US and Dutch Health Care GPOs: A comparative analysis

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ABSTRACT
In the US, Group Purchasing Organizations (GPOs) account for roughly 30% of the total purchasing spend, while Dutch GPOs account for less than 10% of the total purchasing spend. The aim of this Bachelor thesis is to explain the significant differences between Dutch GPOs and US GPOs in the health care sector. This was done by analysing the insourcing/outsourcing decision of HC organizations, the market division of GPOs and the operating mode of GPOs. The main findings were: There is an observed difference between the relative size between the GPO, HC organizations and suppliers, Dutch GPOs operate in an unfavourable position with large hospitals, the largest GPO has no immediate competitor, and there is a lack of collaborative relationships between the GPO and its suppliers. These factors all seem to contribute to an overall lower market penetration. The academic relevance of this thesis mainly regards the finding of relative size differences between GPOs, HC organizations and suppliers. It seems that relatively large HC organizations and suppliers, in comparison with GPOs, have a negative effect on the market penetration of GPOs. This should be further examined.

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Keywords
Group Purchasing Organzations, GPO, Health care, outsourcing, market share

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1. INTRODUCTION

The first health care Group Purchasing Organization (GPO) was established in 1910, but it's not until recently that the research regarding this subject has seen an increase.
A GPO is an entity that utilizes collective buying power to obtain significant discounts from suppliers, distributors and manufacturers (Yang, Cheng, Ding & Li, 2017). This collective buying power is obtained through the combined purchasing spend of its members. Doing so, many benefits can be achieved, such as lower prices and lower transaction costs.
Hu, Schwarz & Uhan (2011) found several positive impacts in healthcare supply chains and urge to add a GPO to the supply chain, if not yet present.
Most of the research examines the GPOs in the United States of America that are active in the health care sector. The research tends to be positive about the presence of a GPO in a supply chain with findings resulting in proven effectiveness in reducing prices of supply items (Cleverly & Nutt, 1984).

According to the Health Industry Group Purchasing Organization (HIGPA) between 96-98% of all hospitals in the USA choose to utilize one or more contracts offered by GPOs. The actual spend utilized through GPOs is difficult to establish with over 600 GPOs in the health care sector in the USA. The Healthcare Supply Chain Association estimates this to be around 72%.

The largest Dutch health care GPO, Intrakoop, has an annual turnover of around €721 million, taking into consideration that the total annual purchasing spend for the Dutch health care is €22 billion, which is 23% of the total health care expenditure in the Netherlands.
The largest health care GPO in the USA, Vizient, has an annual turnover of $100 billion. According to Hovenkamp (2002) the total purchasing spend was 13,3% of the total health care expenditure. However, this research is 15 years old and therefore a confidence interval between 13,3% and 23% will be used. This results in a total purchasing spend between $425 billion dollars and $735 billion dollars, based on the total health care expenditure of $3.2 trillion dollars.
This difference might not seem significant since it can be argued that the US health care market is significantly larger. Contrary to Vizient, Intrakoop seems to be the only large GPO in the Netherlands. Besides Vizient there are several other GPOs with over ten billion dollars in turnover.
The academic relevance regarding this thesis mainly revolves around explaining why there is a significant difference between the two countries, regarding the same market. Obviously, the result may be practically relevant for Intrakoop in its quest to increase its market penetration.

2.1 SCOPE OF THE RESEARCH

The explaining of different market shares within the same market in different countries has to deal with a variety of options. Several studies have aimed to identify the critical success factors for managing purchasing groups (e.g. Schotanus, Telgen and Boer, 2010).
However, purely managerial implications may not be sufficient to explain this difference. Therefore, this research aims to look at several other factors to explain the difference, such as market factors and the operating mode of a GPO.
Reconsidering the nature of a GPO, several questions do arise.

The core business of a GPO is the opportunity to, partially or completely, outsource the purchasing activities of an organization.
Based on this, the decision to outsource this service is the first decision made by HC organizations.

The second decision is the selection of a GPO. Since the complete outsourcing of an organization's purchasing department is not mandatory, the GPO has to offer better terms than the previous contract in order to establish a collaborative relationship.

The aspects that should be analysed include the insourcing/outsourcing decision and the market that GPOs operate in. However, there is another important aspect: the operating mode of a GPO. The operating mode of an organization is commonly referred to as a combination of factors that will add value for the buyer. Factors such as the financing model or the strategy regarding supplier satisfaction can contribute to the difference in market shares.
It can be argued that every organization has a different operating mode. However, analysing the differences between the GPOs might explain the difference in the utilization of GPO contracts. (Barney, 1991)

2.2 Research questions

Based on the scoping of the research, several research questions have been formulated. The main objective of the research will be to answer the following main research question:

Why is there a significant difference between the market shares of US GPOs in comparison with Dutch GPOs in the healthcare sector?

