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Establishment of Technical Life Science Consulting Services in a Local Government Market

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Abstract

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This master thesis evaluates the possibility for Semcon AB to establish a business within the public sector of Uppsala. The need and prerequisites for technical life science consultant services has been investigated by interviewing experts in their field. The study is explanatory and contributes with an understanding of the current situation and the outlook for consultants in in the public sector, with Region Uppsala as the targeted customer.

The results show that the need for consultants lies within IT, logistics, medtech, and construction. A consultant should preferably have a combination of these competences. Another possibility is to aid the public sector with the difficulties in specifying the requirements of a procurement. There are different ways of establishing a business with Region Uppsala. Either by a framework agreement, as a subcontractor, or by innovation procurement.

One aspect of successful collaboration between a consultant company and the public sector is the attitudes toward consultants. The result indicates generally positive attitudes. Despite this a concern of knowledge disappearing when the assignment is finished exists. Therefore, transparency as well as constant feedback and evaluation is highly important.

Förord

Det här examensarbetet är skrivet av tre studenter från Civilingenjörsprogrammet i molekylär bioteknik via Entreprenörskolan. Arbetet är gjort i samarbete med företaget Semcon AB i Uppsala och uppkom inom ramarna för Entreprenörskolan på Uppsala universitet. Alla författare har deltagit till lika stor del i projektet. Samtliga delar har skrivits tillsammans men Matilda Gärdemalm Niemi har haft särskilt ansvar för delarna som berör företaget Semcon, sensemaking och servicekvalitet, Sara Rydberg Öhrling för delarna som berör offentlig upphandling, de etiska aspekterna samt validiteten och Emma Stam det som berör förklaringarna av de vetenskapliga tillvägagångssätten samt upplägget på intervjuerna och rapporten.

Sammanfattning

Den här studien är gjord i samarbete med företaget Semcon AB och går ut på att undersöka om Semcon kan erbjuda sina konsulttjänster till Region Uppsala. Semcon har ett affärskoncept som fungerat bra inom privat sektor. De har uppmärksammat likheter mellan de arbeten offentlig sektor utför och vill därför undersöka om deras vinnande affärskoncept kan föras vidare till den sektorn för att kunna utveckla och effektivisera vården. Det är av största vikt för Semcon att veta om sina styrkor och svagheter för att kunna profilera sig på ett sätt som möter de krav och jobbmöjligheter som Region Uppsala har. Samtidigt blir de slagkraftiga och står ut bland sina konkurrenter.

Studien baseras till största del på intervjuer. Personer som intervjuats är chefer och projektledare från olika avdelningar på Akademiska Sjukhuset och från Region Uppsala. Studien har även innefattat intervjuer med upphandlare, samarbetsorganisationer, en myndighet, och ett regionråd. Intervjuerna gjordes semistrukturerade där de intervjuade fick prata fritt utifrån frågor rörande deras konsultbehov, attityder kring konsulter och upphandling.

Studien är förklarande och ämnar ge en bild av hur dagsläget och framtiden ser ut för konsulter i Region Uppsala. Resultatet från studien visar att det främsta behovet av konsulter ligger kring IT. I övrigt behövs konsulter oftast av resursskäl i till exempel stora nybyggnadsprojekt. Det finns skillnader i vilken typ av konsulter som Region Stockholm och Region Uppsala har upphandlat för samma typer av arbeten, vilket är ett av skälen till att antalet konsulter inom life science i regionerna skiljer sig åt.

Samtliga respondenter föredrar att anställa konsulter via ramavtal och har inga problem med att det används underkonsulter till de företagen de har ramavtalet med. Respondenterna menar snarare på att vara underkonsult är det lättaste sättet att komma in som nytt företag i offentlig sektor. Attityderna till konsulter är generellt positiva men de uttrycker oro att kunskap försvinner när uppdraget är klart, att konsulterna inte har erfarenhet av liknande organisationer och att det är svårt att specificera kraven på konsulterna. Något som de tror skulle underlätta denna oro är kontinuerliga avstämningar, ett fyrkantigt tänk från konsulterna samt utbildningar och utvärderingar som en del av överlämningen.

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Glossary and Abbreviations

English	Swedish	Explanation
Direct Award	**Direktupphandling**	Small purchases without need for open competition
Procurement	**Upphandling**	Larger purchases where suppliers compete for the award
Framework Agreement	**Ramavtal**	General agreement that forms the basis for future agreements
Notice	**Annons**	An advertisement for what the public sector wants to buy
Tender	**Anbud**	The offer sent from the supplier on a notice
Call-off	**Avrop**	A purchase based on the framework agreement
Renewed Competition	**Förnyad konkurrensutsättning**	The companies having the framework agreement compete for the call-off agreement
Review Procedure	**Överprövning**	An appeal made when you suspect unlawful procurement
Subcontractor	**Underleverantör**	A company that supplies another company with consultants
The Public Procurement Act	**Lagen om offentlig upphandling (LOU)**	The law that regulates all public procurements in Sweden

1 Introduction

Life science is defined by Uppsala BIO (2019b) as work within the following three sectors: pharmaceuticals, biotechnology, and medical device, which is a common definition in the industry. Sweden has for a long time held a leading position in life science research. The life science industry is important for Sweden, employing 42 000 people. In 2017 the value of life science related exports reached SEK 95 billion, equivalent to 7% of the total exports of Sweden according to The Research Based Pharmaceutical Industry (LIF), Sweden BIO, and Swedish Medtech (LIF *et al.* 2018). During 2018 Region Uppsala alone procured medical devices and services for SEK 500 million (Anders Kembler 2019). However, according to the 2018 action plan for life science the number of clinical studies has dropped in recent years (LIF *et al.* 2018) and Sweden has lost production and export shares compared to other countries (Wadell 2018). Uppsala BIO (2019a) claims that to maintain the exports of today Sweden need to keep their leading position in the field, where Uppsala is considered a cornerstone. Uppsala has a long tradition of being a life science city and there are over 100 life science companies in the city working with pharmaceuticals, biotechnology, medical technology, and diagnostics (Uppsala BIO 2019b). Furthermore, Uppsala University gives Uppsala a strong position in the research area of the life science industry. According to Uppsala BIO (2019a) there is a vision to make Uppsala a key part of a world leading life science region. This by becoming a new business district for innovation and growth by further development of Uppsala Business Park, where the life science industry is prosperous.

The 2018 action plan for life science by LIF *et al.* (2018) states that in order to develop new healthcare innovations the public sector have to communicate their needs to the private companies and universities. It also states that it is important to make the research infrastructure available to others than the academies, and that the government must develop a national strategy for company financed clinical studies (LIF *et al.* 2018). Furthermore, the Ministry of Enterprise and Innovation (Näringsdepartementet 2012) states that a collaboration between the public sector together with private companies is needed in order to deliver innovative social services.

This project was initiated by a technical consultancy company Semcon AB, hereafter called Semcon, and more specifically by their Uppsala office. They are interested to see if their consultancy services and competences could be utilised in the local public sector of Uppsala, and if so, what services and departments are of interest. Not only does the process of public procurement complicate the process compared to business to business relationships, there are also a number of other problems that can occur if a consultancy company approaches this

market. Therefore, it is of great importance to research what obstacles there are to overcome and how to act in order to get a procurement deal with Region Uppsala, the local public office responsible for healthcare.

