

The influence from outsourcing on the performance of healthcare organizations

Abstract

This study examines the relation between outsourcing and the performance of healthcare organizations. Outsourcing in this study is specified on the outsourcing of employees. This includes worker secondment, temporary employment and consultants. The scope of this study is on organizations within the Netherlands and the United States. More specifically, it investigates how outsourcing from employees within healthcare organizations influences their organizational performance on a financial- and non-financial level and answers the following research question: Does outsourcing influence the performance of healthcare organizations? Results indicate that outsourcing has influence on healthcare organizations within the Netherlands. Outsourcing has a positive influence on the financial performance. Whereas outsourcing has a positive influence on the financial performance, it has a negative influence on the cost savings and non-financial performance of the healthcare organizations. The comparison from the Netherlands with the United States results in a greater influence from outsourcing on the performance for the United States.

Keywords: outsourcing, service, employees, performance, financial performance, non-financial performance, cost savings, healthcare, hospitals, influence, the Netherlands, the United States

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1 Introduction

Outsourcing has grown rapidly during the 1990s and has become more meaningful the last decennia. Bryce and Useem (1998) show what kind of impact outsourcing has on the value of a company. Evidence in their research indicates that outsourcing reduces operating cost, enhances competitive strategy, and increases shareholder value. Besides these positive influences, a large amount of literature has been developed in the form of frameworks and alternative strategies (Vining & Globerman, 1999) for the problems that may occur when outsourcing is implemented. Thus, in recent years a lot of business processes have been outsourced because outsourcing companies perform- and lead such tasks that are being outsourced just as well, and sometimes even better. The question arise why outsourcing within healthcare organizations is growing exponentially compared to other companies over the last years (Foxx et al., 2009). To investigate this subject, the following research question is examined:

“Does outsourcing influence the performance of healthcare organizations?”

The study is geared at examining outsourcing of the service part. Service within this study is specified as employee leasing. This includes worker secondment, temporary employment and consultants. Why would a hospital source out those kind of activities and what is the influence on the healthcare organization itself.

The increase in the adoption of the concept of outsourcing (i.e., contracting a service to an external vendor) and therewith contracting out business processes of the organization is not only relevant to the organization itself. At first the phenomenon of outsourcing processes increased rapidly in production organizations. The outsourcing within the healthcare branch has now also grown exponentially, but this exponential growth only happened during the last years. Lately, outsourcing within healthcare has received more and more interest and the type of services being outsourced has expanded (Foxx et al., 2009).

Recently, the healthcare sector appears more in the news. Within the Netherlands, politics, agencies and the society do not agree with regard to the way of registration of costs, patient information and administration of treatments. For example, a healthcare organization registers two small consults instead of one large consult. As can be expected the two small consults will yield a higher revenue, then a large consult would. Often, this way of dealing with how to register and declare costs is not in line with the Dutch laws and regulations. The fraud of registrations has thus increased because of the healthcare organizations who do not

register correctly. The insurance companies that reimburse the treatments have lost large sums of money because of these fraudulent activities and therefore it is harder to make reliable contracts with these insurance companies with regard to the compensations for different treatments.

Because of the increase of popularity of outsourcing in healthcare this also should have a positive influence on the organization. Therefore it is important to investigate which aspects of outsourcing influence the performance of healthcare organizations, on a financial- as well as on a non-financial level. This study delves into the concepts as measurement of performance, examining the current situation within the United States as well as the Netherlands, the differences between the Netherlands and the United States, how much money is spend on the outsourcing of employees, the influence on the management control of employees and especially the core processes.

1.1 Practical relevance

It is important to provide an answer to the research question because of the growing interest in outsourcing, especially from healthcare organizations. The results of this study are relevant for several parties. Firstly the results are interesting for the healthcare organizations themselves. When should a healthcare organization outsource some of their activities and in which cases may it be better to obtain only own labour instead of purchasing these services? This study investigates the pros and cons of outsourcing and more important, if outsourcing has a positive influence on the performance of healthcare organizations.

Outsourcing companies can improve their services by learning from the several hired employees and consultants to responsively act on those aspects which are negatively affected by outsourcing despite of the fact that it creates overall value for the healthcare organization.

Last but not least, this study may be of relevance for the CFO, CEO and other managing partners of the healthcare organization. It is important for them to know if outsourcing has an influence on performance, and even more important if it positively affects the performance. Empirical evidence can affect the decision for making the choice for outsourcing specific activities within the organization.

1.2 Scientific relevance

This study addresses a gap in current knowledge on the topic of outsourcing with regard to the outsourcing of services in healthcare organisations. There have been different studies on outsourcing of services, but these are geared at other types of organisation. Within the theoretical literature there has not been a study which investigates the influence of

outsourcing on the performance of healthcare organizations focussed on workers secondment. The outsourcing is in this case is specified on the service part which contains worker secondment, temporary employment and consultants. Simply said, the purchased service from a hospital which is non-payroll labour. These labourers are hired externally to provide services for the hospital which these cannot provide themselves for some reason. Reasons for this can be that the healthcare organization cannot provide this specific kind of service at the required moment. This study focuses on this part because outsourcing can lead to cost savings, transparency and a better financial view on the organization. Studies which investigate the influence of outsourcing on the performance specified on healthcare organizations are limited, certain when the scope is on the externally hired core business of the organization. The two subjects, healthcare organizations and administrative processes, combined in one study may provide new insights.

1.3 Outline of the thesis

The remainder of the thesis is organized as follows. Section two reviews the literature on the subject. Section three describes the hypothesis development which provides four hypotheses with regard to the impact of outsourcing on the organizational performance. It also describes which measures are used within this study and why. It also describes how the theoretical constructs are measured. Section four describes the research design and contains the models and data which are used. Section five contains the statistical tests and results. Finally, section six concludes with the conclusion, discussion for further research and implications.

2 Theoretical background

2.1 Outsourcing

This study is related to two streams of literature. First, it relates to the literature from the concept of outsourcing and what the consequences are for implementing this in an organization. Early studies focused on the effects of outsourcing and what the positive- and negative effects are. Burmahl (2001) investigated the pros and cons of thirty-five different outsourcing services, specially focused on hospitals. Results showed that many hospitals that have gone the outsourcing route are retracing their steps. The most commonly contracted out service is the equipment maintenance. Another specialized outsourcing service used by hospitals is the service for hazardous waste. While more hospitals are seeking to farm out specialized services, many hospitals contract out the ‘normal’ services such as housekeeping and food service so that they can focus on their core competencies. Just over 50 percent of hospitals that have outsourced functions have brought some of these back in-house for the reason that they could run these services and related departments better by themselves. This study has investigated all sorts of possible outsourcing departments. The conclusion from this study is therefore focused on all possible outsourcing services. According to Kelter and Walstrom (1993) outsourcing may not be the option that all companies would select because it is more a decision of risk versus control. However, the benefit of all outsourcing relationships is that outsourcing allows an organization to concentrate on its core business and its customers. It can substantially lower costs and risks, make more time to access innovative ideas, creative solutions and increase quality (Roberts, 2001). Although outsourcing may be a good solution for the operations within the organization, success in the end depends on planning, communication and well-structured and flexible agreement which reflects the changing face of healthcare (Klein, 2006).

Besides the concept of outsourcing, shared service centres (SSCs) have risen greatly in relevance and importance over the past few years (Schulz and Brenner, 2010). SSC is an organisational model that in big companies ensures that the supporting processes stay effective and that they supply the agreed quality against acceptable costs. It is an entity within an organisation which consists of different units and is charged with supplying specialized services to different other units. Often this is done on the basis of a service level agreement. Companies make use of this concept SSC in order to reduce costs, improve the value of the service they provide and achieve greater administrative efficiencies. SSC has been conceived

of as a “sourcing arrangement”, which takes the form of “in-sourcing” rather than “outsourcing” (Raudla and Tammel, 2015). Within this thesis the focus lies on outsourcing of the service part. This is close to “in-sourcing” because most of the time the agreements between the organization and the hired employees are based on a service level agreement. But because the data used in this research contains employees who are hired temporary, this thesis investigates outsourcing. SSC is related, but not the same. This is a another topic that therefor deserves its own research.

2.2 Performance

Second, the thesis relates to the concept performance. To provide an empirical answer on the research question it is important to situate how performance could be measured on a financial- and a non-financial level. According to Lorence and Spink (2004), healthcare managers are most satisfied with the quality of performance of healthcare information management tasks. Yang and Huang’s (2000) study found that the need to improve performance was a major factor in outsourcing decision. Therefore performance within healthcare is focused on patient care and cost savings. But performance could also be measured in the form of employee absence and risk factors having an influence on this level (Sørup and Jacobsen, 2013). Much of previous research on performance measures in the healthcare industry focuses on internal measures of cost and quality or external measure of financial status and customer satisfaction. Li and Benton (1996) therein against states that focusing on one aspect to increase the performance fails to provide a systematic view of the performance of a healthcare organization. It is important to clarify how performance may be conceptualised in healthcare and how to this concept is measured optimally.

2.3 Healthcare America versus the Netherlands

The healthcare in America often retrieves the news for being highly expensive or being not well organised. Civilians who are not insured have to pay around \$10.000 for around five nights in the hospital (Trusted Choice, 2013). The so called ‘own risk’ is growing exponentially. The United States spends almost 18 percent of the gross domestic product (GDP) on healthcare (Fuchs, 2014). The Netherlands is the next big spender, namely 12 percent. Compared to other countries this is relatively high. The reason for this is that the United States healthcare delivers a more expensive mix of services. Besides that, elderly patients are treated in intensive care units whereas in other countries they only receive palliative care (mitigation and relief when healing is almost not possible anymore). Despite

the fact that the United States is the highest spender on healthcare, it appears that the systems in the other countries are more effective because their life expectancy is higher.