This question shall be answered by answering the following three questions:

a) Is there a difference between US and Dutch HC organisations with respect to the "outsourcing or insourcing" decision?
When HC organizations consider outsourcing their purchasing function, there are several other options besides a GPO. It's possible that other purchasing co-operations are more successful than GPOs, which could explain the overall difference in market share.

b) Is there a difference in market division?
The market will be analysed by using Porter's model of the five forces governing competition in an industry (1979). This analysis will add to the first question, aiming to observe factors that could influence the market share of a GPO in the health care sector.

c) Is there a difference between the operating mode of Dutch and US GPOs?
As previously mentioned, almost every organization has a different operating mode. The aim for this question is to observe the overall commonalities and differences found between Dutch and US GPOs.

The thesis will begin with a chapter including the overall perceived positive and negative effects of a GPO.
The following three chapters will consist of the sub-questions asked previously in this section.
The conclusion will be a summary of the findings and a discussion regarding these findings.

3. GROUP PURCHASING ORGANIZATIONS

Before answering the first question it's important to further establish the position of GPOs. Generally, GPOs are being positively portrayed. On the contrary, there are sources suggesting the opposite.

3.1 The positive role of GPOs in literature

There have been several researches aiming to prove the positive role of a GPO in a supply chain. Schotanus (2005) found several expected positive effects if an organization joins a GPO. These were categorised in three categories: utilising economies of scale, sharing information or knowledge and improving internal processes or sharing resources.
Regarding the utilisation of the economies of scale, the indicated reasons to purchase cooperatively are: lower prices, lower transaction costs, strengthen negotiation positions, reduce workload, spreading and reducing of (supply) risks and because of budget cuts. According to Schneller (2009) these are the most common reasons for HC organizations to join a GPO and are often categorised as: price, process and knowledge (Bhattacharya, 2007) (Weinstein, 2016).

3.2 The negative role of GPOs in literature

Besides the reasons to purchase cooperatively Schotanus (2005) also noted the reasons not to purchase cooperatively, which are categorized as: expecting costs to be high or lacking resources, losing flexibility or control, lacking trust, support or culture and unknown with cooperative purchasing concept.

Hu & Schwarz (2011) noted the controversial role of GPOs in a healthcare supply chain as a consequence of the contract administration fees (CAFs). Several suppliers complain about the Contract Administration Fees (CAFs), mainly relating this to overall higher cost, in comparison to the situation without a GPO presence. Besides CAFs, the controversy around GPOs, and especially in the USA, tend to revolve around the monopsony power that can be achieved. A monopsony is commonly known as a buyer's monopoly. This occurs when the buyer, not the seller, controls a larger proportion of the market and, by that, drives prices down.

Antitrust and scrutiny laws and regulations are constantly modified and reviewed to ensure that there is no case of monopsony (Blair and Durrance, 2013). Throughout the years, several hospitals and GPOs had to settle. In 2004 a syringe manufacturer settled with two GPOs for $150 million. The claim was that the GPOs manipulated the supplier market by not contracting the syringe manufacturer, even though it had the best quality/price, according to the manufacturer. (New York Times, 2004)
The two GPOs regarding this settlement were Novation and Premier. Novation (now Vizient) and Premier are the two largest GPOs in the US, respectively.

3.3 Conclusion

Overall, GPOs seem to have a positive effect. However, large GPOs, such as Vizient and Premier, are capable of becoming controversial and unethical. The health care sector remains a difficult sector to operate in. The services provided by most of the providers directly benefit the wellbeing of society. Because GPOs play a significant role in the supply chain of many health care providers, these GPOs might have to submit to the same ethical requirements of HC organizations.
Considering both positive and possible negative effects that a GPO can cause, they should be closely monitored. However, this does not necessarily mean that GPOs should be restricted. The restriction of a GPO can directly lead to unnecessarily high CAFs or membership fees. Which then inherently will lead to contracting inefficiency (Hu & Schwarz, 2012).

