



Latent Classes of Accounting Outsourcing Firms

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Abstract

Purpose – Outsourcing of accounting increasingly attracts research interest, but research concerning the impact of the benefits of outsourcing on firm capabilities and performance across firms remains limited. We aim to reveal the unobservable latent classes of firms that outsource their accounting functions by testing a research model concerning the topic.

Design – We build on accounting outsourcing research and adapt a research model from the literature on business services outsourcing. We analyze the data from 261 small and medium-sized enterprises (SMEs) in Europe using finite mixture structural equation modeling (FMSEM) and additional methods.

Findings – We reveal three latent classes with different research models. *Thriving outsourcers* (N=103) have a positive attitude toward accounting outsourcing and associate competitive capabilities with mediating the relationship from outsourcing benefits to firm performance. *Annoyed outsourcers* (N=143) are dissatisfied with their accounting service provider and only associate outsourcing benefits with competitive capabilities. *Convenient outsourcers* (N=15) feel comfortable with their current accounting service provider and associate outsourcing benefits with neither capabilities nor with firm performance.

Originality – The study might be the first to categorize accounting outsourcers using FMSEM.

Research implications – The study initiates the discussion about the unobservable heterogeneity among accounting outsourcer. The study introduces the use of the FMSEM method in accounting outsourcing research.

Practical implications – The study offers novel insights concerning accounting outsourcers and proposes original explanations for their outsourcing decisions that would help both the outsourcers and accounting service providers.

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Paper type Research paper

Introduction

Outsourcing refers to a strategic decision to transfer an activity to be carried out by another company. Accounting researchers have predominantly built on transaction cost economics (TCE) and examined topics such as outsourcing internal audits (e.g. Anderson *et al.*, 2000; Speklé *et al.*, 2007; Widener and Selto, 1999), offshore outsourcing (Nicholson and Aman, 2012), and how to control outsourced accounting (Aman *et al.*, 2012; Nicholson *et al.*, 2006). Although outsourcing of accounting is an extremely attractive option for small and medium-sized enterprises (SMEs) due to their resource constraints such as a lack of people or knowledge to fulfil the accounting functions (e.g. Marriott and Marriott, 2000), and even though SMEs are the ones that benefit most from outsourcing professional services (Munjal *et al.*, 2019), accounting outsourcing has mainly been explored from the perspective of large firms.

Anderson *et al.* (2000) suggest that capabilities – the firm's capacity to deploy resources and an ability to take advantage of and improve the productivity of its resources (Barney and Hesterly, 2012) – enhance our TCE-focused understanding of accounting outsourcing decisions. Accordingly, researchers have advanced TCE with a resource-based view (RBV) (Barney, 1991; Wernerfelt, 1984) and examined the topic among SMEs using qualitative methods (Murphy *et al.*, 2012). Other business service outsourcing researchers (Bustinza *et al.*, 2010) have added the dynamic capabilities view (DCV) and validated a model regarding the impact of benefits of outsourcing on SMEs' capabilities and performance, but such a model remains absent in accounting outsourcing research.

A reason for the scarce research in the topic may be the unobserved heterogeneity of the accounting outsourcers. Unobserved heterogeneity means that heterogeneity of observations is not noticed either by theory or by the empirical analysis. Therefore, it occurs when theory exists but it does not assume heterogeneity or when the specified group variables in empirical analysis do not capture heterogeneity in the data even though theory indicates heterogeneity (Becker *et al.*, 2013). While TCE-based research on outsourcing has been connected to the contingency framework (Van der Meer-Kooistra and Vosselman, 2000), assuming heterogeneity based on some contextual variables, it has to make a priori assumptions about these variables. Thereby it does not address unobserved heterogeneity of the accounting outsourcers, for instance, regarding their perceived influence of the benefits of outsourcing on firm capabilities or performance.

The mixture modeling techniques have been developed to identify the unobserved heterogeneity. Mixture modeling refers to a broad family of statistical methods that allow researchers to reveal unobservable groups, called latent classes, from the data (Bart *et al.*, 2005; Muthén and Muthén, 2017). Such modeling builds on the assumption that the total sample is heterogeneous, consisting of smaller, theoretically unknown groups of respondents. Mixture modeling methods extend traditional classification methods, such as cluster analysis, with which researchers categorize respondents into theory-driven categories and various variable-centered approaches, such as regression analyses, confirmatory factor analyses (CFA), and structural equation modeling (SEM), which assume that the total sample is homogeneous. Consumer researchers (e.g., Jedidi *et al.*, 1997; Nadeem *et al.*, 2017) and business researchers, including logistics outsourcing researchers (Juntunen *et al.*, 2015), have long applied the use of mixture modeling in the context of SEM, called finite mixture structural equation modeling (FMSEM). FMSEM allows researchers to uncover latent classes and estimate group-specific path coefficients in a research model for each class in the data simultaneously (Bart *et al.*, 2005). Accounting researchers (e.g. Khurana and Raman 2006; Bowen *et al.*, 2008) have applied the use of mixture

modeling in the context of regression analyses (called latent class mixture regression analysis), but the use of the FMSEM method seems to be absent in the accounting outsourcing research.

The purpose of this paper is to uncover the latent classes of accounting outsourcing firms along with their respective model for the impact of benefits of outsourcing on firm capabilities and performance. We build on accounting outsourcing research and adapt a research model from the literature on services outsourcing. Our empirical data is collected from a survey of 261 companies in Finland that have outsourced accounting transactions. The companies represent various industries and the majority of the companies (98.5%) are SMEs. We estimate the latent classes and their group-specific research models using FMSEM and test statistically significant differences between the classes by using Kruskal-Wallis test and its post hoc pairwise comparisons test. The study extends the discussion regarding heterogeneity from the outsourced accounting transactions (Carey *et al.*, 2006; Van der Meer-Kooistra and Vosselman, 2000) to the unobserved heterogeneity of the outsourcers.

The article is organized as follows. First, the theoretical background is presented, followed by the conceptual model and hypotheses. Next, the methodological issues discussed. The empirical results are then presented and contributions discussed. The paper ends with the discussion on limitations and further research opportunities related to the study.

Accounting and outsourcing

Outsourcing in accounting research

According to Venkatesan (1992), the premise for outsourcing is that a firm is better off when it focuses on activities in which it possesses a sustainable competitive advantage, and externalizes those in which competing companies have a specific competitive advantage. Accounting functions are important in every business, as bookkeeping is obligatory and management can use accounting information for decision-making. Accounting service providers have accounting tasks as their core

competence and have a competitive advantage in terms of costs, quality and technical competence (Carey *et al.*, 2006; Michael, 2008). Accordingly, if the company is lacking in terms of people or knowledge to fulfil the accounting functions, the outsourcing option becomes attractive (Dibbern and Heinzl, 2002). While accounting functions are also connected with accounting information systems, the resources for IT are also relevant for decision to outsource accounting (see Hanafizadeh and Zareravasan, 2020). This is especially relevant for SMEs, since resource constraints are much more significant for them than they are for large firms (Marriott and Marriott, 2000). Especially micro-enterprises (companies with fewer than 10 employees) hardly have any choice between outsourcing and internalizing (Everaert *et al.*, 2010), which means that their choice is really not about Coase's (1937) traditional "make or buy" decision, but about how and what accounting tasks to outsource.

There are three main streams of literature in accounting regarding outsourcing related to accounting outsourcing, firm performance and capabilities. Research on accounting outsourcing is predominantly based on TCE. Research has mapped out characteristics of transactions and their related costs in order to find out what kind of transactions are suitable for outsourcing in order to gain cost benefits (e.g., Vosselman, 2002). Research conceptualizes these benefits based on cost savings and quality improvements (e.g. Smith *et al.*, 2005), and models both the costs and the benefits of the decisions through transaction costs determined by the asset specificity, environmental and behavioral uncertainty, as well as the frequency of transactions (Widener and Selto, 1999). While TCE-literature has acknowledged that cooperation with a service provider enables development of the relationship and more transactions to be outsourced (Speklé, 2001), and recent research has shown how the service provider may contribute the development of the relationship by its legitimating efforts (Lepistö *et al.*, 2020), earlier research has provided limited understanding of the influence of outsourcing accounting functions on firm performance.

Researchers have recently advanced the TCE perspective with the RBV and the DCV. The RBV is premised on strategic resources being heterogeneously distributed across firms (Barney, 1991). The distribution is seen as being rather stable and the unique resources and capabilities that an organization possesses as the source of competitive advantage. Human capital (the capabilities of individual employees) and organizational capital (included in the organizational structures) can be such unique resources. Physical resources are usually imitable and not alone sufficient for a sustainable competitive advantage, but their combination may provide uniqueness and a competitive advantage (Barney, 1991; Wernerfelt, 1984). The DCV questions the stability of the RBV view and states that the source of competitive advantage is the competitive capabilities, meaning how the resources are continuously integrated, built and reconfigured to build this competitive advantage (Teece *et al.*, 1997).