The conclusion is that the United States spends a large amount of money on healthcare but the advantages are not directly visible. This country gains some interest to investigate because of what the outsourcing of services from the healthcare organizations may have to do with these disadvantages. Besides that, it is interesting how the Netherlands (second highest spender on healthcare) scores next to the United States. Therefore hypothesis four is specified on this topic.

2.4 Choice of outsourcing

In the next section several theoretical studies are discussed where the focus lies on whether outsourcing has influence on the financial or non-financial performance. Before discussing this main topic of this thesis there will be explained what the underlying meaning for an organization is to outsource their services. A reliable basis for this is transaction cost economics (TCE). Transaction cost economics is a reaction to neo-classical economic theory. In this theory the costs are interpreted economically as opportunity costs: gains missed due to not choosing the best among the non-chosen alternatives. A limitation of neo-classical economic theory is the assumption that all information is reflected in the price and factors as reliability play hardly any role. But in reality this is hardly ever the case. According to Williamson (1975) a firm's decision to 'make or buy' is made on the basis of the sum of production costs and transaction costs. Transaction costs are linked to transaction difficulties and are defined as the 'costs of running the economic system'. Williamson distinguishes three elements of defining the transaction costs, namely: the frequency of a transaction, the uncertainty of a transaction and the necessity of a transaction. This theory explains that companies arise because of the fact that transaction costs are minimized at this way.

Speklé (2001) developed a framework where TCE is focussed on management control. His framework features three variables: uncertainty, the degree of asset specificity and the intensity of post hoc information impactedness. Uncertainty can arise from many sources, such as market dynamics, disturbances in the external environment, environmental complexity, task uncertainty and complexity and unfamiliarity. The degree of asset specificity affects the options which are available or elicit contract congruent behaviour. The last variable is the intensity of post hoc information impactedness. This variable is a complement on the original theory of Williamson. It is the extent to which the organization is able to observe and to assess perceptively the true quality of actually delivered contributions. The

limitation of TCE is the lack of attention to elements from outside the organization that influence changes in management control systems inside the organization.

Weighing the pros and cons of outsourcing is therefore only one part of the estimation of the costs connected with carrying out the activities in-house and the costs incurred in case of outsourcing (Van der Meer-Kooistra & Vosselman, 2000). This study does research on whether two companies both choose another pattern (bureaucracy based versus trust based). Results show that one firm have chosen for a certain pattern because placing the management and execution of the maintenance under the control of one party is more efficient and improves quality. The way in which they made their choice is organisational specific and hierarchy plays an important role. The characteristics of an organisation are one of the main reasons why a company will make certain decisions in case of outsourcing. Concerning these patterns, bureaucracy based versus trust based, this study will not lay the focus on this. The choice to contract out their processes to a certain company can be based of the selection of specified criteria (bureaucracy based) or from a reputation of trustworthiness (trust based). It can has it influence on the performance, for example organization can choose a certain outsourcing company which is quite expensive, but trustable. The choice for a certain outsourcing company can have many reasons and is therefore hard to measure. Therefore it will not be taken into considering but within this research.

Inside organizations there is a tendency to concentrate the execution, and to centralize the task control, of certain activities and services. Outsourcing can be economically beneficial if an increase in transaction costs connected with an outsourcing relationship is lower than economies of scale advantage the supplier could bring to the outsourcer (Vosselman, 2002). Outsourcing involves the transformation from a relationship within the boundaries of an organization into a relationship in a market. Besides the fact that outsourcing is cost efficient and it brings advantages like obtained specialized expertise, it will also change the management control relationships. Vosselman (2002) explains that the theoretical reasoning can lead practitioners to refine their arguments in choosing management control systems as well as the potential impact on transaction costs can be important in choosing between management control types. By testing the influence from outsourcing on the performance, not only the financial performance has to be taken into account. Whereas the financial changes can have their influence on the organization, the non-financial changes as the management control relationships can go through a tremendous change. Top reasons for outsourcing are not only cost savings, but also to obtain specialized expertise and allow an organization to focus on its core competencies (Burmahl, 2001).

2.5 The influence from outsourcing on performance

There is already a lot of literature available of the influence from outsourcing on the performance of a company. Most of the studies find that outsourcing has a positive influence on the performance of the company. But not all companies (certain not healthcare organizations) are using outsourcing. Outsourcing can help the organization to unburden their care. The most outsourced functions within healthcare are information technology (29 percent), finance (20 percent) and support services (19 percent) in 2000 (Roberts, 2001). People would think a healthcare organization will do their core activities by themselves. This is a misunderstanding because almost every healthcare organization has temporary workers, consultants and use people on detachment- or interim base. In this study is examined if the outsourcing from service parts within the healthcare organization has a positive influence on the performance. Performance will be examined on both financial- and non-financial level.

Giley and Rasheed (2000) examine the effects of outsourcing on the firm financial- and non-financial performance. Within this study the authors propose two types of outsourcing: peripheral- and core outsourcing. The first type of outsourcing occurs when firms acquire less strategically relevant, peripheral activities from external suppliers. With core outsourcing is meant that firms acquire activities which are considered to be highly important for the long-run success. The first hypothesis within this study states that peripheral outsourcing intensity has a positive effect on firm performance. The second hypothesis states that core outsourcing intensity has a negative effect on firm performance. The third and fourth hypotheses bind the two first hypotheses together by examining effects on a firm's business-level strategy and environmental dynamism. They did not find a significant effect for the first two hypotheses. But both firm strategy and environmental dynamism moderated the relationship between outsourcing and performance (hypothesis three and four). Furthermore they find that firms operating in relatively stable environments may also achieve performance increases through outsourcing. This last mentioned sentence is an important given. The performance increases through outsourcing which implies that this research will give a positive answer on the research question. Nevertheless a stable environment is necessary and the limitation in the study from Giley and Rasheed is that it specifies on firms instead of health care organizations which have a whole other dynamics.

Görg and Hanley (2004) examine in their study whether outsourcing increase the profitability of the company. To investigate this relationship between outsourcing and profits, they use plant level data from the electronics industry in Ireland because this industry had

undergone a rapid growth in the Irish economy in the 1990s. This research shows that the relation between profit and outsourcing depends on the characteristics of the plant. The results suggest that by following an increasing use of outsourcing of material inputs, only large plants are able to improve their performance in terms of profitability. This indicates that outsourcing indeed increase the profitability of the company, but only in cases of big plants. Görg and Hanley (2004) are not able to explain this finding, but they speculate that transaction costs (lower bargaining power or higher costs in searching for adequate suppliers) for small plants are higher. Unfortunately, the benefits for services outsourcing is less clear-cut. Nevertheless, this study is useful because it provide evidence that outsourcing increase the profitability of a company. The research question is a more specialized question, but this study indicates that it is possible that outsourcing has a positive influence on the performance of an organization. A condition for this is nevertheless that a company has to be large. This is a variable to control for in this research. Another article where firm size is related to outsourcing is from Mol et al. (2005). There is significant evidence that multinational firms and the firm size is positively related to outsourcing. This study also describes that the outsourcing of intermediate products to international suppliers is believed to improve the firm performance. The data they use in their study comes from surveys conducted among managers of large manufacturing firms located in the Netherlands. The Netherlands is a small and open economy with substantial foreign investments and therefore useful for a study like this. Their fifth hypothesis states that international outsourcing (outside the Netherlands) and global outsourcing (outside the EU) is positively related to the performance of a firm. To measure the performance of the firms the authors asked the firms to compare the financial performance (their ROS and ROI) and their market performance (market share and sales growth) of their product with their largest competitors. These four measurements were used to form the variable performance. The degree of outsourcing is the percentage of total productions costs supplied by external suppliers. Unfortunately this hypothesis had to be rejected. This study confirms that larger firms outsource more internationally and globally, and that outsourcing from the same economic region has clear advantages. The empirical evidence that outsourcing is related to the performance of the firm is regrettably missing. A reason for that could be the missing of the use of the right parameters of performance to test this relationship. Although this study focusses on outsourcing internationally- and globally, nevertheless this study is a good start to situate which variables can be useful for this investigation. It emerges that firm size is an important indicator for outsourcing, and positive related. This significant evidence does not give any proof that outsourcing positively influences the performance of a company. But this

variable can be a good indicator that small- or larger companies using outsourcing have influence on the performance.

Novak and Stern (2008) researched whether outsourcing affects the performance dynamics within the automobile industry. This paper examines the impact of vertical integration on the dynamic of performance both on short- and long-term. The main difference between outsourcing and vertical integration is that vertical integration contains the beginning till the ending of the process within the company. The company is involved with all the steps being taken within the process of creating a certain product or service. The use of outsourcing within a company means that a certain step within the process is done by another company. The effects that Novak and Stern (2008) find, result in a trade-off. Namely, while outsourcing is associated with higher levels of initial performance, vertical integration will be associated with performance improvement over the product life cycle. The second hypothesis states that “performance improvement is higher for greater levels of vertical integration” (Novak and Stern 2008, p. 1967). The third hypothesis examines in three ways the interaction effects on initial performance. Often outsourcing is structured to favour short-term performance measures. This study uses Sunk Cost, Low Capacity, Platform, Complexity, Design Goal and Japan OEM as system-specific controls to examine the short-term performance and the concerned performance change. Results provide evidence which is consistent with a negative relationship between vertical integration and initial performance, and a positive relationship between vertical integration and performance improvement. This suggests that outsourcing is associated with higher levels of initial performance, and that vertical integration is associated with performance improvement over the product life cycle. Although this study is focusing on the automobile industry, which is totally different from the healthcare branch, the results can nevertheless be useful. It implies that outsourcing will generate a higher initial performance. By taking the system-specific controls used in this research into consideration, ideas for this research can emerge. The performance improvement declined by using higher levels of outsourcing, but this is hard to compare with healthcare organizations whereas the performance of the treatment cannot be examined.