4. THE INSOURCING OR OUTSOURCING DECISION OF HC ORGANIZATIONS

This chapter will aim to answer the following question: *Is there a difference between US and Dutch HC organisations with respect to the "outsourcing or insourcing" decision?*

This question will be mainly answered by analysing the total health care expenditure and the purchasing spend in both countries.
The total health care expenditure is the percentage of the gross domestic product that is spent on health, a term that is often used by the World Health Organization.
The total health care purchasing spend is the percentage of the total health care expenditure that is purchased. Costs such as labour expenditure is not purchased and therefore not a part of the total purchasing spend.
The total Dutch health care expenditure as of 2016 is € 96.146 billion (CBS, 2016), the purchasing spend was €22 billion (Intrakoop), which is roughly 25%.
As previously mentioned, the US health care total purchasing spend is between $425 billion dollars and $735 billion dollars (National Center for Health Statistics, 2016).

4.1 United States of America

According to the HSCA, Healthcare Supply Chain Association (1999), there is an average observed value of

72% of all hospitals purchases that are done using a GPO contract.

The total health expenditure in 1999 in the USA was $1.2 trillion (Cowan, C. A. et al. 2001). According to Muse & Associates (2000) the total annual hospital and nursing non-labour expenditures were $206 billion, which means that the estimated purchasing spend is roughly 20% in 1999.
A report of IBISWorld report examined the GPO market. It's said that nearly 90% of all buying power and revenue for the market are concentrated within the six largest GPO's.
According to Gooch (2017) the 4 largest GPOs total $189 billion annual spend. Assuming the $189 billion to be around 90% (This is likely the case, since two of the largest GPOs fused). The total purchasing spend utilized through GPO contracts is $212 billion.

Concluding, the total market for health care purchasing (the total purchasing spend) is estimated between $425 billion dollars and $735 billion dollars. Of this $425- $735 billion, $212 billion is accounted for by GPOs. This concludes that the market share of GPOs within the total purchasing spend market is between ~28%-48%
In figure 1. the total US health care spend and the distribution among GPOs is showcased (the $735 billion purchasing spend is portrayed in figure 1. It should be taken into consideration that the total purchasing spend is between $425 and $735 billion dollars.

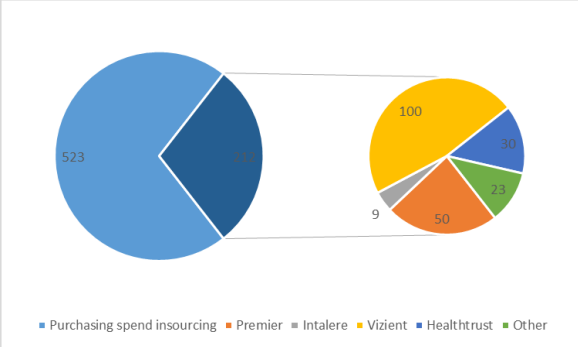

Figure 1. Total US Health Care spend and distribution among GPOs (in billions $)

4.2 The Netherlands

Since the GPO market in the Netherlands is not as developed as the US market, the criteria has to be slightly adjusted. There are more purchasing co-operations (for example, between surgeons and health insurances companies) than GPOs. Comparing the US GPO model with Dutch purchasing co-operations, there is only one GPO, Intrakoop, which should be taken into consideration. The total Dutch health care expenditure as of 2016 is € 96.146 billion (CBS, 2016), considering the same percentage used in *Section 4.1* the total Health Care spend would be €22 billion (Figure 2.)

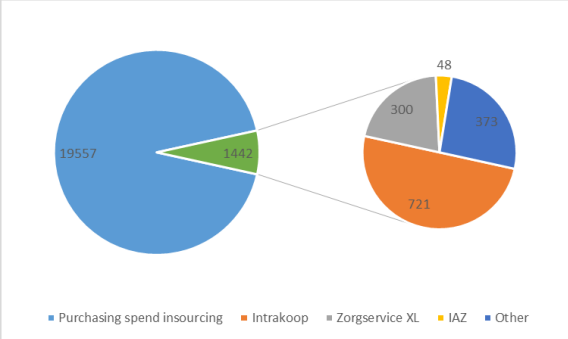

Figure 2. Total Dutch purchasing spend and distribution purchasing cooperations (in millions €)

Figure 2. should be shortly explained. The numbers from Intrakoop and Zorgservice XL are self-reported. The number from IAZ is based from a recent report on their site claiming to that the cost savings of €21 million were achieved over a period of 3.5 year. It's safe to assume that, on average, a purchasing cooperation achieves 10-15% of cost savings (Dobson et al., 2014). Therefore, assuming that the €6 million of annual savings is 12.5%, the total utilized purchasing spend is €48 million. Considering that the total utilized purchasing spend of all purchasing co-operations combined won't be higher than the utilized purchasing spend of Intrakoop.
Therefore, it's assumed that the other 40 purchasing co-operations are purchasing for a maximum of €323 million.

Concluding, Dutch GPOs and other purchasing organizations purchase for a maximum of 6,8% of the total health care purchasing spend.