First, there are very few public procurements out for notice in Uppsala county that relates to technical consultancy services. This can be compared to Stockholm where there are several technical consultancy services out each year, which can be observed in the digital public procurement databases where all public procurements are announced. This will influence the project since there is not a plenitude of suitable procurements for Semcon to submit tenders on. Also, the existing procurements seem to be specified for larger companies or companies within other fields of expertise. The question arises whether there is no need of technical consultants in Uppsala or if the need is not realised by the public sector.

Furthermore, there seem to be some predetermined opinions about consultants being active in the public sector. Many people have prejudices against consultants, that 'they only want to make money' and that they are trying to sell you more than you need. Recently there have been several articles criticising how consultants have been hired to build Nya Karolinska in Stockholm. Dagens Nyheter stated that 80% of the invoices lacked contractual basis (Gustafsson & Röstlund 2018) and Svenska Dagbladet reviewed the situation at Nya Karolinska and found that there have been unlawful direct awards for a value of SEK 92 million (Mellgren 2018). This seem to reflect badly on consultants and official authorities hiring them, despite there being different kinds of consultants. Management, engineering, or different forms of labour hiring like nursing staff are all called consultants creating some confusion regarding the term consultant.

To define the underlying problems, understand how this situation has been approached before, and to get a fuller understanding of Semcon and consultancy services the authors dedicated the beginning of the project to a background study. The information gathered is used as inspiration and a guideline to find success factors in business development towards the public sector and to analyse whether Semcon can provide the public sector with their consultancy services. Investigating how to overcome problems connected to this business development will be of help to sort out what a company like Semcon can do to increase their chances within the public sector and contribute to the public healthcare. The study mainly builds on interviews with different people who has insights in the public sector in Uppsala county and Region Uppsala. Collaborations between private and public companies may be crucial for Uppsala, and Sweden, to keep up with the changes within the life science industry and securing a place in the lead.

This study aims to explain the local conditions in Uppsala for technical consultancy services to improve Semcon's chances for collaboration through a business development.

1.1 Purpose

The purpose with this project is:

Evaluate the need and prerequisites for technical life science consulting services among actors within Region Uppsala and give recommendations to Semcon on how to establish a business with Region Uppsala.

1.1.1 Research Questions

To be able to fulfil the purpose and aim the study, research questions need to be formulated. A preliminary collection of information concluded that there were few relevant procurements in Uppsala for life science consultancy services. To ensure the relevance of this study it is crucial to understand the need of technical consultancy services in Region Uppsala. Furthermore, Region Uppsala is not like Semcons' usual customers. It is therefore important to understand what characterises Region Uppsala as an organisation. The complex relationship between actors within Region Uppsala and private actors affects how business can be established. Thus, investigating the success factors and obstacles that exists when trying to enter the public sector is relevant. Consequently, the following research questions were formulated:

❏ What types of technical consultancy services are needed in Region Uppsala and what characterises that organisation?

❏ What obstacles and success factors are there for establishing a business between a technical life science consultancy company and a customer who is a part of Region Uppsala?

1.2 Delimitations

The delimitations of this project are a combination of the requirements from Semcon as well as limitations of time and resources. Semcon is a company that provides technical consultants within life science, therefore there are several areas of the public sector that are irrelevant to this study, such as education or economics. Furthermore, the life science that Semcon Uppsala work with is not within food or agriculture, instead their focus areas are pharmaceuticals, medtech, and biotechnology. Because of time limits and availability this project has focused on Region Uppsala as a targeted customer. The time and resource limitations also exclude the

possibility to do a full benchmarking study of other Swedish counties or other countries. It could have been contributing to a better understanding of how this business development can be performed, but the study includes a minor comparison to Region Stockholm.

2 Semcon Uppsala: Technical Consultants on a Local Market

Semcon is a product development company founded in Västerås, Sweden, 1980 by Arvid Hansen. The name Semcon is an abbreviation of Scandinavian Engineering and Marketing Consultants (Semcon 2019a). Today Semcon have a workforce of approximately 2100 employees within offices in nine different countries in over 40 locations. The headquarter is located in Göteborg, Sweden, and the CEO is Markus Granlund. Since 1997 Semcon is listed on the NASDAQ Stockholm stock exchange (Semcon 2019b). Semcon is specialised in the automotive, energy, telecommunication, and life science industries (Semcon 2019c). According to Semcon's website their philosophy is to develop products based on human behaviour:

> *We believe that a positive user experience is the true measure of quality. That you have to understand the user's needs in order to develop the best products with the clearest benefits. The different backgrounds, experiences and expertise in our teams make it possible to combine technology, usability and design in new ways – from creative concepts to production systems and digital information solutions. As an international partner we contribute our insight across different industries and countries, providing our customers and their users with unique solutions and experiences.*

(Semcon 2019d)

Semcon's main area of expertise in Uppsala is in the life science industry, where they have contracts with many of the leading companies in the region. The office opened in 2007 after recognising the need of competence locally. In a short period of time they had established a good foundation in the region and developed long term collaborations. Henceforth, they started with a more regional focus and in 2015 they expanded their services to include solutions within the energy sector as well. Today, Semcon Uppsala has nearly 50 employees and offer consultants with competence requested by the client within life science and energy, with a focus on quality and project management. Semcon's greatest assets are their specialised knowledge in life science and the geographical proximity which is highly appreciated among Semcon's customers in Uppsala according to Natasa Liderfelt (2019)

2.1 The Competence of Semcon Uppsala

Semcon are specialised in innovation, process-, and product development. To get an overview of the specific competences of Semcon Uppsala a survey was sent out to the employees. It

concluded that Semcon obtains great expertise in the life science industry. The largest areas of competence being biotechnology, pharmaceutical, and medical devices. A large portion of the employees have experience of project management in either a junior or senior role. Semcon holds big experience of installation projects, for example implementation of new equipment, approximately 70% of the employees have experience from this and have worked with qualification of instruments. Furthermore, almost 75% of the employees have worked with change management. These competences would fit well in installation projects of medtech equipment at Akademiska Sjukhuset.

Semcon also holds a lot of experience in manufacturing, something that the public sector does not have since they do not produce any products. However, manufacturing experience can be beneficial in requirement specifications in a procurement, having knowledge about different machines and how to specify the requirements for various operations. In other words, employees of Semcon could be of help in this process, especially concerning the procurement of new products.

2.2 Finding New Business Opportunities at Semcon

Semcon, as many other companies, work according to their value principles. Having a collaboration with the public sector within healthcare is in line with these values. It will provide opportunities to make a difference and making the world a better place by these opportunities.

> *It is our conviction that we make the world a better place - a little bit every day. We create*
> *sustainable solutions that improve lives all over the world.*

(Semcon 2019e)

Another realised opportunity is the power of collaboration, having different experience from different industries can create unrealised solutions, which is why Semcon have recognised the possibility of collaboration with the public sector.

> *We believe in the power of collaboration. Teamwork built on trust and engagement is key*
> *to success. Because we are always stronger when working together.*

(Semcon 2019e)

2.2.1 Reason 1: A Strategic Business Development

This project was initiated by Semcon Uppsala since they have a business strategy proven to work with customers in the private sector. They want to take this business strategy, develop it, and establish themselves within a new customer segment, the public sector, according to the

area manager Natasa Liderfelt (2019). Semcon have identified that there are a lot of similarities between assignments in the public sector and their current customers. Semcon could help the public sector in improving different parts in the healthcare system. Another reason for this development is to become less dependent on existing customers. Expanding and getting the public sector as a customer would be a strategic development since it creates a long-term relationship.