The two other streams of accounting research on outsourcing have benefitted from these views. First, the RBV has been used as an explanation to why firms outsource some of their non-core functions to focus on their more important capabilities. Eldenburg *et al.* (2019) claim that outsourcing non-core functions reduces uncertainties that arise in dealing with regulators of offshore outsourcing, so that the firm can focus on its more important capabilities and, thus, manufacturing outsourcing is more long-lived. Carey *et al.* (2006) show that when a firm believes that an internal audit service provider has better technical competence than the firm itself, in addition to cost benefits, the firm is prone to outsource its internal audit. Research has combined the TCE cost view with RBV stating that asset specificity refers to the unique resources of RBV. This means that outsourcing may not benefit the firm, if unique knowledge of operational activities is needed to conduct the activities prone to being outsourced (Widener and Selto, 1999). Additionally, researchers have recognized that core competencies may be affected by how the outsourcing relationship is controlled (Mouritsen *et al.*, 2001). Accordingly, the literature acknowledges that

outsourcing a non-core function may affect firm performance in other ways than by just reducing costs.

The second stream delves deeper into the understanding of how resources and capabilities are combined for advancing firm performance by exploring management control systems (MCSs). The use of certain MCSs may be organizational capital and support capabilities and the combinations of resources, which support strategic choices affecting firm performance (Henri, 2006). Whereas Henri (2006) states that capabilities are about linking resources together to deploy them and that the use of MCS can support this process to affect firm performance, Widener (2006) explores the mediating effect of performance measures between strategic resources and firm performance, without mentioning capabilities. Grafton *et al.* (2010) explore how the use of decision-facilitating and decision-influencing performance measures impacts capabilities and subsequently performance, and Mitter and Hiebl (2017) even state that management accounting may be a key capability in some phases and situations of international entrepreneurship, as it helps in the combining of resources.

When we acknowledge that accounting outsourcing is a question of firm governance, as management control systems are, we could state that outsourcing a non-core function in an SME, such as accounting, will bring benefits that help deploying (unique) resources for generating capabilities and affect firm performance positively. Despite the contributions above, the existing research lacks a model that explains how the influence of outsourcing benefits on competitive capabilities and firm performance differ among firms that outsource accounting. The following section introduces such a model.

Financial services sector in Finland

Financial services sector has been growing in Finland, which means that more and more outsourcing of those services is taking place. There are over 4,200 accounting service provider

firms with over 11,700 employees in Finland, whereas the total sales of the firms is about 970 Million Euros (Statistics Finland, 2017). The members of the Association of Finnish Accountancy Firms do accounting for over 150,000 firms, which are mostly small and medium-sized. An accounting service provider firm has 9,1 employees of average and an employee has on average 27 customers (Taloushallintoliitto ry, 2017). Polarisation goes on in the industry as few large nationwide chains are actively expanding by buying small and medium-sized service providers and also acquiring companies that specialize in software and invoicing, which support their services (Ministry of Economic Affairs and Employment, 2019). It has indeed been found that users of cloud-based accounting information systems outsource a larger variety of accounting processes compared to users of traditional systems (Asatiani et al., 2019). Digitalization is also changing the industry making future accounting professional service professionals and business consultants who are adept at utilizing electronic services (Ministry of Economic Affairs and Employment, 2019).

Conceptual model and hypotheses development

Conceptual model

We adopt our conceptual model (Figure 1) from Bustinza *et al.* (2010) who studied the matter in the service sector. The model consists of three main concepts – accounting outsourcing benefits, competitive capabilities and firm performance – and hypothesized relationships (H1-H3) between these concepts. Dashed arrows from the variable “Differences among latent classes” to the hypothesized relationships between the concepts indicate the assumed unobserved heterogeneity between the firms that outsource their accounting functions in terms of the strength of the relationships. We present the hypotheses next, followed by justifications for the assumption of heterogeneity among accounting outsourcing firms.

- Insert Figure 1 about here -

The cost-based explanation of outsourcing benefits is rather limited and other business literature has provided a more comprehensive discussion on these benefits (see, Kremic *et al.*, 2006). These benefits are often based on the perspective that when the right outsourcing decisions are made, the resulting benefits serve to strengthen the company's internal resources (Nordin, 2008). One main benefit of outsourcing is the possibility to invest capital in core activities, or core competencies, which should be difficult for competitors to imitate (Prahalad and Hamel, 1990). Bustinza *et al.* (2010) further categorize the benefits to *organizational benefit indicators* such as an improvement in management processes and reduction in organizational risks, and *business benefit indicators*, including, for instance, improvements in customer satisfaction and strategic positioning.

Accounting research has explored how competitive capabilities, competitive advantage and organizational capabilities are related to management control systems (MCSs) and, subsequently, firm performance (Grafton *et al.*, 2010; Henri, 2006). According to Grant (1991), capabilities are defined as a firm's strengths based on a combination of resources working together, which makes it plausible that they are affected by how MCSs and accounting information are used (Grafton *et al.*, 2010; Henri, 2006). As outsourcing allows the company to concentrate on those business activities that create greater competitive advantages for it (Pinjala *et al.*, 2006), the benefits of accounting outsourcing should have an impact on the competitive capabilities of the firm. Bustinza *et al.* (2010) revealed that the greater the benefits of the outsourcing decisions, the greater the positive impact of these decisions on the firm's competitive capabilities. Based on the above discussion, the first hypothesis is:

H1: Benefits of outsourcing accounting have a positive impact on a firm's competitive capabilities.

Since the effect of accounting outsourcing on competitive capabilities may be twofold, we base our research on findings that using accounting information may have an impact on firms' competitive

capabilities and, thus, firm performance. Not only accounting outsourcing researchers (Grafton *et al.*, 2010) but also outsourcing researchers in many other business fields including HR (Abdul-Halim *et al.*, 2009) and service firms (Bustinza *et al.*, 2010) have confirmed that competitive capabilities influence firm performance. The second hypothesis is thus:

H2: Competitive capabilities have a positive impact on a firm's performance.

As the previous hypotheses indicate, competitive capabilities have been found to be a mediator between outsourcing benefits and firm's performance in earlier literature (Bustinza *et al.*, 2010). However, if we assume that a firm relies on an accounting service provider that has a competitive cost advantage in producing accounting information, the cost of accounting services would reduce (Michael, 2008). This is in accordance with the TCE literature modelling outsourcing decisions based on lower transaction costs. This means that, there may also be a direct link between the benefits of outsourcing and firm's performance if outsourcing directly diminish the costs of the outsourcer. Although researchers (e.g. Bustinza *et al.*, 2010) have been unable to verify the relationship between outsourcing benefits and firm's performance, it is widely confirmed that outsourcing in general has a positive influence on firm performance (e.g. Gilley *et al.*, 2004; Golhar and Deshpande, 2009). Therefore, we assume that outsourcing accounting would also have a direct link to firm performance and the third hypothesis is:

H3: Benefits of accounting outsourcing have a positive impact on a firm's performance.

Research recognizes both the observable and unobservable heterogeneity across outsourcing firms. Regarding observable heterogeneity, Munjal *et al.* (2019) revealed that it is small firms that typically benefit most from outsourcing professional services and technology, especially if they lack resources or are fast-growing. Others identified differences in outsourcing strategies: a long-term strategy is based on deep co-operation with a selected service provider and it is designed to ensure

the prosperity of the enterprise; while a short-term strategy is characterized by competitive relationships with multiple service providers and it considers outsourcing as a manner in which to reduce employment, the cost of salaries, or to eliminate the conditions and rights acquired by employees through collective negotiations (e.g. Andone and Pavaloaia, 2010; Juntunen, 2010; Juntunen *et al.*, 2010).

Regarding unobservable heterogeneity, researchers have revealed two latent classes of logistics outsourcing firms in terms of cost performance, service performance and loyalty (Juntunen *et al.*, 2015). Other business researchers have revealed three latent classes of internationalizing SMEs with different resource and capability portfolios (Haapanen *et al.*, 2016). This indicates that the unobservable heterogeneity may exist between accounting outsourcing firms, specifically regarding capabilities and among SMEs. We will next explain our methodological choices in order to reveal such heterogeneity in our data.

