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OUTSOURCING ACCOUNTING FUNCTIONS - MEASURING BENEFITS, IMPACT ON CAPABILITIES AND FIRM PERFORMANCE

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Outsourcing has become a common strategy for companies during the past decades and the goals of outsourcing have changed from only seeking cost savings to more strategic objectives. The existing literature on outsourcing has grown as well but the results of outsourcing is a rather under researched area. The existing literature lacks comprehensive ways for measuring the results of outsourcing. Moreover, despite being one of the most commonly outsourced activities, the outsourcing of accounting functions is lacking empirical research.

This research sheds light to the results of outsourcing accounting functions by developing a structured measurement model based on the existing literature. The model is developed approaching the outsourcing phenomenon from three perspectives. First, the potential benefits of outsourcing are reviewed, and the measurement scales are developed and structured into two factors. Second, a two-factor structure and measurement scales are developed for the impact that outsourcing has on the development of company’s competitive capabilities. Lastly, the firm performance approach is adopted to the outsourcing context and a structure of five factors is established. Also the possible correlations between the assumed factors are investigated.

The theorized measurement model is empirically tested with survey data gathered from Finnish companies by carrying out a confirmatory factor analysis. The empirical part of the research connects the existing literature to the outsourcing of accounting functions. Based on the analysis no need to make changes to the model was found considering the potential benefits of outsourcing and the impact outsourcing has on competitive capabilities. This means that the theorized benefits of outsourcing and the impact it has on competitive capabilities seems to be in line with earlier studies in the context of this research. The variables measuring benefits form two distinct factors, business benefits and organizational benefits. Similarly, the variables measuring the impact on competitive capabilities form two factors, impact on internal competitive capabilities and external competitive capabilities.

The firm performance measurement part of the model needed some changes. Based on the statistical and conceptual considerations two factors, external business performance and stakeholder performance is excluded from the model. They do not seem to be valid factors for measuring firm performance when outsourcing accounting functions. Based on the analysis, some variables were excluded in two other factors, internal business performance and organizational performance. With these changes, these factors seem to be valid for measuring firm performance in the context of this study. The fifth firm performance factor, innovation performance, was a valid factor as such.

As theorized, the benefit and impact factors are correlated with each other. The impact factors seem to be correlated only with innovation performance but not with organizational or internal business performance. However, organizational performance and internal business performance are correlated with innovation performance. Based on these results, it seems that the benefits of outsourcing accounting functions are connected to innovation performance through the development of competitive capabilities, which is in turn connected the other avenues of firm performance. The model developed can be used to measure the results of outsourcing accounting functions. It also forms a good basis for structural equation modeling that can be used to test causality between the factors.
CONTENTS

1 INTRODUCTION ............................................................................................................. 1
  1.1 Introduction to the topic ............................................................................................ 1
  1.2 Background and objectives of the study ................................................................. 2
  1.3 Research problem and questions ............................................................................ 3
  1.4 Structure of the study ............................................................................................. 5

2 THEORETICAL BACKGROUND ............................................................................. 7
  2.1 Definitions of key concepts ..................................................................................... 7
    2.1.1 Defining outsourcing ............................................................................................ 7
    2.1.2 Accounting activities ........................................................................................... 8
  2.2 Benefits of outsourcing ........................................................................................... 8
    2.2.1 Cost savings and cost efficiency .......................................................................... 9
    2.2.2 Focus on core competence .................................................................................. 10
    2.2.3 Operational flexibility ....................................................................................... 12
  2.3 Risks of outsourcing ............................................................................................... 14
  2.4 Outsourcing and competitive capabilities ............................................................... 15
  2.5 Performance measurement ..................................................................................... 17
    2.5.1 Outsourcing and internal business performance .............................................. 18
    2.5.2 Outsourcing and external business performance .............................................. 20
    2.5.3 Outsourcing and organizational performance ................................................. 20
    2.5.4 Outsourcing and innovation performance ....................................................... 21
    2.5.5 Stakeholder performance ................................................................................... 22
  2.6 Research model and hypotheses ............................................................................. 23

3 METHODOLOGY ...................................................................................................... 25
  3.1 Research approach ................................................................................................. 25
  3.2 Collecting data ...................................................................................................... 27
3.3 Formulation of the survey

3.3.1 Descriptive questions

3.3.2 Outsourcing measurement

3.3.3 Benefits of outsourcing

3.3.4 Impact of outsourcing on competitive capabilities

3.3.5 Performance measurement

3.3.6 Future outsourcing plans

4 ANALYSIS

4.1 Description of data

4.1.1 Missing values

4.1.2 Non-response bias

4.1.3 Demographics of the respondents

4.1.4 Outsourcing frequencies

4.2 Statistical analysis

4.2.1 Confirmatory factor analysis

4.2.2 Model fit indices

4.2.3 Model validity and reliability

4.2.4 Correlations between latent variables

4.2.5 Cronbach’s alpha

5 CONCLUSIONS

5.1 Theoretical conclusions and answers to research questions

5.1.1 Measurement scales and factor structures

5.1.2 Correlations between factors

5.2 Managerial conclusions and implications

5.3 Limitations of this study

5.4 Future research opportunities
REFERENCES .................................................................................................................................................. 63

Appendix 1 .................................................................................................................................................. 68
FIGURES

Figure 1. Dimensions of firm performance (adapted from Gilley et al. 2004 and Bustinza et al. 2010). .......................................................... 18

Figure 2. The hypothesized research model (Developed by authors). ............................ 24

Figure 3. Company size distribution of the population and sample (Statistics Finland, 2017). ................................................................................................................. 39

Figure 4. Industry distribution of the sample and population (Statistics Finland, 2017). .... 40

Figure 5. Usage of outside vendors. .................................................................................. 41

Figure 6. Capability to do accounting activities in-house. ................................................. 42

Figure 7. Final measurement model. .................................................................................. 55

Figure 8. Final factor structure and key correlations. ........................................................ 57

TABLES

Table 1: Number of factors and variables in each group. .................................................. 23

Table 2: Sample statistics. ................................................................................................. 29

Table 3: Survey items for measuring potential benefits of outsourcing. .......................... 33

Table 4: Survey items for measuring outsourcing’s impact on competitive capabilities. ..... 33

Table 5: Survey items for measuring firm performance. .................................................... 34

Table 6: Cross-tabulation of the two variables measuring outsourcing. ........................... 42

Table 7: Goodness-of-fit of the hypothesized model. ...................................................... 47

Table 8: The remaining performance variables in the final model.................................... 49

Table 9: Goodness-of-fit for the initial and adapted models. .......................................... 50

Table 10: Construct validity .............................................................................................. 51

Table 11: Statistically significant correlations between the latent variables (p<0.05). ....... 53
1 INTRODUCTION

1.1 Introduction to the topic

From the scientific point of view, it was Coase (1937) who first discussed boundaries of the firm in his article *The nature of the Firm*. According to him, the reason firms exist is that there is a price of doing economic activities through the price mechanism. Similarly, Williamson (1975) suggests that the hierarchy of the firm is an alternative approach to using the markets. On the other hand, there is also price for doing an economic activity in house. Coase (1937) proposes that the activity should be done in-house when these transaction costs exceed the costs of using the markets. According to Williamson (1975), whichever approach is more efficient depends on the properties of the transaction at hand. Hence, the question when it is beneficial to do an activity in house and when to source it from outside exists. This is a question both researchers and practitioners are still trying to find an answer to.

Outsourcing as a strategy has become a common trend during the past few decades. Outsourcing started to be used already in the 50’s but during 80’s it became more common part of companies’ strategy (Hätönen & Eriksson, 2009). More and more companies outsource functions to outside suppliers in hope of achieving cost savings (Hendry, 1995). However, already the seminal research of Coase (1937) reveals that outsourcing has costs too. In many occasions, these costs might even be larger than the benefits (Gilley, Greer & Rasheed, 2004).

Recently the reasons for outsourcing have changed from achieving cost savings towards other goals. Everaert, Sarens and Rommel (2007) found that achieving professional expertise is actually most often the reason to at least partly outsource the accounting function among Belgian SMEs. Similarly, according to Hätönen and Eriksson (2009), costs and cost savings are only one of the reasons for outsourcing and most often not the most important one. The decision to outsource is hence more strategic in nature. According to Lahiri (2015) firms use outsourcing as a strategy to enhance firm performance but the scientific evidence on the connection is still debated and rather under researched. Thus, research on this connection is relevant and timely both practically and scientifically.
1.2 Background and objectives of the study

The aim of this study is to shed light to the results of outsourcing accounting functions with emphasis on how they can be measured. This is done by developing and testing a model to measure benefits of outsourcing accounting activities, the impact the outsourcing decision has on the development of competitive capabilities and finally firm performance in this context. More precisely, this research tries to establish distinct dimensions that can be used to measure the results of outsourcing. Further, the goal is to find possible relationships between the above-mentioned dimensions.

Gilley and Rasheed (2000) stated that there is still a lack of research on the results of outsourcing. Most of the research concentrates to other aspects of outsourcing (Jiang & Qureshi, 2006). Lahiri (2015) found 57 empirical researches between 1996 and 2015 that studied the results of outsourcing. This indicates that the amount of research has increased during the past years. However, according to that review, the existing studies vary by measure of performance, research scope and other factors. Moreover, the results of the studies are also mixed in general (Lahiri, 2015), which is in line with the findings of Jiang and Qureshi (2006) ten years earlier. According to them, there is clearly a lack of consistent methods to measure the results of outsourcing. Thus, it is still a topic that needs further research.

In his review, Lahiri (2015) concluded that outsourcing does often enhance firm performance but not always. Prior research has mostly concentrated on outsourcing of IT-functions, HR-functions and logistics functions and there seems to be only few studies on accounting services outsourcing (Everaert et al. 2007). Kamyabi and Devi (2011) also noted that there are a growing number of studies on the effects of outsourcing in general but the connection between outsourcing of accounting activities and firm performance hasn’t been empirically established. This is surprising, as according the study of Everaert et al. (2007) on Belgian SMEs, 65% of them have at least partly outsourced their accounting functions. Similarly, Jayabalan, Raman, Dorasamy, and Ching (2009) found that most of the Malaysian SMEs outsource their accounting tasks to outside suppliers and Sian and Roberts (2009) discovered that over half of the small firms in UK have also outsourced their accounting functions. Although taking into account that these researches consider only SMEs or small
companies, based on these findings from around the world, accounting functions seems to be one of the most commonly outsourced functions. Despite this, there is a lack of studies on them and especially of studies researching the results of accounting services outsourcing. Williamson (1975) argues that the features of the activities determine whether it is more beneficial to do a transaction in house or to use market system. Therefore there is a clear demand for studying the outsourcing of accounting activities in particular. Hence, the main purpose of this study is to firstly review theory of outsourcing activities with similarities to accounting services and that way develop a comprehensive way to measure the results of outsourcing accounting activities. This is done by developing and testing a measurement model that mostly build on the work of Bustinza, Arias-Aranda and Gutierrez-Gutierrez (2010).

1.3 Research problem and questions

As discussed above, the relationship between outsourcing and firm performance remains rather contradicting. In theory, outsourcing should have positive effect on many aspects of firm performance, but researchers haven’t been able to establish this connection consistently and the empirical results are mixed (Lahiri, 2015). The results are mixed especially with traditional financial performance metrics (Jiang & Qureshi, 2006). Moreover, accounting functions are probably one of the most outsourced functions, but still lack research (Kamyabi & Devi, 2011). Deriving from this, the main research question is:

How can the results of outsourcing accounting functions be measured?

In order to answer this question, the phenomenon must be chopped in smaller pieces. Outsourcing has many benefits and they have also been widely researched in the field (e.g. Kremic, Icmeli Tukel & Rom, 2006). The potential benefits of outsourcing underlay the performance effects and thus, they are relevant in the scope of this study. Whereas outsourcing has also many risks, they aren’t considered in the model developed in this research. There are many notable and meritorious reviews on the benefits and risks of outsourcing in general (e.g. Kremic et al. 2006) and thus, there is no need to handle this topic in depth. For the scope of this study, it is important what
the potential theoretical benefits of outsourcing accounting functions are and how they can be measured. Therefore, the first sub question is:

What variables can be used to measure potential benefits of outsourcing accounting functions?

As discussed earlier, the empirical results on the performance effects of outsourcing are mixed. Bustinza et al. (2010) propose that while the direct relationship between benefits of outsourcing and firm performance might not be clear, outsourcing has a positive impact on the development of firm’s competitive capabilities. This in turn, has a positive effect on firm performance. Thus, the second sub-question is

What variables can be used to measure the impact outsourcing of accounting function has on firm’s competitive capabilities?

As discussed earlier, outsourcing is an important strategic decision for companies. Performance is one of the most commonly used measures to test the success of any strategy of an organization (Venkatraman & Ramanujam, 1986). Also, according to Neely (2005), performance and performance measurement are the most commonly used tools when trying to measure success of an organization. Various researchers have used performance measurement to examine also the effects of outsourcing (e.g. Bustinza et al. 2010; Gilley et al. 2004). Even though the number of studies on the results of outsourcing has been growing during past few years, the studies still lack a comprehensive way to measure the phenomenon (Lahiri, 2015). Whereas the traditional financial metrics are useful and most commonly used to measure firm performance (Venkatraman & Ramanujam, 1986), they are affected by so many things that a connection between outsourcing and them can be tough to establish (Jiang & Qureshi, 2006). Thus, Venkatraman and Ramanujam (1986) propose a larger set of metrics to be used to measure performance. Therefore, there is a need to develop and test a set of metrics that can be used to measure firm performance in outsourcing situations:

What variables can be used to measure firm performance in outsourcing context?
One of the main goals of this research is to develop a structured model to measure the above-mentioned dimensions that works in this context. Whereas answers to those questions provide a measurement scales for those dimensions separately, the question remains how they can be structured in a way that possible correlations between them can be found. The next sub-question is:

What kind of structured measurement model can be developed that fits the gathered data?