2.2.2 Reason 2: Work with Solution-Based Projects

The second reason for Semcon to consider this business development is because it can change the way of working. Today many Semcon-employees work by hour, while having the public sector as a client might put demands on the employees to work more with whole solution-based projects instead. This is more in line with understanding the end user's need which is Semcon's philosophy. That is an important step in order to be in control of the end product, as opposed to working as a resource.

2.2.3 Reason 3: Being an Attractive Employer

The third reason for Semcon to consider this business development is because they see the potential of becoming a more attractive employer. It is a common belief by the employees of Semcon that the variation of job assignments is a big advantage compared to a regular employment. According to the survey as much as 88% are interested in having assignments in the public sector, see Figure 1. Examples of what assignments that are of interest are project management, quality assurance, implementations of new products, installations projects, and digitalisation. Therefore, being able to offer assignments within the public sector will increase the differentiation and potentially increase the satisfaction of the employees.
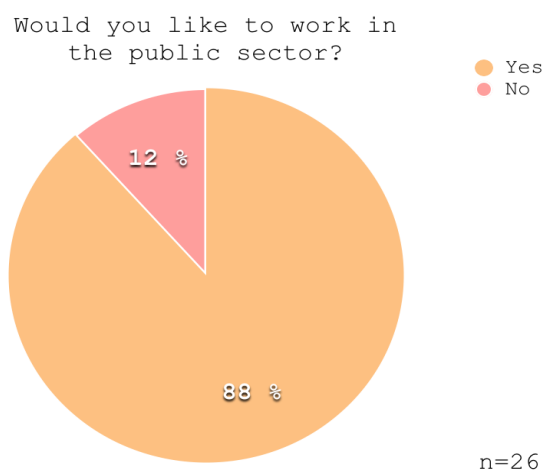
Figure 1: Results from a survey with Semcon Uppsala's employees working in the life science industry. A majority, 88%, of the employees are interested in working in the public sector.

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3 To Hire a Consultant: Different Approaches of the Customer and the Provider

To make a deal with the private sector is completely based on good relations and trust. To provide a poor service can have ripple effects leading to no future assignments. When hiring a consultant in the private sector there are several factors besides price to consider. Roodhooft & Van den Abbeele (2006) states four criteria that are important in the choice of a consultant:

1. The previous experience of the supplier

2. The image or reputation of the consultant

3. The buyer's interaction with the consultant

4. Recommendations by others

However, working in the public sector changes things and it is important for companies that want to start selling their services or products to public authorities to know the differences. Upphandlingsmyndigheten (2019c) states the two major differences. First, the public sector uses tax-money to finance their purchases and there are strict rules and regulations for the usage of that money. Secondly, the process from a contract notice to a won procurement is more complex and time consuming than a contract with a private company (see Appendix 1).

Public sector operators cannot choose directly which supplier they prefer to use for a project, they must procure the service. All companies have the opportunity to compete against each other for the contract. According to the public procurement act (LOU) a supplier is not allowed to be discriminated or specially treated depending on the size of the company, reputation, whether the company have been suppliers before, recommendations by others, or based on previous experiences or interactions (SFS 2016:1145). In other words, a decision cannot be based on all the points that Roodhooft & Van den Abbeele (2006) mention as crucial for decision within purchase of consultants within the private sector.st

According to Magnus Larsson (2019) making a deal that would take everything from a couple of months up to a year in the private sector might take several years in the public sector. In other words, there is a major difference in time and effort that goes into making a deal with the public sector. However, contracts with the public sector are often large and span for several years, meaning it can still be a good investment. At the same time, it is a great loss of time and

money spent if you do not get the contract. The decision as to who gets the framework agreement lies in the procurement department. Later in the process when there is a call off, the department in need will have a say in which consultants that are chosen. This is generally thought of as a good way of being more objective: to have an independent department in charge of the contract.

In the public sector relations and reputation must not affect the choice of consultant. However, the risk of exploitation is always present in such a system. According to Gustav Grangert (2019) there is a lot of tactical bidding amongst the consultancy companies in the purchasing process. Offering a consultant at a low price to get the award but then not being able to provide that consultant and instead offer a more expensive one for the project. This can create a distrust towards consultancy companies within the public sector. With no such tactical bidding process there is less a chance of distrust.

3.1 How Semcon Acquire New Customers

Today Semcon have many customers within the private sector on the local market which spans the region of Uppsala. A selection of their customers within the life science industry as of today are GE Healthcare Bio-Sciences AB, Galderma Nordic AB, Thermo Fisher Scientific Inc., Novavax AB, Recipharm AB, Fresenius Kabi AB, and Johnson & Johnson Vision (AMO Uppsala AB).

Area Manager Natasa Liderfelt (2019) explained the process when Semcon seeks to establish a contact with a new potential customer in the private sector. It starts with the head of sales from Semcon who sets up a sales plan. The sales plan work as a planning tool used to figure out how to approach that specific customer. Thereafter the head of sales has a meeting with several managers from the potential customer. If it concerns a larger company, considered more important, the process starts with conversations with the purchasing department of that company. If Semcon seem to be of interest, they provide Semcon with further details and contact information to other departments of that company. This is to give Semcon the possibility to fully understand how, and with what competence they can provide more value for that customer. The last step is for Semcon to make an offer with the cost for the unique solution they can provide to that customer, and if both parties are satisfied a contract is signed.

Doing business with operators in the public sector makes the customer concept more complex. The process is a direct opposite of how the private sector acts as a customer and chooses their suppliers. The public operations tell all companies exactly what they need and see who can

provide it at the best quality and to the lowest cost. During this process there may not be any interaction between the consultants and people in the purchasing department, all questions must be public for everyone to see. This creates the opportunity for open competition. Unfortunately, the public sector does not always know what their needs are, which is where problems can arise for example buying products that are not properly specified to their needs.

A private company can meet with a person working in the public sector to present themselves and suggest what they can offer. There is however no guarantee that they get the job, but it can initiate ideas. The public sector needs to follow the law of public procurement, meaning a competitor will have just as good chance of getting the contract.

3.2 Public Procurements of Consultants in Region Uppsala

Business with private companies mainly builds on previous relations. However, finding business opportunities in the public sector is different since the assignments are published for all to see. Visma Opic and Tend Sign are databases for handling and monitoring notices, tenders, and other documents connected to public procurements. Searches can be done by geographical region, search words, or categories. The procurements are categorised by an intricate nomenclature called CPV codes. To easily find procurement relevant to your company you must first identify which CPV codes that are relevant and subscribe to them. A selection of relevant CPV codes can be found in Appendix 2.

When researching the databases Visma Opic and Tend Sign it is obvious that there have been very few procurements in Uppsala county in the recent years that are categorised as technical consultancy services in life science. However, the most potential customer that could send out notices for relevant procurements in the future have been identified as Region Uppsala.

Working with Region Uppsala put demands on understanding what differentiates them as a customer. A Region is an autonomous organisation that is not like the regular customer that Semcon have. Region Uppsala work as an intermediator, where they themselves as an organisation do not have the need. Instead actors within Region Uppsala, like different divisions in Akademiska Sjukhuset, are the ones that may require consultants. Region Uppsala set the budget and procure the service, but they have no knowledge of the actual need. This deviates from a customer in the private sector who sits with both the need and the decision to hire without any mediator. In other words, there is more bureaucracy to handle. Doing business in the public sector put demands on you as a service provider since you must deal with both the Region and the end customer.