Method

Data

The data was collected in Finland in 2017. The data collection contained two samples, each of which had two waves. First, a link to the questionnaire was emailed to 2000 randomly chosen companies in the Asiakastieto.com registry, which contains the contact information of approximately 37 000 companies in all industries (approximately 13 % of all companies) in Finland. Firms that were working in the industry of accounting services were excluded. A reminder was sent a week later, in order to increase the response rate and to reduce a nonresponse bias (Lambert and Harrington, 1990). The waves yielded 34 and 21 answers, respectively, resulting in the total of 55 answers and the response rate was 2.75%. Due to the low number of responses, the same link was emailed to 10 000 randomly chosen respondents in the same registry, excluding the firms that had received the link in the first stage. A reminder was sent two weeks later. The waves

yielded in 109 and 105 responses, respectively, resulting in a total of 214 responses with a response rate of 2.14%. The total number of responses was 269 yielding a response rate of 2.24%. Although the response rate is low, the total number of responses is acceptable for the purposes of statistical research conducted using the methods of the current study. As eight questionnaires were inadequately filled, they were excluded, resulting in the effective sample size of 261.

As the data proved to be non-normally distributed, nonresponse bias (Armstrong and Overton, 1977; Lambert and Harrington, 1990) between the samples was tested by using a Kruskal-Wallis test. A statistically significant difference ($p < 0.05$) was revealed in four out of 43 model variables between the two samples. No significant non-response bias ($p < 0.10$) in the study exists, which allows conducting the further analysis of the combined sample, and the results of these analyses can be generalized to the whole population in this regard (Lambert and Harrington, 1990). Samples were combined and used as a single sample in the further analyses.

Of the sample, 224 (85.8%) companies were micro-sized and had less than 10 employees; 26 (10%) companies had 10-49 employees; 6 (2.3%) companies had 50-249 employees; and only 4 (1.5%) companies had 250 employees or more. 1 (0.3%) respondent did not answer the question. The data is heavily skewed toward micro-sized firms, which reflects the fact that these companies seldom have another choice than outsourcing (Everaert *et al.*, 2010). However, the distribution of the companies in the sample approximately follows the distribution of the whole population of the Finnish companies (Statistics Finland, 2017).

Measurement of variables

We adapt the measurement model from the literature on business services outsourcing. In line with the conceptual model, the measurement model consists of three main factors: benefits of outsourcing factor, influence on competitive capabilities factor, and firm performance factor. Each of them is a second-order factor consisting of two, two and five sub-factors, respectively.

Benefits of the outsourcing factor consist of the business benefits factor and organizational benefits factor. Measures for the factors are adapted from Bustinza *et al.* (2010) and the factors contain six and five items, respectively (see, Appendix 1). Items were measured by using a 7-point scale (1=not benefitting at all...7=extremely benefitting).

The influence on the competitive capabilities factor consists of two sub-factors: internal impact factor and external impact factor. Measures for these factors are adapted from Bustinza *et al.* (2010), and the factors contain five and six items, respectively. Items were measured by using a 7-point scale (1=extremely unimportant ...7=extremely important).

Firm performance factor consists of five sub-factors: internal business performance factor, external business performance factor, organizational performance factor, innovation performance factor, and stakeholder performance factor. Items for each factor were adapted from the existing services outsourcing literature, and the factors contain two to six items (see, Appendix 1), thereby extending accounting research which often focuses on accounting measures and other financial factors rather than such multi-item construct to measure firm performance. Items were measured by using a 7-point scale (1=lowest in our industry...7=highest in our industry).

As the outsourcing strategy might distinguish the outsourcing firms, we adapted five items concerning outsourcing strategies (Juntunen, 2010) and customer loyalty (Vogel *et al.*, 2008), which can be seen as a long-term outsourcing strategy, as control variables. Items were measured by using a 7-point Likert scale (1=totally disagree ...7=totally agree).

Because the language of the sample was Finnish, the questions were translated into Finnish and then back into English in order to ensure consistency. The questionnaire was pre-tested by representatives of two different companies and revised accordingly.

Analyses and findings

Structural equation modeling (SEM) analyses

The analysis started with structural equation modelling (SEM), in order to test whether the theoretical model was statistically compatible with the data. SEM allows one to validate both the measurement and structural model simultaneously. Estimations were made by using the MPlus software using the robust maximum likelihood (MLR) estimation method, as it is robust to non-normality (Muthén and Muthén, 2017).

The structural model (Appendix 2) provides both acceptable and unacceptable fit indices. The Standardised Root Mean Residual (SRMR) value of 0.076 is between 0 and 0.08, which is the acceptable range for the index (Hu and Bentler, 1999). The Root Mean Square Error of Approximation (RMSEA) value of 0.092 is over 0.08, which represents the reasonable error of the approximation of the model (Browne and Cudeck, 1993). It is also within the range of 0.08 to 0.10, which indicates a mediocre fit (MacCallum *et al.*, 1996). The Comparative Fit Index (CFI) value of 0.853 and Tucker-Lewis Index (TLI) value of 0.843 are less than the required cut-off criteria 0.90 (Jaccard and Wan, 1995), as well as the chi-square value is 2444 (d.f. 767), which gives a p-value of 0.000. The hypothesized relationship H1 is statistically significant (standardized coefficient 0.721; p-value 0.000), whilst both H2 and H3 are statistically non-significant (standardized coefficients 0.120 and 0.098; and p-values 0.260 and 0.356, respectively). Due to unacceptable fit indices and the existence of non-significant relationships, the structural model cannot be accepted.

The constructs of the model, however, provide statistically acceptable fit indices. Construct reliabilities (CR), average variance extracted (AVE) and Cronbach's alpha (ALPHA) values are all at an acceptable level for all second-order constructs and their first-order sub-constructs. All factor loadings are statistically significant, which depicts that the construct validity and communality are acceptable (Hair *et al.*, 2010: 708). However, two factor loadings are low (See items *porg1* and *porg2* in appendix 1) but statistically significant and hence fulfill only a weak convergent validity

(Steenkamp and van Trijp, 1991). Items are included in measurement model to improve measurement strength of the model.

We next tested a rival structural model that contained H1 and H2 only, because some researchers (e.g. Bustinza *et al.*, 2010) have been unable to confirm H3. This model also provides unacceptable fit indices (chi-square value 2024; d.f. 691; p-value 0,000; SRMR 0,069; RMSEA 0,086; CFI 0,880; TLI 0,871), and therefore, although both of the relationships offer statistically significant values (standardized coefficients 0.723 and 0.000; p-values and 0.189 and 0.006, respectively), the model cannot be accepted.

In conclusion, the measurement structures of the constructs are valid, but the structural models provided unacceptable fit indices and non-significant relationships between the constructs. This raises the question of whether the data is heterogeneous concerning the hypothesized relationships between the constructs. We continued with FMSEM analyses.

Finite mixture structural equation modeling (FMSEM) analysis

In order to reveal the possible unobservable heterogeneity of the data, we continued with FMSEM analyses. Also these analyses were conducted with the MPlus software and using the MLR method.

We estimated a research model that comprises of the three confirmed second-order factors above for each class, but let the slope of the linear regressions of the latent variables vary between the latent classes, that is, let the hypothesized relationships across the latent classes vary. We extracted the number of the latent classes; the members of each class; and the respective structural model for each class concurrently. We estimated the solution first by using two latent classes, then using three classes and so on, until the model-fit information suggested that the previous solution was better than the current solution. In order to find the best solution for each number of classes, we changed the number of starting values and iterations (Muthén and Muthén, 2017).

We evaluated the solutions for the different number of latent classes with the help of the multiple fit indices the MPlus software reports. The lower absolute value of the Log-likelihood value in solutions with more classes indicates that the estimation is conducted properly (Table 1). Bayesian information criteria (BIC) value, which is the most reliable fit index with small sample sizes ($N < 500$) (Tolvanen, 2007; Juntunen *et al.*, 2015), suggests the solution of three latent classes. This is supported by the parametric bootstrapped likelihood ratio (PBLR) value, which is always reliable when it can be estimated. The highest entropy value suggests the solution of four classes. Although the lowest values of the Akaike's information criteria (AIC) value, the Adjusted Bayesian information criteria (ABIC) value, the Vuong-Lo-Mendell-Rubin likelihood ratio test (VLMRLRT) value and the Lo-Mendell-Rubin adjusted likelihood ratio test (LMRALRT) value also indicate that the solution of four latent class would be the best option, these indices are typically valid for large sample sizes ($N > 500$) and can be ignored. In addition, in the solution of four latent classes, the smallest class has only 9 members (3.4 %), which is less than the required minimum class size of 5 % (Muthén and Muthén, 2017). On the basis of this evaluation, we concluded that the solution of three latent classes is the best solution and continued with it.