The outsourcing of peripheral activities has a positive impact on external competitive capabilities of service firms which enables them to better adapt to market conditions. Furthermore, the enhanced competitive capabilities should have a positive effect on firm performance. (Bustinza et al. 2010.) This connection between outsourcing and firm performance and the mediating effect of enhanced competitive capabilities must be investigated in the context of outsourcing accounting functions within both service and manufacturing firms. Whereas the measurement model created in this research doesn’t argue any causality between those three or the assumed constructs that lay within them, it can search for possible two-way relationships between the established constructs, which may support the causal relationship proposed by Bustinza et al. (2010). Thus, the last sub-question is

Are there statistically significant correlations between the assumed latent variables?

1.4 Structure of the study

The structure of the study is as follows. The second chapter deals with the theoretical framework of this study. In the beginning of the chapter outsourcing and its definitions are shortly discussed in general. Secondly, the potential benefits of outsourcing and the impact it has on competitive capabilities is discussed by extensively reviewing the existing literature. Thirdly, the performance measurement perspective is discussed. In the end of the chapter the above-mentioned topics are summed up and concluded in a research model and hypotheses for the empirical part of the study.
The third chapter thoroughly discusses how the empirical part of this study was conducted. First, there is an overall discussion about the chosen research methods of this study. Second, the used questionnaire items based on the theory part are introduced and concluded to a survey form. Lastly, the concrete steps how this survey was organized is discussed.

In the fourth chapter there is a description of statistical methods used to analyze the empirical data. The chapter also thoroughly introduces the gathered data, discusses the results of the statistical analyses and concludes to answers to the hypotheses.

The final chapter discusses the theoretical findings of this research and answers the research questions. It also discusses the managerial implications the findings may have and finally, identifies the possible future research avenues considering the topic of the study.
2 THEORETICAL BACKGROUND

In this chapter the theory of outsourcing and its effects is reviewed and discussed. First, the concepts of outsourcing and accounting activities are discussed briefly. After that the theory development continues by discussing the potential benefits of outsourcing thoroughly through extensively reviewing existing literature on the subject. Also the risks of outsourcing are shortly looked over. Then, the performance measurement aspect is discussed and finally, all these aspects are developed into a measurement model and hypotheses.

2.1 Definitions of key concepts

2.1.1 Defining outsourcing

According to Heshmati (2003) there is no clear definition for outsourcing and studies on outsourcing define it very differently. According to Dolgui and Proth (2013) it is crucial to discuss what is meant by outsourcing when researching it. Kakabadse and Kakabadse (2000) define outsourcing as a means to acquire products or services from outside the firm. Dolgui and Proth (2013) further develop this approach by defining outsourcing as “act of obtaining semi-finished products, finished products or services from an outside company if these activities were traditionally performed internally”. This definition clearly presumes that a certain function done by a vendor is only considered outsourcing if it has been made internally earlier. Gilley and Rasheed (2000) called this kind of outsourcing substituting. According to them, the scope of definitions is in fact so broad that it basically covers any procurement of any activities in the firm. For the purpose of this study, a more distinct definition is needed.

The question that arises from these definitions is what the difference between procurement and outsourcing actually is. The view of Gilley and Rasheed (2000) sheds light on this matter. They define outsourcing in a broader and more strategic way which may better grasp the essence of the strategic importance of outsourcing. According to them, outsourcing can also happen through abstention in addition to substitution. Outsourcing through abstention “only occurs when the internalization of the good or service outsourced was within the acquiring firm’s managerial and/or
financial capabilities”. In other words, the defining factor is whether the purchased activity could have been done within the firm or not. On the other hand, this definition means that outsourcing a function doesn’t necessarily mean it has had to be done in-house earlier. Outsourcing may also occur as a decision not to do a new activity in-house. This definition of outsourcing is used throughout this study and is also the basis for the items in the questionnaire measuring involvement in outsourcing.

2.1.2 Accounting activities

According to Gilley et al. (2004) payroll is not a strategic activity but rather considered as peripheral. Although they consider payroll a HR-activity in their study, it can also be considered an accounting activity as Kamyabi and Devi (2011) have done in their research. Furthermore, many vendors classify payroll as an accounting service (e.g. Talenom, Visma). Payroll can be considered a transactional activity by nature. This means that it doesn’t need much social interaction between people in the organizations of the vendor and the outsourcing firm. Payroll activities, as also many other accounting activities, can be carried out in vendor’s organization quite separately from the outsourcing firm’s organization. In addition, accounting activities are usually not of strategic value to companies and is not considered a source of competitive advantage for them. (Gilley et al. 2004.) In conclusion, in addition to payroll activities, also the other accounting activities are considered as peripheral in this study.

2.2 Benefits of outsourcing

As discussed in the introduction chapter, the benefits of outsourcing enable firms to better develop their competitive capabilities which should result as enhanced firm performance (Bustinza et al. 2010). Therefore, it is important to discuss these underlying benefits of outsourcing and they are introduced in the following parts of the theory development. According to Kakabadese and Kakabadse (2005) the most common reasons for outsourcing are cost savings and the ability to focus on core competencies but there are also many other reasons that are discussed next.
2.2.1 Cost savings and cost efficiency

One of the most common reasons for outsourcing appears to be to enhance cost effectiveness through cost savings (Jiang & Qureshi, 2006). By outsourcing, companies look for cost savings that result from reducing wage costs and reduced need for investments (Görzig & Stephan, 2002). The theoretical background behind this is that by outsourcing companies get their hands on the benefits that the vendor has through economies of scale and unique expertise (Alexander & Young, 1996). Similarly, Kotabe, Mol and Murray (2008) point out that when the vendor has specialized and focused on the activity that is being outsourced, it can do it more efficiently than the outsourcing company. The cost savings gained can be quite straightforwardly measured by examining the changes in different costs relative to sales (Jiang & Qureshi, 2006). It should also be noted that vendors that offer certain products or services can invest more in underlining new technologies and innovative practices than the outsourcing company (Alexander & Young, 1996). This way outsourcing certain activities may be ensued in lower cost levels (Hendry, 1995). This should in turn enable the outsourcing company to be more competitive in the market in terms of prices of their products and services. However, Alexander and Young (1996) also point out that in many cases companies don’t achieve better efficiency through economies of scale.

On the other hand, by outsourcing certain activities companies can also reduce the capital bound to this activity and further reduce the investment needs to this particular activity (Kotabe et al. 2008). Moreover, through reduced investment needs the capital can be allocated to other activities where it can be used more efficiently (Gilley & Rasheed, 2000). This in turn should affect positively to the financial performance of a company as a certain profit level should be achieved with smaller capital (Domberger, 1998). More specifically, this should enhance the profitability metrics, for example return on equity, of the outsourcing company (Gilley & Rasheed, 2000). While Görg and Hanley (2004) had mixed results on whether outsourcing increases profitability or not, they point out that the profitability effects may occur more clearly on longer term.
2.2.2 Focus on core competence

Even though potential cost savings are an important benefit of outsourcing, it’s only one factor that should be considered when making outsourcing decisions. Indeed, as stated earlier, cost savings aren’t often even the most important reason for outsourcing (Hätönen & Eriksson, 2009). From a more holistic point of view, firms allocate their resources to activities that they have the competitive advantage in and tend to outsource the rest to be efficient (Heshmati, 2003). Firms should not engage in outsourcing barely for the short term cost savings but rather think vendors as partners who contribute to adding value to firm’s products and services and thus, creating value to the end customers (Golhar & Deshpande, 2009).

Outsourcing of non-core activities enables the management to focus on company’s core activities and allows them to also allocate more other resources to them (Gilley & Rasheed, 2000). The resources saved from the outsourced activities can be used to more competitive activities in which the company has a competitive advantage through economies of scale and unique know-how (Jiang & Qureshi, 2006). In other words, these are the activities that the company can do better than their competitors (Gilley & Rasheed, 2000). Prahalad and Hamel (1990) summarize that companies should invest in activities that comprise their core competence and outsource the rest in order to operate efficiently. This guideline indeed seems to be followed by companies as Guldbransen and Haugland (2000) empirically observed that the closer the activity is to company’s core competence, the more likely it will be integrated to company’s own operation. Inversely thinking, it can be concluded from this empirical evidence that the further away an activity is from company’s core competence, the more likely it will be outsourced which is in line with the suggestions of Prahalad and Hamel (1990). Gilley and Rasheed (2000) define these non-core activities as peripheral activities.

According to Gilley and Rasheed (2000), outsourcing of peripheral activities affects firm performance through three mechanisms. Firstly, companies can focus more on the activities that it does best which may increase innovation and agility in these activities. Findings of Arvanitis and Loukis (2012) support the positive connection between outsourcing and innovation performance. Also, Mohiuddin and Su (2013) found similar evidence although innovation performance was only one part of their
IFLP (integrated firm-level performance) measure and thus, no conclusion between outsourcing and bare innovation performance was established. However, there are also mixed evidence on the connection between outsourcing and innovation performance. Antonietti and Cainelli (2007) found that outsourcing of production can have either positive or negative effects on process and product innovations depending on the degree of outsourcing.

Secondly, the quality of the outsourced activities is enhanced as the vendor is also focusing on its core activities and thus, by doing these activities better it will result in a better quality of the activity. Linder (2004) suggests that outsourcing can improve service levels. This view is strongly supported by earlier research as summarized by Elmuti (2003), who also found supportive empirical evidence that outsourcing positively affects the quality of services offered. This view is shared and supported by Espino-Rodríguez and Padrón-Robaina (2004) who state that the enhanced quality of the outsourced activities may lead to higher perceived quality by the end customer in hotel industry. They also found empirical evidence to support this view.

Also, Görzig and Stephan (2002) suggest that the quality of the activity acquired from the market may be higher than the integrated activity in which case the quality of the end products or services may be higher. According to them, this can increase the price customers are ready to pay for the product or service and thus it can increase the sales of the company. Thus, the higher quality followed by outsourcing may increase the financial performance of the firm by increasing sales figures. Similarly, Giustiniano and Clarioni (2013) found that outsourcing positively affected most of the financial performance metrics. According to their research outsourcing doesn’t result so much in cost savings as it does in the growth of the company. The sales of the publicly listed companies grew significantly after outsourcing which supports the underlining theory of outsourcing companies being able to allocate resources to their core competencies.

Furthermore, Giustiniano and Clarioni (2013) also found that outsourcing positively affects the growth of employment in the company which gives further support to their conclusion that outsourcing isn’t merely a cost saving strategy but also a growth strategy. Also, Gilley et al. (2004) found a similar positive connection between outsourcing of HR-activities and employment growth in the firm. This also contradicts
the idea that by outsourcing companies are looking for cost savings through employment reduction. Thus, outsourcing can affect positively to financial performance of the company not only through cost savings but also increasing sales and growth in general. However, Agrawal & Haleem (2013) found no significant connection between outsourcing and sales growth. Similarly, Joong-Kun Cho, Ozment and Sink (2008) got mixed results on this connection and thus, this connection remains controversial.

Thirdly, the vendor can offer the activities more cost-efficiently due to concentrating on their core competence. This cost efficiency should also transfer to the buyer and hence, result as enhanced performance. Based on earlier theory, outsourcing non-core activities in particular should positively affect performance of a company whereas the effect of outsourcing core activities should be reversed (Mohiuddin & Su, 2013). Even though Mohiuddin and Su (2013) found also empirical evidence on this theoretical assumption other researchers have got contradictory results. Gilley and Rasheed (2000) found no significant connection between outsourcing of peripheral or core activities and firm performance. In contradiction to existing theory, Jiang, Belohlav and Young (2007) actually found that outsourcing of core activities has a positive effect on firm performance measured by the stock value of a public company. At the same time, they found no effects for outsourcing peripheral activities. In summary, the lack of supportive evidence for underlining theory leaves this aspect of outsourcing results unsolved. In addition, Görzig and Stephan (2002) suggest that even if a company successfully enhances its efficiency by outsourcing, the competitors will most likely follow. Thus, the potential competitive advantage gained from outsourcing may diminish in the long term and doesn’t meet the definition of sustainable competitive advantage. In conclusion, in order to gain a sustainable competitive advantage through outsourcing, company must do it constantly better and faster than its competitors.

2.2.3 Operational flexibility

Outsourcing can also make company more flexible in other way than cost-wise. Outsourcing has an important role also in taking advantage of new technologies. It is often much easier to gain access to new technologies by outsourcing an activity than
integrating it (Weigelt, 2009). By outsourcing an activity to a vendor, company may gain access to the underlying technologies that the vendor has invested to. When outsourcing an activity, companies don’t need to make investments to necessary technologies and thus, they may not be stuck with that certain technology as easily. New technologies can be adopted by changing vendors as they are developed. (Gilley & Rasheed, 2000.)

Harris, Giunipero and Hult (1998) summarize that organizations must be able to operate flexible enough to cope with the surrounding uncertain business environment. Bustinza et al. (2010) further suggest that the most important impact of outsourcing is that it allows companies to achieve competitive advantage by helping them better adapt to changing market conditions. It is often much easier for a company to switch vendors than adapt internal processes to respond to changes in the market (Harris et al., 1998). Therefore, fluctuating market demand may cause internalizing to be an inefficient strategy whereas outsourcing allows for the vendor to distribute this risk among more buyers (Espino-Rodriguez & Padrón-Robaina, 2004). The more dynamic the operating environment is the more flexibility is needed from the companies. Also Linder (2004) sees outsourcing as a strategic way to react to constantly changing business environment. Bustinza et al. (2010) conclude that the ability to adapt to changing market conditions reduces the uncertainty of operation of the company and creates sustainable competitive advantage which should further positively affect firm performance. Thus, by making companies more flexible, outsourcing should result in positive firm performance.