Another study which investigates whether outsourcing increases the organizational performance is from Bolat and Yilmaz (2009). They specifically focus on the hotel sector and began with determining the organizational performance levels both before and after outsourcing. Results indicate that the organizational performance level after outsourcing was significantly higher than before outsourcing. This was tested on seven organizational dimensions. Namely: organizational effectiveness, productivity, profitability, quality, quality

of work life, social responsibility and continuous improvement. Whereas the last dimension showed the largest difference. The study shows that the effectiveness of the outsourcing process influence organizational performance. In cases where outsourcing is decided on intellectuality and the process is conducted properly, an increase in organizational performance can be found. But since outsourcing causes redundancies, this has a negative influence on the remaining employees. By testing the difference (going from doing it by themselves to implementing outsourcing), this last measure has to be taken in consideration.

Jiang et al. (2006) empirically investigate the effect of outsourcing on firm level performance metrics. Their study suggests that outsourcing influences the firm's cost efficiency, productivity and profitability. The hypotheses stated in this article focuses on these metrics by measuring them using certain ratios. The two measures of cost efficiency they use are overhead expense (selling, general and administrative expenses) and operating expense (cost of goods sold and overhead expense). Productivity metrics represent ratios of outputs and inputs. In their opinion profitability is the most important criterion for evaluating the performance of a firm. They measure this metric by the return that the firm's owners receive from their investments (return on assets and net profit margin). Results of this study show that there are no significant improvements in outsourcing firm's productivity and profitability. However, by only taking four quarters, possible effects over the long-term cannot be ruled out. Furthermore, there is empirical evidence for the differences between outsourcing firms' performance and that of their non-outsourcing competitors. Outsourcing firms have an obvious significant advantage in cost efficiency. It indicates that outsourcing has a positive influence on the performance.

The question why organizations take the risk of outsourcing also arise during this research. Results from another study (Elmuti, 2003) even show that organizations generally considered themselves successful at outsourcing. However, while they achieve significant improvement in organizational performance, they have not reached the magnitude of improvements ascribed to outsourcing strategies. Results within this study provide support for the claims of outsourcing proponents that outsourcing allows companies to enhance expertise, improve service quality, reduce staff, streamline the process, lower costs and reduce the administrative burden and saving time. Therefore outsourcing has a positive influence on the organizational performance.

Some other researchers which reviewed literature on this issue, even believe that previous literature has undervalued the impact that outsourcing decisions have on competitive capabilities. Bustinza et al. (2010) find that there is a relationship between outsourcing

decisions and company performance which is articulated via the impact of outsourcing decisions on the firm's competitive capabilities. The impact of outsourcing decisions has only been shown to affect external capabilities positively, which is because the impact on external capabilities is indirect. This study proposes that the impact of outsourcing decisions on firm performance has special relevance in the case of business performance, whether internal or external, and it also states the effect on organizational performance. This study states that the most important impact of outsourcing on companies is that it enables them to obtain competitive advantages by allowing them to adapt better to market conditions. These market conditions can make their translation within healthcare organization by adding laws- and regulations as external factors within performance indicators.

Most articles consist of tests on manufacturing firms. But due to the fact that this study investigates healthcare organizations, it is important to provide some theoretical background within the range of more service focussed organizations, where production is not one of the main processes. Grossi and Mussari (2008) analyse the effects of outsourcing on performance measurement and reporting within the Italian Local Governments. Because of the enormous change in European countries as of the initiatives for more using outsourcing, this is an issue which deserves some attention. By designing a theoretical framework in their article they analyse which reforms the local governments have been through. They find that outsourcing requires that the local governments remain responsible for public needs' fulfilment and therefore held accountable for others actors' performance. The framework they designed demonstrates that local governments still need to be evaluated by reviewing and making transparent the management of financial resources at their disposal. Concluded there could be said that in the case of large public organisations outsourcing is useful but makes it harder to measure the performance individually. A clear answer whether it influence the performance is missing.

Smith et al. (2005) provide empirical evidence on organisation change, outsourcing and the impact on management accounting within private sector companies, the National Health Service (NHS) and Local Authorities. The second proposition within this research states that outsourcing is expected to improve organisational flexibility or the service of an activity. This leads successfully to cost savings or allow the organisation to focus more clearly on its core business. The authors measured the motivations for outsourcing given activities and, where relevant, the impact on costs. This proposition is a good example for investigating whether outsourcing has a positive influence on the performance of a company. Organisational flexibility, cost savings and focussing on your core business are good

indicators for performance. This second proposition can be accepted because the authors found evidence that outsourcing is motivated by a number of core organisational goals. They also found some evidence that improved service and flexibility are goals to be attained through outsourcing. This study also studied some case studies. The third one is most relevant because this is about Truststar, a large teaching NHS Trust Hospital in England attached to a prestigious university. The findings supports that organisational change is important and that a number of activities have to be outsourced. Smith et al. (2005) also find evidence that the more outsourcing is used, the more likely the organisation will make some major changes in its management accounting systems. However, the nature of this change depends upon the activity being outsourced. Overall, the organisational change is linked to the extent of outsourcing undertaken, and that this in turn leads to necessary changes in accounting systems. The case studies within this research reflect the desired benefits from outsourcing and the improvement in flexibility and quality of service which is needed. It goes more into depth and shows where a certain organization need to improve or change its processes. This thesis focuses on the influence from outsourcing on the performance of healthcare organizations in general.

Also accounting systems plays an important role within companies. The degree of outsourcing affect those systems and their development. Therefore, it is important for the accounting department how and in what form outsourcing has its influence on the company. The study from Lamminmaki (2008) examines accounting and the management of outsourcing within the hotel industry. In earlier studies Lamminmaki (2008) already did research within the hotel branch and why hotels even outsource. This study from 2008 supports inter alia the proposition that higher quality hotels have more sophisticated outsourcing management accounting systems. Findings from this study indicate that in high performing hotels and hotels that take more of a long-term strategic perspective in outsourcing have more accounting involvement and advanced outsourcing management accounting systems. The various equations of the regression analyses Lamminmaki (2008) is using in his research contains variables as: size of the hotel, quality of the hotel, the professional qualification, performance, strategic orientation, the degree of outsourcing and the outsourcing being part of the long-term strategic agenda. Performance and whether outsourcing decisions are made, appear to be variables affecting the nature of accounting sophistication on hotel outsourcing management. These variables are a good starting point for this study to test both the financial- and non-financial part of the performance.

Outsourcing can also have an effect on the supply chain of the company combined with the firm performance. Kroes and Ghosh (2010) find that outsourcing congruence across time, quality, innovativeness, flexibility and cost is positively and significant related to supply chain performance. They also find the level of supply chain performance in a firm to be positively and significantly associated with the firm's business performance. According to Roberts (2001) executives within the healthcare organization must develop management controls and choose managers with the leadership capabilities necessary for successfully managing the outsourcing strategy to have the benefits from this concept and the targeted positive influence. This indicates that management controls are necessary to increase the performance within the healthcare branch and is one of the variables to control for in the research.

Besides the articles where the evidence that outsourcing positively influences the performance has been found, there are also a lot of articles which aim to present a model which help to control problems which arise from implementing outsourcing. Franceschini et al. (2003) present a general model able to analyse and drive an outsourcing process throughout all decisional steps. Outsourcing can be an excellent way to improve processes, but at the same time it might lead to the fact that companies lose their skills and knowledge. The case study used in this research highlights a more conscious vision and utilisation of the IT resources, the introduction of a rationalised methodology for supplier selection, and the application of a structured performance evaluation. This case study approach leads to solving the problem of managing the different activities which occur within the specific company. Thereby is the IT department an important part of this case study in combination with outsourcing. The main message of their study is that it is possible to assess the advantages that an organization can achieve by applying a structured approach to outsourcing.

The articles where the positive influence on performance statically was found are in the majority. But within the literature there are also some studies which prove the opposite. Weigelt (2009) provide in her study new insights on the impact of new technology outsourcing on a firm's integrative capabilities and performance in the market. Results shows a negative effect of outsourcing on the firm's integrative capabilities and performance in the market. Although a firm may outsource to obtain a certain technology, it still needs to understand how the technology relates to its internal processes. Thus, while this study shows that outsourcing negatively affects a firm's performance in the market with customer adoption being a suitable performance measure, it does not provide insights into performance outcomes

from a cost minimization standpoint or customer profitability, a performance measure that relates revenues to costs.

Kotabe and Mol (2009) examine in their study how the overall outsourcing level influences firm performance. They found that for every individual firm there is an optimal degree of outsourcing, and where the firm's overall outsourcing level leads to the best financial performance. When firms outsource (almost) every process, the disadvantages of outsourcing are the greatest. The authors state two hypotheses. The first hypothesis formulates that there is a negative curvilinear relationship between firm's level of outsourcing and its performance. Mostly earlier research focuses on the positive relation between these two concepts. Kotabe and Mol (2009) suggest four alternative explanations as to why there is a negative relationship. In their opinion authors in earlier research focussed usually on the benefits of outsourcing instead of investigating the negative side of this relation. Another explanation is that earlier research only examined a limited range of activities. According to Kotabe and Mol (2009), the focus on a wider range of activities influences the outsourcing-performance relation. The third explanation is, also a common implication in several of the other articles discussed previously, that most studies take place at only one moment in time. Effects of outsourcing are not always directly visible. Lastly, earlier research on this topic relied on perceptual data collected through surveys. The responses within these surveys may be subject to common method bias and low response rates. The second hypothesis is focusing on market uncertainty and how it negatively moderates the negative curvilinear relationship. This study is measuring performance not on the basis of a standard measure such as Return on Sales (ROS). For example, Mol et al. (2005) use ROS as measure in their study. Kotabe and Mol (2009) describe this measure as not appropriate because it carries a consistent bias, one of the key factors of outsourcing is already reducing its costs. They state that a measure as Return to Value Added (ROVA) is a more balanced measure to use because it takes the changes of profit levels as a consequence of outsourcing into account. The various models in this research tested using OLS regression confirms the first hypothesis. To test the second hypothesis they use a post hoc analysis. The combined scenarios indicate that a higher market uncertainty tend to have less flexibility in the level of outsourcing activities.