- Insert Table 1 about here -

The solution of three latent classes suggests that the first latent class (LC1) has 103 members (39.5 % of the population), the second latent class (LC2) has 143 members (54.8 %), and the third latent class (LC3) has 15 members (5.7 %). We gave a name for each class – *Thriving outsourcers*, *Annoyed outsourcers*, and *Convenient outsourcers*, respectively, during our further analyses, as we will explain below. Based on the average posteriori probabilities (Table 2), the probability of the members to belong in the suggested classes is very high.

- Insert Table 2 about here -

Standardized estimates and p-values show that the structural model for each class differs remarkably from the model of other classes (Table 3). For *Thriving outsourcers*, the model shows that the hypothesized relationships H1 and H2 are statistically significant but H3 is statistically non-significant. This means that for this class, H1 and H2 are supported whilst H3 is not supported. For *Annoyed outsourcers*, the hypothesized relationship H1 is statistically significant but H2 and H3 are statistically non-significant. For this class, H1 is supported whilst H2 and H3 are not supported. For *Convenient outsourcers*, all the hypothesized relationships H1, H2 and H3 are statistically non-significant. In this class, none of the hypotheses H1-H3 is supported.

- Insert Table 3 about here –

At this phase, we checked the models for the solutions of two latent classes and four latent classes in order to confirm that the solution for three latent classes is the one which makes theoretically most sense, also in terms of the models for the classes. In the solution of two latent classes, the model structures were in line with those of *Thriving outsourcers* and *Annoyed outsourcers* above, and the model for 92.7% of the respondents was similar than in the solution of three latent classes. In the solution of three latent classes, all except one respondent, that is 93.3% of *Convenient outsourcers* was categorized into a class of *Thriving outsourcers* in the solution of two latent classes. This confirms that the models for *Thriving outsourcers* and *Annoyed outsourcers* exist across solutions, yet the solution for three latent classes provides more explanatory power for the phenomenon at hand. The solution for four latent classes produced theoretically unacceptable estimates, that is, absolute values outside the range of 0-1, thereby confirming that continuing with the solution of four latent classes is out of the question.

Then, we wanted to find explanations as to why the structural model for each class is different and what other explanations there are for the existence of the classes. The following section presents the results of this analysis.

Kruskal-Wallis test's pairwise comparisons tests

In order to test whether there are significant statistical differences between the classes in terms of variables, we conducted a Kruskal-Wallis H-test by using the IBM® SPSS® Statistics version 24 software package. The test shows no statistically significant difference in the mean ranks of the classes in terms of demographic variables, that is, the firm size ($H=0.750$, $p=0.687$), firm age ($H=1.415$, $p=0.493$), or industry ($H=0.396$, $p=0.820$). As the test shows statistically significant differences in the mean ranks of the classes in 37 out of 46 variables (80.4%), we conducted post hoc tests to test pairwise comparisons in order to reveal statistically significant differences between the classes (Appendix 3; Figure 2). We introduce these results construct-wise and variable-wise next, along with explaining how the findings helped us to name the classes.

- Insert Figure 2 about here -

Benefits of outsourcing and the impact on competitive capabilities. The pairwise comparisons test provides statistically significant differences in the mean ranks of *Thriving outsourcers* and *Annoyed outsourcers* in all variables of the following factors: business benefits, organizational benefits, internal impact, and external impact (see, Appendix 3). The median response by *Thriving outsourcers* to the variables of these factors is most often higher than neutral (>4) or neutral (4), indicating a general positive attitude of the class members towards outsourcing benefits and its impact on competitive capabilities. This, along with other justifications as we explain below, encourages us to call the class *Thriving outsourcers*. The median response by *Annoyed outsourcers*

to the variables of these factors is typically lower than neutral (<4) or neutral (4), which indicates their general negative attitude towards outsourcing benefits and its impact on competitive capabilities. We call the class *Annoyed outsourcers* and offer more justifications for the name below.

Median responses by *Convenient outsourcers* to the variables of the business benefits, organizational benefits, and external impact factors are typically between the medians of the other two classes or the same, varying from higher than neutral (>4) to neutral (4) to lower than neutral (<4). In other words, *Convenient outsourcers* consider some aspects related to accounting outsourcing benefitting and important, while others as non-benefitting and non-important. We name the class *Convenient outsourcers*, and explain this more below. In terms of business benefits and organizational benefits, the pairwise comparisons test provides statistically significant differences in the mean ranks of *Convenient outsourcers* and *Thriving outsourcers* in two variables (bb3, $p=0.037$; bo4, $p=0.026$). The mean ranks of *Convenient outsourcers* for these variables are significantly lower than those by *Thriving outsourcers* (see, Figure 2), reflecting that while *Thriving outsourcers* perceive that accounting outsourcing benefits them by increasing their customer satisfaction and innovation trends, *Convenient outsourcers* consider the opposite. Additionally, the test provides statistically significant differences in the mean ranks of *Convenient outsourcers* and *Annoyed outsourcers* in the terms of variable bo2 ($p=0.021$), meaning that *Convenient outsourcers* perceive that their access to latest technologies due to accounting outsourcing is significantly more benefitting for them than *Annoyed outsourcers* perceive it to be for them. In terms of internal and external impact factors, the test shows statistically significant differences in the mean ranks of all variables of *Convenient outsourcers* and *Annoyed outsourcers*, the mean ranks of *Convenient outsourcers* being even higher than those of *Thriving outsourcers*. This means that *Convenient outsourcers* consider the internal and external impacts of accounting outsourcing to be significantly more important than *Annoyed outsourcers*.

Firm performance. No statistically significant differences were found in the mean ranks of classes in variables of the internal business performance factor, meaning that all classes are similar to what comes to their internal business performance. Related to the external business performance factor and its variable pext2, the statistically significant difference was found in the mean ranks of *Convenient outsourcers* and *Thriving outsourcers* ($p=0.007$), as well as of *Convenient outsourcers* and *Annoyed outsourcers* ($p=0.013$), meaning that both *Thriving outsourcers* and *Annoyed outsourcers* consider the importance of growth in sales in main services and markets as a result of accounting outsourcing being significantly more important than *Convenient outsourcers* do. In terms of the organizational performance factor and its three variables (porg4, porg5, porg6), the test shows statistically significant differences in the mean ranks of *Thriving outsourcers* and *Annoyed outsourcers* ($p=0.000$, $p=0.001$ and $p=0.003$, respectively), as well as of *Convenient outsourcers* and *Thriving outsourcers* ($p=0.000$, $p=0.006$ and $p=0.030$, respectively). This means that *Convenient outsourcers* consider that their organizational performance in terms of the general level of customer satisfaction, the degree of loyalty of customers, and customer relations in general are better than in the firms in their industry on average. The finding differs significantly from *Thriving outsourcers*, who hold opposite perceptions.

In terms of innovation performance and its two variables (pinn1, pinn2), the test shows statistically significant differences in the mean ranks of *Convenient outsourcers* and *Thriving outsourcers* ($p=0.001$, $p=0.000$, respectively) and of *Annoyed outsourcers* and *Convenient outsourcers* ($p=0.005$ and $p=0.003$, respectively), reflecting that *Convenient outsourcers* consider their innovation performance in terms of R&D outlays and the amount of process innovations to be much weaker than the firms in their industry on average. The finding differs significantly from the perceptions of other classes, who consider their performance to be similar to other firms in their industry. Related to stakeholder performance and its variable pstake1, the test shows statistically significant difference in the mean ranks of *Convenient outsourcers* and *Thriving outsourcers*

($p=0.008$), as well as of *Annoyed outsourcers* and *Convenient outsourcers* ($p=0.004$). This indicates that *Convenient outsourcers* consider their employment growth to be weaker than the firms in their industry on average do, and significantly weaker than the two other classes do. Additionally, statistically significant differences were revealed in the mean ranks of *Thriving outsourcers* and *Annoyed outsourcers* concerning two variables ($p_{stake2}, p=0.002$; $p_{stake3}, p=0.009$), indicating that *Thriving outsourcers* consider their employee morale and level of satisfaction with supplier better than the firms in their industry on average and significantly better than *Annoyed outsourcers* do.

