valuation approaches (conjoint analysis and choice methods) are preferred over contingent valuation techniques, as several attributes need to be evaluated.

### *3.2.1. Design of a choice-based conjoint survey*

The following section is dedicated to particular considerations in the design of the CBC. Subjects covered include attributes, attribute levels and the number of choice tasks to be included in the study.

#### 3.2.1.1. Attributes

In the full-profile choice-based conjoint analysis, each choice task includes all attributes. This places a restriction on how many attributes can be defined for the

study. There is no definite rule that would prescribe the exact limit for the number of attributes, but Sawtooth software manual (Sawtooth Software, 2013) suggests that concepts described by more that eight attributes might be confusing to respondents and cause them to respond without proper consideration. The limit is greatly affected by respondents' motivation and knowledge as well as the length and clarity of the attribute text.

#### 3.2.1.2. Attribute levels

Definition of proper conjoint attributes and levels is argued to be the most fundamental and critical step in designing a conjoint study (Orme, 2002). In addition to formulation of the attribute levels (their values), it is important to pay attention to several factors – the number of attribute levels, type of attribute levels, and consistency of the number of levels across attributes.

There are different types of attributes – nominal, ordinal and quantitative. A nominal attribute is such that different respondents may prefer different levels depending on their taste. One example of a nominal attributes is color. The levels of the attribute are different colors (e.g. green, blue and red) and a respondent may prefer one or the other depending on their taste. An ordinal attribute is an attribute where attractiveness of levels can be predicted. One example could be available memory in a smartphone. Large memory can be logically anticipated to be a more attractive option than small memory. In case of quantitative attributes, the levels are described in terms of numeric values, e.g. weight or speed.

While Louviere et al. (2010) concluded that there is no consensus regarding the best way to determine the levels, Orme (2002) provides several practical recommendations. The first recommendation is to define levels in a concise and concrete way, which assumes avoiding ranges and opportunities for interpretation to the respondent. Vague statements as levels can diminish the quality of the study as they can be understood differently by different respondents.

The next two recommendations highlight the importance of making each attribute independent and mutually exclusive. Independence of attributes helps to avoid double counting and resulting excessive inferred influence on product choice. Moreover, the levels of overlapping attributes may not work together and prohibitions would have to

be configured, which may diminish the quality of the results. Mutual exclusivity of attributes allows for each attribute to have fewer number of levels. If one attribute combines several parameters, then the attribute levels have to consider all possible combinations. Large number of levels makes complicates the survey for the respondents and has been shown to draw bigger attention to the particular attribute, which is undesirable.

Another recommendation is to make sure that attribute levels cover the full range of possibilities that exist in the market. It is also advised to incorporate concepts that are missing at the market but are interesting to investigate. One way to ensure that all the relevant levels are included is to ask expert opinion about how the defined levels correspond to the market situation.

The next recommendation is to avoid the usage of prohibitions in the survey specifications. Prohibitions' purpose is to prevent certain levels across different attributes appear within the same profile. They are used when some product or service profiles generated during the interview are not realistic, e.g. premium service and the lowest possible price. While the goal is logical, it is noted that making unnecessary or excessive prohibitions is a mistake. In the best case scenario, too many prohibitions can lead to imprecise estimation of utility and to confounded effects and inability to calculate stable utilities in the worst case scenario. The suggestion is to warn respondents about the possibility of profiles that seem unlikely to appear in the market, and encourage them to treat such profiles as if they were actually available.

Orme (2002) also advises to refrain from assigning large number of attribute levels to an attribute and also balance the number of levels across attributes. The reason for this is the so-called "Number-of-Levels Effect," when, with everything else being equal, the attributes with larger number of levels tend to be attain more importance as a result of the study. The "Number-of-Levels Effect" is caused by both psychological and algorithmic factors. Following this recommendation each attribute received three attribute levels, which was enough to represent the range of services available in the market and keep the task cognitively doable for respondents. Hensher et al. (2001) recommend using an equal amount of levels in Discrete Choice Experiments in order to keep a balance. Guidance available on the website of Sawtooth Software recommends using no more than five levels to define quantitative functions such as

Price. The reason for that is that too many levels for a quantitative attribute will lead to data being too widely spread, which increases the risk of out-of-order utilities that are counterintuitive and lead to problems with potential simulations.

Finally, it is recommended to include no more than about six attributes in full-profile conjoint methods. Inclusion of a larger number of attributes can make the survey too cognitively challenging for the respondents and prompt them to resort to simplification strategies. In case when the respondents do not use the same simplification strategies in real-life choice situation, this situation can lead to the results that will not reflect true importance each attribute has during the decision-making process.

The base CBC system lets you measure up to 15 levels for any one attribute (though the Advanced Design Module expands that number to 254 levels per attribute). Most projects will probably involve five or fewer levels per attribute, although attributes such as Brand (or SKUs reflecting brand x package combinations) may easily require many more levels for the purposes of a project. For typical CBC studies, it is usually better to have fewer levels on which attributes are described, along with approximate balance in the number of levels across attributes. With packaged-goods and beverage research, it may be reflective of real-world conditions to include dozens of levels to reflect brand or brand x package size combinations, but considerably fewer levels for variations in price.

#### 3.2.1.3. Number of Tasks in CBC

Choice sets represent predetermined offerings that vary between attribute levels (Hensher et al., 2001). The number of choice tasks that are included in the survey has a significant effect on both accuracy of the results and the cognitive load on the respondent. The number of tasks should be sufficient to guarantee reliable results, but not large enough to make it too hard for the respondent to finish the survey.

In a meta-analysis of 21 CBC data sets Johnson and Orme (1996) found that multiple observations per respondent are quite valuable and that respondents could reliably answer up to at least 20 questions, and perhaps even more. The scholars also uncovered that the ways respondents process earlier and later tasks are different. For

example, brand seemed to play a higher role during the first tasks while price would assume more weight in later questions.

Over the last five years, other researchers have tried to determine the most effective number of choice tasks. It was suggested that Internet and panel respondents seem to be less patient and diligent with long CBC surveys involving many attributes. They are more likely to resort to simplification heuristics earlier in the process in order to go through complex CBC tasks. Additionally, it was found that responses beyond about the tenth task don't seem to be revealing much more about each respondent's choice process. The conclusion was that fewer than twelve tasks are preferred, even if the number of attributes is high. Increasing the sample size was found to be a more effective solution to the problem of the large number of attributes (Sawtooth Software, 2013).

The smallest number of choice tasks in the set is determined by the number of degrees of freedom that is needed to estimate all implied main effects (Hensher et al., 2001). Still, the number of choice tasks can be reduced (Kuhfeld et al., 1994). Sawtooth software also states that with web-based surveys, fewer tasks can be sufficient when there is a possibility of larger sample sizes. In case of CBC Sawtooth recommends that by incorporating at least 6 choice tasks, it is possible to achieve good results based on simulated shares. However, in order to achieve robust predictions at the individual level, 10 or more choice tasks are advisable.

# 4. Development of the research instrument

Chapter 4 is dedicated to the process of the development of the research instrument that was used to reach objectives of this study. The process is divided into the following steps.

In order to achieve the first objective of the study – identification of factors that play role during the selection of external accounting services, a series of expert interviews were carried out. Selection of experts, and preparation, execution and analysis of the results of the expert interviews are described in section 4.1 of this chapter.

After the initial factors were identified, the next step was to start the preparation of the quantitative research instrument – full profile choice-based conjoint survey. During this stage the factors identified during the expert interviews were converted into decision criteria that were easy to measure. Each decision criterion was assigned three levels to describe the state of the criterion within a profile. The decision criteria and assigned levels were validated through another round of expert interviews, and some changes were made. Definition of criteria and levels for the full profile choice-based conjoint survey is covered in section 4.2.

Section 4.3 is dedicated to the formulation of background question that preceded the choice-based conjoint questions. Background questions were used in order to obtain more granular understanding about the respondents and the types of companies they represent.

Finally, the survey instrument was developed within the Sawtooth software. The number of the choice tasks, the order of criteria within profiles, rules for profile display were defined. The survey was tested with several respondents that led to one criteria being replaced. After that the survey was sent to the sample of companies. The development of the survey within Sawtooth software is described in more detail in section 4.4.

## 4.1. Expert interviews

### *4.1.1. Selection of experts*

In order to identify the list of criteria that plays role in the selection of accounting service provider, interviews with industry experts were carried out. Experts were chosen based on their experience in the field of accounting and accounting software. The assumption was that with a long experience of working with SME clients, interviewees would be able to name those aspects that played major roles during the decision-making process.

Four experts were invited for an interview. They were Samuli Saviala (Accounting Consultant at Tilitoimisto EMU), Vuokko Mäkinen (CEO at Hawcon and chairman at Taloushallintoliitto), Tuomas Tahvanainen (Partner and Chairman at Leppävaaran Laskenta Oy), and Lauri Lehtonen (CTO at Procountor).

### *4.1.2. Interview structure and interview results*

The first question given to experts was to determine whether SMEs make separate evaluations regarding selection of the accounting firm and software or they treat the problem as a bundle selection (both accountant and software are considered at the same time). The second question was to name quantitative and qualitative selection criteria. Finally, experts were asked to describe the selection process. In addition to these, experts discussed various issues in conversation, such as accounting outsourcing in general and interest towards cloud software among both accountants and SMEs.

Each expert separately concluded that the problem was a bundle selection. Hence, criteria that relates to accounting firm and criteria that relates to accounting software would be evaluated during the same decision. This meant that a single conjoint survey was required and that the number of criteria would be limited to cognitive ability of an average respondent. After the initial round of interviews 16 distinctive criteria relating primarily to accounting firm part of the selection problem selection and 15 distinctive criteria for software part of the selection problem were identified. All criteria are presented in Table 4.1.

| V. Mäkinen | L. Lehtonen | S. Saviala | T. Tahvanainen |
|---|---|---|---|
| Specialization | Proximity (old way) | Pricing | Trust |
| Quality | Cloud capabilities | Quality of service | Software options |
| Size | Software options | Fit to industry | Cost |
| Personal relationship | Cost of service | Value-adding services | Partnership |
| Service co-creation | Size | Service co-creation | Service development |
| Price | Word-of-mouth | Software fit | Compatible APIs |
| Internationalization | Fit to business | Features/ functionality | Cloud capabilities |
| Cloud capabilities | Look and feel | User interface | User interface |
| Specialization | Reliability | Software architecture | Access authorization |
| Mobile access | Cost | Software brand | Mobility |
| Customization | Features | | |
| APIs | | | |
| Easy-to-use/ Productivity | | | |

*Table 4.1 Results of the first round of expert interviews – criteria that affects the affects the choice of an accounting service provider*

## 4.2. Definition of selection criteria and levels for the CBC survey

The next step of the process was to converge all criteria that were obtained through expert interviews into a list of attributes that would be used for the full-profile conjoint survey. After analyzing all the criteria, eight preliminary attributes emerged. In order to present survey respondents with different service provider profiles described by the same set of attributes, attribute levels needed to be defined.

After the analysis of the first round of interviews, eight attributes emerged. They were (1) overall service price, (2) trust, (3) competence of the accountant, (4) offering fit, (5) service development, (6) software usability, (7) software fit, and (8) cloud functionality. Based on the discussions with the experts regarding why certain factors are important, the attribute levels were also defined.

The attribute levels in this study were ordinal, meaning that the attractiveness of levels was expected to increase from Level 1 to Level 2 to Level 3. For some attributes, Level 2 was the starting point, an average value. Such attributes were Overall service price and Software usability. For other attributes, the levels started with a presumably lowest acceptable value at Level 1, which means that Level 1 would not contain something that would be completely unappealing, e.g. bad customer references. Level 2 would have the value that is an improvement over Level 1, and Level 3 would describe the most attractive option that is realistically available in the market. The attributes and attribute levels defined at this stage are presented in the table 4.2.

| | Attributes | Level 1 | Level 2 | Level 3 |
|---|---|---|---|---|
| 1 | Overall service price | Market Average - 10% | Market Average | Market Average + 10% |
| 2 | Trust | Negative feeling | No strong feeling | Confident feeling |
| 3 | Competence of the accountant | Below market average | Average | Above market average |
| 4 | Offering fit | Weak fit | Moderate fit | Strong fit |
| 5 | Service Development* | Does not develop the service | If requested | Proactively |
| 6 | Software usability** | Slow and difficult-to-use | Average usability | Quick and easy-to-use |
| 7 | Software fit | Difficult to integrate | (?) | Easy to integrate |
| 8 | Cloud functionality | Limited data access capabilities | Moderate data access capabilities | All required data access capabilities |

*Table 4.2 Initial set of attributes and attribute levels*

The second round of interviews with experts was carried out. The experts were presented with the attributes and attribute levels (Table 4.2). The goal of the interviews was to iterate the attributes and attribute levels before proceeding with the survey. Another goal was to define background questions that would be asked from the respondents before the choice-based conjoint tasks.

The experts were asked to express their thoughts about whether the attributes and attribute levels give an accurate representation of possible alternatives a customer would face in the marketplace. Below, the interview results for each of the eight initial attribute and attribute levels are presented and analyzed.

**Attribute 1 – overall service price** The first attribute in the list is overall service price. The attribute level 2 is defined as market average. Level 1 is defined as a market average minus 10% and level 3 as market average plus 10%. The overall service price includes the bundle of the services provided by the accounting firm and the cost of using the accounting software. The reasons behind combining the two into the same bundle were discussed earlier. The choice of a market average as a basis for the attribute levels stems from the expectation that respondents would represent companies of different sizes, from different sectors, at different stages of development. Different companies have different needs when it comes to accounting. Some only need basic bookkeeping while others may expect consultative service. Setting a concrete price points at attribute levels would not be effective since the same price can be considered cheap by one respondent and expensive by the other, depending on what level of service they seek.

Market average eliminates this problem since, when comparing offers for the same types of services, companies will identify offers at different price levels – some will be priced cheaper while other will be more expensive. There will also be at the average level. Choosing among these attribute levels will revel price sensitivity of a company, regardless of what scope of services it seeks. At the same time, asking a background question before the conjoint task, about what types of service a company is looking for would allow to examine how price sensitivity changes depending on the scope of service sought.

Commenting on the attribute and the attribute levels, all experts agreed that using the market average price was the right choice. Where the expert opinions varied was the margin by which the price would deviate from the market average for levels one and three. All agreed that the exact price range is very hard to estimate and that 10% was a good value. At the same time, three experts expressed concerns that 10% might be quite insignificant for testing price sensitivity. Setting the margin at 15% was advised.

**Attribute 2 – Trust** The second attribute in the list was trust. The issue of trust was highlighted in all initial expert interviews as an important factor during the decision making processes as it signifies the feeling confidence about the accountant. Another factor that makes the issue of trust stand out is the fact that most companies look for a long-term partner when choosing an accountant.

While wording of the attribute was straightforward and the meaning of it was expected to be rather clear to the respondents, the attribute levels proved to be a challenge. The initial attribute levels were defined as (from Level 1 to Level 3) negative feeling, neutral feeling and confident feeling. The main challenge was the fact that the attribute and attribute levels were not linked to anything tangible, a proxy that could establish the level of perceived trust.