From this last study said, it may be concluded that the degree of outsourcing is negatively curvilinear related to firm performance. Although the authors found empirical evidence for this relationship, there may still be a positive relationship between outsourcing and performance. This can alter alia be found when firms have not yet reached their optimal point or the balance between integration and outsourcing has not yet been found. Besides that,

this study investigates the manufacturing business in the 1990s, which is another branch and another series of time compared to the research question in this study.

Most theoretical studies suggest a positive relationship between outsourcing and performance, provided that the outsourcing is implemented efficiently. Grög and Hanley (2009) found that outsourcing leads to a higher profitability, whereas Smith et al. (2005) found that outsourcing leads to cost savings. The research of Bolat and Yilmaz (2009) found a positive influence on the organizational performance. All of the theory investigate the overall level of outsourcing (see also Appendix 1 for a summary of all the discussed theory). This thesis is specified on employee leasing as form of outsourcing. Therefore it provides a meaningful research to healthcare organizations which outsource specifically this part. Thereby comes that two countries: the Netherlands and the United States, which spend the most of their GDP on healthcare, are being compared.

3 Hypothesis development

Several studies investigated the relation between outsourcing and the associated influence on the performance. This thesis seeks to compare the performance on various surfaces related to outsourcing. One of higher quality is the work of the World Health Organization demonstrated in its 2000 report. The Commonwealth Fund compares a series of developed country healthcare systems with each other based on a selection of indicators (Gauld et al., 2014). To provide some relevant hypotheses, some basic theories form the underlying value of it. The (corporate) disclosure theory includes financial information, narratives, mandatory provision required by the law and accounting standards, and voluntarily shared insights due to the external pressures or internal decision making (Alberti-Alhtaybat, Hutaibat and Al-Htaybat, 2012). This is relevant because outsourcing can bring certain pressure with it concerning the asked budget targets or higher cost expenditures.

Balakrishan et al. (2010) examines the influence of transaction costs and institutional constraints on firms' decisions to outsource in response to environmental pressures, whereas they draw on institutional theory. This theory considers the processes by which structures, norms and routines become established as authoritative guidelines for social behaviour. This could be relevant because the outsourcing activities related to this research offers the organization the opportunity to less worry about maximizing the occupation of the hospital. Purchasing services from other parties could have some influence on the performance of the company.

Consistent with the different views present in the theoretical part of this thesis, empirical work offers mixed evidence on the relation between outsourcing and the influence on the performance of an organization. Most empirical work results in a positive influence on the performance. Nevertheless there is also empirical evidence for a negative influence on the performance of an organization. Because the literature review provides evidence for both the positive- and negative side on empirical grounds, this thesis provides hypotheses testing for each relation.

The first two hypotheses stated in this thesis focuses on the financial aspects of healthcare organizations. The focus is firstly on the financial performance because this is interesting for the organization and can lead to certain short- or long term decisions. In the end it is important for every organization to know whether outsourcing lead to cost savings or other financial benefits. Performance specified on accounting measures are often quantified in terms of money and goes deeper into the discipline. The financial aspect covers subjects such

as revenue, profit, costs and return targets. The third hypothesis focuses on the non-financial performance of the healthcare organizations whereas the fourth hypothesis compares the United States and the Netherlands with each other.

The first hypothesis focuses on the financial performance within Dutch healthcare organizations. The financial performance is measured by four different measures. First the profitability has been measured. Görg and Hanley (2004) describe the influence of outsourcing by using the profitability of the organization as a measure. They found a positive effect on the relation. The other three measures are financial performance indicators. Mol et al. (2005) use financial indicators in their research whereas they avoid the Return on Sales (ROS) as measure. More likely are the Return on Investment (ROI) and Return on Assets (ROA) as measure for performance. Jiang et al. (2006) mention that profitability is the most important criterion for evaluating the performance of a firm and the metric they use for this is ROA. The last measure, Return to Value Added (ROVA) is based on the literature from Kotabe and Mol (2009). This measure is taken because it takes the changes of profit levels as consequence of outsourcing into account. The literature review describes in various ways that size of the organization matters in all regards (Mol et al, 2005). Therefore revenue, as size of the company, is used as a control variable.

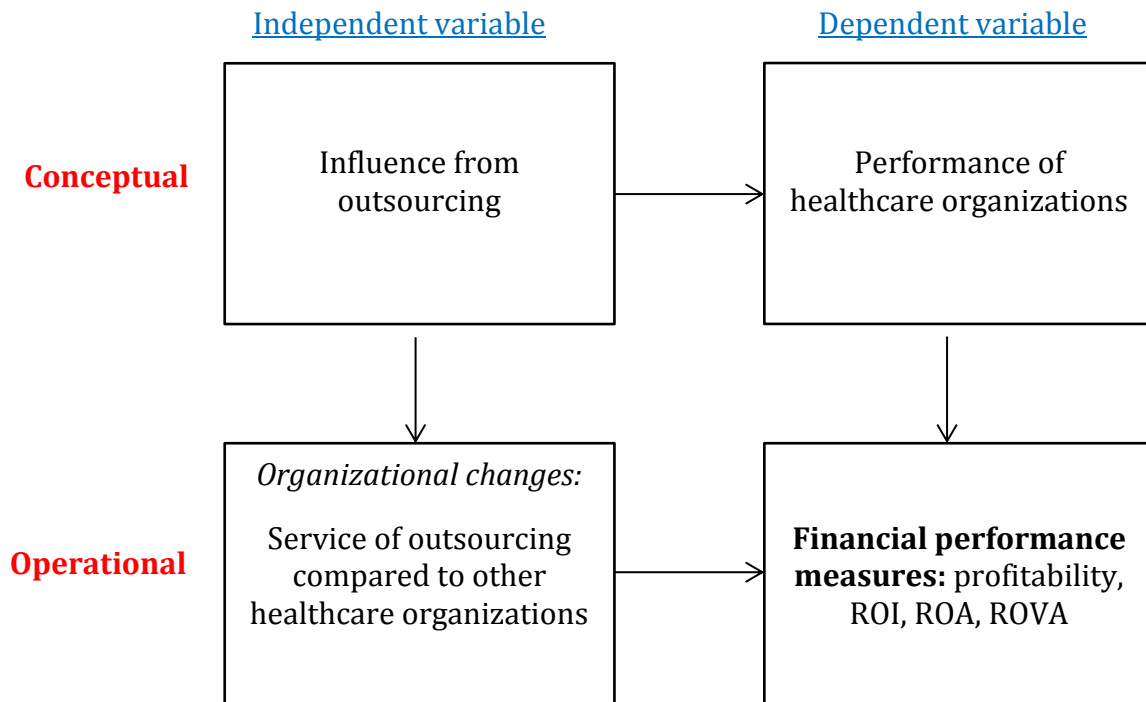
Because it is not clear the influence from outsourcing will lead to a positive alteration, the alternative form, negative influence is the counterpart of the hypothesis. The following two hypotheses are stated sequential to the financial performance:

H_{1a}. Outsourcing has a positive influence on the financial performance of the organization.

H_{1b}. Outsourcing has a negative influence on the financial performance of the organization.

The following figure provides a representation of the Libby Boxes (Libby, 2004) specifying the first hypothesis. It explains the independent and dependent variable and shows how the intended results have been measured.

Hypothesis 1

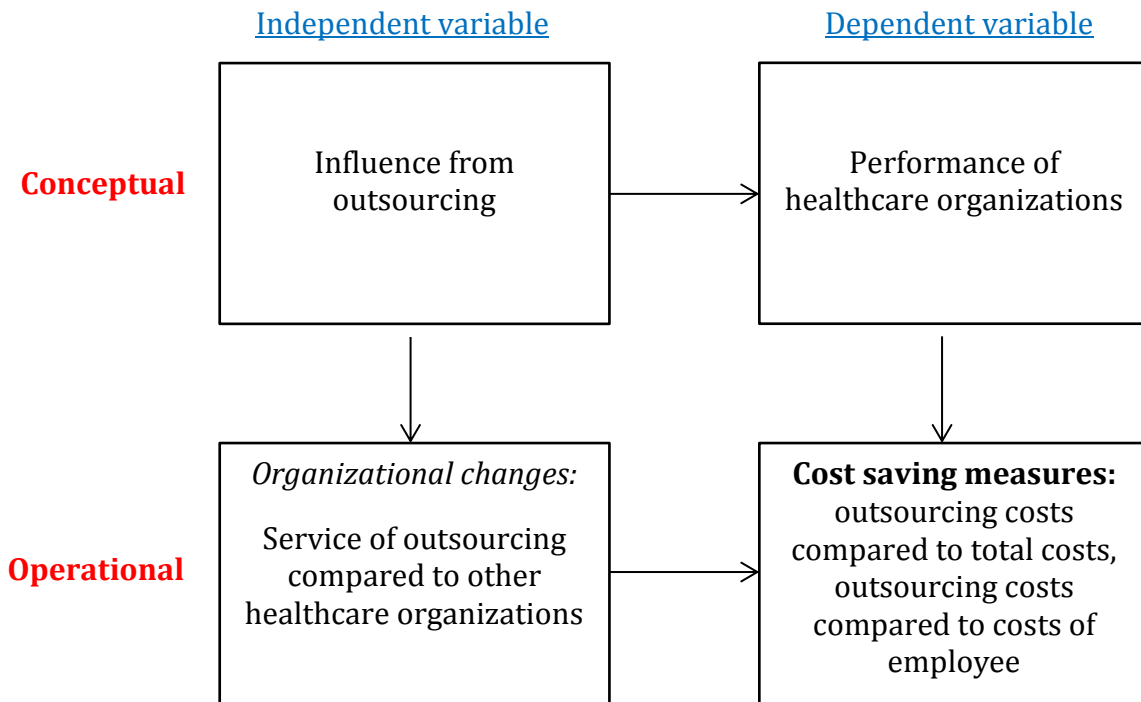


Two other hypotheses provide an added insight into to the financial aspect of this study. Another important financial part within the organization are costs. More than fifty percent of hospitals had cost savings as reason for outsourcing (Burmahl, 2001). According to Yang and Huang's (2000) performance is focused on patient care and cost savings. The costs of service outsourcing as percentage of the total costs and the costs of service outsourcing compared to the costs of employees in this research are a measure for cost savings. During the years the influence of outsourcing on the costs are visible. Because the cost savings of outsourcing is not in every study positively proven, this hypotheses is stated in the following positive and negative form:

- H_{2a}.** Outsourcing has a positive influence on cost savings of the organization.
- H_{2b}.** Outsourcing has a negative influence on cost savings of the organization.

The figure below provides a representation of the Libby Boxes specified on this hypothesis. It explains which measures are used to construct this research.

Hypothesis 2

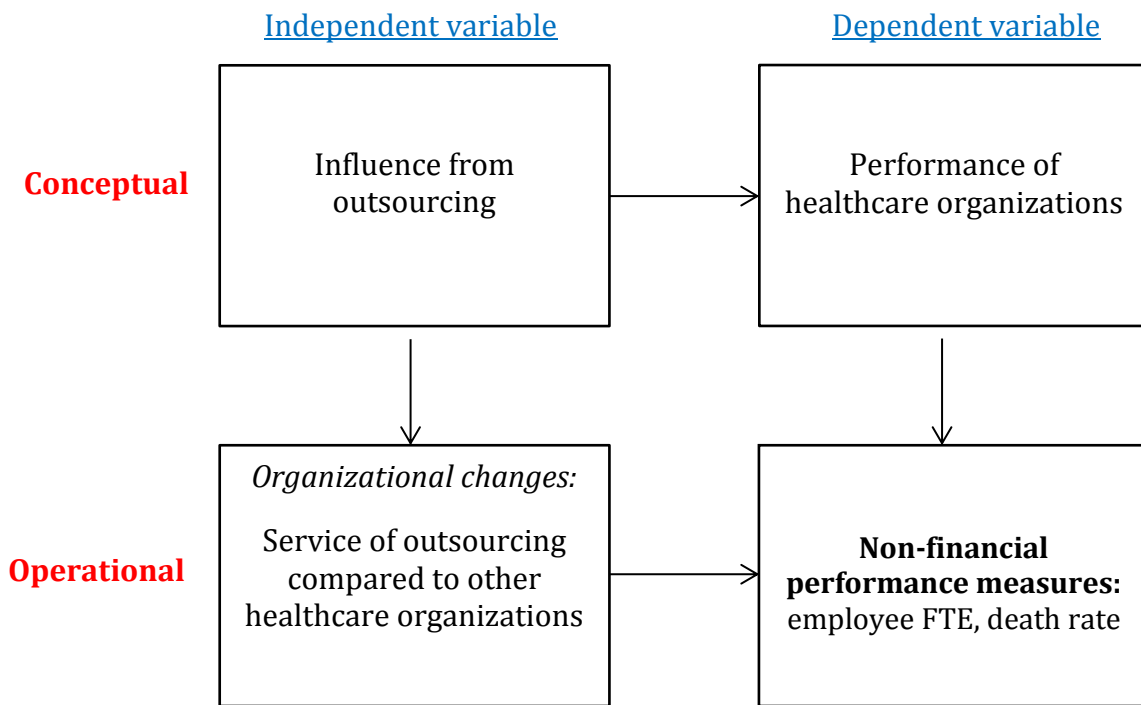


Besides the influence outsourcing can have on the financial aspect of the organization, this thesis will also investigate the non-financial part. Non-financial performance covers a broad range of various aspect. Sørup and Jacobsen (2013) discuss that performance can be measured in the form of employee absence and risk factors whereas it can have its influence. Therefore the amount of full-time equivalent (FTE) is used as measure. Because this research focused on the service of outsourcing, there is a possibility that it influence the health of the patients itself. Maybe the temporary hired employees gain more care for quality. Therefore another interesting measure is death rate. Nevertheless these variables can be effected by external factors, especially the last one. But this is inferior to the financial performance because it contains more opinion questions according to this measurement. The influence from outsourcing on the non-financial performance is summarized in the following two hypotheses:

- H_{3a}.** Outsourcing has a positive influence on the non-financial performance of the organization.
- H_{3b}.** Outsourcing has a negative influence on the non-financial performance of the organization.

The underlying Libby Boxes specified for this hypothesis are presented below.

Hypothesis 3



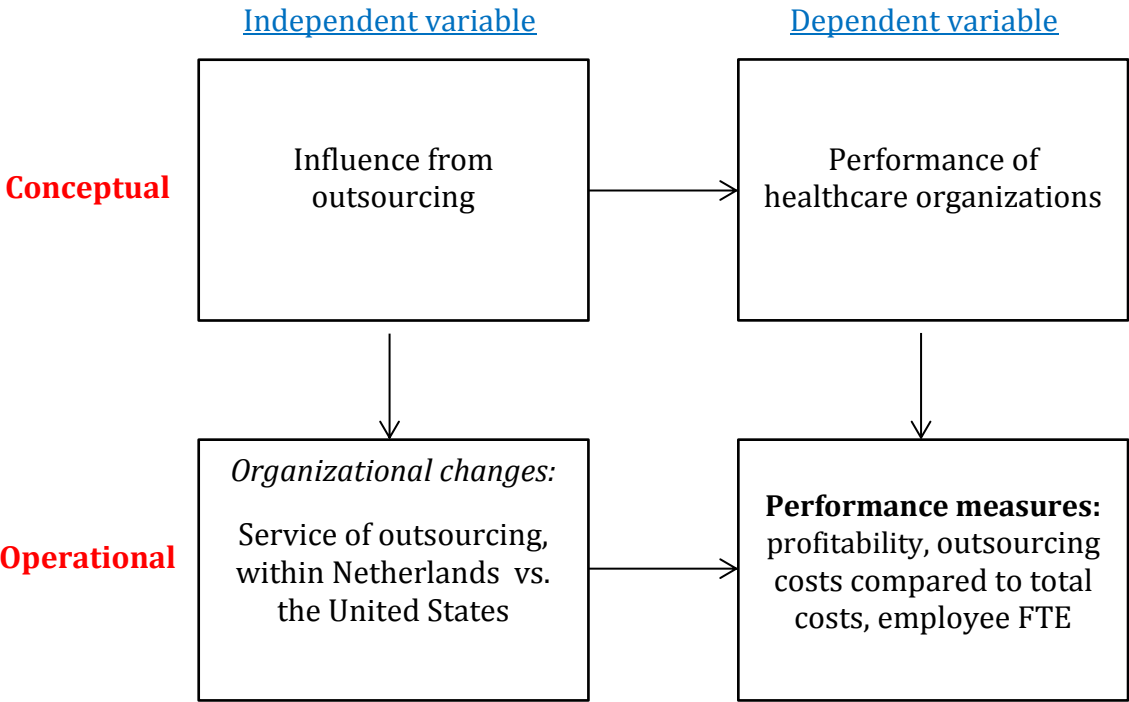
The financial performance, cost savings and non-financial performance are measured in the first three hypotheses. All these hypotheses discuss the influence from outsourcing on the performance of organizations in the Netherlands. By comparing the outcomes from the Netherlands to the results from the United States, the country which spends proportionally the most of their GDP on healthcare, it provides the research an extra dimension. Because all the outcomes from the Netherlands are compared to another country there can be seen whether the results will strengthen the research. The following two hypotheses are used:

- H_{4a}.** Outsourcing has a greater influence on the performance on healthcare organizations within the Netherlands than the United States.
- H_{4b}.** Outsourcing has a lower influence on the performance on healthcare organizations within the Netherlands than the United States.

The figure below provides a representation from the Libby Boxes specified on the last hypothesis. It explains which measures are used to construct a research. This hypothesis is a simplified version of measuring performance. Measures for this hypothesis are measures

which combine all the previously hypotheses. From each hypothesis one measure has been taken. For all of the three hypothesis this is the first variable (β_1). For the financial performance that measure is profitability. For the cost savings these are the costs of outsourcing related to the total costs whereas the costs of outsourcing are measured as a percentage of the total costs. The non-financial performance in this hypothesis is represented by the measure employee FTE.

Hypothesis 4



By combining these measures we can deduce in which country outsourcing has more impact on performance. Combined, these theoretical arguments attempt to provide an answer on the research question. The hypotheses above are all stated in alternative form. The corresponding null hypothesis (H_0) is that outsourcing has no influence on the financial and non-financial aspect of the organization as well as the cost savings and therefore the performance of Dutch- and American healthcare organizations.

4 Research Design

4.1 Dataset

The starting point of this study is to provide a regression which test the influence from outsourcing on the performance of healthcare organizations. This has been done by focussing on three aspects within the healthcare organizations.