4.3 Explanation of differences

The most important finding regarding the insourcing/outsourcing decision is that 28.8%-48.8% of the US health care spend is done through GPOs but only 6.8% of the Dutch health care spend.
Some factors should be taken into account when looking at this result.
Firstly, the US health care expenditure per capita is significantly higher than the Dutch health care expenditure per capita. (Health Forum, 2017; Zorg voor Data, 2014; National Center for Health Statistics, 2016). It can be argued that the Dutch health care is more optimized, resulting in a lowed demand for purchasing co-operation.
Secondly, the US GPO market is more matured than the Dutch market. US health care organizations are used to utilize GPOs and are more likely to sustain that relationship.

Various variables can be taken into account when comparing countries, such as e.g. the total population, total surface of the country, and health of the inhabitants. However, when comparing the health care systems, the two countries do not differ significantly. For example, there is almost no significant difference found in total hospital beds (as a percentage of the total population). Since the total hospital beds are based around the demand for health, it can be argued that the demand for health care does not differ between the two countries. Therefore, it's more likely

that the US has an overall more expensive health care system than the Netherlands. (Health Forum, 2017; Zorg voor Data, 2014).

Concluding, the differences found between the two countries can be considered to be significant. kOverall, US health care organizations outsource more to GPOs than Dutch health care organizations. A summary of the findings is provided in *Figure 3*.

	USA	Netherlands	Multiplication
Health care expenditure	$3.2 trillion	€96 billion	X33
Health care purchasing spend	$425-$735 billion	€22 billion	X20-33
% GPO market penetration	28,8%-48,8%	6,8%	X4-7
Largest GPO	~ $100 billion	~ €721 million	x140

Figure 3. A summary of the findings

5. Market analysis of GPOs

In this chapter the market of GPOs will be analysed. In *Chapter 4* it became clear that there is a significant difference between the market in the US and the Dutch market.
A commonly used tool for market analysis is Porter's model of the five forces governing competition in an industry (Figure 4.) (Porter, 1979).

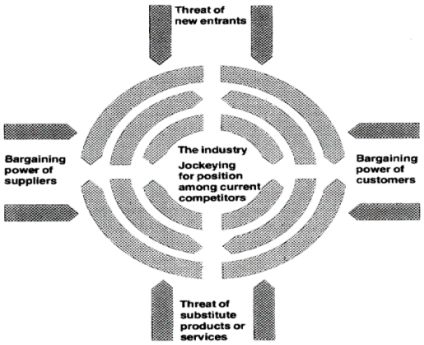

Figure 4. Forces governing competition in an industry (Porter, 1979)

5.1 United States of America & the Netherlands

The threat of new entrants and the threat of substitutes is not different for the US or the Netherlands. Therefore, *Sections 5.1.1.* and *5.1.2.* will be general sections.

5.1.1 Threat of new entrants

There are six major sources of barriers to entry: Economies of scale, Product differentiation, Capital requirements, Cost disadvantages independent of size, Access to Distribution channels, and Government policy.

Economies of scale: The economies of scale work different in the GPO market. Since GPOs don't produce their own goods the economies of scale seem to be less important. However, organizations joining a new GPO require an incentive to join. As mentioned in *Section 3.1* the utilisation of economies of scale is one of the three main reasons to purchase cooperatively (Schotanus, 2005). A new entrant that is not capable of offering the utilisation of economies of scale might not be a threat to the market.
Product differentiation: Customer loyalty of GPO might be one of the most important indicators of success. The commitment of the GPO and the customer is one the determents of the successfulness of the co-operation (Schotanus, 2009).
Therefore, new entrants must differentiate from existing competitors. If joining the new entrant does not give any extra benefits, there is no apparent reason to leave their current GPO.
Capital requirements: Essentially, there is no capital requirement. Therefore, the entrance might be more attractive to enter than other markets where capital requirements are higher.
Cost disadvantages independent of size: One important aspect of the cost advantages independent of size is the learning curve. The products that are purchased through GPOs requires knowledge in that field. For example, purchasing cleaning materials or an MRI-scan requires different knowledge and GPOs need to have knowledge in all fields.
Government policy: There is no government policy in the US or the Netherlands disallowing organizations to join the market.

The cost disadvantages dependent of size should be regarded as one of the most important indicators. The goal of a GPO is to negotiate contracts with suppliers that should result in the lowest possible price for its buyers. Suppliers will most likely prefer a larger GPO over a new entrant, because larger GPOs are capable of offering better economies of scale.