During the interviews the experts were asked to propose a good proxy for assessing the trust. All experts pointed out customer references as a good basis for creating the feeling of trust. The lowest level in their opinion is the absence of references. Public references are an improvement and provide a potential client with opinion of the current clients of the accounting firm. References from the personal network were named as the ones that contribute the most to the creation of trust. Another comment was that the prop0sed level 1, which stated *negative feeling*, was not meaningful as in their opinion, no one would partner with an accountant when there is no trust.

As a result of the discussions with the experts the levels were redefined. The new levels for the attribute were: Level 1: no references, Level 2: public references, Level 3: personal references. The attribute itself was renamed accordingly into Customer references. This way, the attribute and attribute levels were clear and were measured with the help of a tangible thing, which is consistent with the recommendations regarding the formulation of attribute levels for the CBC (Orme, 2002).

**Attribute 3 – Competence of the accountant** The third attribute in the list is Competence of the accountant. The attribute is once again rather abstract hard to measure. Such factors as experience, knowledge of certain industries, age, number of clients, certification came into discussion. The experts were presented with three predefined attribute levels – Level 1: below market average, Level 2: market average, Level 3: Above market average.

While the concept of a market average was well-justified in case of the overall service price, the experts did not consider it as the best way to define the competence of the accountant. Three experts thought that a certification would be the best way to evaluate the competence of the accountant.

One expert spoke instead of using the scope of services provided by the accountant. Proposed levels would be Level 1: Basic obligatory tasks, Level 2: Obligatory tasks plus handling of ongoing processes (payroll, travel expenses, receivables, etc.), Level 3: Full package with CFO function, business understanding and partnership model. The main argument against the use of certification was that in the experience of the expert, it was not always asked during the negotiation process, that not all companies know about it, and that it is not compulsory to have.

There are two critiques of the suggestion to define levels based on the scope of services provided. Firstly, if the ordinal approach is taken, then handling of basic accounting tasks can be considered more advanced than handling ongoing processes such as handling invoices. Secondly, the fact that an accountant takes on more advanced processes, does not indicate the level of competence the accountant possesses in handling these tasks.

Other experts all suggested certification as a good way to approximate the competence of the accountant. Since there is no legal requirement for an accountant to be certified, the basic level suggested by experts was an accounting firm with no certification. At the second level an accounting firm would be certified. At the third level an accounting firm would be certified and have a bigger number of certified accountants. Since it effectively meant that the certification was recommended as the proxy for the competence, the attribute name was changed from the Competence of the accountant into Certification.

**Attribute 4 – Offering fit** The fourth attribute that resulted from the initial round of expert interviews was Offering fit. Offering fit incorporated such factors as specialization of the accountant and the software, customization and flexibility of service. An important remark is that unlike the next attribute, Service development, Offering fit refers to the situation at the present moment, i.e. how the service offered by the accounting service provider satisfies the current needs of the client. The levels

defined before the second round of expert interviews were: Level 1: Weak fit, Level 2: Moderate fit, Level 3: Strong fit.

During the discussions the experts were highly critical of the attribute and the levels. Firstly, Level 1: Weak fit was deemed to be inappropriate since no one would choose such a service. Moderate fit was considered to be the absolute minimum acceptable level by all the experts.

Another aspect that was highlighted by every expert is the link between the offering fit today and in the future. Each expert independently thought that the future development of the service and the offering fit at the moment of negotiation are typically considered in connection with each other.

During the interviews different propositions regarding attribute levels were made. Firstly, it was suggested to estimate offering fit in percentage values. At Level 3 the service would cover 100%, while at Level 1 the minimum acceptable share of needs would be covered. The share of needs covered by the service at Level two would be the average between Level 1 and Level 3 values. The lowest acceptable share of the required services covered was identified at 70%. At the same time, each expert suggested integrating service development into the attribute levels. Example of three service levels would be Level 1: Moderate fit for the current needs (proactive service development is unlikely), Level 2: Strong fit with service development if requested, Level 3: Strong fit with proactive service development.

While integrating service development into the attribute levels for offering fit might be logical, it would make the overall survey weaker. One of the recommendations for formulating attributes and attribute levels is to make them independent and mutually exclusive. Offering fit today and service development may not necessarily go hand in hand. Different accounting companies can both provide the range of services that fully satisfy the client needs today but the service development capabilities may vary – one may proactively develop the service going forward, and the other one not. Including all possible combinations would require many attribute levels, which would weaken the survey (the implications of a large number of attribute levels within a single attribute are describe earlier in the chapter).

Hence, after reviewing all suggestions, the attribute levels were changed to reflect the share of required service covered. Once again, levels would be appropriate for different types of respondents – the ones that only require basic services that would cover legal accounting obligations, and for those who need more advanced accounting services. Including a background question before the conjoint task asking what types of accounting services a company requires would provide interesting insight about the level of service fit expected by companies with different accounting needs.

The resulting levels were: Level 1: 70% of needs covered, Level 2: 85% of needs covered, Level 3: 100% of needs covered. In order to make the attribute clearer to the respondents, the attribute was renamed into Range of services covered.

**Attribute 5 – Service development** The fifth attribute, Service development, was discussed together with the previous attribute, Offering fit, and combination of two attributes was considered. However, the decision was to leave Service development as a separate attribute. Service development is about cooperation between the SME and the accountant along their business relationship to ensure that the accounting firm is able to satisfy accounting needs of its client, as those needs evolve.

Suggested attribute levels were taking from the 2011 study made by Niko Myllynen that investigated selection criteria when choosing e-invoicing provider with a similar setup but made in the context of e-invoicing solutions. The levels were: Level 1: Does not develop the service, Level 2: If requested, Level 3: Proactively.

Experts' opinion about the attributes and attribute levels were positive. Some suggested a combination with Offering fit, if possible (which was decided against as explained previously).

**Attribute 6 – Software usability** The following three attributes are related to the accounting information systems component of the service bundle. During the initial round of interviews the experts named user interface, look and feel, easiness of use of the AIS as factors that influence the selection of the accounting service bundle. Combining these factors together resulted in the Software usability attribute.

The attribute is also found in from the 2011 study made by Myllynen (Myllynen, 2011) that investigated selection criteria when choosing e-invoicing provider.

Preliminary attribute levels were taken from the paper and were: Level 1: Slow and difficult to use, Level 2: Average usability, Level 3: Quick and easy to use.

Reviewing the attribute and attribute levels, the experts have commented that easiness-of-use and speed go hand in hand, and that the levels cover the differences among software well, in the usability context. There was a suggestion to add integration capabilities to the attribute levels. However, as in the case with the offering fit attribute, addition of a new factor to the attribute levels would increase the number of attribute levels within the attribute, which could diminish the quality of the results.

**Attribute 7 – Software fit** The next AIS-related attribute that was formulated based on the initial interview is software fit. Only two attribute levels were formulated – Level 1: Difficult to integrate, Level 2: Easy to integrate.

During the discussion about the attribute levels with the experts the following issues were raised: software functions, integrations options, and future fit. The idea was that software fit could be assessed through defining how well it integrates with other information systems such as banking systems, e-invoicing, government reporting connectivity, existing ERPs, etc. Another suggested way to approach software fit was to look at the availability of required functions – based on the current needs and expected future needs (e.g. flexibility in software configuration). However, similarly to the previously discussed Offering fit attribute, combination of the present and future fit of software was not feasible as it would require defining an attribute level for each possible combination.

Suggested attribute levels for integration were Level 1: no integration, Level 2: Possibility of integration with banking systems, Level 3: Advanced APIs in the software that allow easy integration with other information systems in use.

**Attribute 8 – Cloud functionality** The last attribute presented to experts for review was Cloud functionality. The levels were defined the following way: Level 1: Limited data access capabilities, Level 2: moderate data access capabilities, Level 3: All required data access capabilities.

During the discussion of this particular attribute, experts proposed a multitude of factors to consider. They were: cloud-based remote access, uninterrupted accessibility, opportunity to restrict access to certain data to users, support of different platforms, and usage of the same platform by the accountant and the client.

Commenting on the issues of tablets, the expert expressed an opinion that tablets were at that moment used at entertainment media level but not yet for business use. An inclusion of a background question asking respondents whether they can access data remotely was recommended.

Taking into account expert recommendations it was decided to focus on the way the data is accessed. Level 1: No access, Level 2: Desktop access to data, Level 3: Access from different devices.

| | Attributes | Level 1 | Level 2 | Level 3 |
|---|---|---|---|---|
| 1 | Service package price | Market Average - 15% | Market Average | Market Average + 15% |
| 2 | Customer references | No references | Public references | Personal references |
| 3 | Accountant certification | Not certified | Certified accounting firm | Certified firm with a higher number of KLT-certified accountants |
| 4 | Range of services covered | 70% of needs covered | 85% of needs covered | 100% of needs covered |
| 5 | Service Development | Does not develop the service | If requested | Proactively |
| 6 | Software usability | Complicated-to-use | Average usability | Easy-to-use |
| 7 | Software accessibility | Software is not accessible | Software is only available at the office PC | Easily available via various devices |

*Table 4.3 Iterated set of attributes and attribute levels after the second round of expert interviews*

## 4.3. Formulation of background questions

Background questions are an important part of the survey. The respondents were expected to represent different types of companies. Companies could differ based on many variables – revenue size, number of employees, types of customers served, type of business, etc. The respondents themselves were expected to have different profiles in terms of their knowledge of accounting and experience in making business process outsourcing decisions and vendor selection. Comparison of the results of the discrete choice experiment against the different characteristics of the respondents identified through the background questions would provide an insight into what different types of companies prioritized when the select an external provider of accounting services.

The list of questions covers general characteristics of the company, experience of the respondent in accounting and making outsourcing decisions, types of accounting services used by the company, and the ways the company can currently access to financial accounting data. The full list of 15 background questions and answer options is presented below and the rationale behind the inclusion of each question is explained.

The sections 4.4 and 4.5 provide the lists of questions dedicated to respondent and to the companies that respondents represent respectively. Commentary regarding the rational behind the questions and importance of some questions is provided. Full list of questions and response options is provided in Appendix 2.

| | |
|---|---|
| Question 1 | What is your role at the company? |
| Question 10 | When did you last select an accounting firm? |
| Question 11 | How many times have you chosen an accounting firm in the past? |
| Question 12 | When did you last select an accounting software? |
| Question 13 | How many times have you chosen an AIS in the past? |
| Question 15 | How would you assess your own expertise in accounting? |

*Table 4.4 Background questions regarding the respondent*

Together these questions allow understanding the level of expertise a respondent has regarding the subject. Identifying different respondent profiles would allow investigating whether respondents with or without accounting knowledge, experience and no experience in choosing an accounting firm or an accounting software prioritize different factors when selecting an accounting service provider. It is also interesting to

see whether the role of the respondent within the company has influence on the decision-making.

| | |
|---|---|
| Question 2 | The number of employees |
| Question 3 | Annual turnover |
| Question 4 | Number of sales invoices (monthly, on average) |
| Question 5 | Number of purchase invoices (monthly, on average) |
| Question 6 | Type of company |
| Question 7 | Main customer segment |
| Question 8 | Types of services used |
| Question 9 | Usage of external auditor |
| Question 14 | Possibility to access accounting software through a web browser |

*Table 4.5 Background questions regarding SMEs represented by a respondent*

The questions above provide a comprehensive understanding of the company represented by a respondent. For example, it is interesting to see whether there are differences among the companies who serve primarily public sector versus those who focus on consumer market. Does the usage of an external auditor have an effect? One of the key questions in the list is Question 8, which asks respondents to mark the accounting services currently in use by the company. This provides an insight about whether the company uses only the basic accounting services, or more value-adding services as well. Question 14, which asks respondents about a possibility to access the accounting information system through a web browser, is another question of special interest. The question helps to understand whether the company uses cloud-based accounting information systems already.

## 4.4. Configuration of the survey in Sawtooth Software

Following the first iteration of the attributes and attribute levels, the survey instrument was constructed using Sawtooth Software, which has been widely used in both business and academic applications and is seen as an enabler in applying conjoint models. Thousands of applications of conjoint analysis have been done in various fields since the introduction of the technique.

In addition to full-profile CBC, the survey included a set of background questions. These questions preceded the choice tasks and were placed with one page. All questions were compulsory to answer. Most questions allowed only one response option to be selected. Only two questions permitted selection of more than one response option.

The full-profile CBC part consisted of ten choice tasks where a respondent had to pick among three generated profiles. The recommendation is to include 8 to 15 choice tasks (Sawtooth Software, 2013). The smallest number of choice tasks in the set is determined by the number of degrees of freedom that is needed to estimate all implied main effects (Hensher et al., 2001). Degrees of freedom equal to the number of estimated parameters. The number of estimated parameters in this study is 14, which comes from the total number of levels across all attributes minus the number of attributes. This means that 14 choice tasks should be included in the design. Still, the number of choice tasks can be reduced (Kuhfeld et al., 1994). Sawtooth software also states that with web-based surveys, fewer tasks can be sufficient when there is a possibility of larger sample sizes. In case of CBC Sawtooth recommends that by incorporating at least 6 choice tasks, it is possible to achieve good results based on simulated shares. However, in order to achieve robust predictions at the individual level, 10 or more choice tasks are advisable.

The choice tasks were configured in a way that the Overall service price attribute was placed fifth. This was done in order to avoid making the price attribute stand out and bias the respondents. The first four attributes were configured in a way that different respondents would see them in a different order. For a single respondent the order of the attributes would be the same throughout the survey. Attribute levels were configured in a way that allowed the same attribute level appear in two different profiles within one choice task.

Since the main idea of this exercise is to imitate a real-life situation when decision-makers have to do trade-offs when making a choice. For this reason the random task generation was done via Balanced Overlap. This means that within a choice task, same attribute levels may appear for some profiles. This is done to help to prevent a respondent from selecting profiles based on a critical attribute level that is most appealing. If that would happen, it would be very hard to learn about the respondent's preferences beyond that level.

In order to ease the cognitive load on the respondent, two progress pages were inserted among the choice tasks. The progress pages reported the number of choice tasks remaining. A couple of factors specific to this particular situation were thought to reduce the chance of simplification strategies. They were the fact that the problem

was very expertise-specific and the respondents were thought to be knowledgeable about the set-up, and the fact that the results of the study could potentially lead to improvements in the services provided to the respondents.

Additionally, two factors were expected to increase motivation to respond to the questionnaire. Firstly, the link to the study was sent by Suomen Yrittäjät to the sample of companies that was comprised of the association members along with a text explaining how the results of the study will be used to develop accounting service offerings on the market. Secondly, respondents were given an option of providing their email at the end of the survey if they wanted to receive the results of the study.

### *4.4.1. Trial test of the online survey and a change of attribute*

The trial test was performed with three users. Each user completed the survey fully and provided feedback regarding the process. One user was familiar with the conjoint survey and the other two were not.