Outsourcing of activities also enables companies to convert fixed cost to variable ones (Bustinza et al. 2010). This helps companies to adapt their costs to the changing demand of their own products and services and thus, makes them much more flexible in the market they operate in (Alexander & Young, 1996). This should lead into better profit margins as the buyer can reduce costs if the demand of their own products and finally sales decrease.

The potential benefits are summed up in the measurement item list below based on Bustinza et al. (2010).
Business benefits:

- Allows focusing on core activities
- Increases business flexibility
- Increases customer satisfaction
- Allows focus on internal business improvement
- Improves strategic positioning
- Gets rid of problem functions

Organizational benefits:

- Improves operations technologically
- Allows access to latest technologies
- Improves management processes
- Increases innovation trends
- Reduces organizational risks

2.3 Risks of outsourcing

In addition to all potential benefits discussed above, outsourcing also has risks. Although the theoretical measurement model developed and tested in this research doesn’t include risks, it’s necessary to address them briefly. The negative effects rising from the risks might overcome the positive effects gained from the benefits from outsourcing (Broedner, Kinkel & Lay, 2009). This in turn, may interfere with the assumed positive connection between outsourcing and firm performance. That is why it is important to shortly discuss the underlying potential risks of outsourcing discovered by the earlier research on the topic.

There is a balance between the benefits from economies of scale and transaction costs from outsourcing. Vendors often benefit from economies of scale compared to integrated sourcing. However, there are many kinds of costs included in using outside vendors. These costs ensue from searching and identifying the right vendors, communicating needs to them and controlling and monitoring these vendor
relationships. Without the latter, there is a risk that the vendor keeps all the value created within their organization and the outsourcer doesn’t get the benefits from it. (Alexander & Young, 1996.) According to Görzig and Stephan (2002) companies tend to both underestimate these transaction costs and overestimate the benefits. Indeed, according to survey conducted by Linder (2004), over 75 percent of managers believed that their companies fell short of the goals set for outsourcing. In addition, Weigelt (2009) states that companies might not be able to integrate the technologies accessed by outsourcing to their own business processes which may result in inability to take advantage of them in the market. This supports the view that while there is convincing theoretical and empirical evidence about the benefits of outsourcing, those benefits may often be overestimated.

Kremic et al. (2006) have made a comprehensive review about the expected risks of outsourcing which contains many additional possible risks not discussed in this research. Many of those potential risks are caused by different problems with vendors. These problems include poor performance of the vendor, bad relationships to the vendor and opportunistic behavior from them. According to their review, also bad outsourcing contracts or choosing a wrong vendor may cause problems. Even though risks must be taken into account when doing any outsourcing decisions, the risks are outside the scope of the measurement model developed in this research and they are not discussed further.

2.4 Outsourcing and competitive capabilities

As mentioned, many theorists have discussed the possible and likely benefits of outsourcing. Moreover, a few researchers have also been able to verify a positive connection between outsourcing and different dimensions of firm performance even though some of the results are relatively mixed (Jiang & Qureshi, 2006). However, the causality between outsourcing and firm performance hasn’t been firmly established and lacks research. According to Bustinza et al. (2010) the key mediating factor between the benefits of outsourcing and firm performance metrics, is how outsourcing impacts firm’s competitive capabilities.
To sum up, the benefits of outsourcing discussed above should lead to enhanced competitive capabilities. Indeed, according to Linder (2004), companies can use outsourcing to gain access to capabilities the vendor has. This should in turn have a positive effect on firm performance (Bustinza et al. 2010). The measurement scales of competitive capabilities listed below have been adapted from Bustinza et al. (2010) to pertain also products as this research includes both product and service firms and doesn’t distinct between them.

Internal competitive capabilities (Adapted from Bustinza et al. 2010)

- Enable punctual delivery of the service or product
- Enable faster delivery of the service or product
- Increase the competitiveness of our prices
- Enable us to offer consistent quality
- Enable us to obtain better results from our products and services

External competitive capabilities (Adapted from Bustinza et al. 2010)

- Provide flexibility to face market demand
- Introduce new services and products into the market more rapidly
- Distribute our services or products more widely
- Increase the number of our products and services
- Contribute to promoting our services and products more efficiently
- Develop post-sales – services

Also loss of capabilities can be possible when outsourcing. One of the most important ways to accumulate tacit knowledge inside the company is learning by doing (Kotabe et al. 2008). According to Weigelt (2009) outsourcing may reduce learning by doing, the investment within the organization and the use of tacit knowledge. In other words, company can both lose existing capabilities as tacit knowledge transfers from the outsourcing company to the vendor and lose opportunities to create new tacit knowledge and new capabilities through learning by doing (Hendry, 1995). He states that the outsourcing of activities always has a risk of losing capabilities important to the outsourcing company and the negative effects from it may only be visible in the
long run. Also, Kotabe et al. (2008) note that when outsourcing activities, the learning by doing happens in the vendor’s organization and the transfer of the tacit knowledge to the outsourcing company may be lacking. Hence, it can diminish capabilities of the outsourcing company in the long run which can in turn have a negative effect on firm performance.

2.5 Performance measurement

According Venkatraman and Ramanujam (1986) financial measures are most straightforward way of measuring firm performance. However, financial performance metrics are affected by so many factors that researchers have had trouble finding the connection between outsourcing and them (Jiang & Qureshi, 2006). Therefore, there is a need for larger set of performance metrics (Venkatraman & Ramanujam, 1986). This has also been widely recognized among outsourcing researchers and a wider scale of performance metrics has been used in numerous studies in the field (e.g. Gilley et al. 2004, Joong-Kun Cho et al. 2008, Bustinza et al. 2010, Mohiuddin & Su 2013). According to Mohiuddin and Su (2013), financial performance indicators are looking to the past which is a reasonable statement as most of them are comprised from historical data.

Outsourcing is a strategic decision which usually aims to achieve competitive advantage in the long run and thus, create value to the company by increasing its profits in the future rather than at present (Jiang et al. 2007). Also, other researchers have found evidence that the results of outsourcing may be visible in the longer term (e.g. Davies, White, Plant & Lee, 2015; Butler & Callahan, 2014; Jiang, Frazier & Prater, 2006). Moreover, Davies et al. (2015) found that outsourcing actually has a negative impact on operational performance in short term but the impact diminishes within a year. Lee and Kim (2010) discovered that outsourcing positively influences to the stock value of the outsourcing public company, in other words the future expectations of the stock market. Also, the seminal work of Chakravarthy (1986) suggests that market-based financial indicators may better measure the outcomes of strategic decisions. However, in the absence of market-based indicators as the case is in this study, Chakravarthy (1986) also offers a wide set of other metrics to measure the results of strategic actions. The abovementioned calls for broader set performance indicators to fully capture the performance effects of outsourcing which will be
developed in this chapter based on existing studies. The aim is to create a distinctive set of measures and test if they are applicable to outsourcing of accounting activities.

The framework to measure firm performance in this study is mainly combined from the performance measurement systems created and tested in the outsourcing environment by Bustinza et al. (2010) and Gilley et al. (2004) but it also builds upon the theory discussed earlier. Bustinza et al. (2010) categorized the used performance metrics to internal business performance, external business performance and organizational performance and this categorization is used as the baseline on this study. Additionally, following Gilley et al. (2004) innovation performance and stakeholder performance are used as additional factors. There is a strong empirical support on all these performance measurement domains which have been tested in outsourcing environment. Thus, they form a solid basis for the purpose of this study. This framework is discussed in detail in the next sub-chapters.

![Dimensions of firm performance](image)

**Figure 1. Dimensions of firm performance (adapted from Gilley et al. 2004 and Bustinza et al. 2010).**

2.5.1 Outsourcing and internal business performance

As discussed earlier, outsourcing may have a positive effect on different financial metrics through many mechanisms. Although financial performance metrics are affected by so many factors that the connection between outsourcing and them may be hard to establish (Jiang & Qureshi, 2006), many researchers have been able to do so (e.g. Giustiniano & Clarioni, 2013; Agrawal & Haleem, 2013; Thouin, Hoffman & Ford, 2009).
Profitability is perhaps the most commonly used and the most important means to measure firm’s performance as it depicts how well the business profits its owners (Jiang & Qureshi, 2006). Gilley et al. (2004) used return on assets (ROA) and return on sales (ROS) to measure the profitability effects of outsourcing payroll. Even though they couldn’t establish a connection between outsourcing of payroll activities and financial performance in terms of profitability, they reckoned that outsourcing of payroll activities will most likely yield positive effects on firm performance on longer term. Golhar and Deshpande (2009) on the other hand, found a strong positive connection between outsourcing and ROS in the automotive supplier industry.

The possible positive connection between outsourcing of accounting activities and ROA may be formed through many mechanisms discussed earlier. Firstly, the vastly reckoned cost reduction effects of outsourcing should increase net profit, which should in turn increase ROA. Secondly, by outsourcing activities firms may be able to reduce the capital needed to run the business (Kotabe et al. 2008) which should in turn increase ROA. Similarly, Domberger (1998) states that the same profit level may be achieved with smaller amount capital when outsourcing activities. However, the evidence on this is not nearly as clear as in case of the cost reductions. On the contrary, Giustiniani and Clarioni (2013) suggest that the resources freed through outsourcing seem to be allocated to different activities and thus, the capital and assets of the firm may not be reduced. This might explain why also Golhar and Deshpande (2009) failed to establish a significant connection between outsourcing and ROA in the automotive industry. However, this kind of new distribution of resources suggested by Giustiniani and Clarioni (2013) should affect ROA in a different way. The reduced need for investments after outsourcing may direct the saved resources towards the core activities of the company in which they should be used more effectively (Gilley & Rasheed, 2000). This should in turn increase ROA.

The theoretical positive connection between outsourcing and ROA has also empirical support. Bustinza et al. (2010) found a connection and in addition established causality between outsourcing and various financial metrics including ROA. According to them, this connection is articulated via enhanced external capabilities resulting from outsourcing. Further, Butler and Callahan (2014) found evidence that the effect of
outsourcing HR activities on ROA was negative in short term but positive in longer term.

2.5.2 Outsourcing and external business performance

Bustinza et al. (2010) found that the performance effects of outsourcing are strong particularly in external business performance metrics like market share and sales growth in the firm’s main services, products and markets. They suggest that outsourcing affects firm’s ability to better adapt to changing market conditions and the enhanced external performance metrics mentioned above result from this ability. This view is supported by Golhar and Deshpande (2009) who also found a positive connection between outsourcing and market share. Giustiniano and Clarioni (2013) found that outsourcing didn’t end up lowering cost levels of the companies but instead it increased their sales and employment. According to them, outsourcing seems more like a growth strategy rather than cost saving strategy. In addition, Golhar and Deshpande (2009) established a positive effect outsourcing has on sales per employee. Together with growing employment this should lead to increased sales in general. This supports the view where outsourcing companies redirect their resources to their core activities to strengthen growth.

2.5.3 Outsourcing and organizational performance

Based on the seminal work of Venkatraman and Ramanujam (1986), Kaplan and Norton (1992) and Abernethy and Lillis (1995) Bustinza et al. (2010) created a set of organizational performance metrics to be used with the business performance metrics discussed earlier. These metrics consider customer satisfaction, customer loyalty, customer complaints, cancelled orders and lead times. Gilley et al. (2004) considered these customer-based performance metrics as part of stakeholder performance factor. However, for the purpose of this study these metrics are part of organizational performance factor following Bustinza et al. (2010).

Customer satisfaction has been established as a valid firm performance indicator (e.g. Ellinger, Daugherty & Keller, 2000). Based on this, customer satisfaction has been further used as a performance metrics for logistics outsourcing by Joong-Kun Cho et
al. (2008) even though they couldn’t establish a positive connection between those two. However, Bustinza et al. (2010) found empirical evidence on the positive connection between outsourcing and customer satisfaction and thus, it was chosen as one of the organizational performance metrics in this study. Bustinza et al. (2010) also found a positive connection to lead times, which in case of services means the latency between customer’s initial request of the service and final execution of it.

2.5.4 Outsourcing and innovation performance

Based on the seminal analysis of Venkatraman and Ramanujam (1986) on performance measurement, Gilley et al. (2004) developed a set of operational performance metrics to better capture the effects outsourcing potentially has on firm performance. They further categorize operational performance to innovation and stakeholder performance. Also other researchers have used innovation performance to measure the results of outsourcing (e.g. Arvanitis & Loukis, 2012; Espino-Rodríguez & Padrón-Robaina, 2004).

According to Görg and Hanley (2011) the effect of outsourcing on innovation performance should be positive through two mechanisms. Firstly, outsourcing can lead indirectly to cost savings which in turn, may lead to increased profits which can be used to R&D. Secondly, outsourcing may have a straight positive impact on innovation performance as the firm can focus on more skill-oriented and innovative functions. On the other hand, Arvanitis and Loukis (2012) point out that more complex and innovative products may need a larger and more complex set of skills which might call for vertical integration instead of outsourcing. Furthermore, Hempell and Zwick (2008) failed to establish the connection between outsourcing and product innovations in the long run. They propose that firms may gain access to innovation in the short run, but it erodes firm’s innovation performance in the long run. However, they managed to establish a connection between outsourcing and process innovation which may suggest that firms tend to reorganize their processes more efficiently after outsourcing. Arvanitis and Loukis (2012) found a clear positive connection between outsourcing and both product and process innovations. Similarly, Espino-Rodríguez and Padrón-Robaina (2004) found a positive connection between outsourcing and new products and services introduced in the hotel sector.
Moreover, Görg and Hanley (2011) found a strong positive connection between services’ outsourcing and several different metrics of R&D intensity on plant level. Gilley et al. (2004) found that outsourcing of payroll activities and innovation performance in terms of R&D outlays, amount of product and process innovations has a significant positive connection. Even though the underlying theory establishes no straightforward causality between them, they suggest that outsourcing of payroll might allocate the resources of the firm to more innovation-creating activities within the firm. Building on the above-mentioned research on the positive connection between outsourcing and innovation performance, in this research we hypothesize that the outsourcing of accounting functions has a positive connection with innovation performance.