4 Business Development of Technical Consultancy Services: A Theoretical View

This section connects existing theories with our research questions. This to explain and understand why the study is done and how to plan a business development of technical consultancy services in order to enter the public sector on a local market. It will briefly describe different models, definitions, and viewpoints influencing this project. This will later be used when analysing and discussing the results.

4.1 Definition of a Technical Consultant

First of all, a technical consultant must be defined in order to fully understand what 'technical consultancy services' implies. According to Nationalencyklopedin, the profession consultant has a broad definition as "an expert hired to a special mission or as an advisor, for example within economics and technology" (Nationalencyklopedin). The Cambridge Dictionary describes a consultant as "a person who is a specialist in a particular subject and whose job is to give advice and information to business, government organisations, etc" (Cambridge Dictionary). Furthermore, the website Konsult.net defines a technical consultant as follows:

> There are many different consultants within technology and these can be assembled and referred to as 'technical consultants'. Obviously, it is a broad area but the technical consultants all have their own expertise within their subject.
>
> (Konsult.net)

Altogether, the definitions vary a bit but are still pointing in the same direction, which is in line with what the consultants of Semcon perceive themselves as. A consultant from Semcon often work as a life science expert on time limited technical projects with anything from hands on problem solving, validation or project management. However, according to the Swedish Ministry of Finance (Statskontoret 2001) it is not always the expertise that is needed. Sometimes it is merely the need to reduce the workload which can be one assignment that the consultants of Semcon can have. In 2000 the Swedish Ministry of Finance researched the use of consultants in different public offices and the results were in line with results from Roodhooft & Van den Abbeele (2006). The main reasons for the decision whether consultants should be hired were:

1. The need to reduce the workload

2. The need for increased knowledge or competence because of lack within the own organisation

3. The need for a third party in the organisation, an independent or objective view

4. Consultants have a role as agents of change

according to Statskontoret (2001) and Roodhooft & Van den Abbeele (2006). These are assumptions of why a consultant is needed in any organisation. They will affect the interview questions when asking the respondents if consultants from Semcon can have a role in their organisation. In other words, these presumptions can be helpful in this study for finding business opportunities by any of the previously stated reasons for hiring a consultant.

Furthermore, it will affect the authors thoughts on the subject, where situations of hiring consultants are interpreted in a certain way. This is leading to the importance of understanding the subject sensemaking which will affect the outcome of the study.

4.2 Sensemaking: Identity and Retrospection

According to Weick (1995) sensemaking is a process where individuals together interpret the world or a problem where reality is not a fixed state but rather an ongoing accomplishment. Individuals, in this case the authors, form anticipations or assumptions about a subject either unconscious or conscious. Being aware of this during this study can be of great importance. Knowing that past events or knowledge can affect the path the study will take in terms of people contacted for interviews and questions asked to the respondents. The authors constant discussions about how to interpret the problem will change over time.

Weick *et al.* (2005) describes several properties within sensemaking. Presumptions, what the individual knows before and who the individual is will affect the way the authors interpret different events. Retrospection, when observing situations in different times and looking back at them will affect the interpretations. Sensemaking is also about action, when interacting with other interpretations may change, meaning it is both an individual and a social activity (Weick 1995). Furthermore, Weick states:

In real world practice, problems do not present themselves to the practitioners as given. They must be constructed from the materials of problematic situation to a problem, a practitioner must do a certain kind of work. He must make sense of an uncertain situation that initially makes no sense.

(Weick 1995)

In other words, sensemaking is highly relevant in this project, small cues may fit together to make sense of a greater context. Every step in the process, from data collection to analyses, may change the whole picture. The authors will have a certain viewpoint on the subject at the beginning depending on previous experiences, which will change throughout the project. The underlying problem is not given but rather something that is understood over time.

Sensemaking is also present in the perception of value in the sense of how consultants perceives the value that they can create for the customer. Working in the public sector can often be seen as an action of solidarity. This can create a crevasse between private consultancy companies' interest in making money and the non-existent interest in profit in the public sector. The public sector can easily consider themselves to have the moral high ground. However, to run an operation without any interest in profit gives no guarantee that you are efficient with the resources you have. On the contrary, consultants charging for their time might save time, money, and resources for the public sector using a mindset of a private company. This by making the most out of the taxpayers' money and adding more value. Just because you care about profit does not mean that you do not care about the care recipient.

Furthermore, the authors must realise that sensemaking is also present in any organisational structure. Presumptions, retrospection and identity is present at a high degree, affecting the presumed reality. This could potentially make it harder for a company trying to enter a new organisation, due to negative preconceptions that must be handled, but it should not be seen as an impregnable obstacle. Even organisations may change their interpretations through interactions. If you are to develop your business or your service, sensemaking can play a big role concerning how the customer perceive your service. It should be taken into consideration that the customer experiences quality of service differently. However, analysing criteria that are seen as crucial for high quality service can be of help, and the following section will discuss seven such criteria.

4.3 Seven Criteria for Perceived Service Quality

Consultancy companies are based on trust and reputation. How the customer perceives the supplying company needs to be taken into consideration if you are performing a business

development towards a new segment. In the end, if the customer does not like what you can offer you will not be of interest for them. Therefore, it is interesting and important to understand how a consultancy company gets a good reputation. Grönroos (2015) states that one natural answer to this might be to give service of high quality. To understand what Semcon should offer their customers in terms of good service, the seven criteria he developed are used, see Table 1. These are helpful when approaching a new market, bringing up important focus areas which Semcon should take into consideration.

Table 1: Seven criteria for perceived service quality, by Grönroos (2015)
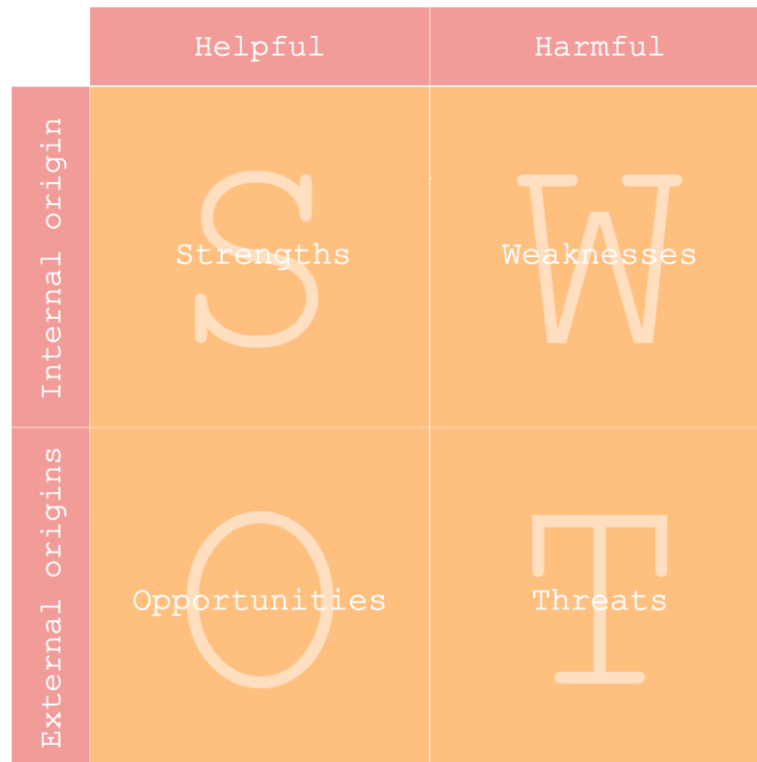
Professionality and Competence	The customer realise that Semcon possess the knowledge and competence needed to solve their problem(s) in a professional way.
Attitude and Behaviour	The customer feels that Semcon cares about them and are interested in solving their problems in a gentle and spontaneous way.
Availability and Flexibility	The customer feel that Semcon is easy to reach and prepared to adapt their service according to the needs and desire of the customer.
Trustworthiness	The customer knows that whatever happens they can trust Semcon to keep their promises.
Service Recovery	The customer realises that if something unexpected happens Semcon will act to take control of the situation and find a new solution to the problem.
Service Environment	The customer feels that the environment of the service delivery is familiar and positive.
Reputation and Credibility	The customer believe that Semcon is credible; Not overpriced, follow a good custom and that they share values.