Control variables. The test shows statistically significant differences in the mean ranks of *Thriving outsourcers* and *Annoyed outsourcers* in terms of their current amount of outsourcing ($outnow1$; $p=0.000$), but no statistically significant differences in the mean ranks of the classes was revealed in terms of how much of the outsourced function the firm could actually conduct by themselves. Related to future outsourcing plans and strategies, the test shows statistically significant differences in the mean ranks of *Thriving outsourcers* and *Annoyed outsourcers* in all variables. Again, medians by *Thriving outsourcers* are considerable higher than those by *Annoyed outsourcers*, reflecting their positive and negative attitude, respectively, towards outsourcing in the future. Additionally, *Annoyed outsourcers* have the lowest intentions to outsource more, to strengthen the cooperation with, or recommend their current service providers. The test also shows statistically significant differences in the mean ranks of *Convenient outsourcers* and *Thriving outsourcers* concerning two variables ($outplan2$ $p=0.006$; $outplan4$ $p=0.003$), meaning that *Thriving outsourcers* aim to outsource more to a new service provider and increase competition among their service providers significantly more than *Convenient outsourcers*, who have the lowest intentions for these, but the highest intentions to strengthen the cooperation with their current providers. We discuss these three groups of accounting outsourcers and their respective models next.

Discussion

We revealed three latent classes of accounting outsourcers. *Thriving outsourcers* (N=103) is the most satisfied class with accounting outsourcing in general and with their current accounting services provider particularly. As they perceive, outsourcing benefits them through increases in customer satisfaction and innovation trends that also improve their internal and external competitive capabilities. These outsourcers have probably analyzed which transactions are the most prominent to be outsourced and that a close cooperation with a service provider enables a larger variety of transactions to be successfully outsourced (Speklé, 2001) and building a strong trustworthy relationship (Hanafizadeh and Ravasan, 2017). A structural model for *Thriving outsourcers* is in line with the research on services outsourcing (Bustinza *et al.*, 2010), which indicates that these firms have acknowledged that outsourcing allows them to focus on developing and deploying their more important capabilities, which again affects firm performance, also in more versatile ways than only by cutting costs (Henri, 2006). As accounting activities are connected with IT, this finding is also in line with findings in IT outsourcing research indicating that intangible benefits for decision to outsource may be more important than the tangible ones (Hanafizadeh and Ravasan, 2017). *Thriving outsourcers* plan to increase their outsourcing in the future and, despite their satisfaction, may also use other service providers that they currently have. This is in line with research which has recognized that long-term strategic approaches in outsourcing are characterized by deep co-operation with a selected service provider (Andone and Pavaloiaia, 2010; Juntunen, 2010), but also proneness to use outsourcing more widely to improve competitive capabilities and firm performance. It is also in line with Carey *et al.* (2006) in that the firms here made the decision to outsource based on the perceived value of the service provider, which is based on the big picture of the benefits that the service provider offers, not only accounting capabilities, quality and efficiency, but also access to IT solutions. Therefore, the decision to outsource was not probably driven by top-down strategy to outsource or out of pure necessity. This means that *Thriving outsourcers* have

probably analyzed carefully the different reasons related to technological attributes such as benefits, risks and complexity in additions to environmental and user attributes, when making their outsourcing decisions and thus getting benefits out of the relationship. Moreover, they probably have many organizational attributes positive towards outsourcing, such as skills and competencies, trust towards to service provider, positive attitude and management support (see Hanafizadeh and Zaravasan, 2020).

Annoyed outsourcers (N=143) is the most dissatisfied class with accounting outsourcing in general and with their current accounting services provider particularly. This is reflected by their marginal intentions to outsource more to, strengthen the cooperation with, or recommend their current service providers. The model for the class shows that the class realizes that outsourcing enables developing capabilities, but it has not been able to develop those capabilities and does not consider outsourcing to be a way in which to enhance firm performance, which is in stark contrast with *Thriving outsourcers*. The decision of outsource has probably been done out of necessity without further analysis resulting in getting neither the service they desire nor any perceived benefits, which causes negative attitudes questioning decisions to outsource in the future (Hanafizadeh and Zaravasan, 2020). The existence of such outsourcers questions the models that are based on some kind of rational decision-making, whether based on costs or resources/capabilities. However, the inability to develop capabilities with the help of accounting outsourcing reflects similar findings as Mitter and Hiebl (2017) who find that accounting may be important in developing capabilities, which again may be hindered by outsourcing it. Therefore, accounting outsourcing is not always the most efficient way for firm governance, but keeping the capabilities inside the firm could provide more benefits.

Convenient outsourcers (N=15) are neither extremely satisfied nor extremely dissatisfied with accounting outsourcing or with their current accounting services provider. They probably consider relationships to be important, as they have the highest intentions to strengthen the cooperation with

their current providers. Thereby this class also has characteristics of a long-term strategic approach in outsourcing (Andone and Pavaloia, 2010; Juntunen, 2010), yet probably they have just not given it much thought. The model for the class shows that while the class members perceive that outsourcing benefits, in particular, access to the latest technologies, they associate these benefits neither with capabilities nor with firm performance. They have probably outsourced their accounting out of convenience without trying to reach other benefits than to skip doing certain transactions internally, but Their decision may also be related to IT issues, as they seem to be especially in the benefits from technological attributes (Hanafizadeh and Ravasan, 2017). This group does not fit to the ideas where the decision to outsource is done based on a thorough analysis of transaction costs or effects on competitive capabilities.

None of the three classes associate the benefits of accounting outsourcing directly to firm performance. The finding contradicts research suggesting that outsourcing in general has a positive influence on firm performance (e.g. Gilley *et al.*, 2004; Golhar and Deshpande, 2009), but it is similar to that of Bustinza *et al.* (2010) and in line with RBV in that the cost benefits may not directly translate to a firm performance, as they do not constitute an unique capability (Barney, 1991; Henri, 2006), yet the cost benefits may free resources for developing and deploying more unique resources and capabilities. Overall, our findings confirm, illustrate and explain the heterogeneous nature of accounting outsourcers and show the multitude of factors in play in accounting outsourcing decisions. Table 4 summarizes the findings of the research related to the three streams of accounting literature introduced in theory section. Our findings are in line with the earlier research with the exception of TCE-based literature. However, it is worthwhile to note that the earlier accounting research is predominantly based on large firms outsourcing their accounting or other functions. Therefore, our findings specifically show how heterogeneous the accounting outsourcing situations of small and medium-sized firms may be. Transactions costs and tangible benefits do not seem to be the most important reason behind outsourcing, but more intangible

reasons, such as focusing the limited resources to more important capabilities plays a bigger role (see Hanafizadeh and Ravasan, 2017). However, our results do not reveal all the reasons behind accounting outsourcing as outsourcees may be quite content with the situation without explicit link between outsourcing and other capabilities.

- Insert Table 4 about here –

Conclusions

Research implications

Our study offers various implications to the accounting outsourcing literature. First, we apply a novel theoretical approach in our research. Accounting outsourcing has predominantly been based on TCE (e.g. Aman *et al.*, 2012; Nicholson and Aman, 2012), and although researchers have advanced it with RBV (e.g. Henri, 2006; Murphy *et al.*, 2012), utilizing DCV has remained scarce. Other business service outsourcing researchers (Bustinza *et al.*, 2010) have added DCV and validated a model regarding the impact of benefits of outsourcing on firm capabilities and performance, but such a model has remained absent in accounting research. Our study closes these gaps.

Second, we introduce three latent classes of accounting outsourcees and their research models concerning the impact of the benefits of outsourcing on firm capabilities and performance. Our data was inadequate to fit the research model we adapted from the business services outsourcing research (Bustinza *et al.*, 2010). Instead, we revealed that the model for each latent class is different, reflecting their satisfaction with and their strategic choices related to accounting outsourcing. This confirms that one research model might be insufficient to express the unobserved heterogeneity across firms that outsource accounting, thereby explaining why research on the topic has remained limited. Our study also extends the FMSEM research regarding firm resources and capabilities (Haapanen *et al.*, 2016) by adding the concept of firm performance.

Third, we confirmed the measurement structures for the concepts benefits of outsourcing, the impact on competitive capabilities, and firm performance. We verified that the measures developed by Bustinza *et al.* (2010) for the constructs benefits of outsourcing and the impact on competitive capabilities are valid in the context of accounting outsourcing as well. Our study widens the view of the benefits from accounting outsourcing, which has this far been mainly focused on transaction costs (e.g., Carey *et al.*, 2006; Widener and Selto, 1999), while also limitedly acknowledging that core competencies affect the decision to outsource. We expand the concept firm performance by validating a measurement model that is a second-order construct consisting of five sub-factors. Accounting researchers usually measure firm performance from financial perspective and accounting measures, and our study thus widens the view to multi-item organizational performance. Researchers in other business fields have measured firm performance by using one (e.g. Ellinger *et al.*, 2000), two (e.g. Golhar and Deshpande, 2009), three (Bustinza *et al.*, 2010) or four (Gilley *et al.*, 2004) of these factors, yet we found no research that would have used this extensive measurement model for firm performance. With these contributions, our study creates a sound platform for further research on outsourcing, both in accounting and other business fields.