The general feedback was positive – the choice task was clear and easy to complete. Two testers expressed criticism of one attribute – Range of services covered. The attribute and attribute levels were unclear. It was hard for the respondents to visualize what an attribute level such as "70% of services covered" would mean. Hence, it was decided to eliminate the *Range of services covered* attribute. In order to find a potential replacement, expert discussions and theory were reviewed once again. One subject that was raised during the interviews was the shift towards automation of services, better access to data in real time, and the shift in the role of the accountant towards the one of a consultant. As a result, a new attribute was proposed – *Level of personal service*. Assigning ordinal attribute levels, Level 1 would constitute the basic level – no personal interaction, the accountant covers pre-agreed services. Levels 2 and 3 were formulated with the help of experts. At Level 2, the accountant would provide a small amount of personal counselling service per months, and at Level 3, the accountant would be proactive and provide consultation whenever there is a need for it.

The design was randomized meaning that each respondent was shown a different version of the survey. This means that the generated profiles differed from respondent to respondent. Additionally, it was decided to place the price attribute between the

attributes that relate to the accounting firm and the attributes that relate to the accounting software. The order of the attributes that came before the price attribute was also randomized. The purpose of randomization is to achieve a near-orthogonal design, which helps to eliminate biases that may result from order and learning effects that are present in fixed designs (Sawtooth Software, 2013). As a result of the second and final iteration based on the feedback received after the test survey, the final set of attributes and attribute levels is summarized in the Table 7.5.1.

| | Attributes | Level 1 | Level 2 | Level 3 |
|---|---|---|---|---|
| 1 | Service package price | Market Average - 15% | Market Average | Market Average + 15% |
| 2 | Customer references | No references | Public references | Personal references |
| 3 | Accountant certification | Not certified | Certified accounting firm | Certified firm with a higher number of KLT-certified accountants |
| 4 | Level of personal service | No personal interaction, accountant covers pre-agreed services | The agreement includes a small amount of personal counseling service | Accountant is always in touch when he can provide valuable advise |
| 5 | Service Development | Does not develop the service | If requested | Proactively |
| 6 | Software usability | Complicated-to-use | Average usability | Easy-to-use |
| 7 | Software accessibility | Software is not accessible | Software is only available at the office PC | Easily available via various devices |

*Table 4.6 Final set of attributes and attribute levels after the second round of expert interviews*

# 5. Results of the empirical study

The survey was open for one month. After initial invitation to participate in the survey, two reminders were sent. After the survey was completed, the results were analyzed for validity. The results were of high quality and only a few respondents spent a very short time on completing the survey. It was decided to not exclude any responses from the sample. The total number of completed respondents was 165, which added up to 1650 observations.

## 5.1. Sample description

The choice-based conjoint part of the survey was preceded by 15 background questions. Answers to these questions allow detailed description of the sample. Based on the results of the background questions, the majority of respondents represented companies of less than 10 employees (82% of respondents), with an annual turnover of less than 2 million Euros (87% of respondents). Only 2% of respondents represented companies with 50 employees or more, and with a turnover of 11 million Euros or more. The employee counts and turnover ranges are based on the official classification of SMEs in the European Union. 95% of respondents represent companies with no more than 500 sales or purchase invoices per month. Speaking about the type of business, the respondents were asked to indicate whether their company is engaged in manufacturing, services, retail, or other type of business. Respondents could pick several options in cases when more than two answers apply. The majority of companies (59%) provide services. For 59% of companies represented in the sample, the focus is on corporate customers, followed by 30% that target primarily consumer customers. Only for 12% of companies the primary target market is public sector.

Speaking about the scope of outsourcing of accounting processes, the majority of respondents indicated that the companies they represent use external accountants for basic accounting services (80%) and seasonal and end-of-year reporting, e.g. tax returns and financial statements (81%). 70% of companies use the services of an external auditor. The next most popular services purchased from external accountants are payroll management (47%) and advisory and consulting services, incl. tax consulting (37%). Least of all SMEs in the survey outsource budgeting and and related cash flow projections service (8%). 16% of SMEs in the survey do not use

services of an external accountant.

In addition to questions that describe the company that respondents of the survey represent, several questions were asked about respondents own characteristics. Thus, 75% of respondents were company owners, 11% were managing directors, and only 2% were accountants. 42% and 28% of the respondents consider their expertise in accounting satisfactory and good respectively. Only 1% of the respondents declared no knowledge of accounting. 44% of the respondents have chosen an external accounting firm during the past 5 years, and 37% have selected accounting software during the same time span. While only 20% have never chosen an accounting firm before, 47% have not selected accounting software in the past. 44% and 31% of respondents have chosen accounting firm and software more than once in the past, respectively.

A special question was asked to determine whether the company is already using cloud-based accounting software. The respondents were asked whether they could access software through the web browser. 36% of respondents could do so, 4% were not sure, and 59% could not. The detailed results of the background questions are presented in the Table 8.1.1 below.

## 5.2. Individual criteria utilities

After identifying the criteria that plays role in the selection of an accounting service provider and ranking these criteria, it is interesting to look at differences between utilities associated with levels of individual criteria. The following section is dedicated to computation of these utilities (part-worths), interpretation and discussion of the results.

### *5.2.1. Computation of individual utilities*

In order to measure relative desirability (worth) part-worth utilities were calculated. Part-worth utilities for attribute levels were calculated as a maximum likelihood solution through a specific pooled, aggregate multinomial logit model. Average utilities (part-worths) for attribute levels are presented in the table below. The values are not comparable across different attributes.

Within each attribute the sum of average utilities of the attribute levels equals 0.

Levels that have high positive average utilities increased the likelihood of respondents selecting the products. Negative average utilities of levels do not mean that the level is undesirable to respondents, but only that it is less desirable than other levels within the attribute that have higher average utilities.

| Average Utilities (Zero-Centered Diffs) | | Avg. Utilities | St. Dev |
|---|---|---|---|
| Attribute 1: Customer references | | | |
| L 1 | No references | -24,5359 | 24,81 |
| L 2 | Public references | 6,7655 | 21,93 |
| L 3 | Personal references | 17,7703 | 23,72 |
| Attribute 2: Accountant's certification | | | |
| L 1 | Not certified | -39,0757 | 51,99 |
| L 2 | Certified accounting firm | 10,2116 | 36,45 |
| L 3 | Certified firm with a higher number of KLT-certified accountants | 28,8641 | 37,93 |
| Attribute 3: Level of personal service | | | |
| L 1 | No personal interaction, accountant covers pre-agreed services | -41,1121 | 40,44 |
| L 2 | The agreement includes a small amount of personal counseling service | 21,5526 | 24,64 |
| L 3 | Accountant is always in touch when he can provide valuable advice | 19,5595 | 45,58 |
| Attribute 4: Service development | | | |
| L 1 | Does not develop the service | -34,4453 | 27,21 |
| L 2 | If requested | 12,1519 | 27,49 |
| L 3 | Proactively | 22,2933 | 29,07 |
| Attribute 5: Service package price | | | |
| L 1 | Market average + 15% | -40,6275 | 37,37 |
| L 2 | Market average | 11,3714 | 33,29 |
| L 3 | Market average - 15% | 29,2561 | 28,96 |
| Attribute 6: Software usability | | | |
| L 1 | Complicated-to-use | -60,3014 | 32,39 |
| L 2 | Average usability | 18,0507 | 27,14 |
| L 3 | Easy-to-use | 42,2507 | 32,61 |
| Attribute 7: Software accessibility | | | |
| L 1 | Software is not accessible | -71,4426 | 45,43 |
| L 2 | Software is only available at office PC | 22,6060 | 33,91 |
| L 3 | Easily available via various devices | 48,8366 | 47,39 |

*Table 5.1 Resulting part-worths of attribute levels*

The resulting part-worths of attribute levels show that in most cases the utility increased from Level 1 to Level 3. The only exception is the case of Attribute 3: Level of personal service. For this attribute, Level 2 had a slightly higher positive utility than Level 3. Level 2 gave provided respondents with a service agreement that

includes a small amount of personal counseling services and Level 3 described a service where an accountant is proactively getting in touch with the client when he feels that he can provide valuable advice (see Table 5.2).

### *5.2.2. Attribute importance*

In addition to calculating individual criteria utilities for attribute levels, relative importance of the attributes was also determined. Relative importance of attributes is derived from the range of the attribute, i.e. the difference between the lowest and the highest utility level of an attribute. The ranges are weighted in a way that the resulting ratios add up to 100%. The ratios can be compared in a way that an attribute with an importance of, for example, 30% is twice as important as an attribute with the relative importance of 15%. Through identification of the relative importance of attributes, the second goal of the study is achieved – the criteria that play role in the choice of an external service provider are ranked according to their importance during the decision making process. Figure 5.3 showcases the seven criteria in the order from most important to least important.

| | Attribute | Average Importance | St. Dev. |
|---|---|---|---|
| 1 | Customer references | 8,84% | 4,28 |
| 2 | Accountant's certification | 15,13% | 7,95 |
| 3 | Level of personal service | 14,15% | 7,56 |
| 4 | Service development | 11,22% | 5,42 |
| 5 | Service package price | 13,30% | 6,37 |
| 6 | Software usability | 16,59% | 6,69 |
| 7 | Software accessibility | 20,77% | 8,82 |
| | | 100% | |

*Table 5.2 Relative importance of attributes*

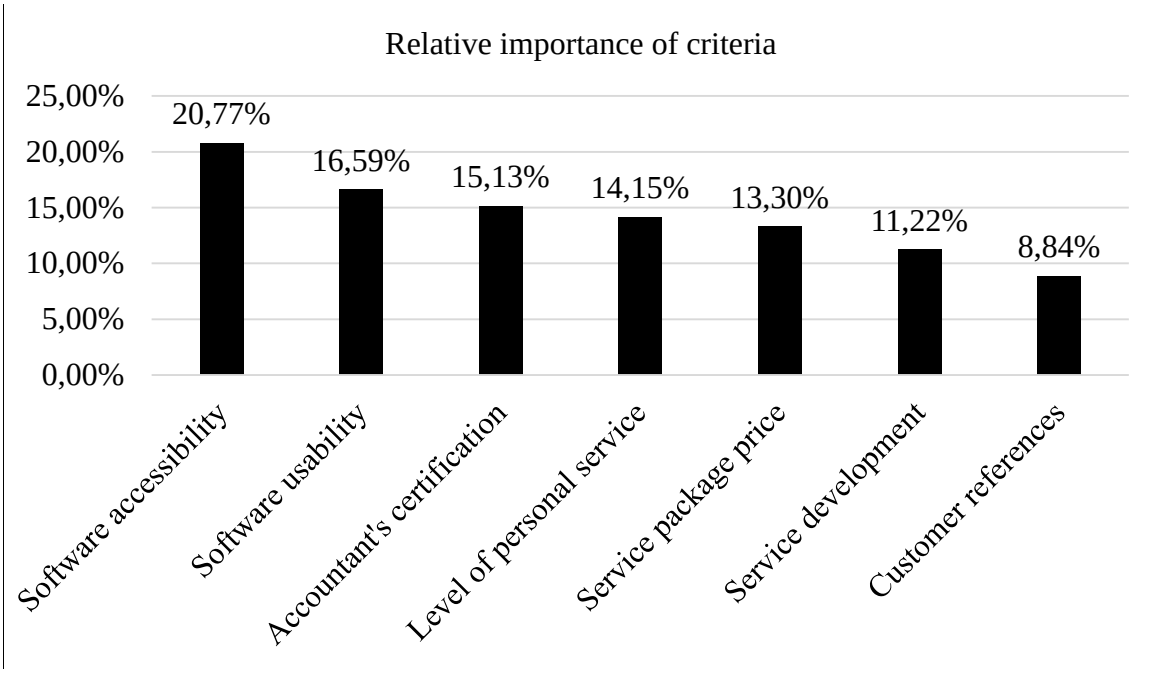


*Figure 5.3 Relative importance of attributes*

The results show that all of the criteria played significant role during the selection of profiles. Such results are remarkable, as initially there was a lot of concern in regards to the cognitive ability of respondents to focus during the survey and review the profiles before selecting the most preferred one. There was a risk that respondents will pick immediately several key criteria and pay attention only to them throughout the survey.

The two highest ranked criteria are the two criteria that concerns software: software accessibility (20.77%) and software usability (16.59%). Accountant's certification and level of personal service are rank third and forth with 15.13% and 14.15% respectively. The price of the service package (accounting firm plus accounting software) ranked as the fifth most important criteria overall explaining 13.3% of the decision. Service development and customer references ranked sixths and sevenths in importance and explained 11.22% and 8.84% of the decision, respectively.

In addition to looking at attribute importances for the whole sample, I looked at the attribute importances for different subgroups. The results for each subgroup can be seen in Appendix 3. Subgroups are determined based on the answers to background questions. The results show that there are no significant differences across the subgroups, the two attributes related to the software part of the service bundle,

consistently ranked as the most important attributes. The groups with significantly different relative importances of attributes typically have too few respondents to be comparable with the other subgroups.

However, some findings regarding the differences in relative importances of attributes across subgroups can be pointed out. Below I present summary tables for the subgroups based on the following background questions: possibility to access accounting software, number of times a respondent have chosen an accounting firm in the past, number of time a respondent have chosen an accounting software in the past, self-assessed knowledge of accounting, and the types of accounting services used by the firm.