However, the model does not take into consideration that the process of hiring consultants in the public sector is different compared to the private sector. In other words, it might be hard to implement all the following if working with the public sector. Still, the decision to use the model remains. It points out many important aspects that a company should take into consideration when offering a service to another company, regardless of the market. Pinpointing focus areas by evaluating strengths and weaknesses within these criteria will be helpful for Semcon when developing their service for a new business segment, the public sector. A SWOT analysis will be a helpful tool for evaluation and analysis. That model will be described in the next section.

4.4 A Strategic Planning Technique

According to Karppi *et al.* (2001), a SWOT analysis means to be a decision support system and it contains two important perspectives, the internal and the external. A SWOT analysis highlights strengths, weaknesses, opportunities, and threats (Figure 2) if proceeding with the business development proposed by this study. One goal of the SWOT analysis is that by visualising these themes Semcon can proceed by developing their identified strengths, eliminating weaknesses, exploiting opportunities, and mitigating the effects of threats (Karppi *et al.* 2001). In other words, the SWOT analysis is not a fixed result it should rather be seen as a tool for development. Understanding how large the risks, opportunities, threats, and weaknesses are will give an indication on whether to continue with the business development or not.

However, Hill & Westbrook (1997) highlights the downsides with the SWOT analysis. Mainly the critique indicates that it can be a time-consuming analysis that might not even be used in application stages later in the project since it is purely a descriptive analysis. Although this is not considered an issue in this study due to the purpose of describing the general situation and give points of discussion and further analysis to Semcon. It will not be used to give a detailed plan of action but merely work as a starting point in a larger decision analysis together with an analysis of what value Semcon can provide with their services. Furthermore, a minor benchmarking study will be of help when evaluating strength, weaknesses, opportunities, and threats.

Figure 2: SWOT analysis developed from Karppi *et al.* (2001)

4.5 Benchmarking: How has This Been Done Before

Comparing information about how similar interactions have previously been done in other cities or within other fields is called benchmarking (Tuominen 2016). A benchmarking study can be useful for Semcon to improve performance of their business development. Even though the results are not directly transferable it is used as inspiration and information of how to, or how not to, do such a business development towards the public sector. The benchmarking study is based on previous literature and some of the conducted interviews of this study.

According to Tuominen (2016), a benchmarking study should be companywide and continuous, this projects however will only be a snapshot of a full benchmarking study. The reason being the project's limited time and resources. Therefore, the benchmarking study is a comparison between Uppsala and Stockholm. It builds on interviews with Semcon Stockholm, who recently went through the same business development, and a management consultant working in the Regions' hospitals in Stockholm.

5 Methodology

This section contains the selected methods and approaches used in this project. It describes and motivates why they were chosen and how they will be used to reach a result that correspond to the background and purpose of the study. It also describes the course of action, selection of respondents, how data has been collected and interpreted, and the workflow of the study.

5.1 An Explanatory Approach

This project uses an explanatory approach which according to Yousaf (2019) is preferable when researching an area where there is little previous knowledge about the process or activity to be examined. The goal is to search for generalisations leading to a deeper understanding of the research questions. In other words, this study will work as a pre-study to Semcon, examining whether, and in that case how, to approach the public sector. Yousaf (2019) states that with the explanatory approach the researchers will be allowed to explore and explain the study in different levels of specificity rather than to come up with final answers to the research questions.

The flexibility level of this study is high and depending on information gathered during the research the work changes direction. Stebbins (2001) argue that the author's flexibility and open mindedness of where to find data is crucial to perform a good analysis. Furthermore, the aim of this study is complex. With an explanatory approach examining both the central subject and adjacent areas, there is a risk that the study becomes unwieldy. This speaks for the importance of delimiting the study clearly, otherwise you might do a lot of work but receiving very little significant data. The risk increases if you are not sure of what research methods to use when collecting data in your study.

5.2 A Qualitative Research

There are two different ways of collecting data, either qualitatively or quantitatively. The quantitative study is highly reliant on statistics, that a significant number of observations can be made, or survey questions answered. According to DiCicco-Bloom & Crabtree (2006) a qualitative study on the other hand is often performed by using interviews and they are often categorised as unstructured, semi-structured, or structured.

This project will have an exclusively qualitative approach, which is preferable according to Starrin & Svensson (1994) since the aim is to identify phenomenon's that are very complex and hard to quantify. Experts in different fields have been interviewed to give their unique

perspective which can be put together to create a comprehensive picture of the problem and give an insight to whether Semcon can enter the public sector. This due to the small sample size available and the subjects' many, sometimes ambiguous, themes. It is therefore necessary to find deep knowledge in a broad field of the respondents.

In a qualitative study there is a lot of data to be interpreted by the authors, the theoretical frame of reference becomes ever so important to evaluate the findings. The analysis will be highly based on discussions between the authors and influenced by their perspectives. These perspectives change throughout the study for every new interview and new research material which will be considered. In other words, this is another important way of developing deeper understanding and knowledge, based on the authors' interpretations. Furthermore, Starrin & Svensson (1994) states that the qualitative research method will lead to an abductive research method.

5.3 A Scientific Approach

When doing a scientific research, the relation between the use of theoretical and empirical data is important. You need to regard both literatures, as well as the respondents' reactions and answers in interviews. Patel & Davidsson (2011) describes three approaches called deduction, induction and abduction, all with the aim of increasing the knowledge about the research questions. Abduction is a way of working back and forth between induction and deduction and thus between theory and empiricism. According to the abduction way of working a hypothesis is created about the research question, which is established from existing theory. The study's results are then compared with the background theory. One can then evaluate if any new ideas have been created and if the existing theory can be developed by those new ideas. In other words, abduction leads to a continuous growth of knowledge and understanding of the core of the research question where innovation, creativity and rethinking meets scientific methods and theory.

With the background of this study it is difficult to predict what results the empiric data will show. When the outcome cannot be predicted it requires a very flexible approach. Therefore, the abductive approach suits this study well, the objectives can be adapted to the continuous information that the interviews provide. The information given by the interviews is based on the type of interviewing method chosen. The method chosen for this project is semi structured interviews.

5.4 Semi-Structured Interviews

In a qualitative research interviews often creates the foundation of the data collection (DiCicco-Bloom & Crabtree 2006). In this study the interviews performed were semi-structured. Each interview was unique but with some similar pre-prepared open-ended questions asked to every respondent with some specifically designed questions for that interview depending on the respondent's expertise and work assignments. One important aspect of semi-structured interviews is the spontaneous follow-up questions emerging from the dialogue. Those questions pinpoint important aspects from each specific interview. Semi-structured interviews are in other words not completely structured, and according to DiCicco-Bloom & Crabtree (2006) preferred when the person interviewed is more a participant in sense making and understanding attitudes, rather than collecting facts. Patel & Davidsson (2011) recommend that the interview starts and ends with neutral questions, like starting with asking something concerning the background and ending with the possibility to add anything to the interview.