To test the predicted relation provided in the research question, data available on the internet is used. The Dutch *Ministerie van Volksgezondheid, Welzijn en Sport* provide a website www.jaarverslagenzorg.nl which presents all the financial statements from Dutch healthcare organizations. Within these financial statement the labour costs are specified. The cost of outsourcing are measured by taking ‘Personeel niet in Loondienst’. Except from one, all the variables can be found in the financial statement. The one variable that could not be found in the financial statement is the death rate. For this specific variable various websites are used. Most of the time this was the website from the hospitals themselves. In the year 2013 the Netherlands has in total 133 hospitals (Nederlandse Vereniging van Ziekenhuizen, 2013). In the year 2014 and 2015 some hospitals are merged, so this number may have changed during the last years. The total sample used in this research consists of 55 hospitals. From these 55 hospitals all the values for the variables needed for the regression were collected. The other 78 hospitals have different reasons why they cannot be taken into the total sample. The reasons to remove these from the sample are missing values for either one of the variables. Several have merged in the year 2014 and therefore the financial statement from the year 2014 is missing. Several of the hospitals are not in the sample because the information about the death rate was not available.

The data from American hospitals are taken from the website www.doh.wa.gov, the website from the *Washington State Department of Health*. This website contains financial statements of all the hospitals in Washington State. Within these statements is ‘Purchased Services’ being used as the measure for outsourcing. Purchased Services is a service which is contracted for-, an performed by a third party (Schierer, 2014). These contains all the staffing which is not the hospital’s in-house staff. This is comparable with the ‘Personeel niet in Loondienst’ within the Netherlands. Because both contains the employee FTE which are not contracted at the hospital. Kautzer (Nexera, 2012) defines purchased services as “those services performed or obtained from persons or companies other than employees of our members. Generally, these types of services are not available from hospital-based departments

or they are only needed on an interim basis. This is one of the factors that distinguish purchased services from outsourcing”. Outsourcing contains all the services contracted by third parties. This study focuses on the service part of outsourcing, namely the employees not contracted by the hospital but only working on temporary base. The total sample for the United States contains 80 hospitals from the original 99. This was due to the fact the some years of information for hospitals where missing.

The sample period 2010-2014 was chosen because these are the most recent years available and responsive to all the news and current political influence on the hospitals. Besides this, these years are (compared to earlier years) the least affected by the financial crisis. These current years enclose more information about the current situation and creates more value for the years after these.

The literature review provides several perspectives on how performance is measured. In this study there will be distinguish between the financial performance, cost savings and non-financial performance of an organization. The theory provides several insights on how to measure these aspects on organizational level.

4.2 Variable measurement

This section explains how each of the variables is developed.

Independent variable:

The independent variable in this research is the influence from outsourcing and the effect it has on the hospitals. In this research outsourcing is dedicated to a special part of the employee costs. This is ‘Personeel niet in loondienst’.

The outsourcing in the hospitals within the United States is measured by ‘Purchased Services – Others’.

Dependent variables:

The dependent variables within this research are the change in the performance of the organization. The performance is categorized into three areas. Every area is measured using different measurements. The last hypothesis compares two groups with each other, namely the Netherlands and the United States. Measurement of the performance is done using the following variables:

➤ *Profitability*

The first hypothesis focuses on the financial performance of the organization. Profitability is a measure Görg and Hanley (2004) also used in their research. The outcome was a positive effect on the relationship.

➤ *ROI*

Mol et al. (2005) use Return on Investment (ROI) as one of the financial indicators for their research. The ROI is calculated as the revenue minus the costs, whereas this outcome is divided by the costs. Indicator for the costs are the total costs, because only the outsourcing costs will lead to a discrepancy for this measure between the organizations.

➤ *ROA*

According to Jiang et al. (2006) the Return on Sales (ROA) is the best metric to evaluate the performance of an organization. The ROA is calculated by dividing the revenue by the total assets. The assets have been taken by calculating the average assets of the year, based on the beginning- and ending assets of the year. The ROA is calculated as a percentage.

➤ *ROVA*

The Return to Value Added (ROVA) is based on the literature from Kotabe and Mol (2009). This metric has been used because it takes the changes of profit levels as consequence of outsourcing into account. The ROVA has been calculated as follows:

$$ROVA = \frac{\text{Profitability}}{(\text{Revenue} - \text{costs of outsourcing})}$$

➤ *Total costs versus outsourcing costs*

The second hypothesis expresses the performance into cost savings. These costs savings are firstly measured as being the outsourcing costs a percentage of the total costs.

➤ *Employee costs versus outsourcing costs*

Because the outsourcing costs are part of the employee costs, this measure is a another variable to investigate whether outsourcing has influence on the cost savings of the organization. The outsourcing costs are taken as percentage of the employee costs. Whereas the employee costs are first reduced with the outsourcing costs.

➤ *Employee FTE*

The third hypothesis focuses on the non-financial performance of the organization. The influence of employee is variable useful in this research. Also because the outsourcing within this research is the focussed on service outsourcing, the metric employee FTE is useful to account for.

➤ *Death rate*

Another variable to investigate whether the non-financial performance change is the death rate. Especially because the outsourcing concerns the core business of the organization, it might have its influence. For example, the costs of outsourcing decline, whereas also the death rate becomes higher. Apart from all the side factors, it can be said that outsourcing has its influence on the performance.

Control variables:

The control variables within this research are revenue and employee costs.

➤ *Revenue*

Size of the company has been a control variable in many researches before (Weigelt, 2009; Grög & Hanley, 2004; Kotabe & Mol, 2009). Also in this research it is import to control for company size, because this could have influence on the issued outsourcing costs. The revenue of the organization is a solid base for this.

➤ *Employee Costs*

Another control variable for this research are the employee costs. Because the outsourcing costs are part of the employee costs, this might has it influence. Although the employee costs are already part of the dependent variables, nevertheless a percentage of it, it is important to check the relation to the outsourcing costs.

4.3 Econometric Model

To test the different hypothesis in this research an econometric model is used. The variables are already explained, whereas only the econometric description of the hypotheses is missing.

The first hypothesis focuses on the financial performance of the organization and therefore is the following equation:

$$\text{Influence on financial performance} = \beta_0 + \beta_1 \text{Profitability}_i + \beta_2 \text{ROI}_i + \beta_3 \text{ROA}_i + \beta_4 \text{ROVA}_i + \text{Control Variables} + \varepsilon$$

The second hypothesis investigates the cost savings of the organization as part of the performance. The model for this hypothesis is the following equation:

$$\text{Influence on cost savings} = \beta_0 + \beta_1 \text{Total outsourcing}_i + \beta_2 \text{Employee outsourcing}_i + \text{Control Variables} + \varepsilon$$

The model from the third hypothesis describes how the non-financial performance has been measured:

$$\text{Influence on non-financial performance} = \beta_0 + \beta_1 \text{Employee FTE}_i + \beta_2 \text{Death rate}_i + \text{Control Variables} + \varepsilon$$

The last hypothesis compares two groups with each other by using every β_1 from the first, second and third hypothesis as variable. The regression for this last hypothesis is based on the between-groups research. The following model can be issued for this hypothesis:

$$\begin{aligned} \text{Influence on the performance; the United States vs. the Netherlands} = & \beta_0 + \beta_1 \text{Profitability}_i \\ & + \beta_2 \text{Total outsourcing}_i + \beta_3 \text{Employee FTE}_i + \text{Control Variables} + \varepsilon \end{aligned}$$

5 Empirical results and analysis

5.1 Descriptive statistics

For conducting the tests and regression, the statistical programme STATA is used. Within this research the descriptive statistics for the first three hypotheses and the last hypothesis are discussed separately. This is because the data from the United States could influence the outcomes. To obtain a better view of both data these are treated separately. Table 1 shows the descriptive statistics of the hospitals within the Netherlands.

Dependent Variables	Mean	Std. dev	Min	Max
Profitability	5074509	6497573	-1.41e+07	47300000
ROI	.0450325	.0297805	-.0843543	.1996808
%ROA	.0187035	.0258435	-.1127454	.1768885
ROVA	.0199738	.0263219	-0,1302518	.152102
%Total Costs	.0250848	.0127876	.004734	.0902291
%Employee Costs	.0467655	.025129	.0093142	.1904627
Employee FTE	2.229.871	1.804.242	428	9565
Death Rate	3.454.749	1.733.929	59	938
Independent Variables				
Outsourcing Costs	6398128	7805283	553492	5.88e+07
Control variables				
Revenue	2.53e+08	2.20e+08	5.90e+07	1.15e+09
Employee Costs	1.40e+08	1.33e+08	2.74e+07	7.04e+08

Table 1. Descriptive statistics for the Netherlands

To see whether there is a correlation between all the variables in the regression the Pearson correlation matrix is created. Table 2 shows this matrix, based on these values it may be concluded that multicollinearity does not play a role and is not involved in this study.

	Profitability	ROI	%ROA	ROVA	%Total Costs	%Employee Costs	Employee FTE	Death rate	Revenue	Employee costs
Profitability	1									
ROI	0.4719	1								
%ROA	0.5879	0.7736	1							
ROVA	0.6002	0.8466	0.9557	1						
%Total Costs	-0.1804	-0.3875	-0.3157	-0.3718	1					
%Employee Costs	-0.2103	-0.3932	-0.3400	-0.3953	0.9873	1				
Employee FTE	0.5871	-0.0380	0.0335	0.0184	0.0731	0.0241	1			
Death rate	0.2280	0.0409	0.0603	0.0502	-0.0340	-0.0346	0.4524	1		
Revenue	0.6086	-0.0397	0.0359	0.0219	0.1056	0.0603	0.9902	0.4088	1	
Employee costs	0.5773	-0.0715	0.0194	0.0026	0.1220	0.0678	0.9890	0.3745	0.9953	1

Table 2. Pearson Correlation Matrix

5.2 *The influence of outsourcing on the financial performance*

Ordinary least squares (OLS) is used to estimate the models. All the models used to regress the first three hypotheses are tested for heteroskedasticity using the Breush-Pagan test. This is to ensure that the variance of the error term is constant and therefore does not cause any bias. The result of this test indicates that there is no sign of heteroskedasticity.