2.5.5 Stakeholder performance

There are also many researchers who have theoretically established the connection between outsourcing and different measures of stakeholder performance and also tested it empirically (e.g. Bustinza et al. 2010, Rodriguez & Padrón-Robaina, 2004). The empirical evidence between different metrics is mixed and no clear connection between them has been established. However, the underlying theoretical contributions on this connection are strong enough for the purpose of this study and thus, a few stakeholder performance metrics are used. Gilley et al. (2004) couldn’t establish a connection between outsourcing payroll activities and stakeholder performance factor. However, they found that the outsourcing of training function may have a positive effect on stakeholder performance.

One of the most important stakeholders of a company is its employees as their satisfaction is important for the future viability of a firm (Chakravarthy, 1986). In line with this, many outsourcing researchers have used employee-based metrics to measure the potential long term positive effects of outsourcing. Employee morale is one of the metrics used in the recent outsourcing research (e.g. Gilley et al. 2004; Espino-Rodriguez & Padrón-Robaina, 2005) and this was also used in this study to capture employee approach of the stakeholder performance construct. As discussed earlier in this chapter, existing theory points out that outsourcing has developed in a growth strategy among many firms in terms of employment growth. Furthermore, researchers
have managed to empirically establish a positive connection between outsourcing and employment growth (e.g. Gilley et al. 2004; Giustiniano & Clarioni, 2013).

### 2.6 Research model and hypotheses

Although developing any second order constructs is outside the scope of this study, the assumed factors are presented in groups based on the underlying theory discussed earlier. This categorizing of the assumed factors is important for answering the research questions set in the introduction chapter. These groups include the benefits of outsourcing, the impact outsourcing has on competitive capabilities and the firm performance. The groups and the number of factors and observed variables in each group are summarized in Table 1. The hypotheses set for the analysis part of this research are as follows:

**H1**: The hypothesized factor structure fits the gathered data

**H2**: There are statistically significant correlations between benefit and impact factors

**H3**: There are statistically significant correlations between impact and performance factors

The first hypothesis simply assumes that the factor structure summarized in the Figure 2 fits the gathered data. The second and third hypotheses use the theorized categorization of the factors and assumes statistically significant correlations between the distinct factors in each group. In addition to the hypotheses presented, any other correlations found between the assumed factors are of interest in this study. However, as discussed earlier, the results of the earlier studies are mixed between most of the dimensions in the developed model so no additional hypotheses are set.

<table>
<thead>
<tr>
<th>Table 1: Number of factors and variables in each group.</th>
</tr>
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<tbody>
<tr>
<td><strong>Group</strong></td>
</tr>
<tr>
<td>Benefits of outsourcing</td>
</tr>
<tr>
<td>Impact on competitive capabilities</td>
</tr>
<tr>
<td>Firm performance</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Figure 2. The hypothesized research model (Developed by authors).
3 METHODOLOGY

The research methodology is described in this chapter. First, the chosen research approach is introduced with some science philosophical background. Also the methodological choices are justified. Then, the data collecting process is described and the basic information about the sample and its size is presented. Lastly, the formulation of the questionnaire is discussed, and all the questionnaire items are introduced.

3.1 Research approach

There are three major questions to be answered conducting a study; why, what and how to research (Holden & Lynch, 2004). The what has already been answered in the introduction chapter. The reasons for this study arise from the scientific and practical issues discussed earlier. The goal of this chapter is to briefly address the why question and then continue on to the how question that will be discussed more thoroughly. While it is not relevant to dig very deep into science philosophy in this study it is worth a short discussion. These philosophical ideas guide the methodological choices we make even though they seemingly arise from the practical reasons of the research (Holden & Lynch, 2004).

Objectivist approach origins from the natural sciences but have later been widely adopted by the social sciences. Business research as a social science is not an exception to that. Social science researchers are using the same tools that have been successfully used in natural sciences. (Holden & Lynch, 2004.)

Ontology debates if the reality actually exists or if it is merely a product of one’s consciousness (Burrell & Morgan, 1979). The objectivist approach sees reality more as a concrete process or structure that actually exists. The next stage is the epistemological question of how we can acquire knowledge of the reality or can we. Objectivist approach to this question considers that we indeed can acquire knowledge of the reality and research is about finding the existing structures in it (Holden & Lynch, 2004). Third basic assumption is about human nature. Objectivist approach assumes that human is processes information, adapts to it and responds to it (Holden & Lynch, 2004).
According to Holden and Lynch (2004) the objectivist researcher sees himself as independent of what he observes and thus, decides what and how to study based on objective criteria, but this view is clearly debatable. It can be argued that researcher cannot be totally objective and exclude himself from the observation of the studied phenomenon. Especially in business research the situation is usually that the approach is somewhere in the middle of the objectivism-subjectivism continuum.

From the objectivist point of view the goal of research is to find causal relations or patterns in human behavior which is done by hypothetico-deductive reasoning where the researcher makes certain assumptions, hypotheses, and tries to deduct how they can be either proven right or wrong (Holden & Lynch, 2004). Whereas finding any causal relationships is outside the scope of this study, the goal is to seek patterns in both the potential benefits of outsourcing and firm performance measurement. Thus, the hypothetico-deductive approach is relevant in this study.

Operationalization of the facts is peculiar to objectivist research approach and critical to deductive approach used in this study (Holden & Lynch, 2004). The researcher needs to find ways to quantify the phenomenon at hand in order to be able to use the hypothetico-deductive reasoning. This operationalization process has been one of the main goals throughout the theory chapter and it results in the questionnaire form described in more detail later in this chapter. Two more research implications that arise from the objectivist approach and are closely related to the deductive research are reductionism and generalization. Objectivistic researcher thinks that by reducing the complexity of the phenomenon and the elements in it one can better understand the phenomenon (Holden & Lynch 2004). This process is also done throughout the theory development and results in a questionnaire form with specific questions that are exactly the ones that need to be asked for the purpose of this study. One of the main goals of the study is to generate generalizable results. In the objectivistic approach the goal of generalizability is to identify regularities in human behavior, to understand them and to certain extent, learn how to predict the behavior (Holden & Lynch 2004). In order to do that a representative and sufficient sample is needed (Holden & Lynch 2004) which leads to the choice of research strategy and data collecting techniques discussed next.
Survey was chosen as the research strategy and questionnaire as the data collecting technique in this research for several reasons. Firstly, it fits the exploratory deductive research agenda well (Saunders, Lewis & Thornhill, 2009:144). Also, as discussed earlier, the questionnaire fits the philosophical objectivistic approach to the research. It also enables relatively large samples from large population for better generalizability and allows the researcher to ask specific questions that can be quantified and analyzed using statistical methods (Saunders et al. 2009:144). This enables the development of accurate metrics to measure exactly what is needed. Perhaps the biggest drawback of the survey strategy is the limited number of questions that can be asked which limits the scope of the data (Saunders et al. 2009: 144-145). However, the research problem in this study is quite strongly structured and the amount of information needed for the confirmatory factor analysis is therefore limited.

There are arguments that the performance measurement data collected through questionnaire is subjective and may not be in line with actual performance (e.g. Bustinza et al. 2010; Jiang et al. 2006; Ketokivi & Schroeder, 2004). However, there is also empirical evidence suggesting that the management perceptions of firm performance are in line with the actual performance metrics from secondary sources (Joong-Kun Cho et al. 2008; Venkatraman & Ramanujam, 1986; Dess & Robinson, 1984). Hence, the use of subjective data is justified especially when the objective data from secondary sources is not available, which is usually the case with private companies like in this study. Further, by using survey method the researcher can form metrics that cannot be formed from numerical hard data (Dess & Robinson, 1984). Also, Ketokivi and Schroeder (2004) suggest subjective measures be used when the research population is heterogeneous and thus, the comparability of the secondary measures is weak. This applies well to this study as there are companies from all industries, so their objective performance metrics aren’t comparable as such.

3.2 Collecting data

The sample consists of Finnish companies and therefore Finnish was chosen as the language of the questionnaire. The questionnaire was sent to representatives of two different companies to test that it works, to estimate the answering time, to see if any problems occur and to get overall feedback on the survey. The test respondents hadn’t
seen the survey before so that it would best simulate the situation of the respondents on the actual sample. Based on the feedback from the test respondents, some minor changes to the cover letter were done. According to them, some question didn’t apply to their company. Therefore, main change to the cover letter was to highlight the possibility to leave some questions unanswered if the respondents couldn’t understand the question or couldn’t answer it for some other reason. This is important to avoid randomness in the actual answers.

The estimated answer time based on the number of question was 10 minutes. The answer times of the test respondents were six minutes and eight minutes based on which the estimated time in the cover letter was changed to 5-10 minutes to better describe the actual time needed. Furthermore, the lower time bracket may motivate more answers. The companies that are working in the industry of accounting services were excluded from the potential recipients because they are the vendors in the outsourcing relationships and accounting activities can be considered as part of their core competence. This does not fit the assumption of accounting activities being peripheral that was made in the theory chapter.

The survey data was collected with two concurrent samples both of which had two waves for two reasons. Firstly, the decision about sending the survey to more companies was made with the cooperating company only after the initial set of responses had been collected. The amount of responses in the first sample didn’t reach the proposed minimum sample size of 100-200 for confirmatory factor analysis (Tabachnick & Fidell, 2014:666). Thus, the decision was made to get more responses and a better chance of finding statistically significant results. Secondly, two separate samples were used to be able to measure non-response bias (Armstrong & Overton, 1977). Even though the two samples were not conducted concurrently as proposed by Armstrong and Overton (1977), they were sent to respondents in a row, so it is relatively safe to assume no response bias between the two samples.

First set of surveys were emailed to 2000 respondents that were randomly chosen from the Asiakastieto.com registry of companies. The register contains the contact information of about 37 000 Finnish companies. Respondents were initially given a response time of one week, after which a remainder email and the original link to web
survey was sent again to the same respondents. This was done both to increase the absolute amount of responses and to increase the response rate which is one of the most common way to reduce non-response Bias (Lambert & Harrington, 1990). Further, this approach allows to receive two waves on each sample which can later be used to measure non-response bias (Armstrong & Overton, 1977). Similar to initial email, respondents were given a response time of one week after the remainder email. First wave of surveys initially yielded 34 answers and after the remainder 21 more surveys were answered. Thus, the total of 55 answers were acquired in the first wave the response rate being 2,75%.

<table>
<thead>
<tr>
<th>Table 2: Sample statistics.</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>Recipients</td>
</tr>
<tr>
<td>Answers 1</td>
</tr>
<tr>
<td>Answers 2</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Response rate</td>
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</tbody>
</table>

In the second stage the link to survey was emailed to 10 000 respondents randomly chosen from the same registry. The companies that had already received the email in the first stage were excluded before randomly choosing the recipients of the second stage. The second set of surveys was conducted in exactly same way than the first set with the exception of giving an initial response time of two weeks. This was done due to the ongoing autumn holiday season in Finland. Firstly, it was done to give the recipients more time to respond outside the holiday week. Secondly, by extending the response time by one week the holiday season was already over when sending the remainder email which was assumed to raise the response rate. The initial email of the second wave yielded 109 responses and the remainder email 105 more responses totaling the responses of the second sample to 214 with a response rate of 2,14%. The response rate of the second wave was lower than in the first wave. The total number of responses in the study was 269 and the response rate 2,24%.
3.2.1 Sample size

Sample size of 300 provide a good basis for factor analysis in the absence of high communalities and when there are only few factors and few indicators for each factor (Tabachnick & Fidell, 2014:666). However, Tabachnick and Fidell (2014:666) propose that when there is a well-determined structure in terms of high factor loadings (>0.8) among variables, a sample size of 100-200 is sufficient. The sample size of 269 is above the latter definition but not over 300 and thus, the guidelines for 100-200 sample are used in the actual confirmatory factor analysis making possible changes on the initial model developed. Communality describes to what extent the variance of observed variables is explained by the latent variable, which depicts the construct validity similar to factor loadings (Hair, Black, Babin & Anderson, 2010:708).

3.3 Formulation of the survey

The questionnaire was formed based on earlier studies discussed in depth in the theory chapter. In this chapter the questionnaire items are introduced and tabled together with their original source and codes used in the factor analysis. The items are grouped based on the assumed factor structure presented in the research model. However, the items in the actual questionnaire that was send to respondents were grouped in larger entities. The potential benefits, impact on capabilities and performance were distinct entities in the questionnaire. The full translated questionnaire that was sent to the recipients can be found in appendix 1.

3.3.1 Descriptive questions

Three descriptive questions were included in the questionnaire for two reasons. Firstly, those questions were asked to be able to assess how well the sample represent the target population. This is done in the analysis chapter by comparing the gathered descriptive data to data from all Finnish companies found from secondary sources. Secondly, firm size, age and industry are perhaps the most used control variables when comprising regression models (e.g. Gilley and Rasheed, 2000). Even though any regression analyses are outside the scope of this study, gathering this data may be helpful in further research.
3.3.2 Outsourcing measurement

Gilley et al. (2004) didn’t include the outsourcing variables in their factor analysis but used it on later stage of their research forming a multiple regression analysis based on the factors created. This study is limited to the confirmatory factor analysis and thus, the outsourcing variable is not needed, and it isn’t used in the measurement model created in this study. Also, the factor consists of only two variables which contradicts the suggestion of Hair et al. (2010:698-699) that each factor should have at least three variables. However, for other statistical analysis it is crucial to have a variable measuring outsourcing, in other words to depict which respondents have engaged in outsourcing and how deeply. Thus, questions considering the outsourcing was developed and included in the questionnaire.