This approach was decided upon since the respondent's professions differs a lot, hence the same questions could not be asked in every interview and it had to be adapted to acquire the desired information. Completely unstructured interviews were neither an option due to the risk of forgetting to ask relevant questions and the risk of getting into a side track that is not important for the study. In other words, the semi-structured interview technique was considered the best fit.

5.4.1 Course of Action

The empirical data of this project builds on interviews with different people working within the public sector and/or the field of life science. There are, among others, people from Semcon Stockholm, consultants and project managers working within the public sector, cooperation organisations in Uppsala and people from different parts of Region Uppsala. An overview of the respondents can be seen in Table 2. These interviews provide the main data. Interviewing many different participants results in a broad perspective of Uppsala county's outlook on opportunities and difficulties for consultants to work on the market of the public sector and to innovate it. Furthermore, meeting people from different business areas put Semcon on the map and show their interest in this matter. That alone creates valuable connections and contacts for the future.

The interviews were scheduled in advance and the respondents got to choose the location of the interview in order to feel as comfortable as possible (DiCicco-Bloom & Crabtree 2006). All the

respondents were asked if the interview could be recorded and if their full name could be published in the report. When recording, all the information can be transcribed afterwards. Maintaining recordings of all the interviews and transcribing them can prevent loss of important information from the respondents. This could arise if the only collection method is taking notes. Not recording can create difficulties later in the analysis process according to DiCicco-Bloom & Crabtree (2006).

The interviews lasted 30-90 minutes and one or two respondents from the company or organisation were present. The theme of the interview was clearly stated beforehand but the questions were not sent out in advance. This approach was decided after testing the approach of sending out questions in advance, which lead to interviews not as spontaneous as preferred. Also, with that approach it was harder to be in control of the interview since the respondent had his/her own opinion on what s/he wanted to talk about and tended to sway off topic. Henceforth the questions were not sent out in advance to be able to adapt the interview while interviewing and keep control of the result. However, this approach may come with some disadvantages. It can be harder for the respondent to have well thought-out and straightforward answers to some of the questions, but the spontaneity was considered more important in this case. Sending out the questions in advance may be more beneficial if interviewing people within the same area of expertise or work assignments.

Table 2: An overview of the conducted interviews in the study

Name	Title	Organisation	Interview type, Date
Magnus Larsson	Chief Digital Office	Akademiska Sjukhuset	Face to face, 2019-04-04
Anders Westermark	Project Manager (1)	Akademiska Sjukhuset	Face to face, 2019-03-28
Thomas Lennartsson	Property Controller	Akademiska Sjukhuset	Email, 2019-04-01
Maria Engedahl	Department Manager	Akademiska Sjukhuset	Email, 2019-03-07
Ulrica Fjärsted	Section Head, Medical Technology, Hospital Physics and IT (MSI)	Akademiska Sjukhuset	Face to face, 2019-04-10
Håkan Tribell	Senior Policy Advisor	Uppsala Handelskammare	Face to face, 2019-02-19
Helena Ströberg	Business Developer	Uppsala BIO	Face to face, 2019-02-15
Lars Hammarström	Strategic Relations Officer	SciLifeLab	Telephone, 2019-03-22
Maria Hassel,	Senior Advisor, International Coordinator	eHealth Agency	Face to face, 2019-03-27
Anders Kembler, Gustav Grangert	Procurement Manager (1) Procurement Manager (2)	Region Uppsala	Face to face, 2019-02-27
Anna Attefall, Maria Jansdotter	Project Manager (2) Project Manager (3)	Region Uppsala Innovation	Face to face, 2019-03-14
Stefan Olsson	Member of the Regional Executive Committee	Region Uppsala	Face to face, 2019-02-27
Amanda Karlsson	Management Consultant	Participated as private person	Face to face, 2019-02-14
Caroline Heuman	Area Manager	Semcon AB Stockholm	Face to face, 2019-03-06

5.4.2 Selection Process

The process of selecting interviewees started with identifying areas of interest for this project. For instance, a technical consultant working within the public sector, collaboration organisations within life science, and possible future customers for Semcon within the public sector. Hereafter people that were considered important to this study were contacted after finding their contact information either by already existing contacts or by searching the internet. Due to the wide-ranging areas of expertise the contacted respondents hold, the interviews are to be seen as expert interviews where each interview can be a considerable important source of data.

After each interview the question "does the respondent know of any other person that could be relevant for this study?" was asked to find new respondents. This is called snowball selection. Cohen & Arieli (2011) states that it is a great convenience sampling method in qualitative research. It is used to locate, access and involve people who would have been hard to reach otherwise. This approach has led to contacts with more relevant people by time, people that would have been almost impossible to find or contact without this pathway. However, the snowball selection should not be the only method used for finding new respondents according to Cohen & Arieli (2011). The selection of respondents is not random and might become bias, the respondent might have a reason for recommending or not recommending someone and this is important to keep in mind.

Despite the existing risks connected to using the snowball selection it is preferable in this study. The reason being that contact information to relevant people within the public sector has proven to be hard to find. Some people that turned down the request when contacted by the authors later said yes when the question came from someone else they knew. Therefore, the snowball selection was vital in this study.

To lessen the risk of bias selection, that the respondents have an agenda with recommending someone, the snowball selection was simultaneously mixed with a continuous search on new respondents for independent interviews. To get contact information Google searches was done, emails sent to departments within Akademiska Sjukhuset, and seminars with speakers of interest were attended. The respondents that were independently contacted were selected with a focus on a distribution to reduce the risk of only seeing one aspect of the problem. The different paths of the authors own search and the snowball selection later converged into the same departments in Akademiska Sjukhuset which can be interpreted as that the study had found its core interest.

5.4.3 Collection of Primary Data

Primary data collected from interviews are the core source of information used in this study. It creates a deeper understanding of the current situation of the market in Uppsala and it is crucial to have in order to fully understand the existing problem. Notes were kept during the interviews to capture themes that cannot be captured by a recording, for instance a face expression. The interview was later transcribed in parts or in full, to be able to use citations in the report. Patel & Davidsson (2011) states that to record the interviews instead of just taking notes increases the reliability of the measurement considerably, but the process is very time consuming.

5.4.4 Validity of Data

One must point out that the study is based on interviews and opinions which might change over time. It is likely that the respondents had answered differently if asked the same questions at another point. The first thought is that this might lower the reliability, but that is not the case with qualitative studies according to Patel & Davidsson (2011). The reason being that in a qualitative study the research aims to describe the current situation, and it is normal for a person to change opinion over time. In general, the reliability in a qualitative study is not widely used since it is so intertwined with the concept of validity (Patel & Davidsson 2011).

In a qualitative study the validity is defined as how reliable the interpretation of the respondents' answer is, and it influences the whole process of the study. Important to note is that there is no rules or procedures to assure the validity according to Patel and Davidsson (2011). Regarding data collection, the authors must be able to argue for their interpretations. Therefore, to reduce the risk of misinterpretations and to increase the internal validity of the study all the respondents were given an opportunity to revise their citations used in the report, which Patel & Davidsson (2011) calls communicative validity. Since the interviews were conducted in Swedish and later translated to English it was especially important that the respondents got to approve the translation of their words to reduce the risk of misinterpretations and not to cite them misleadingly.