5.1.2 Threat of substitute products or services

The threat of substitute products or services is always present, but unlikely.
Especially new technologies should be considered, therefore GPOs in the market should aim to constantly improve and innovate. However, a substitution for GPOs itself seems unlikely.

5.2. United States of America

5.2.1 Bargaining power of suppliers & buyers

Depending on the specific product, the bargaining power of suppliers can be high. The health care sector has to deal with many markets of suppliers e.g. pharmaceutical, pace-makers, food.
These markets tend to be dominated by a few companies, which can result in a high bargaining power of suppliers.

The position of a GPO between suppliers and buyers might be difficult to maintain. Lee and Choi (2009) examined this relationship (Figure 5.). The Post-Outsourcing situation is the most difficult situation for a GPO.

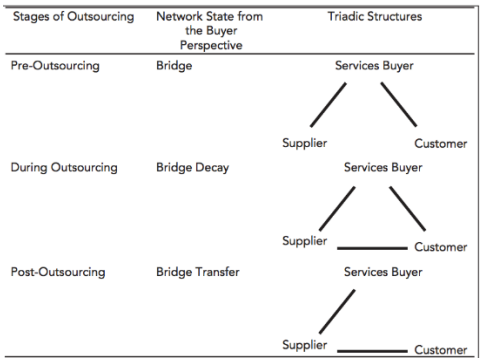

Figure 5. Shifting Relationship Structures (Lee and Choi, 2009)

The bargaining power of the supplier is likely higher than the bargaining power of buyers, considering that the buyer-side of GPOs is mainly represented by hospitals. These hospitals in the US are quite small (average of 161 beds), which gives the GPO a more dominant position. (Health Forum, 2017). Then again, this same dominant position can be achieved on the supplier-side of the triad. As previously mentioned in *Section 3.1* the three main benefits of joining a GPO can be categorized in: price, process and knowledge. Larger GPOs are capable of exposing suppliers to more potential customers, which can make up for the fact that the supplier has to offer a lower price than usual. Besides this, GPOs possess knowledge regarding optimizing supply chains and are experts on the field of purchasing, something which suppliers can also benefit from. It's likely that if the relative size difference decrease, so do the achieved benefits.

5.2.2 Jockeying among current competitors

The most prominent competitors in the market are the four largest GPOs, currently totaling at 90% of the market.
The Herfindahl-Hirschman Index or HHI is a measure of market concentration.
The HHI is calculated by taking the market share of all firms, squaring them and summing the result.
The calculated market is $212 billion. Vizient has a market share of 47.5%, Premier has 24%, Healthtrust has 14%, Intalere 4.5% and others 10%. Assuming that the other 600 GPOs have an equal market share the HH index would be: 47.5^2+24^2+14^2+4.5^2+0.01667^2…. = ~3050.
A market with less than 1500 is considered as a competitive marketplace, between 1500 to 2500 moderately concentrated marketplace and more than 2500 to be a highly concentrated marketplace.
With an HH index of 3050 it's considered to be a highly concentrated marketplace.

5.3 The Netherlands

5.3.1 Bargaining power of suppliers & buyers

The bargaining power, and the relative size difference, of suppliers & buyers is more present in the Dutch market than the US market. However, the HC organizations are significantly larger in the Netherlands, in comparison with the GPOs.

As mentioned in *Section 5.2.1* hospitals are quite small in the US, in comparison with the GPOs.
In the Netherlands GPOs tend to be smaller, while hospitals are larger (average of 465 beds per hospital) (Zorg voor Data, 2016). It's likely that hospitals have a more dominant position than GPOs, in comparison with the US.
This same comparison can be made for the supplier-side of the triad, where the relative size difference plays a role as well. *As mentioned in Section 5.2.1* it's likely that if the relative size difference decreases, which is the case for the Dutch market, the achieved benefits for joining a GPO also decreases. Larger HC organizations are capable of offering better achieved benefits than smaller HC organizations, if these benefits are close or equal to the benefits of joining a GPO, there is no incentive for utilizing a GPO.

5.3.2 Jockeying among current competitors

The same HH index used for the US market shall be used for the Dutch market.
The total market was established by the available information and conversations with experts on this subject. Considering a total market of €1.442 billion and the three largest GPOs or purchasing co-operations with respective market shares of 50%, 20% and 3%. It's estimated that the other GPOs or purchasing co-operations total at €373 million. The €373 million is divided over roughly 40 entities, averaging around € 9.3 million per entity.
Therefore, it's assumed that the average market penetration of "others" is 0.6%.
The HH-Index would be: 50^2+20^2+3^2+(0.6^2)x40= 2923.4.
It can be concluded that the Dutch GPO market is a highly concentrated marketplace.