Methodologically, although latent class research using the FMSEM method has been widely used in consumer research (Bart *et al.*, 2005; Jedidi *et al.*, 1997; Nadeem *et al.*, 2017) and in business research (Haapanen *et al.*, 2016), including logistics outsourcing research (Juntunen *et al.*, 2015), the approach has been non-existent in the field of accounting, which has focused on the ex-ante analysis of transaction costs and contingency factors (e.g. Carey *et al.*, 2006; Widener and Selto, 1999) or used latent class mixture regression analysis only (e.g. Khurana and Raman 2006; Bowen *et al.*, 2008).

Managerial implications

For accounting service providers, as the industry is growing and developing, it is particularly important to recognize different outsourcer groups as current and potential clients, as this may lead toward more efficient marketing efforts where, instead of targeting average customers based on demographics, marketing can be more focused and targeted directly at real behavior-based target groups. This is also important with the current clients. For example, more services could be offered to *Thriving outsourcers*, while with *Annoyed outsourcers* accounting firms may need closer cooperation to understand their needs and improve trust, attitudes of management and the skills of the client in order to enhance customer satisfaction. Then there might be the small group of *Convenient outsourcers*, who are clients that may not need any big marketing efforts, but are content with the current situation. However, *Convenient outsourcers* may respond positively to marketing related to technological benefits offered by outsourcing. From the client firm perspective, the results also indicate how important it is to consider the general approach to, existing experiences of, and future plans for accounting outsourcing in order to realize positive effects for firm performance. For small and medium-sized firms prone to outsource their accounting, the results provide different perspectives in addition to tangible cost reductions to consider in order to realize benefits from outsourcing and not only doing it out of necessity. On the other hand, the different latent classes may benefit from different kinds of outsourcing strategies (see Hanafizadeh and Zareravasan, 2020): *Thriving outsourcers* may rely on business process outsourcing where the service provider is responsible for performing an entire accounting function, including IT systems and their maintenance, or cloud services, as they may outsource more and more accounting transactions. *Annoyed outsourcers* may be more satisfied with application service providers where they only rent generally available packaged software applications and related services for conducting accounting. *Convenient outsourcers* may be satisfied with different strategies, e.g. cloud services, where the service provider offers a wide variety of services.

Limitations and further studies

Although we adopted the measures from earlier research, there may always be additional influencing variables and alternative measures that are excluded from this study. Also additional control variables, like the quality of the outsourcing service, would probably increase understanding relating to this phenomenon. The measurement of all variables was based on subjective perceptions, rather than objective figures. Our data was cross-sectional, which hinders us to establish causality in the same way as a longitudinal data would have allowed us to do. The generalizability of the current study may suffer due to the fact that the data is small (N=261) and contains respondents who are mainly from SMEs in one country only.

We highlight three avenues for further studies. First, we encourage researchers to apply novel theoretical approaches in order to better explain performance of accounting outsourcing firms. Second, different groups of accounting outsourcers need further research attention. We revealed three classes of outsourcers, but more research is needed in order to better understand different types of unobservable heterogeneity of outsourcers. Additionally, more research is needed in the context of accounting outsourcing in relation to concepts outsourcing benefits, firm capabilities, and firm performance, along with the relationships between them.

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Figure 1: The conceptual model

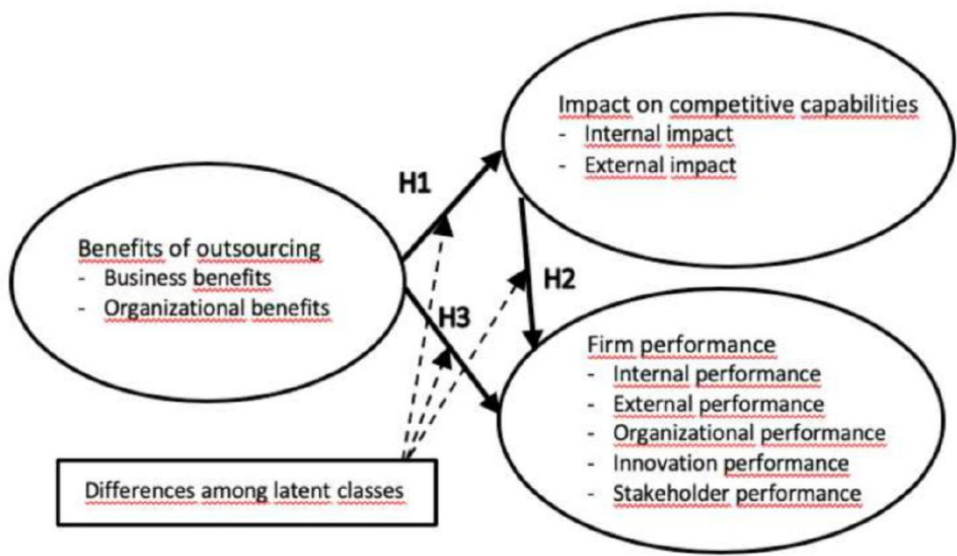
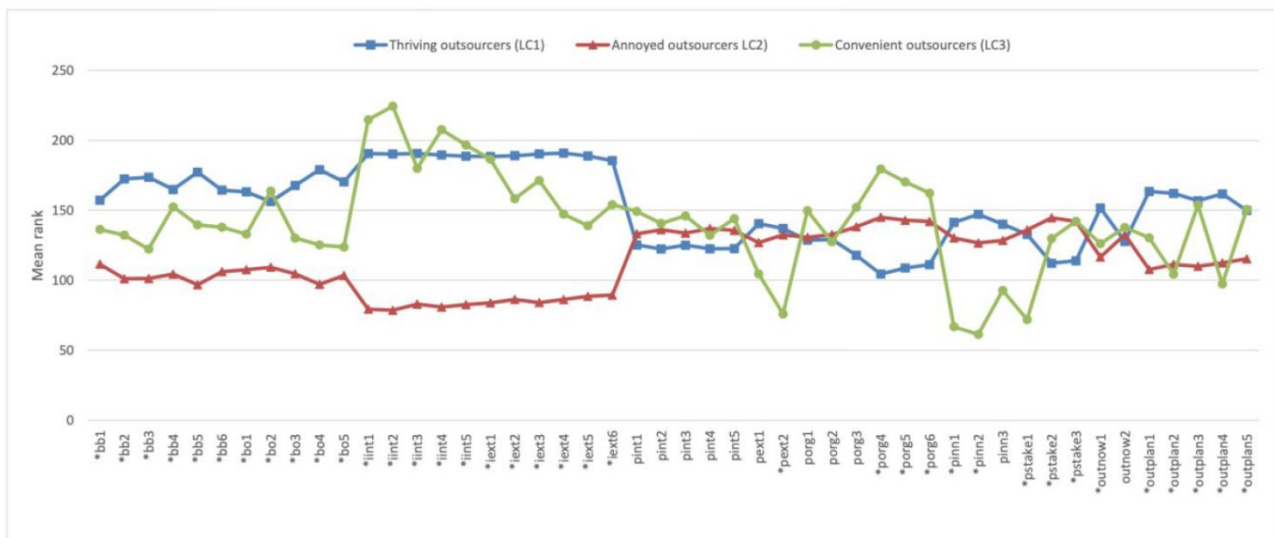


Figure 2: Kruskal-Wallis test's post hoc pairwise comparison test's mean ranks by classes



*See Kruskal-Wallis test values and pairwise comparisons test values for statistically significant differences in the mean ranks of classes in variable in Appendix 3.