Patel & Davidsson (2011) describes the concept of triangulation which further increases the validity by lessening the risks of a one-sided study. To get a comprehensive view of the data you need to use multiple data collection methods and different sources of information. This study achieves this by collecting data from both interviews, observations, and other documents. Also, interviewing several people with different relations to the problem, from people in need of services to procurers and the ones providing services increasing the validity.

As previously discussed, the interviews were transcribed. However, the transcriptions do not contain information from gestures, expressions, body language, or irony, which are important sources of information. The authors therefore must be aware of that the validity of the study is affected by their own reflections and interpretations by these observations. Furthermore, communicative validity is a concept to regard according to Patel & Davidsson (2011). Conclusions made in the report must be founded upon arguments that the reader can follow and interpret themselves. To achieve this no citations by respondents are taken out of context instead they are analysed within the topic of the interview questions. Also, it is clearly stated in the report how data collection, selection, and analysis were performed.

Something that increases both reliability and validity in this study is that the interviews were conducted through a long period of time. This makes it possible for the authors to adapt the data collection method over time, giving the authors opportunity to be in compliance with the data. This can be compared to performing all interviews in one week where there is not much time for reflection between interviews. Also, the fact that there is more than one author present at the interviews, making observations, increases reliability if they have the same interpretations (Patel & Davidsson 2011).

5.4.5 Analysis of Data

Patel & Davidsson (2011) discuss qualitative studies and states that there is no unitary way of analysing the data. It can be argued that every qualitative study has its own unique analysis method, where the most important part is continuous reflection. The flexibility of this study is high, and the conclusions made along the way will change when new information is provided. The analysis is an ongoing process that will deviate to new, different directions that the authors are not always able to foresee, depending on what data the interviews provide. Therefore, it is natural to iteratively go through the data and analyse it in order to find the emerging themes of the study. One way of performing such an analysis is the thematic analysis, a method used for identifying, analysing, organising, describing and reporting themes found within a data set (Nowell *et al.* 2017). In other words, the method will examine different perspectives and possibly generate new insights for the study. Braun & Clarke (2006) claim that thematic analysis is widely used whilst there is a lack of agreement on how to do it. Thus, Nowell *et al.* (2017) argues that it is possible to define six phases in a thematic analysis and the authors therefore decided to use this definition. The six phases are:

1. Familiarising yourself with your data

2. Generating initial codes

3. Searching for themes

4. Reviewing themes

5. Defining and naming themes

6. Producing the report

To keep in mind is that the flexibility level of this study can be a downside, especially since this project is time-limited. There is no possibility to find, and interview, a greater number of people. This can possibly lead to less coherent data but considering the nature of this project and the qualitative data received, even one interview can create the basis of one theme or research question. The iterative process in finding new perspectives is valued higher than the possible risk, and thematic analysis is therefore chosen. In other words, the thematic analysis is helpful to find relevant data and organise it. However, the themes that arise are highly influenced by the authors previous knowledge and experiences, leading to the importance of understanding the hermeneutic process.

5.5 The Hermeneutic Process

According to Patel & Davidsson (2011) the hermeneutic process makes it is possible to understand other people by interpretations of language and actions. This is a theory that is used throughout this project in order to be able to draw conclusions out of the interviews, keeping in mind that these interpretations are affected by the authors and their individual knowledge and interpretations.

The individual's knowledge about the subject will be influenced and grow for each interview which will lead to new insights repeatedly in each step of the process. This is called the hermeneutic circle or the hermeneutic spiral (Starrin & Svensson 1994). The basis for hermeneutics is that you need to understand the whole and to understand the whole you also need to understand the individual parts. The knowledge will increase when going back and forth between these (Patel & Davidsson 2011). The authors own knowledge, experiences, proficiency and prejudgement will work as tools to shape the project's framework. To be able to interpret the data it is therefore crucial to figure out and understand the framework. It will be used throughout the whole project as "a pair of glasses" that everything is viewed through and it is

important to be aware that the results are interpretations that could have been different if they were viewed through another "pair of glasses" according to Starrin & Svensson (1994).

The hermeneutic process is suiting for this project in many ways. The respondents in this study must be interviewed in a way that agree with their individual prerequisites and more respondents are interviewed until enough information is gathered. These are two characteristics for a hermeneutic gathering of information according to Starrin & Svensson (1994). But how do you know when you have enough data? In this project there are so many different types of respondents interviewed making it hard to decide when there is enough data. This is one of the difficulties in this project. In this study the time limitations are the guideline of whether to continue the search for respondents or not. Furthermore, planning your workflow eases the process and creates a framework which should be considered from the beginning of the study.

5.6 Workflow

To produce a high-quality report, it is needed to keep track of the logical levels of the study. This eases the differentiation of empirical data and the authors' conclusions. Lekvall & Wahlbin (2001) have created a workflow process from decision issue to recommendation, and Lindström (2018) added the aspect of specificity level throughout the workflow process. An overview of this is represented in Figure 3. The study starts from a general level with problem definition by specification of the issue, which is needed to understand what the study aims to explain. The study becomes more specific in every step of the process, from specification of research task, to the choice of approach, methods, and technique used. Hereafter the data is collected. The study becomes more generalisable through the levels, from analysis, interpretations of result, and formulation of recommendations. These recommendations should conform to the purpose of the study and will be the results that is presented to Semcon in the final report.
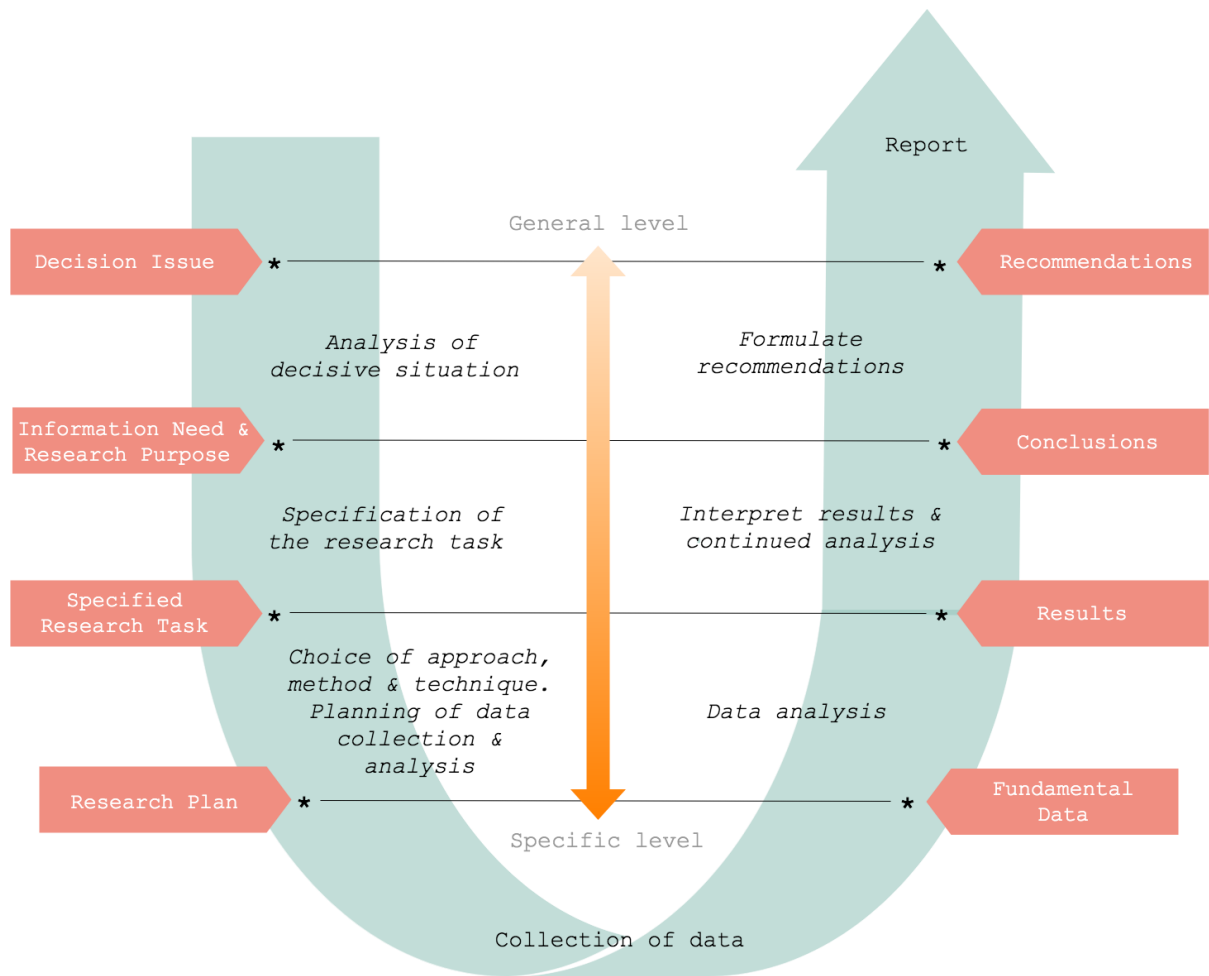
Figure 3: An overview of the logical levels a study undergoes during the entire project phase. Inspired by Lindström's (2018) reworked version of Lekvall & Wahlbin (2001).