5.4 Explanation of differences.

The HH index does not give any significant outcome to suggest that there is different market concentration. Both markets seem to be highly concentrated.
The significant difference is mainly found in the relative size differences between companies in the market.
The average Dutch hospital is almost three times larger than the average US hospital, while the largest US GPO is 140 times larger than the largest Dutch GPO.
Especially when discussing the economies of scale this becomes important. The most important reason for HC organizations to join a GPO is to achieve cost savings. This is mainly achieved by economies of scale. The benefits for a US hospital to join a GPO are larger when comparing it to Dutch hospitals and GPOs.
However, the same conclusion can be made regarding suppliers. The benefits for joining a GPO are lower, while the benefits for directly contracting hospitals are higher.

Besides this, as previously mentioned, Intrakoop is the only GPO in the Dutch market. Having no alternative and lower perceived increase of benefits might result in an overall lower incentive for utilizing the contracts provided by Intrakoop.

6. THE OPERATING MODE OF GPOs

Besides the insourcing/outsourcing decision and the market of GPOs, the difference in the operating mode might give some significant differences between US and the Netherlands GPOs.
Firstly, the Contract Administration Fees will be discussed. In *Section 3.2* these were already shortly discussed, but in *Section 6.1* the differences between the two countries will be discussed.
Secondly, the ownership structure of HC organizations and GPOs will be discussed. The ownership structure of HC organization and GPOs might give some insight in the "why" of the insourcing/outsourcing decision discussed in *Chapter 4*.
Lastly, the activities of GPOs will be discussed. The activities of a GPO and the involvement with their suppliers and buyers is important to understand the triadic relationship between a GPO, buyer and supplier, mentioned in *Section 5.2.1*.

6.1 Contract administration fees

CAFs are one of the most important source of income of a GPO. The other source of main income, generally less than the CAFs, are the membership contributions.
CAFs are paid by suppliers when the contract is used by a HC organization. So, for every contract or product sold, the suppliers pays the GPO a small percentage. This is thereafter used to maintain the services of a GPO. The excessive funds are distributed to the members.

6.1.1 United States of America & the Netherlands

Because of the mechanism being the same between US and Dutch GPOs, the CAFs shall be discussed for both countries.
The only GPO with public information regarding its CAFs is Intrakoop. It's unknown if the other organizations utilise CAFs.
Intrakoop utilizes a flat fee of 0.75% for all suppliers.
It's legally not allowed for US GPOS to exceed the limit of 3%.
The main controversy around CAFs, and GPOs in general, is the question if the CAFs do not result in an overall higher price. Since the supplier has to pay 3% (US), the prices will increase. Therefore, some buyers and suppliers suggest that it's better to eliminate the GPO to save the 3% on the contract.
However, according to Hu & Schwarz (2011) eliminating CAFs would have no effect on any party's profit or costs. The CAFs would then inherently be transferred to the HC organizations. While eliminating the GPO as a contract subsidiary also results in eliminating the benefits of GPOs, such as the economies of scale that are achieved.
Considering the differences in CAFs, it can be argued that decreasing the CAFs won't result in a higher market penetration.

6.1.2 Conclusion

The most important negative result of high CAFs is a decrease in the willingness of buyers and suppliers to sell and buy through GPO contracts. If CAFs result in a lower willingness of buyers and suppliers to co-operate, this will then lead to a contract directly between the supplier and buyer. Therefore, negating the positive effects of GPOs that is achieved by group purchasing.
As previously mentioned, the market of GPOs in the US is more mature than the market in the Netherlands. This might explain why manufacturers are not used to the concept of CAFs. Considering, there would be no effect on any party's profit or costs if CAFs are eliminated and another financing system is utilized. It might be worth considering utilizing another financing system within Dutch GPOs that is more relatable to the market.

6.2 Ownership structures of HC organizations

The ownership structure, as previously mentioned, can give insight into the "why" of the insourcing/outsourcing decision.

6.2.1 United States of America

Hospitals in the US are categorized in three different categories: Government hospitals, for-profit hospitals and non-profit hospitals. By far, the most amount of hospitals in the US are non-profit (62%). Non-profit hospitals are often funded by fundraisers, charities etc. For-profit hospitals, on the other hand, have shareholders.
In the US, hospitals tend to have an organizational structure similar to a regular company. By having a clear management hierarchy, decisions made on several levels are reinforced by all levels of management.

Hospitals, especially in the US, are focused on decreasing costs. If GPOs enable cost savings, hospitals are more likely to use GPO contracts. However, if this conflicts with personal interests of managers, this might not occur. However, with US hospitals utilizing a company-like organizational structure this is not likely.