For companies that already have access to the accounting information system software accessibility has a bigger effect on the decision making process than it does for companies that do not have such access. For the companies that have access to accounting software, accounting office certification is almost equal in importance to the software usability. Seven companies that did not know whether they have such access are excluded from the table below due to the small size of the subgroup, but can be found in Appendix 3.

| | | Access to software | |
|---|---|---|---|
| | Total | Yes | No |
| Number of respondents | 165 | 60 | 98 |
| Software accessibility | 20,77% | 23,53% | 18,95% |
| Software usability | 16,59% | 16,51% | 16,90% |
| Accounting office certification | 15,13% | 16,07% | 14,82% |
| Level of personal service | 14,15% | 13,78% | 14,34% |
| Service package price | 13,30% | 11,19% | 14,52% |
| Service development | 11,22% | 10,94% | 11,14% |
| Customer references | 8,84% | 7,98% | 9,33% |

*Table 5.4 Relative importance of attributes based on access to software*

The next two tables show the relative importances of attributes for the subgroups based on the number of times respondents have selected accounting firm or software in the past. One interesting finding is that for those respondents who have never selected an accounting firm or accounting software before, the order of attributes by their relative importance is the same (with the exception of the Accounting office

certification being slightly more important than software usability for those who have never selected an accounting firm). Otherwise, the order of attributes based on their effect on the decision-making process fluctuates from one subgroup to another, without any logical pattern, such as, for example, the more times the respondent has selected an accounting firm, the more important accounting office certification is important to that respondent.

| | | # Times have chosen an accounting firm | | | | |
|---|---|---|---|---|---|---|
| | Total | 1 time | 2 times | 3 times | > 3 times | Never |
| Number of respondents | 165 | 57 | 45 | 18 | 12 | 33 |
| Software accessibility | 20,8% | 19,9% | 21,9% | 18,7% | 20,4% | 22,0% |
| Software usability | 16,6% | 17,2% | 17,2% | 13,5% | 17,4% | 16,1% |
| Accounting office certification | 15,1% | 13,9% | 15,7% | 15,4% | 15,4% | 16,2% |
| Level of personal service | 14,2% | 14,1% | 14,0% | 16,8% | 12,4% | 13,8% |
| Service package price | 13,3% | 14,3% | 13,2% | 13,5% | 13,4% | 11,5% |
| Service development | 11,2% | 11,5% | 9,9% | 12,3% | 12,7% | 11,4% |
| Customer references | 8,8% | 9,0% | 8,1% | 9,9% | 8,3% | 9,1% |

*Table 5.5 Relative importance of attributes based on the number of times a respondent has chosen an accounting firm*

| | | # Times have chosen software | | | | |
|---|---|---|---|---|---|---|
| | Total | 1 time | 2 times | 3 times | > 3 times | Never |
| Number of respondents | 165 | 38 | 24 | 10 | 16 | 77 |
| Software accessibility | 20,8% | 19,6% | 23,5% | 21,9% | 21,1% | 20,3% |
| Software usability | 16,6% | 17,7% | 19,0% | 14,9% | 17,1% | 15,4% |
| Accounting office certification | 15,1% | 14,5% | 14,5% | 18,3% | 14,8% | 15,3% |
| Level of personal service | 14,2% | 14,6% | 12,7% | 10,5% | 13,3% | 15,0% |
| Service package price | 13,3% | 13,2% | 12,4% | 10,5% | 12,9% | 14,1% |
| Service development | 11,2% | 11,1% | 10,2% | 14,2% | 12,9% | 10,9% |
| Customer references | 8,8% | 9,3% | 7,6% | 9,6% | 7,9% | 9,1% |

*Table 5.6 Relative importance of attributes based on the number of times a respondent has chosen accounting software*

When looking at the results for respondent subgroups based on the level of accounting knowledge, it is difficult to identify any correlations. One interesting observation is that those respondents who assessed their knowledge of accounting as weak, place the highest importance on software accessibility and accounting office certification.

| | | Accounting knowledge (self-assessed) | | | |
|---|---|---|---|---|---|
| | Total | Excellent | Good | Satisfactory | Weak |
| # of respondents | 165 | 24 | 47 | 70 | 22 |
| Software accessibility | 20,8% | 18,7% | 23,1% | 20,0% | 20,5% |
| Software usability | 16,6% | 17,7% | 17,7% | 16,3% | 14,1% |
| Accounting office certification | 15,1% | 18,1% | 15,7% | 12,8% | 18,7% |
| Level of personal service | 14,2% | 12,7% | 12,6% | 15,5% | 14,0% |
| Service package price | 13,3% | 11,9% | 12,0% | 14,9% | 12,6% |
| Service development | 11,2% | 12,0% | 10,5% | 11,4% | 12,0% |
| Customer references | 8,8% | 9,0% | 8,5% | 9,2% | 8,0% |

*Table 5.7 Relative importance of attributes based respondents' knowledge of accounting*

It was also possible to look at the companies based on the types of accounting services used. Background question number 8 asked respondents to indicate what type of accounting services their company uses. The table below provides relative importances of attributes for 4 types of users of accounting services.

Type 1 users are those companies that use basic accounting services and seasonal/end-of-year reporting (such financial statements and tax returns). Type 2 users are the companies that in addition to the services that are used by Type 1 users also use payroll management services. Type 3 users use all the services used by the users of the second type adding counselling and consulting services (including tax consulting) to the list. Type 4 users, in addition to all the services mentioned before, also use such services as budgeting and cash flow projections. Hence, the value added of the services used is increasing with the Type number. The relative importances of attributes are shown in the table below.

The order of attributes based on their relative importance is similar across most types of users. The only type of users where the order is drastically different is Type 4, the users who use such value adding services as budgeting and cash flow projections. For these users, the top three attributes (in order of relative importance) are accounting service certification, software usability, and software accessibility. The finding that accounting office certification is the the most important attributes can be explained by the high expectations towards the expertise of an accountant. For the Type 3 users, who use counselling and consulting (incl. tax consulting) services, the level of personal service is the third most important attribute. The spike in importance can be

attributed to the importance of personal interaction during consultation sessions.

| | | Types of accounting services used | | | | |
|---|---|---|---|---|---|---|
| | Total | Type 1 | Type 2 | Type 3 | Type 4 | None |
| Number of respondents | 165 | 127 | 74 | 37 | 11 | 26 |
| Software accessibility | 20,8% | 20,3% | 21,4% | 20,0% | 15,6% | 23,0% |
| Software usability | 16,6% | 16,6% | 16,4% | 17,8% | 16,0% | 17,1% |
| Accounting office certification | 15,1% | 14,8% | 14,8% | 14,1% | 17,9% | 16,9% |
| Level of personal service | 14,2% | 14,4% | 14,3% | 15,6% | 14,3% | 12,7% |
| Service package price | 13,3% | 13,9% | 13,0% | 13,2% | 13,5% | 11,1% |
| Service development | 11,2% | 11,0% | 10,8% | 10,2% | 12,9% | 11,3% |
| Customer references | 8,8% | 9,0% | 9,2% | 9,1% | 9,7% | 7,8% |

*Table 5.8 Relative importance of attributes based on the type of accounting services used by SMEs*

## 5.3. Discussion of relative importance results

### *5.3.1. Highest ranking criteria*

For the purposes of this study the selection of an external accounting services provider combined both selection of an accounting firm and selection of accounting software together. In such premise it is remarkable to note that the only two criteria that related to the software component of the decision problem (not including the overall service price, which included the cost of the services of an accounting firm and the costs associated with software) were the most significant criteria in the overall selection.

Such high importance of software-related attributes is a very interesting finding, that signals the high interest of SMEs towards software, cloud, and access to data. Software accessibility and usability are the most important decision criteria across all sub groups of respondents (with only a couple of exceptions, see Appendix 3), regardless of the level of accounting knowledge, experience in selecting accounting software or accounting firm and regardless of the characteristics of the companies (that are covered by background questions) that respondents represent. This means that in the competition for SME clients, software vendors are gaining more and more power. Whoever sells accounting services to SMEs has to make strong emphasis on the ways the data can be accessed and easy-to-use interface. These factors are seen as the source of value by the clients.

The third highest ranking criteria, accountant's certification, signals the high importance that respondents place on the expertise of the accountant. In Finland, both firms and individual accountants can get certified. Certifications are given by the Finnish Association of Financial Accountants (Talloushallintoliito) and both individual accountants and accounting firms can obtain them at a voluntary basis. A substantial increase in utility from Level 2: Certified accounting firm to Level 3: Certified accounting firm with a higher number of KLT-certified accountants means that there is high degree of awareness about and appreciation of accountants who possess a KLT certification.

Level of personal service is the fourth highest-ranked attribute in the list. The results for this attribute are particularly interested in a way that it the only attribute where the utility does not consistently increase from Level 1 to Level 3. While Level 1: No personal interaction, accountant covers pre-agreed services has a very negative utility, which means that such arrangement is not valued by the respondents. However, the utility for Level 2: The agreement includes a small amount of personal counseling service is slightly higher than that of Level 3: Accountant is always in touch when they can provide valuable advice. The difference in the utilities is very small. This indicates that both a pre-agreed amount of time of counselling per months and proactive counselling are valuable propositions to SME clients.

Despite seeing value in receiving counselling and consulting services when compared to not receiving such service, the attribute not one of the most important ones in the decision making process of selecting an accounting service provider. It is important to emphasize that this only concerns the importance of consulting services as a factor influencing the choice of the accounting service. Counselling might indeed be a very important component of the existing relationship between the firm and accountant once, but it does not have the highest influence on the initial choice.

Blackburn et al. (2014) studied the relationship and trust factors in the context of business advice by accountants to SMEs. They have found that in many cases SMEs turn to advice from other sources rather than their accountant, and that in order to be able to sell consulting services to their clients, the accountant first needs to earn the trust by solving some concrete business challenge of the company. Handling of usual accounting tasks and an existing contract for provision of accounting services do not

automatically lead to an SME seeing their accountant as a source of business advice.

In many cases, SMEs are family businesses, or one-person businesses. Livelihood of the owners is very closely tied to the performance of their companies. In many occasions, entrepreneurs establish and run their own companies in order to reach their personal dreams or make a positive impact on the world. In such cases, if an entrepreneur is to ask for business advice, they are likely to ask someone they trust, and someone who has a proven expertise in the subject of interest. Since trust and personal relationships are formed over time, it is understandable why entrepreneurs do not consider consulting as the most important factor when choosing an accountant.

### *5.3.2. Lowest ranking criteria*

Customer references had the smallest effect on the selection, but still explained 8.84% of the decision, which means that the attribute was indeed taken into account when a decision was made. The low rank of the attribute may indicate either that forming trust is not important (or possible) at the stage of selection of an accounting service provider, or that references are not a good proxy for it. Regardless, it seems that customer references are not the argument that will play the biggest role in convincing a potential client to choose a particular service.

Service development is the second least important attribute explaining 11.12% of the decision. One explanation for Service development ranking among the lowest rated attributes could be the situation when most of the companies represented by respondents have not experienced the growth in accounting needs in the past and/or do not anticipate in the future. It might be very difficult to assess what these needs may be. Additionally, in case when at the moment of negotiations, an accounting company does not offer certain services that a a potential client expects to need in the future, it might be simply easier to select a different accounting office. It might be so, that trusting claims by the accounting firm to develop services when they are needed, may be perceived too risky.

Finally, Service package price is ranked as the third least important criterion. Software-related attributes, accountant's certification and level of personal service all have higher relative importance. This means that consumers do not view price as a key point in decision making, and are ready to pay more for the service they want.

# 6. Discussion and Conclusions

The contribution of the Master thesis, in addition to identification of selection criteria that plays role during the choice of an external accounting service provider and ranking of their importance, comes from the insights observed from the research results. Insights of the study are discussed and compared with the findings from the existing literature in section 6.1. Limitations of the study are outlined in section 6.2 and suggestions for future research in the area are proposed in the section 6.3.

## 6.1. Main findings

Results of the study provide further support to conclusions made by previous studies (Weber et al., 1991, Ghodsypour and O'Brien, 1998, Ho et al., 2010, Agarwal et al., 2011) that the choice of an external service provider for business process outsourcing is a decision that is affected by several criteria. In this context, the study makes a valuable contribution by expanding the vendor selection body of literature dedicated to the selection of an of an external accounting service, which is still rather limited (Kamyabi & Devi, 2011a; Brandau & Hoffjan, 2010).

When looking at the identified criteria and their importance, the high level of influence of software-related factors on the service provider selection is evident. This signals high interest of SMEs in being more involved with financial data and be able to access financial information by themselves through electronic means. Such conclusion is in line with past research findings. Everaert et al. (2007) stated that the fact that financial information was not immediately available was a major reason not to outsource accounting to an external provider. Since then, service models based on cloud computing have developed enabling real-time access to accounting information, which made periodic reporting even more outdated and undesirable by clients (Trigo et al., 2014). The results of the study, therefore, indicate that accessibility of accounting data through various devices and easiness of use of software are highly important. These findings should be interesting to consider for both software vendors and accounting firms, when making strategies for future business.

Software usability has been identified as one of the top two considerations when selecting the accounting service provider. This holds true regardless of the

characteristics of the respondent or the company he represents. Such finding is in line with previous research, which identified software usability as one of the core drivers of customer satisfaction (Kerke et al., 1995). Polyviou et al. (2014), in their study of factors influencing selection of cloud-based software from both vendor and client perspectives, found that both groups view usability as one of the most important factors affecting the selection decision. A study done by BDO and Talloushallintoliito (2015) found that Finnish medium-sized enterprises assigned moderate importance to systems integration and the use of common software by the firm and the accounting service provider, while usability and accessibility were not addressed.

Another interesting finding is that the price of the service comes after software, accounting office certification, and personal service considerations during the decision-making process, which means that, while important, it is not the most influential factor. This means that the customers are ready to pay more for the service that offers them more value. The finding that the price of the external accounting service is not among the top factors affecting the supplier selection, does not come as a surprise. Prior research findings have shown that the main reason for outsourcing of accounting processes was access to external expertise (Everaert et al., 2007) and not cost reduction. However, when the software part of the bundle is concerned, the price is likely to play a more prominent role as was shown by Polyviou et al. (2014) who examined factors influencing selection of cloud based software. Anandasivam and See (2010) found that when purchasing infrastructure cloud service (IaaS), the price is highly influential during the first choice decision, but changing the software and switching operations to a different provider in order to get a better price would only be considered for non-critical operations and price decrease of at least 25%.

The findings of the study indicate that Finnish SMEs assign high importance to the expertise of the accountant and the quality of service, and that the certification of an accounting office by the official body is highly appreciated. The fact that an accountant is certified can help build the feeling of trust between the client and the vendor. In this light, the results of the study support findings by several studies, which found that trust is one of the most important factors influencing the outsourcing decision and supplier selection in the context of accounting services (Hafeez and Andersen, 2014, Kamyabi & Devi, 2011a). The finding also somewhat contradicts the

conclusions of the 2015 study by BDO/Talloushallintoliito where Finnish SMEs did not assign high importance to the authorization of the service provider.

Contrary to the accountant certification, customer references were ranked as the least important attribute. The results could be interpreted in way that Finnish companies place more value on the official assessment of the expertise of the accounting office or build trust during personal meetings and discussions with potential vendors. It is also important to consider that the trust is often built along the course of the business relationship and not at the starting point.

Finally, the results are consistent throughout different types of respondents and different types of companies represented by the respondents. The level of accounting knowledge, experience is selecting accounting software or an accounting firm, for example, do not alter the relative importances of criteria.

The fact that the respondents placed high importance on the level of personal service supports the notion of the ongoing shift in the accounting profession towards advisory and consultative services outlined in the past research (CIMA, 2010, Nyberg, 2014). Since more and more companies are using accounting information systems, which automate a large share of accounting tasks and provide visually accessible real-time reports to users, users become more actively involved with financial information. Breen et al., 2004 found that non users of accounting information systems utilize accounting services less than those companies that use accounting information systems, which gives accountants a strong opportunity to reposition themselves and increase the share of value adding services that they provide. On the other hand, with the increase in costs related to procuring services of higher value, the costs of outsourcing may become too high for SMEs, meaning that keep internal accounting personnel will become more attractive (Banham and He, 2014).

The results show that the most preferred level of personal service is a small pre-determined amount of time per month. Proactive approach, when an accountant provides consulting service whenever there is a need, is also seen as a valuable option. The traditional way, when there is no interaction and the accountant simply covers the necessary accounting tasks is not a desirable option. Further investigation of the

optimal scope of service offering, which is outside of the scope of this study, would be interesting and be of great benefit to practitioners.