The first hypothesis investigates the influence from outsourcing on the financial performance. This hypothesis is tested using four measures, namely; profitability, ROI, ROA and ROVA. The outcomes from this first regression are found in table 3 and can be interpreted as follows. The R^2 from the regression is 0.7762, it means that 77,6% of the model has explanatory power and that the relation between outsourcing costs and the financial measures are strong. The null hypothesis can be rejected, outsourcing has influence on the financial performance of the hospitals. Whereas the influence is positive or negative can be answered by examining the outcomes of the measures separately. By examining the coefficients of the measures, it shows that the coefficients for profitability and ROI are negative. It means that whenever the outsourcing costs increase, the profitability of the hospitals decreases. But checking the ROA and ROVA, it results in a positive effect on the relationship. Whenever the outsourcing costs increase, the ROA and ROVA increases as well. However, the ROI, ROA and ROVA are all three not significant due to the fact that $p > 0.05$.

	Coefficient	Std. Err.	t	p
Profitability	-.3081868	.0696229	-4.43	0.000
ROI	-3.54e+07	1.55e+07	-2.28	0.023
%ROA	1.28e+07	3.05e+07	0.42	0.674
ROVA	3.28e+07	3.71e+07	0.89	0.377
Revenue	0304932	0125783	2.42	0.016
Employee costs	.0085967	.0201102	0.43	0.669
R-squared	0.7762			
Adj. R-squared	0.7712			

Table 3. Regression H1: Influence on financial performance

5.3 *The influence of outsourcing on the cost savings*

The second hypothesis investigates the influence of outsourcing on the cost savings. This hypothesis is tested using two measures. The basis of these two measures are outsourcing costs. These costs are accounted as percentage of the total costs and the employee costs. The outsourcing costs are divided by the total costs- as well as the employee costs. Because the outsourcing costs are already part of the employee costs, the employee costs are first reduced with the outsourcing costs. Thereafter the calculating of this percentage is made.

The outcomes from the regression of this hypothesis can be found in table 4 and is interpreted as follows. The R^2 from the regression is 0.8758, it means that 87,6% of the model has explanatory power and that the relation between outsourcing costs and the cost savings are strong. The null hypothesis can be rejected, outsourcing has influence on the cost savings of hospitals. Part of this logical, because the outsourcing costs are part of the employee costs.

The coefficient from the outsourcing costs as percentage of the total costs are positive. This means that whenever the outsourcing costs are increasing, the percentage outsourcing from the total costs is increasing as well. This can mean two things, the outsourcing costs are increasing or the total costs are decreasing. Because the outsourcing costs is the independent variable it means the total costs are decreasing. This is a positive influence on the organisation. It means that by spending more money on outsourcing the rest of the costs within the organization are decreasing as well.

The coefficient from the outsourcing costs as percentage of the employee costs is negative. It means that the percentage is decreasing if the outsourcing costs are increasing. So the employee costs are increasing by spending more money on outsourcing. In an ideal situation the employee costs should decrease. That means that even when the organization is spending more money on outsourcing, these costs cover more costs than normal. In this case the employee costs are increasing. The hospital spends more money on outsourcing, but also the employee costs stay equal or increase. Cost savings wise this is not ideal for the hospital. Nevertheless, a negative influence on the employee costs does not mean that the company is doing worse.

	Coefficient	Std. Err.	t	p
%Total Costs	4.84e+08	1.10e+08	4.42	0.000
%Employee Costs	-1.33E+08	5.49e+07	-2.42	0.016
Revenue	.0272128	.0096537	0.010	0.005
Employee costs	.0018107	.0163527	0.18	0.912
R-squared	0.8758			
Adj. R-squared	0.8739			

Table 4. Regression H2: Influence on cost savings

5.4 The influence of outsourcing on the non-finance performance

For the third hypothesis the model is created to investigate the influence outsourcing has on the non-financial performance. To measure the non-financial performance, employee FTE and death rate are taken. Table 5 shows the results from the third hypothesis. The R^2 from the regression of this model is 0.8305, which means that the null hypothesis for this

hypothesis can be rejected. Surely, 83,1% of the change in employee FTE and death rate is explained by the outsourcing costs.

If we look closer into the measures used for this model there can be seen that outsourcing has as negative influence on employee FTE. This outcome is as expected, after all it is logic that when outsourcing increases, there will be less employee because these people are exchanged by people from outside the organization (outsourcing). Nevertheless, this does not reflect the outcome in hypothesis two from the increase in employee costs.

The second measure in this model is death rate. Looking at the coefficient, outsourcing has a negative influence on the death rate. This is not as expected at first, outsourcing would provide extern expertise and temporary hired employees gain for more care quality because they are hired for where they are best in. Apparently, when outsourcing increases, the death rate increases also exponentially. Temporary hired specialized personnel ensures a higher death rate. Reasons for this could be due to the fact these people are only working here temporary and not used to that working environment. Both variables in this regression are significant on a level $p < 0.01$.

	Coefficient	Std. Err.	t	p
Employee FTE	-10810.96	9.392.039	-11.51	0.000
Death Rate	9316.838	1.554.126	5.99	0.000
Revenue	.0194729	.0102748	1.90	0.05
Employee costs	.1594172	.0183129	8.71	0.000
R-squared	0.8305			
Adj. R-squared	0.8280			

Table 5. Regression H3: Influence on non-financial performance

5.5 The United States versus the Netherlands

Besides the descriptive statistics of the Netherlands, also the data from the United States are gathered. Table 7 shows the descriptive statistics for the United States with the variables where the data is tested for in this research. The table shows that the minimum of profitability compared to the Netherlands is almost doubled. The difference in maximum profitability is a lot more. Whereas the maximum profitability in the Netherlands is €47,348,000, is the maximum profitability in the United States around \$178,128,602. Although the fact that the euro is a bit more worth than the dollar, the difference is more than 100 million.

Whereas the maximum in employee FTE is almost the double as for the United States. The Netherlands has a lower revenue and profitability (around the halve of it) but the FTE is double compared to the United States. That being said, the costs of outsourcing for the

Netherlands are for the minimum and the maximum both higher. The minimum of costs for outsourcing starts nine times higher in the Netherlands compared to the United States. Whereas the maximum costs spend on outsourcing are twice as much as for the United States. Although the United States spends proportionally more money of their GDP on healthcare as the Netherlands, financial wise the hospitals within the United States are doing better.

Dependent Variables	Mean	Std. dev	Min	Max
Profitability	1.19e+07	2.44e+07	-2.82E+07	1.78e+08
%Total Costs	.1156725	.0720659	.0071056	4164777
Employee FTE	1.031.991	1.184.472	32.77	5002
Independent Variables				
Outsourcing Costs	2.58e+07	3.91e+07	63924	2.55e+08
Control variables				
Revenue	5.34e+08	6.53e+08	3875053	.30e+09
Employee Costs	7.75e+07	9.57e+07	2203624	.86e+08

Table 7. Descriptive statistics for the United States

As also for this fourth hypothesis OLS is used to estimate the model for testing between the Netherlands and the United States. Because this hypothesis also uses data from the United States as well as the Netherlands, the dataset from this data together has to be tested for heteroskedasticity again by using the Breush-Pagan test. Results from this test raises concerns about heteroskedasticity and sample dependence. For the following regression the White-Huber robust standard errors are used.

Table 8 shows the regression results from the Netherlands and the United States separately. For all the three variables: profitability, outsourcing costs as percentage of the total costs and employee FTE, outsourcing is a stronger predictor within the United States. On the other hand, outsourcing is a stronger predictor for the control variables revenue and employee costs within the Netherlands. Nevertheless, the variable profitability is not significant for the United States.

	<i>The Netherlands</i>				<i>The United States</i>			
	Coef.	Std. Err.	t	P	Coef.	Std. Err.	t	p
Profitability	-.1397201	0.0390282	-3.58	0.000	.2743485	.1191186	2.30	0.022
%Total Costs	1.77e+08	2.44e+07	7.24	0.000	2.13e+08	2.29e+07	9.27	0.000
Employee FTE	-5437.684	1116.067	-4.87	0.000	20783.58	7960.856	2.61	0.009
Revenue	.0522801	.0124237	4.31	0.000	.0091347	.0073048	1.25	0.212
Employee costs	.0395488	.0291217	1.36	0.176	-.0635749	.1052743	-0.60	0.546
R-squared	0.9027				0.8045			

Table 8. Regression from the Netherlands and the United States

6 Conclusion, discussion and limitations

This study examines the influence of outsourcing on the performance of healthcare organizations. At first the influence on the performance for the Netherlands is examined. The performance is categorized into three areas, namely the financial performance, cost savings and non-financial performance. The last hypothesis examines the influence of outsourcing on the performance by comparing the Netherlands and the United States with each other and investigates which of these countries has a greater influence. For this study a dataset from 55 Dutch hospitals and 88 American hospitals is used. The data covers the years 2010 until 2014. The findings from this thesis are summarized in table 9.