6.2.2 The Netherlands

The ownership structure of Dutch hospitals is different in comparison with US hospitals. The organisation of a hospital is often build in four different clusters, namely: clinical care, examination and treatment, facility management, and management affairs. Each of these clusters have their own directors. However, almost all medical specialists are organized in a partnership. These medical specialists are self-employed and utilize the hospital as work field.
There is no significant difference between the ownership structures of GPOs, both tend to be member-owned.

6.2.3 Conclusion

It's difficult to estimate the actual impact of organizational structure on the co-operation with GPOs. However, it's safe to assume that the co-operation with a GPO will be decided within upper-management level. However, the utilization of contracts will not be determined on upper-management level. Therefore, it's important to have a clear understanding and co-operation of all management levels.
It seems counterproductive for entities that are not owned by the hospital (medical specialist partnership) having their own procurement division. Hospitals that are willing to co-

operate with GPOs have to convince those entities to co-operate. (Bijlsma, 2015)

6.3 Activities

As discussed in *Section 5.2.1* the Post-Outsourcing situation is difficult for a GPO to manage. According to Lee and Choi (2009) a GPO has a risk to lose the connection with the buyer. Besides the relationship between GPO and the buyer, the relationship between GPO and supplier should be closely managed. Activities such as supply chain optimization, quality assurance and supplying innovative technology can help a GPO to manage this relationship, while both supplier and buyer benefit.

6.3.1 United States of America

The purpose of the largest US GPO, Vizient, is to "ensure our members deliver exceptional, cost-effective care.". They aim to achieve this by offering four improvement platforms for members:
- Optimizing supply operations
- Improve care delivery
- Maximize pharmacy performance
- Evolve strategies to grow and compete

All four enable HC organizations to make use of specialized teams that were put together by Vizient. These platforms often enable the HC organizations to contact experts regarding that topic and GPOs are willing to help them solve their problems.

The main benefit for suppliers is increasing the exposure they have, especially regarding new buyers. To become a supplier, Vizient uses a bidding system. This bidding systems chooses the best supplier for a specific product. It's possible for vendors that do not agree with the decision made by Vizient to appeal a review of the whole process.

6.3.2 The Netherlands

There is a clear distinction to be found between Intrakoop and Vizient.
While Intrakoop seems to offer the same benefits as Vizient for its members, the benefits for suppliers are not mentioned.
As previously mentioned in *5.1.2.* GPOs operate in a certain triad (Figure. 4). According to Lee and Choi (2009) the Post-Outsourcing stage is the most critical for GPOs, since in this situation the GPO loses the connection with the buyer. It's argued that it's necessary to maintain a collaborative relationship with the supplier. Besides bringing the supplier and consumer together, the GPO has to maintain this triadic relationship between supplier, consumer and GPO (Lee and Choi, 2009)

6.3.3 Conclusion

The activities of US GPOs are focussed on achieving benefits for both the supplier and buyer.
Dutch GPOs tend to focus on achieving benefits for the buyer. This might be a result of the ownership structure. An organization that is owned by its members, the buyers, will be more willing to achieve benefits for the owners than the suppliers. However, there is no significant difference between the ownership structures of the GPOs in the Netherlands in comparison with US.
GPOs aiming for the best contract for its members should aim to achieve benefits for both the members and the suppliers.
Especially regarding the possibility of opportunistic behaviour by the supplier (mitigating the GPOs contract and forming their own contract between buyer and supplier) a collaborative relationship is suggested (Lee and Choi, 2009).
Lee and Choi (2009) suggest that a non-collaborative relationship will eventually result in opportunistic behaviour.

	GPO	**Ownership structure**
USA	Vizient	Member-owned
	Premier	Member-owned
	Intalere	Indirectly owned by HC organizations
	Healthtrust	Indirectly owned by HC organizations
Netherlands	Intrakoop	Member-owned
	Zorgservice XL	Member-owned
	IAZ	Unknown

Figure 6. The ownership structure of US and Dutch GPOs

Regarding CAFs, it would be logical to suggest that lower CAFs result in a higher contract utilization. However, the flat flee of 0.75% used by Intrakoop is lower than all significantly larger GPOs in the US. This does not conclude that if Intrakoop utilizes higher CAFs, that this will result in a larger market share. However, it can be argued that lower CAFs do not directly lead to a larger market share.

7. CONCLUSION

The aim of this thesis was to answer the following question:

Why is there a significant difference between the market shares of US GPOs in comparison with Dutch GPOs in the healthcare sector?