## 6.2. Limitations

The research has several limitations. Firstly, the criteria were defined through interviews with four experts. While the experts each have unique experience, their collective view of the industry may not reflect every aspect of the decision situation. Secondly, criteria that had already been identified in the academic research was not reviewed and not compared with the ones developed through expert interviews. While, such approach could possibly lead to a different set of criteria, it would also undermine the idea of constructing the list of criteria exclusively through the input of practitioners working in the field of accounting in Finland, and focusing on the SME sector. Additionally, representatives of SMEs, the ones who are involved in the selection of an external accounting service, were not asked to list what criteria they pay attention to. Once again, doing so, could have resulted in a different list of criteria, but for the purposes of this research the input of experts who have faced numerous SMEs making such decision was selected, assuming that such exposure results in a much better grasp of factors that affect the decisions.

Another limitation of the research is that the number of attributes that could be included into the study had to be limited. The reason for this is the way a full-profile conjoint survey is done. Including too many attributes could present a cognitive burden to respondents resulting in their inability to concentrate and thoughtfully evaluate their decision in each of the choice task.

Attributes that represented criteria for the selection of a service provider represent much more general criteria that were defined through the expert interviews. For example, one criterion is quality. Giving such name to an attribute leads to a challenge of properly defining levels. Quality (and similarly general criteria) needed to be described through a proxy that could me measured easier. In this study the proxy chosen for quality was certifications of accountants working at the accounting firm. It was assumed that a certification is an indicator of quality of service. A certification is by no means a guarantee of the quality in practice, but in practice it is one of the ways how potential clients assess the level of quality of the accounting office.

The sample of respondents can also be considered a limitation. The representation of SMEs was not even, and companies of certain size were over represented. This can mean that the results cannot be applied to all SMEs, but be a more fitting description of the behavior of those SMEs that were best represented in the sample. Moreover, a bigger number of respondents could lead to better, more valid results.

## 6.3. Suggestions for future research

Outsourcing of accounting to an external provider is becoming an increasingly common practice. The results of the study have shown that with the emergence of new technologies and generational change of firm owners, SMEs are paying the biggest attention on accounting software, when selecting an external accounting service provider, specifically software accessibility and software usability. Further investigation of how these factors can be developed to meet the needs of client companies would be beneficial.

Furthermore, a similar investigation among client companies in other Nordic countries would be useful, since a lot of companies that offer accounting software in Finland are also present in other countries in the region. Uncovering similarities and differences among client companies in these markets would have strong practical benefits for software vendors.

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# Appendices

## Appendix 1 Interview with Vuokko Mäkinen

Position: CEO at Hawcon and chairman at Taloushallintoliitto
Date of the interview: 29.01.2015

**The purpose of the interview in brief:** *To identify selection criteria that Finnish SMEs use when selecting accounting service provider coupled with a cloud solution.*

**Q: What is your professional history and expertise?**
A: Association of Finnish Accounting Firms and Hawcon Oy

**Q: What types of companies do you have as clients and how many clients do you have?**
A: Client companies are of different types, mostly bigger in size. Hawcon specializes in e-accounting and works with customers through Navision software. Navision is customizable, which is the main reason it was selected. This is a point of differentiation for us. Only a few accounting offices do that.

**Q: What are the services you provide?**
A: Hawcon provides all official reporting, various types of internal accounting, depending on the customer needs. We are connected in real time to the customers' business, we design how a customer uses to the system and what reports are important to them.

**Q: Do you offer accounting services through cloud? Do you offer your own software/selected third party software/let customers choose whatever software they want? What is the preferred option for the Finnish SMEs?**
A: Customers must be happy. We have the customer accounting department and they have their own people responsible for salary, payables and receivables. Every customer has a dedicated team. There is a personal connection. There is nothing in the back office. We are a different accounting firm, we can offer something different from others.

**Q: If you take all the accounting firms in Finland, do you see a high variety of services?**
A: No, I have met other accounting offices and have foud many who has their own strategy but 80% of the acc. Offices are doing things in a similar way, perhaps level of personal service is different, mostly mandatory reporting.

**Q: How about the systems? Is there a lot of variation?**
A: Maybe 10-12 different service providers servicing the accounting market

***Questions regarding selection of accounting firm coupled with cloud solution***
Q: In your experience, what would you consider to be important factors for SMEs in selection of the accounting services provider (the accounting firm)?
Q: What are the quantitative and qualitative selection criteria?
(2) Specialization of the accounting office. Hawcon – ours is we have our own system and can do customized services. Others specialize on taxi drivers. Some accounting

firms only take small companies E.g. one is specializing on very high level tax advising. Sort of inheritance, finding a new founder

**Q: Specialization of accounting firm or specialization of software?**
A: Vuokko: It can be both

**Q: Can you separate the choice?**
A: It's always a bundle. Some of the accounting firms use different software

**Q: Some may be certain about a certain system.**
A: I haven't heard if it's important. The accounting firm is still well positioned. Perhaps it can be important if software is specialized in some industry.

(3) Authorization (i.e. quality) they are either authorized or not. Not to be confused with personal authorization.
Two levels – personal authorization and the both personal authorization and company authorization
(4) Recommendations, word-of-mouth, we can give leads
(5) For small companies small accounting office is a factor. Many clients don't want to go to big companies as there is a risk that your accountant will frequently change.
(6) Customer relationship
(7) Personal relationship, it doesn't matter where it is located.

**Q: Is cloud software that is bundled with the service an important decision factor?**
A: In a certain way yes. The customer wants to have his own access to the software – that limits to the cloud services. Some don't want to do anything. Some don't care.

**Q: What other factors are relevant?**
A: Small companies don't think very much. They want to be able to approve purch invoices by mobiles – (1) Mobile interface – still a cool feature. It depends on a company. If they are very interested in how the business is going. They are looking for business intelligence. Tikon only provided only external information and no internal accounting. If the customer needs. Difficult to choose a system for a customer, If they haven't used anything before. For us it is important that they can customize it – (2) Customization

**Q: What about cloud?**
A: if the customer wants to be involved and have access to the system. A few companies use their own system and deliver the file for the accounting firm system. SO own system that is connected (no cloud then)

**Q: Could you please describe the selection process? Is it difficult? Do they spend a lot of time thinking about it?**
A: The situation varies. The most common – the current accounting firm is not satisfactory and they want to change. They check many things. If I look with customer eyes, it is very difficult to make the choice, as accounting firms look the same. Very seldom the customer selects the software. Another reason is the price. Sometimes they want an accounting firm that specializes in a certain industry.

In many ways they ask ASAf, and it is meaningful. It's not easy to pick just anyone, authorization is meaningful.

**Q: What is your evaluation of the turn rate, more than other industries?**
A: No, it's less. Customers stick, even if the service is bad. Hawcon can kick out the customers who are not behaving well. The customers might hide something. The service is coproduced, the accounting firms needs the input from the client

**Q: Is it a change from the past?**
A: Yes, no there is more interaction and cooperation. Also the customer can now use the system. It's very improant for the accouning firm to select the software as it must be productive and easy.
For Hawcon: 1. Customization. 2. **Internationalization** (we used to have foreign companies).

**Q: Any difference with the starting company or the ones that are changing?**
**A:** The new companies are set up by young people and they are different types of people. For them **usability** is important. Authorized firms handle 130 000 companies. 3000 other accounting firms. At some point it is cheaper to use an accounting company than keep it internal.

## Appendix 2 Interview with Lauri Lehtonen

Position: CTO at Procountor
Date of the interview: 16.02.2015

**The purpose of the interview in brief:** *To identify selection criteria that Finnish SMEs use when selecting accounting service provider coupled with a cloud solution.*

**Background questions**
**Q: What is you educational background?**
A: MSc at Aalto (TKK), 2004-2009 - Computer Science (more from the business perspective; a lot of courses from Industrial Engineering program and Software Business Lab (own business courses, entrepreneurship-oriented). Missed the flourishing start-up scene.

Q: **What is your professional history and expertise?**
A: Software developer, writing since 2001; wrote code in a couple of startups. A couple of years in Nokia, developer. Developer background plus IT/IS background in Nokia. Climbed to a manager of 30+ people. Now working in management (not coding anymore).

**Q: What is your position and responsibilities?**
A: My main tasks: I am CTO and handle everything tech related.
Last 3 years, growing the team at Procountor and managing things. 10 11 people when joined (2 developers), now 30 plus in my organizations. Most work is in development.

**Q: How many years have you spent with Procountor?**
A: 6 years at Procountor

Q: **Describe HR situation at Procuntor**
A: Most effort and people work in Product Development side, they develop next version. Then a team of 5 people – maintenance taking care of the environment we are running, offering to our customers (important role as a cloud-based service, we need to be available and running also).
Procountor – around 75 people (15 in Sales, customer service 10 people (phones and emails), approximately about 10 people training and consultancy – how to explain companies, users and accountants to use the system). The functions we have are basic for software development – someone sells it, someone teaches how to use it and someone needs to provide support. We train both users and accountants but mostly accountants. (6:10). Our go-to-market strategy heavily relies on accounting offices. Most sales go through accounting services, they sell the software and we bill the end user. The old way was: accounting office buys SW and runs its business on it. The customer doesn't even know about the SW. Something was used in the background. Now we have changed: SW comes from the back office to cloud. Accountant and the end client use the same software -> the IT cost is taken away from the accounting office and customers pays for it.

**Q: Who does the project management?**
A: Scrum – product owner define what needs to be done

About 3 people (product owners), they guide developers to do the right things.
We have a forum for decision making on the big stuff. CEO, CTO and product owners. CEO also has the background in software development (over 10 years in Procountor). We also have some consultants helping us. E.g. Vaaden (Turku-based) who consult on the use of Vaaden technology. Use consultants for User interface.
We do our own development.

**Q: How many clients do you have among Finnish SMEs?**
A: The market we are after is is SMEs in the Nordics. We have 9000 customers. The ones that pay the bills. 400 accounting offices (mostly in Finland and also some abroad in the Nordics) Clients mostly based in Finland, a few hundreds in the Nordics. A bit less than 20 000 (number of active user accounts) end-users. 9000 customers (number of SMEs) – each on average 1-2 accounts. Also auditors.
It total we have 50000 accounts in use, but not all are used. 20000 are active users (those who log in monthly).

**Q: Who pays?**
A: User accounts are free and we charge by transaction. We have a silver package (includes certain number of transactions, sales invoice for example, use of integrated printing sevrice), gold package etc. E.g. Accounting companies don't pay for that. We do have a product for the accounting service providers:
We have 2 main products – Procountor financials and Procountor Ledgers (this one is for the back office, for the accounting firm – for us it's a means to give a tool to an accountant a tool to handle 100% of their clients, sort of the old world). We are a frontrunner in how the web based accounting world should develop. Pricing is different: per accounting user – 45 Euro per month. But the ledger was an overnight success. The pricing is different (45 Euros per accounting office user, not per transactions, this is cheap).
The difference in the two services is content wise. Companies get value through services through the following integrations through cloud (e-bank, e-invoice translation, e-invoice connection, printing services, scanning services, e-invoice connection to authorities) Ledger does not have those connections (only a bit of banking as bank account statement is important). A lot of accounting efficiency is based on bank accounting statements.

**Q: How do you work with accounting offices: are you responsible for contingency before the accounting office. For example, if you stop doing business, what do accounting offices do?**
A: We have a partner agreement – we say that we will be here and you can trust us. It is not that binding for us. We actually are doing business and focus on those things. For us the accounting providers are the channel that brings us clients, and they get a cut from sales. They have a motivation to have a good system to service customers and also the motivation is the sales cut from us.

**Q: Side question: do you see how often a customer goes to the system. Do they go regularly?**
A: It varies a lot. For invoices – daily action. Reporting, maybe monthly. Depends on the function.

**Q: Could you please explain the decision process if you think about decision-making from the viewpoint of the end user. Based o your experience, how do they select their accountants and systems that they use?**
A: It varies a lot, but there are different factors to be identified. The big question is: "Is it the service or the solution that we are providing?" Both happen. The accounting office is typically a bigger factor in the decision process (the decision is tipped on the service side as companies basically buy the service that keeps the CEO out of jail). The company needs an office that keeps everything legal. So, you choose the accounting office.
But you also typically also select software (accounting offices typically offer 2-3 systems, not all available solutions). The accounting firm usually sells the service and offers a possibility of joining the "cloud way of handling things online" or, of course, the old way of just buying a service, when you don't want to do anything new and want to go the paper way. This is probably the bigger decision that what the actual solution it is going to be.
So, the decision is mostly about the service. The service is mostly local, nearly always. You are able to run the accounting business and provide service to clients in Metropolitan part of Helsinki and sit in a different part of Helsinki. Some clients do it efficiently. Good money - you go local. Cheaper options are outside of Helsinki, too many jobs to select from. You provide service to clients that…
In Helsinki there is a big choice of accountants. In rural parts there is not so many. Typically 1 or 2 and bigger cities provide some more. But the question is *who* is actually providing the service there? There is a similar situation across the Nordics. In Oslo it's different than in rural Norway. You actually want someone local, who you can meet face-to-face, when you chose the office. → We need to be present in local markets → We are mostly here in Helsinki but we also have sales representatives in Oulo, Vaasa, Jyvaskyla, Turku, Kuopio (soon), there is also some planning in Tampere etc. Accounting offices want to be close to us and vice versa. The end-user companies are also there as they choose the local provider.

**Q: Is the selection problem in general important?**
A: The selection problem is important and will be more important. If we forget the old world where the user does not know which software is being used and go to the world where the end user does use it and needs to do some tasks in it, the usability is important. No one likes to do the financial management tasks, at least from the entrepreneur side (don't count accountants). It is mandatory and the software that helps you it's a good thing, but also if you buy the service package, then it's also a good service (but costly). The importance is going to be bigger. The importance will increase (opinion). A lot of clients don't consider doing things the old way, and think that everything should be online (e.g. startups don't even think about the old world, they are accustomed to the logic that everything should be done online. They check what the best software is, who provides the services and what is the good rate on the service. Typically, in this decision the local point is not relevant – it is online. If the software works, cooperation with the accountant works, we don't need to see in person). Age of the company has an affect (age of the user is not as black and white).

Industry type affects a lot. Manufacturing is used to ERPs, which typically include financial software (when you manufacture you have to deal with inventory, purchases and the way of manufacturing. All these things are important. We don't have these

elaborate functions that so we are not very strong at the manufacturing side. Our solution is not that good fit with them).

We are pretty good at retailing. We are good at all the businesses that run on people doing stuff and invoicing based on hours worked (good example are cleaning, legal, consulting etc. these are all good fit as it is always when people do stuff). The key question is: How many is collected (sales invoicing, cash registry, donations, constant flow of money and also the sales invoices as we have good tools). How the money comes in is more important than how it goes out (money goes out through purchase invoices and salaries, regardless of the industry, maybe apart from manufacturing where it is a bit different).

**Q: So then would you say that for certain types of companies cloud is more attractive?**
A: Yes, I would say so. When you have business where people actually do the work and their time is invoiced, someone needs to collect what to invoice and its pretty decent to put one who does the job to collect the data that is easy to invoice. (32:30)

**Q: In your experience, what would you consider to be important factors for SMEs in selection of the accounting services provider (the accounting firm)?**
A: If you look **only** from the software perspective, then:

1. ***Look and feel*** – user interface is part of the decision, but not a big one. It is amazing how much of sales deals are closed without even seeing the software.
2. ***Reliability*** is really important.
3. ***Cost*** is a pretty big decision factor. We have competitors, the market is full of choices and the cost plays role.
4. ***Features***

Even bigger thing than features is whether it is a ***fit to my industry/my business*** (typically not 1 feature). Also, whether it is a fit for your business and purpose issue (not just about one feature).