As described earlier, outsourcing is a complex activity due to its strategic nature. Hence, it is important to pay attention to how outsourcing can be measured especially as according to Joong-Kun Cho et al. (2008) there is a lack of comprehensive scaling on outsourcing measurement in logistics outsourcing. They ended up using dichotomous scale (yes/no) to measure outsourcing in their study. Also other researchers have used this approach to measure outsourcing (e.g. Arvanitis and Loukis 2012). However, Everaert et al. (2007) found that many Belgian SMEs don’t outsource the whole accounting function. In other words, companies use both insourcing and outsourcing as their sourcing strategy of accounting services. Based on that information it is justified to use a non-dichotomous scale in this research where the respondents can express a degree of outsourcing on the accounting functions. Gilley et al. (2004) measured outsourcing of payroll and training with a scale from 0 to 100. However, they ran into difficulties with the perceptual nature of this scaling and they suggested other approaches may be more accurate. Based on that and other earlier outsourcing research Espino-Rodríguez and Padrón-Robaina (2004) chose to use 7-point Likert scale to measure the depth of outsourcing. Kamyabi and Devi (2011) further used this approach to measure accounting services outsourcing intensity. Hence, 7-point likert scale was chosen to measure outsourcing in this study, number 1 indicating not outsourced and 7 indicating totally outsourced.
Following the definition of outsourcing by Gilley and Rasheed (2000) discussed earlier in the theory chapter, this research only considers an activity outsourced if it is within firm’s managerial and financial capabilities. In other words, an activity isn’t considered outsourced the above mentioned doesn’t hold true. Thus, the respondents were asked if the accounting activities provided by a vendor are within their managerial and financial capabilities. Following Gilley and Rasheed (2000) a 7-point likert scale was used from 1=activity is not at all within our capabilities to 7=activity is well within our capabilities to measure this.

To find out whether using outside suppliers is in fact outsourcing, another question was formed based on the definition by Gilley et al. (2004), according which using outside suppliers is considered outsourcing only if the activities are within the company’s managerial and financial capabilities. To make the survey question more understandable and unambiguous, it was rephrased to indicate to which extent the company has the ability to do the accounting activities in-house. This was done based on the feedback from two test respondents that didn’t fully understand the original question about managerial and financial capabilities.

3.3.3 Benefits of outsourcing

For measuring benefits of outsourcing, a set of items developed and tested by Bustinza et al. (2010) was used as such. Following Bustinza et al. (2010), a 7-point Likert scale was used to measure these items. Likert-scale data are ordinal which means it can be rank-ordered but the intervals of different categories may not be the same (Wilson, 2010: 215). This leads to a problem that in principle, parametric statistical methods such as factor analysis cannot be used for the quantitative analysis. However, there is wide empirical evidence that even if Likert-scale data are ordinal, it can be robustly used for parametric statistical methods. (Norman, 2010.) The Likert-scale questionnaire is also widely used among researchers in the field (e.g. Bustinza et al. 2010; Gilley et al. 2004). Based on this, the Likert-scale questions are used to gather all data apart from the few descriptive questions discussed above. This allows the gathered data to be handled similar to continuous numeric data throughout this research which enables the statistical methods such as ANOVA and confirmatory factor analysis to be used on the data. The questions of the potential benefits of
outsourcing are adapted from Bustinza et al. (2010) to better correspond to the scope of this study. The items are listed in Table 3.

**Table 3: Survey items for measuring potential benefits of outsourcing.**

Assess the following potential benefits of outsourcing accounting functions

<table>
<thead>
<tr>
<th>Item code</th>
<th>Item</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>benbus1</td>
<td>Allows focusing on core activities</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benbus2</td>
<td>Increases business flexibility</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benbus3</td>
<td>Increases customer satisfaction</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benbus4</td>
<td>Allows focus on internal business improvement</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benbus5</td>
<td>Improves strategic positioning</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benbus6</td>
<td>Gets rid of problem functions</td>
<td>Bustinza et al. 2010</td>
</tr>
</tbody>
</table>

**benorg**  Organizational benefits

<table>
<thead>
<tr>
<th>Item code</th>
<th>Item</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>benorg1</td>
<td>Improves operations technologically</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benorg2</td>
<td>Allows access to latest technologies</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benorg3</td>
<td>Improves management processes</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benorg4</td>
<td>Increases innovation trends</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>benorg5</td>
<td>Reduces organizational risks</td>
<td>Bustinza et al. 2010</td>
</tr>
</tbody>
</table>

3.3.4 Impact of outsourcing on competitive capabilities

**Table 4: Survey items for measuring outsourcing’s impact on competitive capabilities.**

Assess the importance of outsourcing decision on the following competitive capabilities of your firm

<table>
<thead>
<tr>
<th>Item code</th>
<th>Item</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>impint1</td>
<td>Enable punctual delivery</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impint2</td>
<td>Enable faster delivery</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impint3</td>
<td>Increase the competitiveness of out prices</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impint4</td>
<td>Enable us to offer consistent quality</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impint5</td>
<td>Enable us to obtain better results from services or products</td>
<td>Bustinza et al. 2010</td>
</tr>
</tbody>
</table>

**impekt**  External impact

<table>
<thead>
<tr>
<th>Item code</th>
<th>Item</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>impekt1</td>
<td>Provide flexibility to face market demand</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impekt2</td>
<td>Introduce new services and products into the market more rapidly</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impekt3</td>
<td>Distribute our services or products more widely</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impekt4</td>
<td>Increase the number of our services or products</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impekt5</td>
<td>Contribute to promoting our services and products more efficiently</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>impekt6</td>
<td>Develop post-sales services and products</td>
<td>Bustinza et al. 2010</td>
</tr>
</tbody>
</table>

Similar to the benefits of outsourcing, a set of items developed Miller and Roth (1994) and tested and adapted to outsourcing context by Bustinza et al. (2010) was used. The
items were adapted to consider also products as the scope of this study is both service and product companies. The items are listed in table 4.

3.3.5 Performance measurement

Following Gilley et al. (2004), respondents were asked to evaluate each performance metrics during past 12 months compared to similar firms in their industry. There are two methodological reasons this approach was chosen in this study. Firstly, the 12 months is widely used period for measuring performance and thus, firms usually have a good grasp on how they have performed during it. Also, the past 12-month period better describes the current performance compared to previous fiscal year. Secondly, as the sample of this research randomly consists of companies from many different industries, this approach enables to minimize the possible industry-specific differences in the performance of the companies (Dess, Ireland & Hitt, 1990). The performance measurement items were collected from several different sources that are listed in the table 5.

Table 5: Survey items for measuring firm performance.

<table>
<thead>
<tr>
<th>Item code</th>
<th>Internal performance</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>pint1</td>
<td>Return on assets</td>
<td>Bustinza et al. 2010, Gilley et al. 2004</td>
</tr>
<tr>
<td>pint2</td>
<td>Return on equity</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>pint3</td>
<td>Return on investment</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>pint4</td>
<td>Return on sales</td>
<td>Gilley et al. 2004, Golhar &amp; Deshpande 2009</td>
</tr>
<tr>
<td>pint5</td>
<td>Overall financial performance</td>
<td>Gilley et al. 2004</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item code</th>
<th>External performance</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>pext1</td>
<td>Market share on main markets</td>
<td>Bustinza et al. 2010, Golhar &amp; Deshpande 2009</td>
</tr>
<tr>
<td>pext2</td>
<td>Growth in sales in main services and markets</td>
<td>Bustinza et al. 2010, Kamyabi &amp; Devi 2011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item code</th>
<th>Organizational performance</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>porg1</td>
<td>Number of customer complaints</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>porg2</td>
<td>Number of services or products initiated but not finalized</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>porg3</td>
<td>Lead-time</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>porg4</td>
<td>General level of customer satisfaction</td>
<td>Bustinza et al. 2010, Ellinger et al. 2000</td>
</tr>
<tr>
<td>porg5</td>
<td>Degree of loyalty of customers</td>
<td>Bustinza et al. 2010</td>
</tr>
<tr>
<td>porg6</td>
<td>Customer relations in general</td>
<td>Gilley et al. 2004</td>
</tr>
</tbody>
</table>
3.3.6 Future outsourcing plans

The five questions about future outsourcing plans were developed solely for possible further research and they are irrelevant in the scope of this research. Thus, they are excluded in the theory development, analysis and conclusions of this paper.
4 ANALYSIS

In this chapter the collected survey data is analyzed using various quantitative methods. The analyses are carried out using IBM SPSS Statistics and Mplus softwares. Mplus was chosen as the tool for the confirmatory factors analysis because it is specifically designed for that purpose and the researcher has access to it. All the other statistical analyses are carried out using SPSS as it was already familiar to the researcher and available for use. First, a thorough description of the data is carried out using descriptive statistics and then, number of inferential statistics are used to further analyze the data as suggested by Wilson (2010:213).

4.1 Description of data

As discussed in the methodology chapter, most of the data gathered is ordinal Likert-scale which leads to violation of the assumption of normality. Even though the skewness and kurtosis values are relatively low to point towards normality, the assumption cannot be made. Looking at the frequency charts of the variables included in the CFA model one can conclude that whereas the internal, external and innovation performance variables seem to be somewhat normally distributed, most of the variables are not. However, Norman (2010) points out that most of the parametric statistical methods are still robust with ordinal Likert-scale data and in the absence of normality. In addition, the confirmatory factor analysis is somewhat robust in the existence of non-normality especially with the MLR-estimation method (Li, 2016). Thus, the methods are used in the analysis of this research despite the ordinal non-normal data at hand.

4.1.1 Missing values

Out of the 269 responses eight responses were excluded from the analysis due to having less than 10 questions filled which resulted in 261 valid responses at this stage. This is the number of cases that is used in all the further analysis of the data. Missing value analysis was conducted to the whole data set of 261 companies. An estimation method for missing values was chosen instead of deletion method for two reasons proposed by Tabachnick and Fidell (2014:666). Firstly, deletion of cases would have
reduced the sample size and made it smaller than desired. Secondly, there seemed to be a clear pattern in the missing values; the value of 1 in variable outsour1 seemed to wield missing values in other variables. In other words, if the respondent company didn’t use any outside suppliers for accounting activities, they were more likely to leave other parts of the survey empty, especially the questions directly related to outsourcing. This may be due to lack of interest in outsourcing when they are not engaged in it themselves. In situations like this the deletion of cases might lead to biased data and thus, estimation for missing values is recommended (Tabachnick and Fidell (2014:666).

Missing values were calculated using EM analysis in SPSS Statistics software. Industry variable didn’t have any missing values, employee variable had one and age variable two, respectively. These three missing values in the descriptive variables were not estimated as they are categorical in nature and it’s not meaningful to estimate those using mathematical methods. Those missing values were noted as -99 for the factor analysis. The rest of the values derived from the EM analysis were rounded to closest integers from 1 to 7 respective to the values from the actual responses.

4.1.2 Non-response bias

Non-response bias means the difference between the subjects that responded and those that did not respond. Accounting for possible non-response bias is important especially with low response rates. (Lambert & Harrington, 1990.) This research had a low response rate of 2.24% so careful measures to test for non-response bias were taken.

Firstly, to test for differences between the two samples of a one-way ANOVA analysis was carried out. The results of the analysis show that there is a statistically significant difference (p<0.05) between the two samples in terms of 10 variables out of 51 variables. Thus, the vast majority of the variables doesn’t have a significant difference between the two samples that was gathered in this research. This allows the samples to be combined and used as a one single sample in the further analysis. The similarity of the two samples also suggests that there is no significant non-response bias in the research (Lambert & Harrington, 1990).
Secondly, a careful analysis between the initial responses and responses after the reminder was made. This is based on the assumption that the subjects that respond after a stimulus like the reminder email in this research are closer to the subjects that don’t respond (Armstrong & Overton, 1977). For the sake of the analysis the responses from two concurrent samples described earlier were combined and analyzed in terms of the wave. One-way ANOVA was conducted on the combined sample to test the differences between responses in the two waves. Similarly to the ANOVA analysis on the two concurrent samples, most of the variables didn’t have a statistically significant difference between the two waves. Only six of the 51 variables had a statistically significant difference (p<0.05) between the waves. This also indicates there is no significant non-response bias in this survey and thus, the results in the further analysis of the combined sample can be confidently generalized to the whole population in this regard (Lambert & Harrington, 1990).

4.1.3 Demographics of the respondents

Respondents were asked the size of their company in terms of employees. 224 (85.8%) of the companies were micro companies with less than 10 employees, 26 (10%) were small companies with 10-49 employees, 6 (2.3%) were medium-sized companies with 50-249 employees and 4 (1.5%) were big companies. Data is heavily skewed towards micro and small companies. However, this is also the case in the whole population of Finnish companies. The frequencies in the same employee count brackets in the whole population in 2012 are 94.3%, 4.7%, 0.8% and 0.2% respectively (Statistics Finland, 2017). Thus, the collected data represents the population very well in terms of the number of employees. Small, medium-sized and big companies are only slightly overrepresented in the collected data.

There were respondents from all 23 industries apart from mining and quarrying, public administration and defence, and activities of households as employers. Three (1.1%) of the respondents didn’t choose an industry and five (1.9%) of the respondents answered unknown industry. In comparison to the industry distribution of all Finnish companies the frequencies are somewhat similar (Statistics Finland, 2017). There were two major deviations between the collected data and all Finnish companies. Firstly, the industry of agriculture, forestry and fishing was clearly underrepresented in the
collected data (1,5%) compared to their share of all Finnish companies (17,2%). Secondly, the industry of other service activities was clearly overrepresented in the data (21,5%) compared to all Finnish companies (5,8%). This might be due to respondents not knowing their exact industry and thus, choosing the other service activities. All in all, in the light of these numbers it is safe to say that the data represent Finnish industry distribution quite well.