Table 1: Fit indices of the model with different numbers of latent classes

Classes	N/Class	Entropy	LogLH	AIC	BIC	ABIC	VLMRLRT	LMRALRT	PBLR
1	261	n/a	15763	31796	32277	31949	n/a	n/a	n/a
2	115/146	0.829	15686	31674	32212	31733	0.574	0.577	0.000
3	103/15/143	0.904	15624	31583	32178	31648	0.324	0.327	0.000
4	15/9/131/106	0.921	15584	31534	32186	31605	0.240	0.240	0.000

Table 2: Average posteriori probabilities

Class	Thriving outsourcers (LC2)	Annoyed outsourcers (LC1)	Convenient outsourcers (LC3)
Thriving outsourcers (LC2)	0.943	0.042	0.016
Annoyed outsourcers (LC1)	0.019	0.980	0.001
Convenient outsourcers (LC3)	0.077	0.009	0.914

Table 3: Structural models of the three latent classes

Latent class	Structural model for the latent class (Statistically significant relationships illustrated only)
<p>Thriving outsourcers (N=103; 39,5 %)</p> <p>Coefficient (p-value) Θ_{H1} 0.936 (0.000) => H1 supported Θ_{H2} 0.969 (0.000) => H2 supported Θ_{H3} -0.150 (0.588) => H3 not supported</p> <p>Annoyed outsourcers (N=143; 54,8 %)</p> <p>Coefficient (p-value) Θ_{H1} 0.486 (0.000) => H1 supported Θ_{H2} -0.150 (0.201) => H2 not supported Θ_{H3} 0.165 (0.231) => H3 not supported</p> <p>Convenient outsourcers (N=15; 5,7 %)</p> <p>Coefficient (p-value) Θ_{H1} -0.701 (0.167) => H1 not supported Θ_{H2} 0.807 (0.313) => H2 not supported Θ_{H3} 0.667 (0.487) => H3 not supported</p>	<p>The diagram for Thriving outsourcers shows a latent variable 'Benefits of outsourcing' (with indicators: Business benefits, Organizational benefits) influencing two observed variables: 'Impact on competitive capabilities' (with indicators: Internal impact, External impact) and 'Firm performance' (with indicators: Internal performance, External performance, Organizational performance, Innovation performance, Stakeholder performance). The path coefficients are 0.936 and 0.969 respectively.</p> <p>The diagram for Annoyed outsourcers shows a latent variable 'Benefits of outsourcing' (with indicators: Business benefits, Organizational benefits) influencing 'Impact on competitive capabilities' (with indicators: Internal impact, External impact). The path coefficient is 0.486. There is no significant path to Firm performance.</p> <p>The diagram for Convenient outsourcers shows a latent variable 'Benefits of outsourcing' (with indicators: Business benefits, Organizational benefits) and two observed variables: 'Impact on competitive capabilities' (with indicators: Internal impact, External impact) and 'Firm performance' (with indicators: Internal performance, External performance, Organizational performance, Innovation performance, Stakeholder performance). No significant paths are illustrated.</p>

Table 4: Accounting research on outsourcing related to the findings

Stream of accounting literature	References	Implication of the findings
Benefits of outsourcing accounting originate from the reduction of transaction costs (TCE-based research), suggesting a direct link between firm performance and outsourcing	Smith et al. (2005), Aman et al. (2012), Nicholson and Aman (2012)	No direct link is found between outsourcing and firm performance within any latent class of accounting outsourcers
Outsourcing non-core functions provides resources for more value-adding activities	Widener and Selto (1999), Mouritsen et al. (2001), Spekle (2001), Smith et al. (2005), Carey et al. (2006), Eldenburg et al. (2019)	Our results reveal differences between outsourcers. Not all accounting outsourcers deem outsourcing providing more resources for other activities. More specifically, <i>Thriving outsourcers</i> see the positive link between outsourcing and competitive capabilities, while <i>Annoyed outsourcers</i> see the link as a negative one. <i>Convenient outsourcers</i> are content with the situation in any case.
Firm governance/control, meaning the right combination of insourced and outsourced activities support capabilities of the firm	Henri 2006), Widener (2006), Mitter and Hiebl (2017), Grafton et al. (2010)	The latent classes of <i>Thriving</i> and <i>Annoyed outsourcers</i> are in line with this. While <i>Thriving outsourcers</i> have found the right combination, for <i>Annoyed outsourcers</i> outsourcing decisions does not seem to be the right decision to support other capabilities.

Appendix 1: Latent variables, their measures, factor loadings, residual variances, and fit indices.

Latent variable	Explanation and operational measures in the questionnaire	Label	Std. factor loading	Std. residual variance
First-order factors				
Business benefits	CR 0.940, AVE 0.813, ALPHA 0.939 <i>Measures adapted from Bustinza et al. (2010)</i> Assess the following potential benefits of outsourcing accounting functions <ul style="list-style-type: none">allows focusing on core activitiesincreases business flexibilityincreases customer satisfactionallows focus on internal business improvementimproves strategic positioninggets rid of problem functions	bb bb1 bb2 bb3 bb4 bb5 bb6	 0.793 0.906 0.850 0.881 0.824 0.848	 0.371 0.179 0.278 0.225 0.320 0.282
Organizational benefits	CR 0.925, AVE 0.765, ALPHA 0.928 <i>Measures adapted from Bustinza et al. (2010)</i> Assess the following potential benefits of outsourcing accounting functions <ul style="list-style-type: none">improves operations technologicallyallows access to latest technologiesimproves management processesincreases innovation trends	bo bo1 bo2 bo3 bo4	 0.889 0.823 0.848 0.840	 0.209 0.322 0.281 0.294

	<ul style="list-style-type: none"> • reduces organizational risks 	bo5	0.848	0.280
Internal impact	<p>CR 0.963, AVE 0.793, ALPHA 0.966</p> <p><i>Measures adapted from Bustinza et al. (2010)</i></p> <p>Assess the importance of an outsourcing decision on the following competitive capabilities of your firm</p>	iint		
	<ul style="list-style-type: none"> • enable punctual delivery 	iint1	0.926	0.142
	<ul style="list-style-type: none"> • enable faster delivery 	iint2	0.936	0.124
	<ul style="list-style-type: none"> • increase the competitiveness of our prices 	iint3	0.905	0.181
	<ul style="list-style-type: none"> • enable us to offer consistent quality 	iint4	0.936	0.124
	<ul style="list-style-type: none"> • enable us to obtain better results from services or products 	iint5	0.919	0.156
External impact	<p>CR 0.974, AVE 0.838, ALPHA 0.973</p> <p><i>Measures adapted from Bustinza et al. (2010)</i></p> <p>Assess the importance of an outsourcing decision on the following competitive capabilities of your firm</p>	iext		
	<ul style="list-style-type: none"> • provide flexibility to face market demand 	iext1	0.905	0.181
	<ul style="list-style-type: none"> • introduce new services and products into the market more rapidly 	iext2	0.925	0.144
	<ul style="list-style-type: none"> • distribute our services or products more widely 	iext3	0.943	0.111
	<ul style="list-style-type: none"> • Increase the number of our services or products 	iext4	0.944	0.109
	<ul style="list-style-type: none"> • contribute to promoting our services and products more efficiently 	iext5	0.937	0.121
	<ul style="list-style-type: none"> • develop post-sales services and products 	iext6	0.918	0.157

Internal business performance	CR 0.912, AVE 0.772, ALPHA 0.909 <i>Measures adapted from Bustinza et al. (2010), Gilley et al. (2004) and Golhar and Deshpande (2009)</i> Please rate your firm’s performance relative to similar firms in your industry over the past 12 months. <ul style="list-style-type: none">• return on assets• return on equity• return on investment• return on sales• overall financial performance	pint	pint1	0.926	0.143
			pint2	0.937	0.122
			pint3	0.850	0.278
			pint4	0.698	0.513
			pint5	0.664	0.553
External business performance	CR 0.726, AVE 0.534, ALPHA 0.716 <i>Measures adapted from Bustinza et al. (2010), Kamyabi and Devi (2011) and Golhar and Deshpande (2009)</i> Please rate your firm’s performance relative to similar firms in your industry over the past 12 months. <ul style="list-style-type: none">• market share on main markets• growth in sales in main services and markets	pext	pext1	0.663	0.561
			pext2	0.841	0.292
Organizational performance	CR 0.814, AVE 0.737, ALPHA 0.799 <i>Measures adapted from Bustinza et al. (2010), Ellinger et al. (2000) and Gilley et al. (2004)</i>	porg			

Please rate your firm's performance relative to similar firms in your industry over the past 12 months

• number of customer complaints	porg1	0.277	0.923
• number of services or products initiated but not finalized	porg2	0.244	0.941
• lead-time	porg3	0.586	0.656
• general level of customer satisfaction	porg4	0.841	0.292
• degree of loyalty of customers	porg5	0.881	0.224
• customer relations in general	porg6	0.914	0.165

Innovation
performance

CR 0.883, AVE 0.682, ALPHA 0.881

Measures adapted from Gilley et al. (2004), Görg and Hanley (2011) and Kamyabi and Devi (2011)

pinn

Please rate your firm's performance relative to similar firms in your industry over the past 12 months

• R&D outlays	pinn1	0.805	0.352
• amount of process innovations	pinn2	0.906	0.179
• amount of product innovations	pinn3	0.824	0.321