This question was answered by answering the following three questions:

a) Is there a difference between US and Dutch HC organisations with respect to the "outsourcing or insourcing" decision?
b) Is there a difference in market division?
c) Is there a difference between the operating mode of Dutch and US GPOs?

The first finding regarding the question "is there a difference between US and Dutch HC organisations with respect to the 'outsourcing or insourcing' decision?" is that there is a significant difference. US health care

organizations choose to utilize the use of GPOs more often than Dutch organizations. In the US, GPOs account for around 28.8-48.8%% of all the total purchasing spend. But only around 6.8%% of the total purchasing spend in the Netherlands is accounted for by GPOs.
Therefore, it's safe to assume that there is a significant difference between US health care organizations and Dutch health care organizations regarding the "insourcing and outsourcing" decision.

The second finding, regarding the market of GPOs in both countries, did not give any significant outcomes to explain any of the differences found.
The main finding was the significant difference in market size within the market.
Dutch hospitals on average have 465 beds, while US hospitals have on average 161 beds. (Zorg voor Data, 2016; Health Forum, 2017).
Besides this, the largest GPO is around 140 times smaller than the largest US GPO. A combination of both factors could explain the difference in the insourcing/outsourcing decision. It would be interesting to research the relationship between the sizes of HC organizations/GPOs in relation with the contract utilization of those HC organizations.
Concluding, the Porter-analysis or HHI do not indicate that there is any reason to assume that there are definite factors that can explain the difference.

The third question, regarding the operating mode of GPOs. There seems to be a higher average percentage of Contract Administration Fee (CAF) in US GPOs when comparing to Dutch GPOs. However, it seems implausible that higher CAFs would result an increase in market share, while considering that replacing the CAFs with a membership fee does not show any increase in profit or cost saving (Hu & Schwarz, 2011).

However, considering that CAFs are a rarely used system in the Dutch market overall, it's worth researching if utilizing CAFs in a country, where there are no other markets utilizing CAFs, in comparison with a country where CAF is a commonly used monetizing system.

Besides this, Dutch GPOs should be capable of creating and maintaining the relationship with supplier, which is observed in the US GPOs. Especially regarding the post-outsourcing stage that is mentioned by Lee and Choi (2009) where the "service buyer" and "customer" lose the connection. However, even though that the operating mode between GPO and customer does not seem to differ significantly, the operating mode between GPO and supplier does seem to differ between countries. The fifth proposition by Lee and Choi (2009) is: "*Once the bridge transfer is complete, a collaborative relationship between the buyer and its supplier would mitigate the potential opportunistic behaviour by the supplier, while an adversarial relationship would increase it."* This seems to be true regarding the subject of this thesis.

By answering the three subquestions, the main research question can be answered: *Why is there a significant difference between the market shares of US GPOs in comparison with Dutch GPOs in the healthcare sector?*

The significant difference between the market shares of US GPOs in comparison with Dutch GPOs in the health care sector can be explained by several factors, which are previously mentioned.
The aim of this research was to make a comparative analysis. This comparative analysis gave several insights as to why the Dutch GPOs have a significant lower market share than US GPOs which are previously explained, this is the main contribution to the current literature.
While there is no single factor that solely contributes to this difference, there are several factors that Dutch GPOs should take into consideration.
Overall, there seems to be a lower demand of GPOs in the Dutch health care sector. Based on the findings, this is mainly due to the small difference in size and the decrease of benefits and the lack of GPO competition in the market. Besides that, a collaborative relationship with the supplier is necessary to avoid opportunistic behaviour of the nuyer.

8. DISCUSSION

Besides the relative size difference observed, this thesis did not find many other significant differences.
This relative size difference has been observed, however the actual effects of this are uncertain. The actual effects should be researched.
The purchasing spend through a GPO contract (HC organizations) and sales through a GPO contract (supplier) should be taken as a percentage of the total purchasing spend (HC organizations) and total sales volume (suppliers), this should be plotted against the size (total purchasing spend/total sales). The hypothesis for this plot is that will be a significant negative relationship between these two factors. Resulting in lower contract utilization if the size of an organization increases.
If this hypothesis is true, this will introduce new problems for Dutch GPOs, such as Intrakoop. In 2015 a new record was set for mergers in the HC sector, this record was beat in 2016. [1]
If this trend continues, HC organizations will decrease in numbers and increase in size. Which, if the hypothesis is true, will result in a decrease of the market penetration of Dutch GPOs.

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[1] Nieuw Recordaantal Fusies En Overnames in Zorg.", mena.nl/artikel/nieuw-recordaantal-fusies-en-overnames-in-zorg.

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