Figure 3. Company size distribution of the population and sample (Statistics Finland, 2017).

The age of the companies measured by the years in the industry varied from 1 year to 160 years. Despite the open question the equal ten numbers were clearly most frequent. However, every age up to 32 years had minimum of 1 answer. For further analysis, it is recommended that age groups are created. The age variable isn’t needed in the further analysis of this study so this wasn’t done in this paper.
4.1.4 Outsourcing frequencies

The first outsourcing variable \textit{outsour1} measures, to which extend the respondent company’s accounting activities are done by outside suppliers. Out of 261 respondents, 72 (27,6\%) answered that none of their accounting activities are done by outside suppliers whereas the rest 189 (72,4\%) responded that at least some part of their accounting activities is done by outside suppliers. The frequencies of the \textit{outsour1} answers from 2 to 7 are clearly skewed towards the higher values. This can be interpreted so that companies that are using outside suppliers have a big portion of their accounting activities done by their suppliers. Mean of the responses from 1 to 7 was 3,96.

The second outsourcing variable \textit{outsour2} measures to which extent their accounting activities could be done in-house. 29 (11,1\%) of the respondents estimate not being able to do the accounting activities in-house, in which case their procurement of those
activities doesn’t count as outsourcing (Gilley & Rasheed 2000). The rest 232 (88,9%) of the companies responded that they have the ability to do the accounting activities in-house at least to a certain extent. The frequencies of the answers from 2 to 6 vary from 10,0% to 16,1% so they are very equally distributed. However, 69 (26,4%) of the respondents answered that they are fully capable of doing the activities in-house. Mean of the answers in outsource2 was 4,40.

![Figure 5. Usage of outside vendors.](image)

Based on the cross tabulation of these two outsourcing variables, out of the 189 companies that are using outside suppliers of accounting activities 29 (11,1%) answered that they don’t have the ability to do those activities in-house, in which case they don’t fit the definition of outsourcing used in this research. Thus, in total 160 (61,3%) companies have outsourced at least some part of their accounting activities.

Another interesting result of the cross-tabulation is that even though 29 companies answered that none of the accounting activities are within their capabilities, only 8 of them have totally outsourced those functions. This suggests that there are some misunderstandings concerning the questions. Similarly, out of the 72 (27,6%) that aren’t having any accounting activities done by outside supplier only 48 (18,4%) answered that the accounting activities are fully within their capabilities which
indicates that many companies are doing some accounting activities in-house even though they don’t have capabilities for it.

![Figure 6. Capability to do accounting activities in-house.](image)

**Table 6: Cross-tabulation of the two variables measuring outsourcing.**

<table>
<thead>
<tr>
<th></th>
<th>outsour1</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>outsour1</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>48</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td></td>
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<td>11</td>
<td>6</td>
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<td>6</td>
<td>4</td>
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</tr>
<tr>
<td></td>
<td>6</td>
<td>3</td>
<td>19</td>
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<td>8</td>
<td>4</td>
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<td>29</td>
<td>42</td>
<td>30</td>
<td>26</td>
<td>32</td>
<td>33</td>
<td>69</td>
<td>261</td>
</tr>
</tbody>
</table>

### 4.2 Statistical analysis

Factor analysis is a good statistical tool to analyze multidimensional, complex relationships that may be difficult to analyze with other means (Hair et al. 2010:91). The basic idea behind the factor analysis model is that the factors affect what values the variables will get (Alkula, Pöntinen & Ylöstalo, 1994:268). The primary purpose
is to define the underlying structure among the variables in the analysis (Hair et al. 2010:94). This is done through combining highly correlated variables into factors after which further analysis can be carried out using those factors instead of original variables (Hair et al. 2010:94).

When the factor analysis is made based on correlation matrix the factor loadings can also be interpreted as correlations between the factor and the variable (Alkula et al. 1994: 270). The correlations and the factors themselves may have no meaningful interpretation itself and hence, the conceptual analysis behind the factors is very important for any conclusions (Alkula et al. 1994:270). As the factor analysis seeks dimensions from the covariance between variables, it is usually meaningful to measure each assumed dimension with more than one question related to each other (Alkula et al. 1994:276). After choosing relevant variables based on conceptual criteria and correlations, the next steps are to decide an appropriate number of factors and possible exclusions of some variables (Alkula et al. 1994:276). There are two main types of factor analyses, exploratory and confirmatory (Hair et al. 2010: 94-95), out of which the latter is used in this research.

4.2.1 Confirmatory factor analysis

Confirmatory factor analysis can be used to statistically test the research hypotheses, in other words to test how the developed model fits the gathered data (Leskinen, 1987:67). The purpose of confirmatory factor analysis is to test a pre-existing structure (Ghauri & Gronhaug, 2005:196) which is the case in this study. In a way, confirmatory factor analysis is used to test an underlying theory (Tabachnick & Fidell, 2014:662). Confirmatory factor analysis is the method to use when there is a hypothesized existing factor structure which can be based on earlier exploratory factor analyses or barely on underlying theoretical concepts (Leskinen, 1987:28). In both cases the goal is to test if the existing model fits the data at hand. If the initial hypothesized model doesn’t fit the collected data, the model should be modified based on the information given by the initial fit analysis. Thus, in a sense, confirmatory factor analysis may also have exploratory qualities. Nonetheless, confirmatory factor analysis requires more knowledge about the research problem and underlying constructs than exploratory factor analysis. (Leskinen, 1987:67.) The existing structure in this study has been
developed based on underlying theory discussed in the theory chapter and the exploratory factor analyses by Bustinza et al. (2010) and Gilley et al. (2004). The initial model of this research is constructed combining factor structures from these two models.

The researcher rarely has enough accurate knowledge of the research problem that it could completely determine the final structure of the factor model (Leskinen, 1987:29). Thus, he suggests that the final factor model should be chosen so that it gives as much statistically accurate and reliable and meaningfully interpretable information as possible. Following these guidelines, the initial model is tested in this chapter by making a confirmatory factor analysis using Mplus program. Some adaptations are made to the model based on statistical and theoretical considerations of the initial results. More precisely, the fit indices of the initial model are calculated and interpreted using existing literature on them. Then, some changes to the initial structures are made based on both theoretical and statistical considerations.

In principle, if there are too few factors in the model they may be loaded with variables that don’t seem to have anything in common conceptually. On the other hand, using too many factors in the model tend to disperse the construct. Between these two extremities a construct can be found that makes sense both statistically and conceptually. (Alkula et al. 1994: 277.) Further, Hair et al. (2010:698-699) recommend that at least three or four indicators are used per construct. If there are less than three indicators the construct is under identified which means that it has more parameters to be estimated than there are unique terms in the covariance matrix (Hair et al. 2010:699). This may cause problems in the further analysis.

4.2.2 Model fit indices

In order to have a valid model, a high enough goodness-of-fit has to be established and evidence for construct validity has to be found (Hair et al. 2010:664). Fit indices describe the goodness of the model by comparing the covariance matrixes of the sample and estimated population (Tabachnick & Fidell, 2014:770). They mathematically compare the estimated covariance matrix of the model to the observed covariance matrix and the closer they are to each other the better the fit (Hair et al.
In other words, fit indices measure how well the developed theory fits the reality. In order to test the initial theorized model a confirmatory factor analysis was carried out with the Mplus program and a set of fit indices it provides were analyzed.

Ideally, a small chi-squared with corresponding high p-value indicates low difference between the estimated and sample covariance matrixes and thus, a good fit (Hair et al. 2010:666). However, based on how chi-squared is calculated, sample size affects it so that the larger sample size gives larger chi-squared values even though the differences between observed and estimated covariance matrixes remain the same (Hair et al. 2010:666). In principle, a larger sample size is desired which makes the chi-squared contradicting for measuring goodness-of-fit. Secondly, the chi-squared statistic is likely to get larger values when the number of observed variables increase (Hair et al. 2010:666). Adding more relevant constructs or adding variables to measure a construct better results in higher chi-squared statistic values even though the effect should in principle be the opposite. For these two reasons chi-squared is problematic fit index for large sample sizes and complicated models. This can be argued to be the case in this research, with the sample size of 261 and model with 43 observed variables. Hence, the chi-squared statistic must be interpreted cautiously and there is a need for additional fit indices to better assess the fit of the model.

According to Tabachnick and Fidell (2014:775) Comparative Fit Index (CFI) and root mean squared error of approximation (RMSEA) are the most commonly used fit indices and those are also considered in this research. The comparative fit indices evaluate the fit of the model in relation to other models that range from independence model (with totally non-corresponding variables) to perfect (saturated) model (Tabachnick & Fidell, 2014:771-772). Further, Hu and Bentler (1999) suggest the usage of standardized root mean squared residual (SRMR) supported by a comparative fit index, like CFI, RMSEA or Tucker-Lewis Index (TLI). Similarly, Hair et al. (2010:672) propose a use of at least one incremental and one absolute fit index. Further, according to Hair et al. (2010:672) using three or four fit indices should provide a sufficient evidence for acceptable goodness-of-fit in addition to chi-squared statistic. With all of the mentioned fit indices, the estimation method affects their size (Tabachnick & Fidell, 2014:772). Based on these suggestions, the four above mentioned fit indices were decided to be used in this research in addition to chi-squared
test to determine the fit of the model and as basis for possible further adaptations in the model. The set of fit indices chosen includes two absolute fit indices, RMSEA and SRMR, and two incremental fit indices CFI and TLI. Whereas there are no strict cutoff values for fit indices, several there are several guidelines which are discussed next.

CFI values greater than 0.95 indicate a good model fit (Hu & Bentler, 1999). According to Hair et al. (2010:672) values larger than 0.90 usually indicate a good fit when the sample size is larger than 250 and the number of observed variables exceeds 30. In addition to being insensitive to sample size, CFI is relatively insensitive to model complexity which makes it one of the most popular fit indices (Hair et al. 2010:669). For this reason, it should also be well suited for this research.

RMSEA tries to solve the problem of large sample size and complex model affecting the fit by taking them into account (Hair et al. 2010:667). RMSEA values smaller than 0.06 indicate a good model fit (Hu & Bentler, 1999) whereas values greater than 0.1 indicate a poor fit (Browne & Cudek, 1993). Further, Hair et al. (2010:672) suggest a good fit with RMSEA values less than 0.07 when CFI is higher than 0.9.

TLI can get values above 1 or below 0 as it isn’t normed but generally, its values range between 0 and 1 with values approaching can be considered implicating a good fit (Hair et al. 2010:668). Hair et al. (2010:672) propose a similar limit for TLI as for CFI, where values over 0.9 indicates a good fit with sample size over 250 and number of observed variables over 30. The maximum likelihood –based fit indices like TLI and RMSEA are not well fit for small sample sizes as they over reject the estimated population models (Hu & Bentler, 1999).

SRMR values smaller than 0.08 indicate a good fit (Hu & Bentler, 1999). As a rule of thumb, SRMR values larger than 0.1 indicates problems with fit (Hair et al. 2010:668). Hair et al. (2010:672) also propose that values below 0.08 indicate a good fit when CFI is above 0.92.

Although certain cutoff values for fit indices discussed above are followed in this research, they aren’t set in stone. Hair et al. (2010:672) point out that the comparison of fit indices between models is a good way to assess the model fit. Even when it is
debatable if certain absolute index value indicates good fit or not, better fit index indicate better fit. However, it must be kept in mind that the changes made to the model have to be theoretically justified as one shouldn’t pursue a good model fit at the expense of testing a true model (Hair et al. 2010: 673). To sum up, these presented cutoff values are used as guidelines assessing the model fit in this research but the indices are also used in comparing possible adapted model to the initial theorized model as suggested by Hair et al. (2010:667).

The confirmatory factor analysis herein didn’t produce acceptable fit indices with the theorized model and thus, the first hypothesis as such was rejected. CFI and TLI indices fell below 0,90 which indicates poor fit. In addition, RMSEA of the initial model was over 0,07 which is not at the ideal level. (Hair et al. 2010: 672.) Thus, the model was carefully reviewed from both theoretical and statistical perspective and several changes was made to the model following Alkula et al. (1994:277). The fit indices are compared to the initial fit indices after these changes as suggested (Hair et al. 2010:672, Leskinen, 1987:67). The changes made to the initial model are thoroughly discussed next. These changes to the theorized model generate a need to rework the first hypotheses as follows:

H1a: the adapted research model fits the gathered data.

<table>
<thead>
<tr>
<th>Fit index</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>2320,769</td>
</tr>
<tr>
<td>DoF</td>
<td>743</td>
</tr>
<tr>
<td>p-value</td>
<td>0</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0,09</td>
</tr>
<tr>
<td>CFI</td>
<td>0,862</td>
</tr>
<tr>
<td>TLI</td>
<td>0,848</td>
</tr>
<tr>
<td>SRMR</td>
<td>0,068</td>
</tr>
</tbody>
</table>

Source: Developed by authors.

The factor pint measuring internal business performance is developed combining variables from the researches of Bustinza et al. (2010), Gilley et al. (2004) and Golhar and Deshpande (2009). The first three variables pint1, pint2 and pint3 used by Bustinza et al. (2010) measure profitability in in terms of profit over assets whereas pint4 is was
used by Gilley et al. (2004) and measures profitability in terms of profit over sales. Overall financial performance \textit{pint5} was used by Gilley et al. (2004) but is a bit vague measure and had a factor loading lower than ideal so it was decided to be excluded. This also led to better fit indices in the model.