**Q: You talked about expanding to other countries. What about Finland? Do you have any foreign competition? Does being a Finnish provider give you an advantage?**
A: It does. The market in the Nordics is pretty crowded but is growing very fast. Hence, there is room and new players seem to enter the competition. We have competition from the Nordic level (and let's say North European level). Some of them are active in Finland. Fortnox from Sweden entered a year ago, Economik from Denmark has been here for a while and some smaller players also.
I don't know the exact figures of our competitors but it seems that all of the businesses (our competitors and us also) managed to do good business at their home country and expand to the neighboring countries but none has managed to conquer a foreign market and beat the leader in the market when they come from abroad. There is a local player that is number one and then there are competitors from the outside. The balance seems to be there and it is not easy to tip.

**Q: Coming back to the criteria that the end-user companies use you named three things: look and feel, cost, and features. Also reliability and fit-to-industry.**

A: Also who or which accounting offices are supporting THIS solution (also a factor, when you look at it from the software side. If you are willing to go with either this software or this software. Who are the accounting offices that provide this?

**Q: So you would say that some companies first select Procountor and then look at the accounting firm?**
A: Yes, and from the start-up point of view that's usually so. They select the software and check who are providing services using this software. The different gadgets we use are coming more and more important. I'd say that Mobile phones are kinda already here. When you have this kind of software, you'd think that something can be done with this. Tablets and iPads are also a big thing and that's something that has changed a lot in just the last two or three years.
So, it used to be that everything only worked on laptop and that's it. I think that now the decision-making also involves how the software supports mobile phones, tablets, and the way of using it.

**Q: This is in a way related to look and feel and features that you mentioned, isn't it?**
A: Yes, part of those.

**Q: Yes, for look and feel it is easy. Ether the look and feel is bad or good; cost is clear – either it's low or high; What do you mean by features? Is there certain software that has only a certain number of features? And then others have more. Or is it more related to quality?**
A: I'd say it's a more "fit for your business and product" issue. And some of the providers, e.g. farming industry (a very special case). In the farming industry the business runs on EU support and what the accounting side in that is – you need to know how to do EU decisions so that you get the money, you should have the software that supports it. So it's really special software. So, I think that we don't have any farming industry customers. They are all using some specific ones. There is probably one market leader, I don't even know which one, and if your business needs it, you might have to have some really specific vendor providing.

**Q: So would you say that here there is a choice whether it is fit to your needs or then you have some special needs that are not covered by the software?**
A: Yes

**Q: And do you offer your customers customizable features on their request?**
A: Not really. We do have the ability to customize and we have a long list of features that we are able to… We have a packaged product, which includes something. And we are able to add things based on different criteria and we are able to invoice also based on the features. But that's kind of about how you productisize (version) your offering. The cheapest one includes something (not so many features), the middle package includes more, and the biggest package has even more.

**Q: So, there are three versions that suit your customers? (Nikolay)**
A: Yes

**Q: These are quite good, clear criteria. How about selecting the services? I know that it may not be so close to your expertise, but what criteria comes to your mind when you think about the end-user companies?**
A: One typical is: big or small. Some prefer smaller accounting offices. This means that you as a customer typically know the owner and it's one or two or three people. You know them. Bigger chains then (that's also a decision – you want big and reliable) which tends to be then a bit baseless (you don't know the owners or anyone who is in charge there), but the ones who you think are big and reliable.
The local aspect is important. If you are not from Helsinki Metropolitan Area, then you probably pick some office that's driving distance from your business. If you do your business online altogether then you probably pick someone who is providing online service for you, meaning that you might even Skype with the accountant or something. Prices figure also there. Price range is not big but it affects the decision.

**Q: Do they have price range or also different pricing ways?**
A: Basically they tell their hours but the offer packages in different ways. That might be hard to compare. Hour rate is easy to compare, different packages are difficult to compare.

**Q: So, you can choose either package or hours.**
A: Yes. Marketing wise accounting offices are not that good. A lot don't even have webpages or if they do, they are off very outdated. Judging by that, word of mouth is everything. The auditors can also have quite a big role giving a good word-of-mouth. If you are an entrepreneur and you need a new accountant, you probably ask your auditor, who would he recommend. And it seems that face-to-face and the local aspect also. If you think about Helsinki Metropolitan Area the office access is not too far away. If I had a business here in Espoo, I wouldn't probably pick an accounting service based in Vantaa. I would pick someone who would be near to me.

**Q: Do you have an idea of how the companies would look at the quality of the accountant? (Except for the word-of-mouth)**
A: That's a good question. There is no really good way of knowing and the quality is different things. What are you trying to do: minimize taxes paid? Are you actually trying to learn how your business is doing? Do you want to understand your cash flow or do you just want to do the mandatory things? So, when you move along (Google) the accounting office services, the ones that try to identify themselves as giving a service also for… not only the mandatory things, but they also speak about talouspäällikkö or financial or business controller type of services. So you are able kind of either do bare minimum mandatory things or then typically the legal and tax counseling. They are often combined. If you want to avoid taxes, you talk to some legal office. But accounting offices do also that. I think our software does a lot of automated things, the RTE types of things when you need to automate and remove the plain manual work. And then actually give more information from the financial management that's controlling and managing the financial management side. That's the factor when you do the decision. Are you willing to learn how your business is doing or you just want to do the mandatory stuff.

**Q: So, another factor could be whether they are offering value-adding services?**
A: That depends on overall business. And one other big thing is that also many accounting firms don't take all new clients. Quite often you have to apply to be a

client and that's strange but it really happens. The relationships tend to be long. One accountant can serve only 1-20 clients (depending on the client size). If one accountant is doing more than 20, the clients must be very small.
Often you can't get the accounting office that you want, as they are busy. The more word-of-mouth, the more entrepreneurs are asking and they sometimes have to refuse to take on the client.
That's often a problem for us. A lot of customer call us saying that we are willing to take your software. We are trying to find an accounting office. We have already called three and they all said no, that they don't have any room. We try keep the list of accounting services that are doing new sales and recommend clients to call this or this.

**Q: What about certification (Accreditation from taloushallintoliito), is it a proxy of quality?**
A: I don't think that Entrepreneurs are aware and don't generally care, it's more on the marketing side of an accounting office. It's more important when you talk about evaluating a specific accountant. But for evaluation of the accounting office, I don't think that it's important.

**Q: How do you measure quality then? All right, word-of-mouth is one thing but what are other ways, in which you can evaluate the quality of an accounting service provider? (Esko)**
A: That's a good thing. In the past it used to be so that if you have a pile of papers and you punch them, the quality was that you punch them correctly. That is a different type of quality from the one you are actually looking for or you should be looking for. You look for quality that everything on the financial management side is handled, as it should by the accounting office. And that's regardless of the way you do the small details. There is a saying that accountants tend to calculate everything by the cent, even if the million is missing in the end. The focus on the small numbers and the big picture is easily lost. I don't know actually evaluate quality. Word of mouth is probably the biggest factor.

**Q: Taking that into accountant, what would you say is the deviation in quality? How wrong can you go?**
A: Quite a lot. You don't need a certification or education to be an accountant. There are certificates that you have done some education, but it's not controlled as in medical or legal fields.

**Q:** So, you can end up with someone who doesn't know what they are doing?
A: Yes, and more typically entrepreneurs also do the mistake that they take the software and try to be the accountant themselves to try to save some money. Not a good idea. You spend a lot of time doing tasks that you shouldn't be doing. And as a result you don't save money because you spend too much of your time. But that happens.

**Q: Could also the quality perhaps be approximated (you talked about it in terms of software, but also for accounting, the industry focus is very important, we have heard it before. For example if the accounting firm specializes in e.g. farmers, there will be an assumption that they would provide a higher quality**

**service for farmers specifically). Would you say that is a factor for smaller companies?**
A: Yes, I'd say that. It's probably more a factor for the accounting office. When they do the selection of which client to take on (to whom they want to sell), they do a background check on the business. If they suit to their knowledge, they are more willing to take it. So, I would say that the choice is happening more on the accounting office side than on the one that's looking for the service.

**Q: You can probably see where we are going with this. We are trying to develop the criteria and in the next step we will do a quantitative study, so we try to get responses from as many end user companies as possible.**
**Now I would like to know, do we make this choice separately (accountant and the system) or do we bundle it? We are doing the conjoint analysis where you select profiles of different kinds of services or software or bundle, so you would have criteria there and then you would have profiles to choose from and the levels would be randomize into the instrument. So should we do two sessions for each respondent or combine it in a bundle? SO that then, if you think conceptually, you are thinking that I am now buying the bundle of Procountor and mertaoja (that's one bundle and I look at the criteria) or then I am think of a different bundle such as Tikon and Satakerta, or should we separate the study completely?**
A: I think it should be bundled as there are a lot of software is not available on the market as such. Administer, for example, is doing a lot of software development themselves, they develop and run their own software. You are not able to get Efima without a service from Administer. So if you end up with Administer, your only option is to go with the bundle. And I think the preferred software is quite often sold (and the accounting office is preferring some software) so you are not choosing whatever software you would like and whatever accounting office you would like, that's not an option. Or if some accounting office is willing to do that one and you know that it's not on their preferred software list, then you know that they for some reason want to be your vendor and that is a warning sign.
From my point of view it is a bundled decision. And you can probably get a better insight from doing them together.

**Q: And then we need to really think about the criteria. E.g. this fit or features industry is something that is for both accountant and the system. So if you say that the software might not be optimal for farming, but then again there might be some accounting firms that it's exactly. So maybe we can have one criterion as a fit of the bundle to the industry and for the purposes. And by the bundle we mean that software supports agriculture and the accountant has expertise and knows EU legislation. Probably, as you said, there are a lot of accounting offices that wouldn't want to have a customer for the farming industry because they are not comfortable handling EU support and stuff. How many customers actually know that Procountor is the thing? Ok, they go to the accountant who says that we use this software. Do they actually separate it mentally that you are a Procountor?**
A: No always. Quite often they do so that they do business with the accounting office and they don't even know. We used to write an agreement between the company and us every time. From the beginning of March, we don't do those anymore. We do the agreement with the end-customers to ensure the protection of information that

Procountor works with (as we are hosting this information that the companies is obligated by law to have for legal things, archiving etc.).
So the agreement says: "As long as we have this customer relationship we are doing this, this, and this. But when the customer relationship ends, we are not doing any part of it and the customer takes care of everything. Now we are moving to the sort of end user license agreement that when you take the software into use you just clicks "I understand and agree".
We used to cover our end by doing this kind of strict contract. But now we thing that the world has changed in a way that this end-user license agreement is enough.

**Q: A separate question on the price. Should we have a separate question for service provider and the system or do they evaluate the price in a bundle, i.e. they evaluate your package separately from the hourly pricing of accountant or…"?**
A: I think you should ask how the accounting office is giving the offer And I would say that when they give the offer, they bundle it. And probably if you know that you want Procountor as a system and you have two options, then probably you will see that how the system side is priced and then you will handle the decision on the service side, but I think that mostly the decision is based on the bundle.

Q: **Actually something we need to think about as if we had these as two separate criteria then you could actually say based on the results which is more important to you, which is extremely important, to understand how sensitive they are in prices of the accountant vs. system. But then we only have a limited number of criteria that we can put, so it doesn't really allow us to have more than 10 criteria, and we are aiming on six or seven. Then we would have fit as one, price as one, functionality is one, and then some proxy for quality of the overall bundle.**
A: The quality question is quite interesting.

**Q: Would it be possible to talk to some accounting office that works with Procountor software?**
A: Mertaoja, and if you are willing to tak to an accountant office that works with us we have a long list on our website. The approach is that you can just contact them. The accounting offices don't tend too be that busy at the management level. You would be able to reach them. Now is the busiest time of the year.
And from our parent Accountor (if you are willing to talk with them) a couple of names: Kirsi Karakoski – was present at some of the RTE meetings.

## Appendix 3 Interview with Samuli Saviala

Position: Accounting Consultant at Tilitoimisto EMU
Date of the interview: 12.02.2015

**The purpose of the interview in brief:** *To identify selection criteria that Finnish SMEs use when selecting accounting service provider coupled with a cloud solution.*

**Q: What is you educational background?**
A: I hold two bachelor degrees – one from university Helsinki in Economics and one from Aalto School of Economics in Organization and Management. I have obtained a CPA degree for Finland, self-taught.

***Q: Please describe the company you work for, its employees and clients?***
A: Tilitoimisto EMU (The company is certified). We employ 20 people (12 full time and others as freelancers, mainly accountants, salary specialists), 5 minor owners and 2 partners. 3 people are certified. Others are trained in accounting. Established in 2007 and active from 2010 active. The company has 220 clients, from 1 to 120 people (consulting firm). Most clients are 1-5 people companies located mainly in Helsinki region (95%). We have a couple of foreign clients with Finnish entities, few startups that have international ownerships. Also companies from various fields from taxi drivers to consulting firms, startups, etc.

**Q: What are the main services you provide and what is the use of sosftware?**
A: List below:

1. Accounting, payroll and legal reporting. Very strong focus on electronic accounting systems. All services are cloud based. We use Netvisor and Procountor.
2. We use a few reporting software Talgraph Financilla (newcomer) and the old one Kasperi (non-cloud, current assets – good to be modernized)
3. We use Excel a lot, for all basic calculation, budgeting, cash flow prediction

**Q: What is the level of outsourcing of accounting services among Finnish SMEs?**
A: This is a tricky question. Cloud services offered opportunities for any degree of outsourcing from little to everything. They outsource about 50% of their functions. You normally do sales yourself. You want to see cash flows. After that payroll, accounting, reporting is outsourced by 90%. Travel and expense – 50/50 outsource. Reporting, budgeting, prediction goes to Emu. They want to focus on that in the future.

**Q: What is the situation with the offering of cloud-based services? Push from accounting firms/push from SMEs?**
A: Accounting firms push it but it's a generation thing. Young don't want anything else. Older generations have a little trouble to adopt

**Q: Do you see how often a customer goes to the system. Do they go regularly?**
A: Yes. It varies a lot. For invoices – daily. For reporting, maybe monthly. Depends on the function.

**Q: Please describe the decision process**

A: There are two ways. There companies in traditional world, they are looking for a system first. They might run into a software providers and look for a firm. But I would say the main way is to look for an accountant first. Roughly 20% would look for software, and 80% would look for an accountant. No one knows where the trend will go. Now we sell our service as one piece and then we have software. We want to have one package. We offer the software and the features are a big part of the proposition, we mention the features and capabilities, but they all look similar now in both design and features. Differences are not that big. The biggest difference is in the user experience and also in software architecture.