Hypotheses		Measures	Confirmed
1a.	Outsourcing has a positive influence on the financial performance of the organization	Profitability ROI	Partly
1b.	Outsourcing has a negative influence on the financial performance of the organization	%ROA ROVA	
2a.	Outsourcing has a positive influence on cost savings of the organization.	%Total Costs	Partly
2b.	Outsourcing has a negative influence on cost savings of the organization.	%Employee Costs	
3a.	Outsourcing has a positive influence on the non-financial performance of the organization.	Employee FTE	Yes
3b.	Outsourcing has a negative influence on the non-financial performance of the organization.	Death Rate	
4a.	Outsourcing has a greater influence on the performance on healthcare organizations within the Netherlands than the United States.	Profitability	Partly
4b.	Outsourcing has a lower influence on the performance on healthcare organizations within the Netherlands than the United States.	%Total Costs Employee FTE	

Table 9. Findings

The first hypothesis investigate the influence of outsourcing on the financial performance by using the measures profitability, ROI, ROA and ROVA. Results indicate that outsourcing has a negative influence on profitability and ROI, whereas outsourcing has a positive influence on the ROA and ROVA. Nevertheless, the financial performance indicators do not have a significant result whereas profitability does have a significant outcome. Based on these results there can be conclude that outsourcing has negative influence on the financial

performance of the healthcare organization. According to the literature of Grög and Hanley (2009) outsourcing should lead to a higher profitability. Results from this study indicate the opposite. Kotabe and Mol (2009) found that the degree of outsourcing is negatively curvilinearly related to the performance using the measure ROVA. Although the results from this measure ROVA were not significant within this research, outcomes were positive and therefore not in line with previous literature. Reasons for these outcomes could be that both of these studies use data from manufacturing firms, whereas hospitals have a whole other corporate culture. Hospitals are non-profit organizations. This could explain why the results of the first hypothesis are not in line with the theory.

The second hypothesis investigates whether outsourcing has influence on the cost savings of the organization. This is measured by using the variables outsourcing as percentage of the total costs and using outsourcing as percentage of the employee costs. The first variable is positive and significant. By spending more money on outsourcing, the rest of the costs within the organization are decreasing as well. The second variable is negative but also not significant. Concluded can be said that outsourcing has a positive influence on the cost savings of the organization. According to Bryce and Useem (1998) outsourcing reduces operating cost. The research from Roberts (2001) state that outsourcing can substantially lower costs, and also Elmuti (2003) mention the reduce of costs. Smith et al. (2005) concludes that outsourcing leads to cost savings as well as Yang and Huang (2000) mention this. The results of this thesis are confirmed by the underlying theoretical literature.

The third hypothesis investigates the influence from outsourcing on the non-financial performance of Dutch healthcare organizations. This hypothesis is measured by employee FTE and death rate. The results are both significant and indicate a negative influence on the non-financial performance of the organizations. The study from Elmuti (2003) provide support for the fact that outsourcing allows companies to improve service quality. Results from this hypothesis are not as expected and indicate that outsourcing is not a complement for the organization. Thereby should be taken into consideration that death rate is a measure which can be affected by various other (indirect) influences.

The last hypothesis compares the Netherlands and United States with each other and investigates which of these have a greater influence on the performance by using outsourcing. Results from this test give a negative influence on the profitability, whereas this measure is positive within the data from the United States. Nevertheless, this result is not significant and therefore cannot be taken into account. The other two measures, outsourcing costs as percentage of the total costs and employee FTE are in both countries significant under a 10%

level. Whereas the outsourcing costs as percentage of the total costs indicate a better result for the United States, also the employee FTE are greater for this country. Concluded can be said that outsourcing has a lower influence on the performance on healthcare organizations within the Netherland than the United States.

According to the theoretical literature, outsourcing should have a positive influence on the performance. By looking at the outcomes of this study, the theoretical literature cannot be confirmed. The first hypothesis based on significant results indicate a negative influence. Also the third hypotheses lead to a negative influence on the performance. The second hypothesis indicate that outsourcing costs have a positive significant result on the total costs and confirms H_{2a} , a positive influence on the performance. All together can be answered on the research question that outsourcing does influence the performance of healthcare organizations. Within the Netherlands this is mainly negative. When the Netherlands are being compared with the United States, results shows that outsourcing has even a greater influence on the performance within the United States.

My research is subject to several limitations. First, the data which is used to serve as data from the United States comes from the Washington State Department of Health. In this research this data is used to stand representative for the United States but this covers only data from one state, namely Washington. The sample of hospitals are only located in that specific state. This limits the research and does not show how this research is applicable to the other states, this might be different. However, by using only one state as sample it strengthen the situation stated there.

Besides this, another limitation for this data is how the outsourcing costs are measured. The measure for this are the 'Purchased Services'. This contains all the employee leasing and FTE not laboured by the hospital according to various sources named in the research design. Despite these sources it is not clear if this measure only contains the costs from workers secondment. For example, the costs of cleaning within the United States dataset might be included within the 'Purchased Services' whereas these are placed under another category of costs within the Dutch dataset.

Another implication is that the theoretical background for this study mostly exist from research which has been done by using data from manufacturing firms. This study examines the influence on healthcare organizations. Healthcare organizations have a different organisation culture and therefore the outcomes of the results from the theoretical background cannot be compared with the outcomes from this result. The last implication would probably be that due to the relatively short period of data covered, the effects on the long-run of

outsourcing on performance are hard to examine.

Despite the previous limitations, this study gives some strong insights in the effects of outsourcing on the performance within healthcare organizations. It also gives some interesting implications and recommendations. Therefore this research is a good start to further examine the impact of this specific part of outsourcing as well as overall outsourcing. Most of the theoretical literature was also based on companies or manufacturing firms, and not specifically hospitals. According to Roberts (2001) management controls are necessary to increase the performance within the healthcare branch. This given could be taken into consideration for further research. Future research should include more years to determine the long-term effect and also more data from states besides Washington to give a better view from the United States.

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Appendix

Appendix 1: Outcomes from the studies contained in the literature review

Theoretical background			
Article	Authors	Year	Outcomes
The Impact of Corporate Outsourcing on Company Value.	D.J. Bryce and M. Useem	1998	Outsourcing reduces operating cost, enhances competitive strategy, and enlarges shareholder value
Making More by Doing Less: An Analysis of Outsourcing and its Effects on Firm Performance.	K.M. Gilley, A. Rasheed	2000	Both firm strategy and environmental dynamism moderated the relationship between outsourcing and performance. Furthermore they find that firms operating in relatively stable environments may also achieve performance increases through outsourcing.
A decision model for IS outsourcing.	C. Yang and J.B. Huang	2000	The performance within healthcare is focused on patient care and cost savings.
Making the choice: The pros and cons of outsourcing.	B. Burmahl	2001	Many hospitals that have gone the outsourcing route are retracing their steps. But this research investigated thirty-five different outsourcing services.
Managing Strategic Outsourcing in the Healthcare Industry.	V. Roberts	2001	Outsourcing can substantially lower costs and risks, make more time to access innovative ideas, creative solutions and increase quality. Management controls are necessary to increase the performance within the healthcare branch.
The Perceived Impact of Outsourcing on Organizational Performance.	D. Elmuti	2003	Results within this study provide support for the claims of outsourcing proponents that outsourcing allows companies to enhance expertise, improve service quality, reduce staff, streamline the process, lower costs and reduce the administrative burden and saving time.
Does Outsourcing Increase Profitability?	H. Görg, A. Hanley	2004	The relation between profit and outsourcing depends on the size of the company.
Antecedents and performance consequences of international outsourcing.	M.J. Mol, R.J.M. van Tulder, P.R. Beije	2005	Multinational firms and the firm size is positively related to outsourcing internationally. Outsourcing of intermediate products to international suppliers is believed to improve the firm performance
Organisational change, outsourcing and the impact on management accounting.	J.A. Smith, J. Morris, M. Ezzamel	2005	There is empirical evidence on organisation change, outsourcing and the impact on management accounting within private sector companies. Improved service and flexibility are goals to be attained through outsourcing. Outsourcing leads to cost savings and allow the organisation to focus more clearly on its core business.
Outsourcing effects on firms' operational performance.	B. Jiang, G.V. Frazier, E.L. Prater	2006	There are no significant improvements in outsourcing firm's productivity and profitability. But there is empirical evidence for the differences between outsourcing firms' performance and that of their non-outsourcing competitors. Outsourcing firms have an obvious significant advantage in cost efficiency. It indicates that outsourcing has a positive influence on the performance.
Accounting and the management of outsourcing: An empirical study in the hotel industry.	D. Lamminmaki	2008	Performance and whether outsourcing decisions are made, appear to be variables affecting the nature of accounting sophistication on hotel outsourcing management.

Effects of Outsourcing on Performance Measurement and Reporting: The Experience of Italian Local Governments	G. Grossi, R. Mussari	2008	In the case of large public organisations outsourcing is useful but makes it harder to measure the performance individually.
How Does Outsourcing Affect Performance Dynamics? Evidence from the Automobile Industry.	S. Novak, S. Stern	2008	This suggests that outsourcing is associated with higher levels of initial performance, and that vertical integration is associated with performance improvement over the product life cycle.
Outsourcing and financial performance: A negative curvilinear effect.	M. Kotabe, M.J. Mol	2009	The degree of outsourcing is negatively curvilinearly related to the performance.
The relationship between outsourcing and organizational performance. Is it myth or reality for the hotel sector?	T. Bolat, Ö. Yilmaz	2009	The organizational performance level after outsourcing was significantly higher than before outsourcing. Whereas continuous improvement showed the highest difference within the tested dimensions.
Outsourcing, competitive capabilities and performance: an empirical study in service firms.	O.F. Bustinza, D. Arias-Aranda, L. Gutierrez	2010	There is a relationship between outsourcing decisions and company performance which is articulated via the impact of outsourcing decisions on the firm's competitive capabilities.
Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance.	J.R. Kroes, S. Ghosh	2010	Outsourcing congruence across time, quality, innovativeness, flexibility and cost is positively and significant related to supply chain performance
Healthcare performance turned into decision support.	C.M. Sørup and P. Jacobsen	2013	Performance can be measured in the form of employee absence and risk factors where it can have its influence