The factor \textit{pext} indicating external business performance included only two variables which is not an ideal number in the factor structure and may cause several statistical problems (Hair et al. 2010:698-699). The factor didn’t make sense statistically having very low factor loadings. Even though several researchers have established a positive connection between outsourcing and external performance metrics like sales and market share used in the model herein (Giustiniano & Clarioni, 2013; Bustinza et al. 2010; Golhar & Deshpande, 2009), there is also contradicting evidence supporting that there may not be connection, or it might even be negative (Agrawal & Haleem, 2013; Joong-Kun Cho et al. 2008). Thus, the factor was excluded from the model which also led to better fit indices.

Factor \textit{porg} had six variables in the initial model. All the variables were associated with customers. Difficulties with this factor arose in the initial factor model as the variables \textit{porg1}, \textit{porg2} and \textit{porg3} had relatively low factor loadings. Hence, a close conceptual analysis was made of the survey questions behind these variables. The abovementioned three questions were phrased in a way that there was a probable chance for misunderstanding which is, according to Wilson (2010:149), quite common problem with questionnaires. Although the task was to assess the firm performance in comparison to their competitors in the industry, with the scale from 1 being \textit{among the worst in the industry} to 7 being \textit{among the best in the industry}, the three items behind the variables \textit{porg1}, \textit{porg2} and \textit{porg3} could have been interpreted as 1 indicating good performance and 7 indicating poor performance. For example, the item behind \textit{porg1}, \textit{number of customer complaints} could be understood in a way that 1 indicates low number of customer complaints which in turn would indicate good performance and vice versa. In addition, one of the test respondents gave feedback about some of these questions being difficult to interpret which supports this view. In the presence of such high possibility of misinterpretation Wilson (2010:149) suggests the variables to be excluded from the analysis. Based on these arguments the variables \textit{porg1}, \textit{porg2} and
were excluded from the model which also resulted in better fit indices in terms of CFI, TLI and RMSEA supporting that the changes were justified.

### Table 8: The remaining performance variables in the final model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal performance</strong></td>
<td></td>
</tr>
<tr>
<td>pint1</td>
<td>Return on assets</td>
</tr>
<tr>
<td>pint2</td>
<td>Return on equity</td>
</tr>
<tr>
<td>pint3</td>
<td>Return on investment</td>
</tr>
<tr>
<td>pint4</td>
<td>Return on sales</td>
</tr>
<tr>
<td><strong>Organizational performance</strong></td>
<td></td>
</tr>
<tr>
<td>por</td>
<td>General level of customer satisfaction</td>
</tr>
<tr>
<td>porg5</td>
<td>Degree of loyalty of customers</td>
</tr>
<tr>
<td>porg6</td>
<td>Customer relations in general</td>
</tr>
<tr>
<td><strong>Innovation performance</strong></td>
<td></td>
</tr>
<tr>
<td>pinnov1</td>
<td>R&amp;D outlays</td>
</tr>
<tr>
<td>pinnov2</td>
<td>Amount of process innovations</td>
</tr>
<tr>
<td>pinnov3</td>
<td>Amount of product innovations</td>
</tr>
</tbody>
</table>

The factor \( p_{stake} \) that indicates stakeholder performance was constructed and included in the theoretical model of this research based on explanatory factor analysis by Gilley et al. (2004). However, it seems that the three variables \( p_{stake1}, p_{stake2} \) and \( p_{stake3} \) measure different aspects of performance and they don’t form a viable construct. The first two measure employee growth and morale whereas the third measures supplier relationships which are conceptually very distinct. Further, the performed confirmatory factor analysis in this research indicated that this is not a viable construct within the scope of this study. The factor loadings of the variables were not at desired level even though above 0,5. Excluding the whole factor resulted in better fit indices in the whole model so they were excluded from the final model. The performance variables included in the model after the eliminations are listed in table 8.

The fit indices of the initial and developed models are listed in the table 9. CFI of 0,911 and TLI of 0,901 were on acceptable levels for the adjusted model. Also, SRMR of 0,048 indicates a good fit. RMSEA of 0,087 isn’t at desired level under 0,07 (Hair et al. 2010:672) but the value isn’t over 0,10 either that would indicate poor fit (Browne & Cudek, 1993). According to Hair et al. (2010:667) RMSEA is best suited for large sample sizes preferably over 500 so the sample size of 261 is rather small in this regard. Moreover, Hair et al. (2010:667) propose that it’s hard to set any accurate limit to
RMSEA. For these reasons it was assessed that the fit indices are at acceptable level and indicate a good fit in total and thus, the model was accepted after the modifications.

Table 9: Goodness-of-fit for the initial and adapted models.

<table>
<thead>
<tr>
<th>Fit index</th>
<th>Initial model</th>
<th>Adapted model</th>
<th>Threshold</th>
<th>Fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>2320,769</td>
<td>1314,398</td>
<td>Smaller</td>
<td>better</td>
</tr>
<tr>
<td>DoF</td>
<td>743</td>
<td>443</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p-value</td>
<td>0,000</td>
<td>0,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMSEA</td>
<td>0,090</td>
<td>0,087</td>
<td>&lt;0,070</td>
<td>moderate</td>
</tr>
<tr>
<td>CFI</td>
<td>0,862</td>
<td>0,911</td>
<td>&gt;0,900</td>
<td>good</td>
</tr>
<tr>
<td>TLI</td>
<td>0,848</td>
<td>0,901</td>
<td>&gt;0,900</td>
<td>good</td>
</tr>
<tr>
<td>SRMR</td>
<td>0,068</td>
<td>0,048</td>
<td>&lt;0,080</td>
<td>good</td>
</tr>
</tbody>
</table>

Hair et al. (2010:712) set some guidelines considering the extraction of variables from initial model. According to them, if more than 20% of the variables are removed from the original model a new dataset should be used to test this model. In total 11 of the 41 variables in the initial CFA model were removed which accounts for 26.8% of the number of initial variables. This was done to achieve an acceptable model fits listed in the table. Further, if a need for new factors emerge, a new dataset should be collected (Hair et al. 2010:712). In this case the adapted model differs from the initial model so much that the testing of the theory may not be accurate. Even though the number of removed variables is slightly higher than the suggested ideal, there was no need to divide or create new factors. Based on this, it was concluded that the adapted model is not too different from the initial one and thus, it was accepted in this regard.

4.2.3 Model validity and reliability

Factor loadings describe how strong connection each variable has with the factor (Alkula et al. 1994: 267). More particularly, the factor loadings represent the covariances between the variables in that factor (Leskinen, 1987: 8). As a rule of thumb, the factor loadings below 0.5, indicating that the factor explains less than 25% of the variation of the variable, doesn’t give meaningful basis for interpretation (Alkula et al. 1994:273). Further, Hair et al. (2010:708) propose that factor loadings should ideally be over 0.70. If the factor loadings drop below ideal levels, Hair et al. (2010:708) propose they should be considered to being dropped from the model. Factor loadings for all the items in the adapted model are considerably high ranging
from 0,671 to 0,944. The factor loadings can be found in the figure 7 depicting the final model. The only factor loading falling over the ideal level of 0,70 is \textit{pint4}. However, it is clearly over acceptable 0,50 level and conceptually important part of the measure scale. Therefore, it was included in the final model. Factor loadings for all other variables in the adapted model were higher than the suggested ideal levels and thus, the factors explain a big portion of the variation of the variables and no need to exclude any items were found.

Table 10: Construct validity.

<table>
<thead>
<tr>
<th></th>
<th>AVE</th>
<th>CR</th>
<th>√AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>benbus</td>
<td>0,724</td>
<td>0,940</td>
<td>0,851</td>
</tr>
<tr>
<td>benorg</td>
<td>0,722</td>
<td>0,929</td>
<td>0,850</td>
</tr>
<tr>
<td>impint</td>
<td>0,855</td>
<td>0,967</td>
<td>0,925</td>
</tr>
<tr>
<td>impext</td>
<td>0,863</td>
<td>0,974</td>
<td>0,929</td>
</tr>
<tr>
<td>pint</td>
<td>0,731</td>
<td>0,914</td>
<td>0,855</td>
</tr>
<tr>
<td>porg</td>
<td>0,774</td>
<td>0,911</td>
<td>0,880</td>
</tr>
<tr>
<td>pinnov</td>
<td>0,715</td>
<td>0,882</td>
<td>0,846</td>
</tr>
</tbody>
</table>

Average variance extracted (AVE) for each construct can be calculated as the average squared standardized factor loadings (Hair et al. 2010:709). As a rule of thumb, an AVE of over 0,50 can be considered adequate (Hair et al. 2010:709) as it indicates that over 50% of the variance of the construct is explained by the observed variables (Fornell & Larcker, 1981). In turn, AVE falling below 0,50 indicates that on average, the variance in the items is explained more by error than by the latent variable (Hair et al. 2010:709). Hair et al. (2010:709) suggest that AVE should be calculated for all constructs developing a measurement model or SEM. In the adapted model of this research the AVE of the constructs range from 0,715 to 0,863 so their levels are considerably higher than the suggested desired levels. This means that on average, the variance of the items is more explained by the factors than by randomness. In this regard, the model is valid.

Construct reliability (CR) is calculated from the squared sum of factor loadings and the sum of the error variance terms (Hair et al. 2010:710). The residual variances of each variable can be seen in figure 7. The CR values of the constructs in the adapted model range from 0,882 to 0,974. Hair et al. (2010:710) propose that CR values over 0,70 implicate good reliability and values between 0,60 and 0,70 may be adequate.
given that the other construct validity measures are good. Further, according to Fornell and Larcker (1981) the construct reliability must be over 0.70. Thus, it can be concluded that the constructs of the adapted model in this research are reliable. The CR and AVE values of the research model are listed in table 10.

Another important aspect of the model validity is discriminant validity. It describes how different constructs are from each other (Hair et al. 2010:710). In other words, it measures if the constructs are actually different from each other. If the correlation between two factors is one, they are in fact statistically the same factor (Leskinen, 1987:13). All the statistically significant correlations with the respective p-values (<0.05) are listed in table 11. There are two high correlations between factors that stand out, 0.937 between benorg and benbus, and 0.923 between impext and impint. The correlations being close to 1 can be interpreted so that they are very similar to each other. Hair et al. (2010:710) propose a test to determine if the constructs are truly different from each other. AVE of each two construct should be greater than the squared correlation between those two constructs which can be interpreted so that the construct explains more of the variance of its items than it shares with the other construct (Hair et al. 2010:710). The first correlation squared is 0.878 which is considerably higher than their AVEs of 0.72 and 0.724. This suggests that these two factors are similar to each other and don’t necessarily measure different dimensions of outsourcing. The model was tested by combining the factors benbus and benorg into one factor benefits and running a new confirmatory factor analysis with this change. However, this resulted in worse fit indices which also didn’t meet the cutoff levels discussed earlier. Based on this statistical consideration and on the high AVE values of both factors, it is justified that while being similar, the two factors are distinct and were accepted in the final model.

The latter correlation squared between impext and impint is 0.852 which is almost as high as the first. However, the AVEs of these factors are 0.855 and 0.863 so they are slightly higher than the squared correlation between them. This means that impext and impint factors explain more of the variance of their items than they share with each other. Thus, it is justified to say that while being similar, the factors are distinct and measure different dimensions in the model so there wasn’t need for additional testing and they were accepted in the model as such.
Table 11: Statistically significant correlations between the latent variables (p<0.05).

<table>
<thead>
<tr>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Correlations</th>
<th>p&lt;0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>benorg</td>
<td>benbus</td>
<td>0.937</td>
<td>0.000</td>
</tr>
<tr>
<td>impext</td>
<td>impint</td>
<td>0.923</td>
<td>0.000</td>
</tr>
<tr>
<td>impint</td>
<td>benorg</td>
<td>0.691</td>
<td>0.000</td>
</tr>
<tr>
<td>impint</td>
<td>benbus</td>
<td>0.685</td>
<td>0.000</td>
</tr>
<tr>
<td>impext</td>
<td>benorg</td>
<td>0.685</td>
<td>0.000</td>
</tr>
<tr>
<td>impext</td>
<td>benbus</td>
<td>0.623</td>
<td>0.000</td>
</tr>
<tr>
<td>porg</td>
<td>pint</td>
<td>0.473</td>
<td>0.000</td>
</tr>
<tr>
<td>pinnov</td>
<td>pint</td>
<td>0.379</td>
<td>0.000</td>
</tr>
<tr>
<td>pinnov</td>
<td>impext</td>
<td>0.267</td>
<td>0.000</td>
</tr>
<tr>
<td>pinnov</td>
<td>porg</td>
<td>0.209</td>
<td>0.001</td>
</tr>
<tr>
<td>pinnov</td>
<td>benorg</td>
<td>0.206</td>
<td>0.002</td>
</tr>
<tr>
<td>pinnov</td>
<td>impint</td>
<td>0.183</td>
<td>0.004</td>
</tr>
</tbody>
</table>

In conclusion, the adapted research model fits the gathered data and the factor structure is valid and reliable. Thus, the adapted hypothesis H1a is accepted. This allows us to continue analyzing the correlations between the factors in the model which is done in the next chapter.

4.2.4 Correlations between latent variables

Several statistically significant correlations between factors were found with p<0.05. It is important to remember that even though a statistically significant correlation is found, at this stage no argument about the causality is made. The largest correlations found were between two factors benorg and benbus measuring benefits and two factors impext and impint measuring impact on capabilities. Those correlations were 0.937 and 0.923 respectively. Also, high correlations were found between other combinations of the above-mentioned factors, ranging from 0.623 to 0.690. In conclusion, the factors of potential benefits and the impact on competitive capabilities positively correlate with each other so the H2 is accepted.