Stakeholder
performance

CR 0.741, AVE 0.595, ALPHA 0.740

Measures adapted from Gilley et al. (2004) and Giustiniano and Clarioni (2013)

psta

Please rate your firm's performance relative to similar firms in your industry over the past 12 months

	• Employment growth	psta1	0.711	0.495
	• Employee morale	psta2	0.643	0.587
	• Level of satisfaction with supplier relationships	psta3	0.741	0.451
Second-order factors				
Benefits of outsourcing	CR 0.968, AVE 0.652, ALPHA N/A	benefits		
	• business benefits	bb	0.949	0.100
	• organizational benefits	ob	0.988	0.024
Impact of the competitive capabilities	CR 0.961, AVE 0.649, ALPHA N/A	impact		
	• internal impact	iint	0.978	0.043
	• external impact	iext	0.944	0.108
Firm performance	CR 0.869, AVE 0.743, ALPHA N/A	perform		
	• internal business performance	pint	0.730	0.467
	• external business performance	pext	0.825	0.319
	• organizational performance	porg	0.645	0.584
	• innovation performance	pinn	0.585	0.658
	• stakeholder performance	psta	0.956	0.087

Control variables

- | | | |
|---------------------|--|---------|
| Current outsourcing | • Estimate the amount of your current outsourcing of accounting functions | outnow1 |
| | • Estimate the amount of accounting functions you could conduct internally | outnow2 |

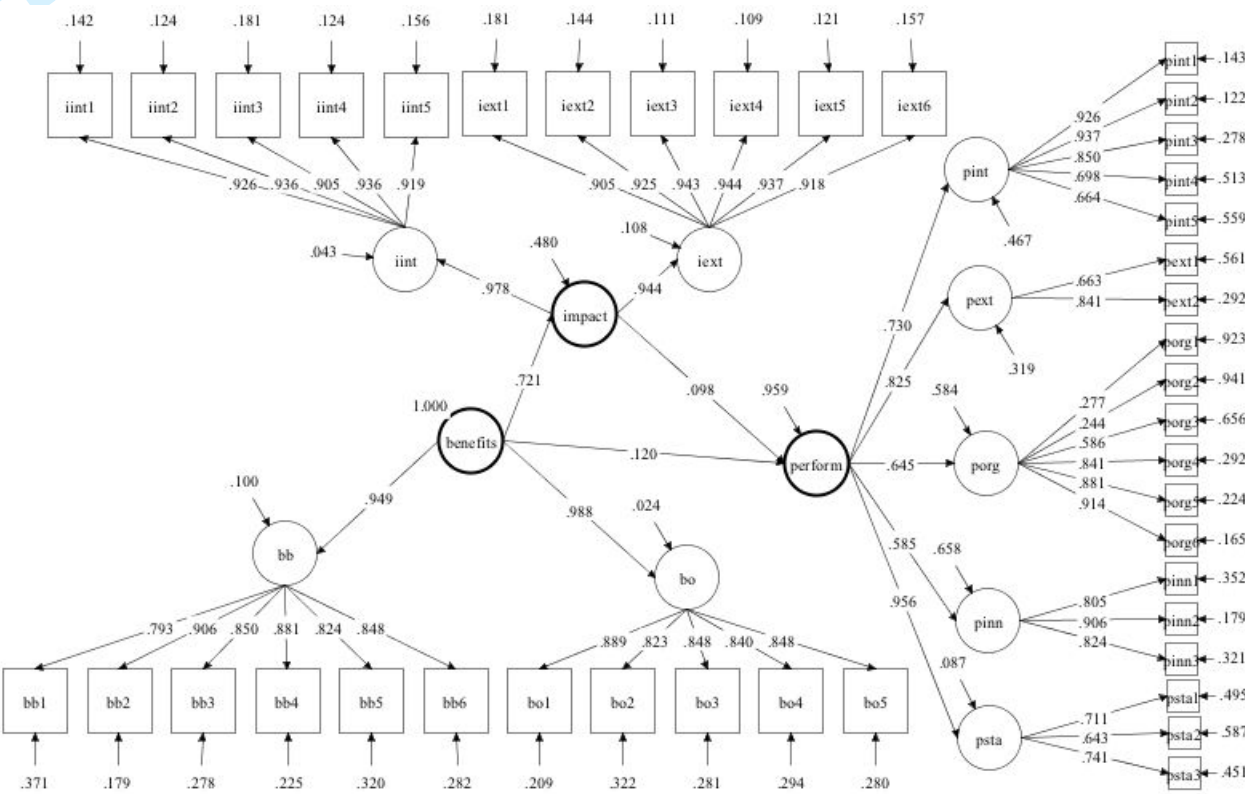
Future outsourcing plans / Outsourcing strategy

CR 0.787, AVE 0.692, ALPHA 0.790

Measures adapted from Vogel et al. (2008) and Juntunen (2010)

- | | |
|---|----------|
| • We will outsource more account services to our current service provider | outplan1 |
| • We will outsource more account services to new service provider | outplan2 |
| • We will strengthen cooperation with our current service provider | outplan3 |
| • We will increase competition among our service providers | outplan4 |
| • We will recommend our current service provider to our partners | outplan5 |
-

Appendix 2: The structural equation model



Appendix 3: Kruskal-Wallis test values and pairwise comparisons test values

Factor	Label	H-value	p-value	Pairwise comparisons
Business benefits	bb1	H=23.619	0.000	LC1-LC2 p=0.000
	bb2	H=54.985	0.000	LC1-LC2 p=0.000
	bb3	H=57.239	0.000	LC1-LC2 p=0.000; LC1-LC3 p=0.037
	bb4	H=40.889	0.000	LC1-LC2 p=0.000
	bb5	H=70.916	0.000	LC1-LC2 p=0.000
	bb6	H=36.745	0.000	LC1-LC2 p=0.000
Organizational benefits	bo1	H=33.458	0.000	LC1-LC2 p=0.000
	bo2	H=26.815	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.021
	bo3	H=43.237	0.000	LC1-LC2 p=0.000
	bo4	H=73.440	0.000	LC1-LC2 p=0.000; LC1-LC3 p=0.026
	bo5	H=48.504	0.000	LC1-LC2 p=0.000
Internal impact	iint1	H=160.681	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.000
	iint2	H=167.229	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.000
	iint3	H=137.471	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.000
	iint4	H=149.669	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.000
	iint5	H=138.104	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.000
External impact	iext1	H=130.308	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.000
	iext2	H=121.322	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.001
	iext3	H=135.505	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.000
	iext4	H=126.549	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.005
	iext5	H=117.336	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.028
	iext6	H=107.767	0.000	LC1-LC2 p=0.000; LC2-LC3 p=0.003
Internal business performance	pint1	H=1.736	0.420	
	pint2	H=2.425	0.297	
	pint3	H=1.489	0.475	
	pint4	H=2.341	0.310	
	pint5	H=2.390	0.303	
External business performance	pext1	H=4.104	0.128	
	pext2	H=9.262	0.010	LC1-LC3 p=0.007; LC2-LC3 p=0.013
Organizational performance	porg1	H=1.050	0.592	
	porg2	H=0.162	0.922	
	porg3	H=5.879	0.053	
	porg4	H=26.794	0.000	LC1-LC2 p=0.000; LC1-LC3 p=0.000
	porg5	H=18.152	0.000	LC1-LC2 p=0.001; LC1-LC3 p=0.006
	porg6	H=13.986	0.001	LC1-LC2 p=0.003; LC1-LC3 p=0.030

Innovation performance	pinn1	H=13.438	0.001	LC1-LC3 p=0.001; LC2-LC3 p=0.005
	pinn2	H=18.894	0.000	LC1-LC3 p=0.000; LC2-LC3 p=0.003
	pinn3	H=5.788	0.055	
Stakeholder performance	pstake1	H=10.536	0.005	LC1-LC3 p=0.008; LC2-LC3 p=0.004
	pstake2	H=11.815	0.003	LCI-LC2 p=0.002
	pstake3	H=9.233	0.010	LCI-LC2 p=0.009
Current outsourcing	outnow1	H= 13.453	0.001	LCI-LC2 p=0.001
	outnow2	H=0.392	0.822	
Outsourcing plans	outplan1	H=36.620	0.000	LCI-LC2 p=0.000
	outplan2	H=36.358	0.000	LCI-LC2 p=0.000; LC1-LC3 p=0.006
	outplan3	H=25.791	0.000	LCI-LC2 p=0.000
	outplan4	H=33.100	0.000	LCI-LC2 p=0.000; LC1-LC3 p=0.003
	outplan5	H=14.175	0.001	LCI-LC2 p=0.001