**Q: In your experience, what would you consider to be important factors for SMEs in selection of the accounting services provider (the accounting firm)?**
A: (1) Pricing. For the legally required stuff companies don't want to pay. For other processes less important. (2) Software and the ways the companies use it. Some companies are not ready for the solutions and we lose the customers. The customers don't like cloud and can't adapt. So, the criteria might be cloud or non-cloud. There are people who want to stick to paper world - Paper vs virtual. New companies very rarely want the paper way. (3) Service quality and package. (4) Brand, feeling, references

**Q: How about the number of certified accountants?**
A: I don't think it matters (companies don't even know about it), neither on the company level. No one asks. We bring it out in our proposal, that we are certified (that we are authorized). Test it in the criteria, is it important. We have the NPS – the biggest way to get new clients – through references.
References are the most important criteria. We think differently and we offer a modern way of doing things. Pricing model is a good criterion. Software brand is important, could separate

**Q: Do you benchmark?**
A: We monitor the offer and see the clients; we have competitors through offers and pricing. We lost and won the clients (50/50). Companies change because of price or failed service level. Service level - response time etc. We have some quality problems.
(4) In some cases the companies want specialized services in a certain industry.

**Q: What are the quantitative and qualitative selection criteria?**
A: There is increasing demand for advisory services – fixed fee, daily price, hourly price. We can do you your monthly investor reporting (the basic one), then we offer law services, tax consultation, system consultation, we see the company process and find the right tools (e.g. they have a traditional shop, we can enhance the shops cooperate better together), budgeting etc. Basically it is an outsourced SFO. It becomes more important as the size of the firm grows. With bigger companies we don't even touch the basic stuff, they are given.

**Q: What are the important factors when selecting a cloud-based software solution?**
A: (1) functionality, (2) user experience, (3) paper or electronic. If its paper, the clients don't see the software behind, (4) Ability to co-create the service. They may have some excel sheets, use netback for bills etc.

## Appendix 4 Interview with Tuomas Tahvanainen

Position: Partner and Chairman at Leppävaaran Laskenta Oy
Date of the interview: 08.06.2015

**Q: What is your background?**
A: My family comes from the accounting industry. I started in 1993 at the age of 13 doing the assistance work during school. At 2006 started at HSE (Helsinki School of Economics). In 2009 I received a KLP accounting degree (internal industry certification). I worked in the accounting firm industry all the time during the studies as well. I also spent 3 years at CFO role, personally look at our company progress going international and declaring bankruptcy. In the past years I was responsible for digitalizing our services, how we take more digital tools to our service and how we utilize it. After that I moved it to the advisory services, to see how we can develop further. Two board seats at 2 accounting firms in Finland, and 1 seat at the association and a couple of seats in the clients' boards. Overall, I have over 15 years of experience in the industry.

**Q: Could you describe your clients?**
A: Profile is very wide. We have a lot of small companies, a lot of single person companies, associations, etc. The largest are NASDAQ listed companies where we handle only a small part of accounting payroll services.

**Q: What type of services does your company provide?**
A: Payrol, Advisory, CFO services. Additionally, we provide accounting and reporting for the larger companies

**Q: What is the selection process?**
A: It depends on a life cycle of a company. Start-ups tend to look for the basic services. Companies that are further in the life cycle, they look for both accounting firms and software solutions. SMEs don't have direct requirements to use certain software. They want digital tools and choose the correct tools. Start from accounting service company and then evaluate (90% cases, then there are cases when certain SW is chosen and they want to continue). They want a better partner. After summer there might be available data – how big % SMEs are using digital tools. In our client base only 10% use digital processing invoicing circulation systems.

**Q: What is the use of cloud among Finnish SMEs?**
A: all the digital tools are closed. 10% of client, they want to be part of the process. The rest is old fashioned. There is a fear of change, the process has worked during a lot of time and there is no need for change. For the smaller companies it is a matter of cost. There are not yet cost efficient tools for very small companies. More and more of the new companies want to digitalize the process.

**Q: What are the criteria for selection of the accounting service provider?**

A: (1) Trust. The service is based mainly on the trust. The accounting services also trust entrepreneurs to make the decision to choose the tools. (2) Capability of the accounting firm to help with the software and develop the services for the growing needs. They look for a partner for long term.

**Q: How do they assess that?**
A: I would say there are a lot of soft values that you can find when interacting with entrepreneurs, if you connect during the conversation. Client references play a key role, we can show them when we provided similar services. Showing successful past works, it makes it easier to trust.

**Q: What about the certification?**
A: The company has a certification. It is certified and monitored by external party. But that depends on the client. It is always brought up during the discussing.

**Q: Could you please elaborate on supporting growing needs?**
A: It's both software and accountant and also trust. Entrepreneur is often quite alone, and when business is doing fine they can discuss it at home but then if not, only with a bookkeeper. So trust is important. We started with basic things, legal reporting. The companies started to grow, needed better tools, we digitalized invoices processes etc. Then what is the next deal? We need grow and we introduced financial services. We attracted investors and secured funding. After that we started to build in reporting and corporate governance. So the firm grows with clients. That happens a lot with new companies, start-ups. We need to able to identify the changing needs. We need to be very close to a client. A good example is the change of generation when the company changes ownership. We need to do it in advance and start planning that. It is a matter of strategy how the accounting company positions itself. At the beginning we are flexible and adjust to clients. We take challenges, which is also attractive to new companies who are also changing and learning and feel like they have the equal partner. In the future the strategy might be focusing on certain types of clients.

**Q: Does industry matter?**
A: Very often it does not matter. Sometimes it requires special needs then they look for a special partner. It is a minority of the cases.

**Q: How about software?**
A: Older companies have certain software and look for partner who works with it. APIs are important there whether we can put the solutions together not to do too much manual work to shift systems. Then there is the strategy of the accounting firm, whether it focuses on particular software or offering different software that you can offer, we choose by the need of the client. There is a lot of challenge to identify what software is going to develop future needs faster. We have opportunity of choice – choosing the software that develops faster. Client by client, we need to do comparison of software

Cost – some are more cost efficient solutions (better solution at the beginning) but if we anticipate different needs in the near future we look for a more flexible software that will satisfy later and better APIs. There is cost of changing the software
Second part is to build capabilities at both ends. If we already have capability and client does not we need to educate (it's a compulsory part of our use of digital software).

**Q: What is the attitude towards cloud?**
A: It is positive. Very often they hope it is required that the service is web based and they can access the date and don't be dependent on what we send to them. Automation of processes is needed more and more. We often discuss what challenges it brings to us, why would we need to automate our services. It looks as a threat. In our point of view it is that we can focus more on the advisory side. So the development is good. Visualization and devices supported are important. Needs are not complicated for software to do but the question comes down to user interface. Security, how users can access the software, how complicated it is. A big question relates to international clients who are abroad. When the system is based on the Finnish bank code system, it's challenging to access it. That plays a key role in deciding the role. Mobility is important. The software has to be accessible from all sorts of devices and all the time. I believe that it is of value that the software is better for a particular client. When a client asks for a software solution form accounting firm they are not very aware they trust accounting firm with evaluation. And if the accounting firm is not tied to certain software that they are pushing, it is more trusted that the software is chosen according to the needs.

## Appendix 5 Criteria that emerged from expert interviews

Interview 1: Vuokko Mäkinen

| # | Criteria | Comments |
|---|---|---|
| 1 | Specialization | We have our own system and can do customized services; industry; firm size. |
| 2 | Quality | Word-of-mouth and certification |
| 3 | Size | Small companies prefer small accounting firms. |
| 4 | Personal relationship | Personal relationship, trust, cooperation. |
| 5 | Service co-creation | Accounting services require input from the client, accounting firm should cooperate. |
| 6 | Price | |
| 7 | Internationalization | Important when the operations are international. |
| 8 | Cloud capabilities | Factor for clients that want to be part of the process and have access to data. |
| 9 | Specialization | Can also apply to the software, i.e. some features are required in certain industries. |
| 10 | Mobile access | Clients want to have access to data from everywhere. |
| 11 | Customization | Possibility for software to be customized according to the clients' needs. |
| 12 | APIs | Important for the software to be connected to other infrastructure. |
| 13 | Easy-to-use/Productivity | |

Interview 2: Lauri Lehtonen

| # | Criteria | Comments |
|---|---|---|
| 1 | Proximity (old way) | Preference to accounting firms that are located nearby. |
| 2 | Cloud capabilities | |
| 3 | Software options | It is important whether the office supports a certain software. |
| 4 | Cost of service | Cost of service given a particular software. |
| 5 | Size | Some prefer big and some prefer small accounting offices. |
| 6 | Word-of-mouth | Probably the best indicator of quality |
| 7 | Fit to business | Important factor, more than one feature |
| 8 | Look and feel | User interface is part of the decision, but not a big one. |
| 9 | Reliability | Very important. |
| 10 | Cost | Big factor due to high level of competition. |
| 11 | Features | Fit to industry |

Interview 3: Samuli Saviala

| # | Criteria | Comments |
|---|---|---|
| 1 | Pricing | More so for legally requirements, less so for other services. |
| 2 | Quality of service | Brand, feeling, references |
| 3 | Fit to industry | |

| | | |
|---|---|---|
| 4 | Value-adding services | Some clients seek accounting firms that provide services beyond the obligatory. |
| 5 | Service co-creation | Ability and willingness of the accounting firm to cooperate and fit the service to the client. |
| 6 | Software fit | Cloud vs. non-cloud, also paper in some cases |
| 7 | Features/functionality | |
| 8 | User interface | Easy to use |
| 9 | Software architecture | Customizable, compatible APIs. |
| 10 | Software brand | Signals quality, affected by word-of-mouth. |

Interview 4: Tuomas Tahvanainen

| # | Criteria | Comments |
|---|---|---|
| 1 | Trust | Trust is the starting point. |
| 2 | Software options | The fact that there is a choice shows that the service will be better suited to the client's needs. |
| 3 | Cost | |
| 4 | Partnership | Companies look for a long-term partner. |
| 5 | Service development | Co-creation of service based on growing needs of the client is important. |
| 6 | Compatible APIs | Important to connect to other functions. |
| 7 | Cloud capabilities | Access to data and involvement in the process. |
| 8 | User interface | Easy to use |
| 9 | Access authorization | Issue of authorization by non-Finnish residents who do not have Finnish e-bank access. |
| 10 | Mobility | Possibility to access data anywhere and anytime is important. |

## Appendix 6 Background questions to the conjoint survey

| N | Question (in Finnish) | Question (in English) | # | % |
|---|---|---|---|---|
| 1 | Mikä on toimenkuvasi yrityksessä? | What is your role in the company? | | |
| | Omistaja | Owner | 123 | 75% |
| | Toimitusjohtaja | Managing director | 18 | 11% |
| | Henkilöstöpäällikkö | Staff manager | 3 | 2% |
| | Kirjanpitäjä | Accountant | 4 | 2% |
| | Joku muu, mikä? | Someone else, what? | 16 | 10% |
| 2 | Yrityksenne työntekijöiden lukumäärä (yrittäjä mukaan lukien)? | The number of employees of the company (including entrepreneur)? | | |
| | Yksi työntekijä | one employee | 39 | 24% |
| | 2-9 työntekijää | 2-9 employees | 95 | 58% |
| | 10-49 työntekijää | 10-49 employees | 28 | 17% |
| | 50-250 työntekijää | 50-250 employees | 2 | 1% |
| | Yli 250 työntekijää | More than 250 employees | 1 | 1% |
| 3 | Yrityksenne vuosittainen liikevaihto? | The annual turnover of the company? | | |
| | Alle 2 miljoonaa Euroa | Less than 2 million Euros | 144 | 87% |
| | 2 miljoonaa - 10 miljoonaa Euroa | 2 million - 10 million Euros | 18 | 11% |
| | 11 miljoonaa - 50 miljoonaa Euroa | 11 million - 50 million Euros | 2 | 1% |
| | Yli 50 miljoonaa Euroa | More than 50 million Euros | 1 | 1% |
| 4 | Yrityksenne myyntilaskujen lukumäärä (per kuukausi)? | The number of the company's sales invoices (per month)? | | |
| | Alle 15 | Less than 15 | 62 | 38% |
| | 15 - 100 | 15 - 100 | 70 | 42% |
| | 101 - 500 | 101 - 500 | 24 | 15% |
| | 501 - 1000 | 501 - 1000 | 2 | 1% |
| | 1001 - 3000 | 1001 - 3000 | 4 | 2% |
| | Yli 3000 | More than 3000 | 3 | 2% |
| 5 | Yrityksenne ostolaskujen lukumäärä (per kuukausi)? | The number of the company's purchase invoices (per month)? | | |
| | Alle 15 | Less than 15 | 45 | 27% |
| | 15 - 100 | 15 - 100 | 94 | 57% |
| | 101 - 500 | 101 - 500 | 20 | 12% |
| | 501 - 1000 | 501 - 1000 | 3 | 2% |
| | 1001 - 3000 | 1001 - 3000 | 2 | 1% |
| | Yli 3000 | More than 3000 | 1 | 1% |
| 6 | Yrityksenne toimiala? | Type of business? | | |
| | *(voitte halutessanne valita useamman vaihtoehdon)* | *(you may wish to choose more than one option)* | | |
| | Valmistava teollisuus | manufacturing | 28 | 17% |

| | | | | |
|---|---|---|---|---|
| | Palvelut | Services | 98 | 59% |
| | Vähittäismyynti | Retail | 24 | 15% |
| | Joku muu, mikä: | Someone else, which is: | 34 | 21% |
| 7 | Mikä on tärkein asiakassegmenttinne? | What is the main customer segments? | | |
| | Kuluttajat | Consumers | 49 | 30% |
| | Yritysasiakkaat | Business Customers | 97 | 59% |
| | Julkishallinnon asiakkaat | Public customers | 19 | 12% |
| 8 | Mitä palveluita ostatte kirjanpitäjältä? | What services do you buy an accountant? | | |
| | *(Voitte halutessanne valita useamman yritystänne koskevan vaihtoehdon)* | *(You may wish to book more than one option for your company)* | | |
| | Peruskirjanpidon palvelut | Basic Accounting Services | 132 | 80% |
| | Kausi- ja vuosi-ilmoitukset (veroilmoitukset ja tilinpäätös) | Seasonal and year-ads (tax returns and financial statements) | 133 | 81% |
| | Palkanhallinnan palvelut | Payroll management services | 77 | 47% |
| | Neuvonta ja konsultointipalvelut (ml. verokonsultointi) | Counseling and Consulting Services (incl. Tax consulting) | 61 | 37% |
| | Budjetointiin ja kassavirtalaskelmiin liittyvät palvelut | Budgeting and related cash flow projections Services | 14 | 8% |
| | Emme käytä kirjanpitäjän palveluita | We do not use an accountant services | 26 | 16% |
| 9 | Käytättekö ulkopuolista tilintarkastajaa? | Do you use an external auditor? | | |
| | Käytämme | We use | 116 | 70% |
| | Emme käytä | We do not use | 49 | 30% |
| 10 | Milloin viimeksi olet ollut valitsemassa kirjanpitotoimistoa? | When was the last you've been chosen by the accounting office? | | |
| | Viimeisten 12 kuukauden aikana | Over the past 12 months | 22 | 13% |
| | 1-2 vuotta sitten | 1-2 years ago | 22 | 13% |
| | 3-5 vuotta sitten | 3-5 years ago | 29 | 18% |
| | Yli 5 vuotta sitten | More than 5 years ago | 55 | 33% |
| | En ole koskaan valinnut kirjanpitotoimistoa | I have never chosen accounting office | 37 | 22% |
| 11 | Kuinka monta kertaa olet ollut tilanteessa, jossa on pitänyt valita kirjanpitotoimisto (nykyisessä yrityksessäsi tai aikaisemmissa työpaikoissasi)? | How many times have you been in a situation which has been to choose the accounting office (or your company in the current time jobs)? | | |
| | Yhden kerran | Once | 57 | 35% |
| | Kaksi kertaa | Twice | 45 | 27% |
| | Kolme kertaa | Three times | 18 | 11% |
| | Yli kolme kertaa | More than three times | 12 | 7% |