Third hypothesis was that there are statistically significant correlations between impact and performance variables. Such correlations were only found between the impact factors and innovation performance. There are no statistically significant correlations between either of the impact factors and other two performance factors. Seems that the impact outsourcing has on competitive capabilities only correlates with innovation
performance of the firm but not with internal and organizational performance. Looking more closely, statistically significant correlations is found between pinnov, and impext, benorg, and impint. Those correlations range from 0,183 to 0,267. Hence, innovation performance factor had a statistically significant correlation between organizational benefit factor and both impact factors whereas there was no correlation found between business benefits and innovation performance. Interestingly, there was no statistically significant correlation between benefit or impact factors and any other performance factors. Thus, the hypothesis H3 is rejected.

There is also statistically significant relatively high correlation of 0,473 between organizational performance (porg) and internal performance (pint). Also, innovation performance factor (pinov) has a statistically significant correlation with the two other performance factors, 0,379 with pint and 0,209 with porg. Thus, all the performance factors are correlated with each other.

To conclude the factor correlation results, the benefit and impact factors are correlated with each other, the performance factors are correlated with each other and the only correlation between those two groups are with innovation performance. The whole measurement model is shown in the figure.

4.2.5 Cronbach’s alpha

To test the reliability of the survey the Cronbach’s Alpha was calculated. Alpha was 0,781 for all 52 variables which is generally considered an acceptable reliability level. However, by looking deeper into the single item statistics it appears that excluding age variable from the analysis would result in Cronbach’s Alpha of 0,934 which is an excellent level of reliability. The age variable was an open number question and the responses are ranging from 1 to 160. This probably explains why the exclusion of the age variable has such a drastic influence on the Cronbach’s Alpha.
Figure 7. Final measurement model.
5 CONCLUSIONS

5.1 Theoretical conclusions and answers to research questions

As discussed in the introduction, the main purpose of this study is to develop and test a model that can be used to measure the results of outsourcing accounting activities. The model developed considers three aspects of outsourcing results which are the potential benefits outsourcing has, the impact outsourcing has on company’s competitive capabilities and finally, how firm performance can be measured in this context. Secondly, the goal is to investigate some hypothesized correlations between those dimensions and to search for possible other correlations. This research contributes to the rather under researched field of outsourcing accounting functions and particularly to how to measure its results. Next sub-chapters discuss the theoretical conclusions by first answering the research questions set in the beginning of this research.

5.1.1 Measurement scales and factor structures

The confirmatory factor analysis ran in this research provided no need to exclude any of the hypothesized variables measuring potential benefits of outsourcing accounting functions. In other words, the variables presented in the table 3 can be used to measure the potential benefits of outsourcing accounting functions in Finnish companies. Further, it is confirmed that the potential benefits form two distinct factors, business benefits and organizational benefits that measure different dimensions of benefits when outsourcing. Despite being very similar and sharing a high correlation, the analysis supported the theorized structure with two benefit factors.

Also the variables measuring the impact outsourcing of accounting activities has on firm’s competitive capabilities is verified in the confirmatory factor analysis. The measurement scales developed and tested by Bustinza et al. (2010) and presented in table 4 seem to be valid in the scope of this study as well. Similar to the benefits, the impact on competitive capabilities also form two distinct factors based on the analysis. Whereas Bustinza et al. (2010) ended up excluding the internal impact factor from their final model, no need to do that appeared in this research. In conclusion, the impact
that outsourcing of accounting functions has on firm’s competitive capabilities can be measured with the theorized variables which form two factors, internal impact and external impact.

![Figure 8. Final factor structure and key correlations.](image)

The conclusions regarding the firm performance dimension of the model are not so straightforward. A need to exclude some variables as well as some factors emerged in the statistical analysis. Firstly, the stakeholder performance and external performance factors had to be excluded from the model. Secondly, three items were excluded from the organizational performance factor and one from the internal performance factor. With these alterations the developed measurement scales were verified which means that they can be used to measure firm performance in the context of outsourcing
accounting functions. The remaining performance variables are summarized in table 8. Further, three remaining distinct performance factors were validated. The dimensions that can be used to measure firm performance when outsourcing accounting functions are internal performance, organizational performance and innovation performance.

Combining the above-mentioned, a final model that summarizes the factor structure is presented in figure 8. This research confirms that such structured way of measuring the results of outsourcing is valid in the context of outsourcing accounting functions.

5.1.2 Correlations between factors

As hypothesized, there are statistically significant correlations between the developed benefit and impact factors according to the empirical results. Whereas this statistical analysis doesn’t prove or even take a stand for any causal relationship, it proves that there is a two-way relationship between benefits of outsourcing and development of competitive capabilities. This means that the companies who are gaining the theorized benefits from outsourcing are also likely to enhance their competitive capabilities. Even though this research does not prove whether the enhanced competitive capabilities result from outsourcing, it is in line with the findings of Bustinza et al. (2010) who established a causal relationship where the benefits of outsourcing have a positive effect on the development of competitive capabilities which suggests that there is a possibility to find similar relationship in the context of this study. However, this needs additional research where a causal model must be developed and tested statistically, which is outside the scope of this thesis.

The hypothesized correlation between the impact and performance factors was partially confirmed. The relationship was established between innovation performance factor and both impact factors whereas no correlation was found between impact factors and the two other performance factors, internal and organizational performance. There seems to be a straight two-way connection only between the development of competitive capabilities through outsourcing and innovation performance which is in line with earlier studies (e.g. Arvanitis & Loukis, 2012; Espino-Rodríguez & Padrón-Robaina, 2004). In other words, according to these
findings, the companies whose capabilities have been enhanced through outsourcing are likely to perform better innovation-wise.

In addition to the hypothesized correlations, few other interesting correlations between factors were found. Firstly, all three performance factors, internal business performance, organizational performance and innovation performance had a positive statistically significant correlation between one another. In other words, companies performing better in one avenue are also likely to perform better in other avenues which is quite intuitive. Whereas the connections between different performance factors is not the main focus in this research this finding poses an interesting possibility to connect the benefits of outsourcing to organizational and internal business performance through innovation performance.

Second additional finding was that there is a positive statistically significant correlation between organizational benefits of outsourcing and innovation performance whereas the connection wasn’t statistically significant with business benefits. This indicates that it is particularly the organizational type of benefits such as improved technological operations and access to latest technologies that are connected to increased innovation performance. The key correlations between factors are summarized in figure 8.

To conclude, the results of outsourcing accounting functions can be measured through the structured model discussed above. The companies that gain the benefits of outsourcing accounting functions are likely to enhance their capability development through outsourcing process. The companies with enhanced capabilities are, in turn, likely to perform better innovation-wise. Finally, the companies with higher innovation performance are likely to perform better in terms of internal business performance and organizational performance. These correlations raise interesting questions for future research.

5.2 Managerial conclusions and implications

The managerial conclusions of this study mainly lie in the measurement scales established in the model. Firstly, as the results show, the items used to measure
potential benefits of outsourcing accounting functions are valid. Managers making the outsourcing decisions can see if the potential benefits from outsourcing are in line with the goals the company has for the outsourcing process. If the goals of outsourcing differ from the potential benefits, the outsourcing decision should be re-evaluated. However, the pattern of potential benefits established in this study is not in any way a comprehensive list of benefits that outsourcing may have. Thus, the results should not be used as sole basis of any managerial decisions.

Secondly, the performance measurement patterns established in this study can be used to measure firm performance in outsourcing context. Whereas this study makes no effort of proving how outsourcing affects firm performance, the measurement scales are proven to be valid. Thus, managers can use these items and factors to measure and depict their firm performance when outsourcing accounting activities. This may help companies to further develop their tools of measuring their firm performance, which is a commonly used tool to evaluate the success of the company strategy and success of the company in general (Neely 2005, Venkatraman & Ramanujam 1986).

Thirdly, the correlation structure of the model offers interesting information from managerial standpoint. As discussed, there is a positive connection between the benefits of outsourcing and the impact on competitive capabilities which is in line with the findings of Bustinza et al. (2010). Interestingly, the connection between the impact on capabilities and firm performance was only established with regard to innovation performance, which in turn is positively connected with other performance dimensions. Thus, the important role of innovation performance when measuring the results of outsourcing should be taken into account when making managerial decisions.

5.3 Limitations of this study

The data of the research is gathered from Finnish companies. Thus, any generalization of the results must be made carefully when using data from different geographical areas. Whereas the economies of many developed countries are very similar to that of Finland, the developing economies are quite different and may provide very different results (Kamyabi & Devi, 2011).
The response rate of this research is quite low which is not ideal for the generalizability of the results. Even though there are several considerations discussed in the third chapter that comprehensively show that the gathered data represents the population well, the low response rate may still cause some non-response bias not taken account in this research.

The data at hand being subjective in nature poses another limitation to this study. Whereas there is also support that the managerial perceptions of the different metrics are in line with the actual objective metrics, this connection is still debatable (Ketokivi & Schroeder 2004). Thus, there may be some bias in the answers that might undermine the validity of this research and the results must be interpreted with carefulness.

This study is tightly connected to outsourcing of accounting functions so the results only apply to that kind of outsourcing. As discussed earlier, accounting activities are usually considered as non-core activities and transactional by nature (Kamyabi & Devi, 2011; Gilley et al. 2004). Whereas the results may be similar with other similar non-core activities and that are transactional by nature, any generalization of these results must be done with caution.

Lastly, this research only considers the potential benefits of outsourcing. As discussed earlier, there are also many potential risks in outsourcing that need to be considered when making the outsourcing decision.

**5.4 Future research opportunities**

Whereas this study develops a model to measure benefits of outsourcing, its impact on competitive capabilities and firm performance in outsourcing situation and establishes correlations between those three, it doesn’t make any argument about causality. However, this empirically tested measurement model can be a good basis for further structural equation model which could test possible causal relationship between outsourcing of accounting functions and firm performance. Further, the developed model can be used to test the possible mediating role of competitive capability development similar to Bustinza et al. (2010).
The established correlation between innovation performance and other factors is interesting for the future research avenues. As discussed in the conclusions, there might be a connection between the potential benefits of outsourcing and performance factors through innovation performance. Further research may build on this finding and develop and test a causal model between outsourcing and different firm performance factors where innovation performance serves as mediating factor between the other two. In other words, the benefits of outsourcing might lead to better innovation performance, which in turn might lead to better internal and organizational performance. This connection already has both theoretical and empirical support (e.g. Espino-Rodríguez & Padrón-Robaina, 2004; Gilley et al. 2004; Arvanitis & Loukis, 2013; Görg & Hanley, 2011) that the causal model could build upon.

Another potential research avenue would be to test the model with a new dataset in different context such as when outsourcing different activities, in different geographical area or within certain industry.
REFERENCES


Appendix 1

The Questionnaire form

Tutkimus taloushallinnon ulkoistamisesta

1. Minkä henkilöä yrityksessäsi työskenteleetällä hetkellä?
   
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10-49</td>
<td></td>
</tr>
<tr>
<td>&gt;249</td>
<td></td>
</tr>
</tbody>
</table>

2. Valitse listasta päätäällinen toimiala, jolla yrityksessä toimii

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] tuotteet</td>
<td></td>
</tr>
<tr>
<td>[ ] palvelut</td>
<td></td>
</tr>
<tr>
<td>[ ] muu</td>
<td></td>
</tr>
</tbody>
</table>

3. Arvioi kuinka monta vuotta yritys on toiminut kyseisellä toimialalla? (Pyöritä liikkeinä tietyn numeron)
   
   [ ] vuotta

4. Vasta seuraaviin kysymyksiin estekolla 1=ei olekaan, 7=täysin

   Kuinka suurella osalla taloushallinnon toimintana tekee ulkopuolinen palvelutarjoaja?
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Kuinka suurella osalla pyydetään tekeviä ulkoistamatonta taloushallinnon toiminnat yrityksen sisällä?
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

5. Arvio seuraavista potentiaalista taloushallinnon toimintojen ulkoistamisen hyötyjä: 1=ei lainkaan

   hyödyttävää, 7=todella hyödyttävää

   Mahdollista ydintäytteiden keskiöitymisen
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Liitä liiketoiminnan joustavuutta
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Liitä arkkeystyvyyttä
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Mahdollista käsityöläisten sisäistä liiketoiminnan kehittämisen
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Parenta yrityksen strategiaa asenteita sisäistä kilpailijoihin
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Mahdollista ongelmaissut toiminnasta eron paasemisen
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Parentaa operatiivista teknologiasta
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Mahdollista uudistumisen teknologian hyödyntämisen
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Parenta juhtimisen prosesseja
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Liitä innovaatioiden kehittämä
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Vahenta organisaatiossa märkä
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

6. Arvio taloushallinnon ulkoistuspäätöksens tärkeyttä seuraavien yhtyojen kilpailukykytekevyyden

   kannalta: 1=ei lainkaan tärkeää, 7=olisi täysin tärkeää

   Mahdollista palvelun tai tuotteen täsmällisen toimintaa
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Mahdollista palvelun tai tuotteen nopeamman toimintaa
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Liitä palveluiden ja tuotteiden hintojen kilpailukykyä
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Mahdollista taloudelliset laadun palveluiden tai tuotteissa
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Mahdollista paremmin toimivien tuotteiden ja palveluiden tuomisen
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Liitä joustavuutta sopimuksia markkinakynnyttää
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

   Mahdollista uusien palveluiden tai tuotteiden tuomisen markkinointi nopeammin
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ]

https://www.webropol.com/Survey/Participation.aspx?
7. Arvioi yrityksen suorittamien ongelmien ja huoltojen tehostamista 10-asteikolla. Tämän on tehtävä silloin, kun ongelma on selvä, ja sen yhteydessä ongelman ongelman on selvitetty. 

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<tr>
<td>Liikevaihdon arvonmitta</td>
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<td>Liiketilannetta ongelman etsiminen</td>
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8. Vastaa seuraavien väitteiden mukaan 1-5asteikolla. Tämän on tehtävä silloin, kun ongelma on selvä, ja sen yhteydessä ongelman ongelman on selvitetty. 

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Laatua