| | | | | |
|---|---|---|---|---|
| | En ole koskaan valinnut kirjanpitotoimistoa | I have never chosen accounting office | 33 | 20% |
| 12 | Milloin viimeksi valitsitte kirjanpito-ohjelmiston? | When was the last for choosing accounting software? | | |
| | Viimeisten 12 kuukauden aikana | Over the past 12 months | 18 | 11% |
| | 1-2 vuotta sitten | 1-2 years ago | 18 | 11% |
| | 3-5 vuotta sitten | 3-5 years ago | 24 | 15% |
| | Yli 5 vuotta sitten | More than 5 years ago | 38 | 23% |
| | En ole koskaan valinnut kirjanpito-ohjelmistoa | I have never chosen accounting software | 67 | 41% |
| 13 | Kuinka monta kertaa olet ollut tilanteessa, jossa on pitänyt valita kirjanpito-ohjelmisto (nykyisessä yrityksessäsi tai aikaisemmissa työpaikoissasi)? | How many times have you been in a situation which had to choose accounting software (current business or time jobs)? | | |
| | Yhden kerran | Once | 38 | 23% |
| | Kaksi kertaa | Twice | 24 | 15% |
| | Kolme kertaa | Three times | 10 | 6% |
| | Yli kolme kertaa | More than three times | 16 | 10% |
| | En ole koskaan valinnut kirjanpito-ohjelmistoa | I have never chosen accounting software | 77 | 47% |
| 14 | Onko yrityksenne käytössä kirjanpito-ohjelmisto, johon voi kirjautua verkkoselaimen kautta? | Do you have accounting software, which you can log in via a web browser? | | |
| | Kyllä | Yes | 60 | 36% |
| | Ei | No | 98 | 59% |
| | En tiedä | I do not know | 7 | 4% |
| 15 | Miten arvioit asiantuntemuksesi kirjanpidosta? | How do you assess your expertise in accounting? | | |
| | Erinomainen | Excellent | 24 | 15% |
| | Hyvä | Good | 47 | 28% |
| | Tyydyttävä | Satisfactory | 70 | 42% |
| | Heikko | Weak | 22 | 13% |
| | En tiedä kirjanpidosta mitään | I do not know anything about accounting | 2 | 1% |

## Appendix 7 Relative importances of attributes for different subgroups

| | | # of respondents | Customer references | Accounting office certification | Level of personal service | Service development | Service package price | Software usability | Software accessibility |
|---|---|---|---|---|---|---|---|---|---|
| Total | | 165 | 8,84% | 15,13% | 14,15% | 11,22% | 13,30% | 16,59% | 20,77% |
| Accounting knowledge | Excellent | 24 | 8,98% | 18,06% | 12,73% | 11,96% | 11,90% | 17,69% | 18,67% |
| | Good | 47 | 8,47% | 15,70% | 12,57% | 10,48% | 11,99% | 17,66% | 23,13% |
| | Satisfactory | 70 | 9,17% | 12,80% | 15,52% | 11,35% | 14,86% | 16,35% | 19,95% |
| | Weak | 22 | 8,00% | 18,73% | 13,99% | 12,03% | 12,62% | 14,14% | 20,48% |
| | None | 2 | 13,56% | 8,23% | 22,09% | 6,10% | 13,68% | 14,10% | 22,23% |
| Respondent's Role | Owner | 123 | 9,07% | 15,84% | 13,98% | 11,40% | 13,65% | 16,51% | 19,56% |
| | M. Director | 18 | 8,55% | 13,86% | 13,91% | 9,56% | 11,47% | 17,42% | 25,23% |
| | Staff manager | 4 | 9,45% | 7,57% | 14,94% | 11,31% | 13,37% | 22,47% | 20,88% |
| | Accountant | 4 | 8,67% | 13,69% | 12,65% | 12,05% | 10,55% | 21,94% | 20,45% |
| | Other | 16 | 7,26% | 13,33% | 15,93% | 11,49% | 13,35% | 13,54% | 25,09% |
| N of employees | 1 | 39 | 8,77% | 15,99% | 13,43% | 12,20% | 15,17% | 16,57% | 17,87% |
| | 2-9 | 95 | 8,71% | 15,65% | 14,34% | 10,32% | 12,69% | 16,28% | 22,01% |
| | 10 - 49 | 28 | 9,12% | 12,29% | 14,80% | 13,02% | 13,01% | 17,87% | 19,88% |
| | 50 - 250 | 2 | 13,45% | 15,65% | 11,69% | 7,76% | 11,09% | 13,50% | 26,86% |
| | > 250 | 1 | 6,88% | 10,37% | 11,15% | 14,73% | 10,64% | 18,00% | 28,24% |

| | | # of respondents | Customer references | Accounting office certification | Level of personal service | Service development | Service package price | Software usability | Software accessibility |
|---|---|---|---|---|---|---|---|---|---|
| Turnover | < €2 m | 144 | 8,96% | 15,26% | 14,03% | 11,10% | 13,64% | 16,69% | 20,33% |
| | €2 - 10 m | 18 | 7,48% | 14,27% | 15,61% | 12,37% | 10,99% | 16,13% | 23,16% |
| | €11 - 50 m | 2 | 13,45% | 15,65% | 11,69% | 7,76% | 11,09% | 13,50% | 26,86% |
| | > €50 m | 1 | 6,88% | 10,37% | 11,15% | 14,73% | 10,64% | 18,00% | 28,24% |
| N of sales invoices/month | < 15 | 62 | 8,87% | 16,14% | 13,34% | 10,86% | 14,62% | 15,91% | 20,26% |
| | 15 - 100 | 70 | 8,69% | 14,19% | 15,04% | 11,23% | 12,57% | 16,81% | 21,47% |
| | 101 - 500 | 24 | 9,05% | 13,94% | 14,06% | 12,75% | 12,75% | 17,58% | 19,87% |
| | 501 - 1000 | 2 | 6,96% | 26,75% | 6,99% | 7,77% | 9,64% | 12,20% | 29,69% |
| | 1001 - 3000 | 4 | 8,63% | 21,28% | 15,69% | 9,86% | 10,75% | 16,36% | 17,42% |
| | > 3000 | 3 | 11,50% | 9,56% | 13,61% | 10,40% | 13,19% | 21,00% | 20,74% |
| N of purchase invoices/month | < 15 | 45 | 8,87% | 14,76% | 14,18% | 11,01% | 15,05% | 17,07% | 19,06% |
| | 15 - 100 | 94 | 8,84% | 15,64% | 14,04% | 11,29% | 12,81% | 16,22% | 21,16% |
| | 101 - 500 | 20 | 8,04% | 14,03% | 14,89% | 11,89% | 11,41% | 17,69% | 22,05% |
| | 501 - 1000 | 3 | 9,20% | 18,73% | 14,02% | 9,00% | 11,47% | 16,92% | 20,66% |
| | 1001 - 3000 | 2 | 16,42% | 7,50% | 13,17% | 7,36% | 19,99% | 11,36% | 24,20% |
| | > 3000 | 1 | 6,88% | 10,37% | 11,15% | 14,73% | 10,64% | 18,00% | 28,24% |

| | | | # of respondents | Customer references | Accounting office certification | Level of personal service | Service development | Service package price | Software usability | Software accessibility |
|---|---|---|---|---|---|---|---|---|---|---|
| Type of company | Manufacturing | Yes | 28 | 9,18% | 12,01% | 14,99% | 11,78% | 12,26% | 18,17% | 21,62% |
| | | No | 137 | 8,77% | 15,77% | 13,98% | 11,10% | 13,51% | 16,27% | 20,59% |
| | Services | Yes | 98 | 8,77% | 14,90% | 14,11% | 11,42% | 13,80% | 16,92% | 20,08% |
| | | No | 67 | 8,93% | 15,46% | 14,21% | 10,92% | 12,57% | 16,12% | 21,78% |
| | Retail | Yes | 24 | 9,38% | 15,97% | 14,21% | 10,43% | 12,09% | 16,30% | 21,62% |
| | | No | 141 | 8,75% | 14,98% | 14,14% | 11,35% | 13,51% | 16,65% | 20,62% |
| | Other | Yes | 34 | 8,95% | 16,85% | 13,15% | 10,81% | 13,29% | 15,18% | 21,78% |
| | | No | 131 | 8,81% | 14,68% | 14,41% | 11,33% | 13,30% | 16,96% | 20,51% |
| | Main customer segment | Consumer | 49 | 9,34% | 16,06% | 15,40% | 10,95% | 12,46% | 15,31% | 20,48% |
| | | Corporate | 97 | 8,57% | 14,93% | 13,41% | 11,39% | 13,42% | 17,17% | 21,10% |
| | | Public sector | 19 | 8,91% | 13,71% | 14,72% | 11,01% | 14,87% | 16,98% | 19,80% |
| | Usage of auditor | Yes | 116 | 8,72% | 14,70% | 14,51% | 11,30% | 12,84% | 16,90% | 21,03% |
| | | No | 49 | 9,11% | 16,13% | 13,30% | 11,03% | 14,40% | 15,88% | 20,16% |
| | Last time choosing accounting firm | Last year | 22 | 8,58% | 13,78% | 14,67% | 11,32% | 13,26% | 17,49% | 20,90% |
| | | 1-2 years ago | 22 | 9,57% | 18,57% | 13,52% | 9,73% | 13,36% | 15,67% | 19,57% |
| | | 3-5 years ago | 29 | 7,57% | 15,91% | 14,33% | 12,10% | 15,03% | 16,12% | 18,95% |
| | | > 5 years ago | 55 | 9,29% | 12,92% | 14,47% | 11,12% | 13,92% | 16,87% | 21,40% |
| | | Never | 37 | 8,88% | 16,54% | 13,60% | 11,50% | 11,00% | 16,57% | 21,89% |

| | | # of respondents | Customer references | Accounting office certification | Level of personal service | Service development | Service package price | Software usability | Software accessibility |
|---|---|---|---|---|---|---|---|---|---|
| # Times have chosen an accounting firm | 1 time | 57 | 9,02% | 13,94% | 14,06% | 11,49% | 14,35% | 17,24% | 19,91% |
| | 2 times | 45 | 8,13% | 15,67% | 13,99% | 9,91% | 13,19% | 17,18% | 21,94% |
| | 3 times | 18 | 9,93% | 15,39% | 16,75% | 12,25% | 13,54% | 13,46% | 18,68% |
| | > 3 times | 12 | 8,25% | 15,41% | 12,40% | 12,74% | 13,45% | 17,37% | 20,38% |
| | Never | 33 | 9,10% | 16,20% | 13,76% | 11,41% | 11,45% | 16,12% | 21,95% |
| Last time choosing software | Last year | 18 | 7,81% | 17,13% | 12,47% | 10,78% | 11,12% | 18,24% | 22,46% |
| | 1-2 years ago | 18 | 7,67% | 16,10% | 12,54% | 10,52% | 15,14% | 16,18% | 21,86% |
| | 3-5 years ago | 24 | 8,44% | 14,87% | 16,64% | 10,74% | 11,60% | 16,00% | 21,70% |
| | > 5 years ago | 38 | 9,39% | 13,95% | 12,42% | 13,72% | 12,72% | 17,93% | 19,87% |
| | Never | 67 | 9,26% | 15,09% | 15,13% | 10,27% | 14,33% | 15,73% | 20,20% |
| # Times have chosen software | 1 time | 38 | 9,25% | 14,53% | 14,63% | 11,13% | 13,18% | 17,71% | 19,56% |
| | 2 times | 24 | 7,58% | 14,54% | 12,73% | 10,18% | 12,45% | 18,98% | 23,54% |
| | 3 times | 10 | 9,56% | 18,33% | 10,54% | 14,20% | 10,54% | 14,94% | 21,91% |
| | > 3 times | 16 | 7,90% | 14,82% | 13,31% | 12,86% | 12,91% | 17,09% | 21,12% |
| | Never | 77 | 9,13% | 15,25% | 15,00% | 10,86% | 14,07% | 15,41% | 20,28% |
| Access to software | Yes | 60 | 7,98% | 16,07% | 13,78% | 10,94% | 11,19% | 16,51% | 23,53% |
| | No | 98 | 9,33% | 14,82% | 14,34% | 11,14% | 14,52% | 16,90% | 18,95% |
| | No idea | 7 | 9,24% | 11,39% | 14,77% | 14,81% | 14,24% | 12,98% | 22,58% |

| | | | # of respondents | Customer references | Accounting office certification | Level of personal service | Service development | Service package price | Software usability | Software accessibility |
|---|---|---|---|---|---|---|---|---|---|---|
| Types of accounting services used | Basic accounting | Yes | 132 | 8,98% | 14,74% | 14,48% | 11,04% | 13,87% | 16,44% | 20,44% |
| | | No | 33 | 8,26% | 16,68% | 12,84% | 11,93% | 11,02% | 17,21% | 22,06% |
| | Seasonal and year-ends (tax returns and financial statements) | Yes | 133 | 9,02% | 14,96% | 14,30% | 11,04% | 13,71% | 16,67% | 20,31% |
| | | No | 32 | 8,08% | 15,80% | 13,55% | 11,96% | 11,61% | 16,30% | 22,69% |
| | Payroll management | Yes | 77 | 9,27% | 14,63% | 14,16% | 10,96% | 13,01% | 16,54% | 21,44% |
| | | No | 88 | 8,46% | 15,57% | 14,15% | 11,45% | 13,55% | 16,64% | 20,19% |
| | Consulting Services (incl. tax consulting) | Yes | 61 | 8,98% | 14,57% | 15,77% | 10,67% | 13,66% | 17,29% | 19,06% |
| | | No | 104 | 8,76% | 15,45% | 13,20% | 11,54% | 13,09% | 16,19% | 21,77% |
| | Budgeting/cash flow projections | Yes | 14 | 9,18% | 16,79% | 14,15% | 11,97% | 13,67% | 16,89% | 17,34% |
| | | No | 151 | 8,81% | 14,97% | 14,15% | 11,15% | 13,27% | 16,57% | 21,09% |
| | Do not use external services | Yes | 26 | 7,82% | 16,87% | 12,73% | 11,32% | 11,11% | 17,14% | 23,00% |
| | | No | 139 | 9,03% | 14,80% | 14,42% | 11,20% | 13,71% | 16,49% | 20,35% |