6 Ethics

When working with research it is meaningful to conduct an ethical analysis. This to make the right moral decisions during the study in order to protect both respondents and Semcon.

This project follows the principles of research ethics in humanities-social science studies used by the Swedish Research Council (Vetenskapsrådet 2002) and the code developed by ESOMAR & ICC (2016) which sets the essential ethical and professional standards in research. The following section will address the main aspects of ethical dilemmas of this study regarding the interviews and the business.

6.1 The Interviews

In an ethical standpoint it is crucial to protect the participants integrity. In this study all participants were asked before the interview if they could be recorded and if their names could be used in the report. In order to get more open answers and to protect integrity respondents can be anonymous instead but, in this project, it would not be possible to guarantee anonymity. Even if all respondents were to be anonymous in the report it would be extremely easy for anyone to figure out who the respondent was due to their high rank where there is only one or very few people with their job description in Uppsala. However, they were all agreed to appear with their full name in the report.

The respondents were also informed that they could, whenever they needed, pause the recording or retract statements if they wanted to, for any reason. Before the interview they were informed of what the topics for their interview would be, and that the information would later be used in a master thesis. The respondents were also informed of that the master thesis project was carried out in collaboration with Semcon. Both the recordings and transcribed versions were deleted after the study was finished due to the General Data Protection Regulation (Europeiska Kommissionen 2019). The authors are the only ones at all stages with access to the material. Furthermore, the respondents got to approve the citations used in this report prior publication.

Another aspect of ethical dilemma is if the report exposes either unlawful or doubtful behaviour in the public sector. A respondent's hesitance to answer might originate from fear of doing something wrong even if they have not. The consequences for what is written in what way must be reflected upon especially when the informants are not anonymous. How other might interpret the authors interpretations have to be considered as to not implicate someone without cause. However, the purpose of the study was clearly stated beforehand, both that it is conducted in

collaboration with Semcon and that the information will result in a published report. This in combination with the respondent's approval of citations results in assumptions from the authors that the provided information is correct. Still, the authors interpretations will affect the result of the study, but it is clearly stated what is citations and what is conclusions drawn by the authors.

6.2 The Business

A study covering a strategic business development may contain sensitive material such as information about the company, the business structure, and their future. This data needs to be treated with caution in order not to hurt the privacy of the company. To handle this issue Semcon got to review and approve the information in the report prior publication.

Another thing to take into consideration when giving recommendations to Semcon on how to approach the public sector is to keep in mind that the simplest answer might not be the best. Having in mind that this business development is done to make Semcon a more competitive company with a better profitability. The final solutions and recommendations must be the most suitable for Semcon. Considering Semcon's mission and philosophy, focusing on the end user. Working within the public sector, and more specifically with healthcare, goes hand in hand with their focus on people first. Therefore, a business development in this direction seems ethically in line with what Semcon stands for.

7 Empirical Data

The following section will present empirical data extracted from the performed interviews, by themes developed by a thematic analysis to visualise general opinions and structures.

To be able to answer the research questions:

❏ What types of technical consultancy services are needed in Region Uppsala and what characterises them as a customer?

❏ What obstacles and success factors are there for establishing a business between a technical life science consultancy company and a customer who is a part of the public sector?

Each respondent was asked resembling questions concerning life science, the public sector, and consultancy services which in turn was adapted based on organisation and position. The results in the following section have been compiled into themes based on the questions asked.

7.1 The Need of Technical Consultants in Region Uppsala

In Akademiska Sjukhuset there are several departments with different needs, many who could be of interest to Semcon. Several people believe that the outcome will be positive when the private sector and the public sector cooperate. This is a foundation for private consultancy companies having assignments in the public sector.

> *I think the greatest benefit [combining the private and public sector] is that you create prerequisites from two different approaches.*

(Strategic Relations Officer, SciLifeLab)

> *I think technical consultants can contribute in the public sector.*

(Member of the Regional Executive Committee, Region Uppsala)

> *When the public sector invents the wheel, they never change it. Private companies are more of the idea "Now we have invented a wheel, how can we change it?" It is both fascinating and a bit incomprehensible at times but that is how it works. In theory and quite often in practice, if you marry these together in a good way you can achieve great things.*

(Senior Policy Advisor, Uppsala Handelskammare)

However, there are a lot of different views on consultants and consultancy services. One might see opportunities whereas others see problems. The opportunities arise from the needs in the organisation which is why previous and possible future needs have been analysed.

7.1.1 Previous Needs

Region Uppsala have purchased consultants at a moderate rate if you compare to Region Stockholm. Some types of consultants are being purchased more than others. Almost every one of the respondents said that they have hired or hire IT-consultants in different forms, either as project managers or as a part of lager IT-teams. This is also confirmed in the interview with the Region's consultancy procurer where he explicitly says that "*What we buy [of consultancy services] is primarily IT*" (Procurement Manager 1). Several of the respondents say that if they use consultants it is because the projects are large and there is a lack of personnel resources combined with highly complex projects.

> *We have a consultant [a technical project manager] in my project right now. The project is very technical with a lot of IT.*

(Project Manager 1, Akademiska Sjukhuset)

> *It is quite common to use consultants [...] such as project managers, technical project managers of various kinds in larger projects. There have also been some experts involved in change management, mainly within IT-related projects. If we are to develop/innovate, we might also sign up a team of consultants with various profiles.*

(Chief Digital Officer, Akademiska Sjukhuset)

In the large project of rebuilding and building the new hospital buildings for Akademiska Sjukhuset, there have been different consultants involved, for example consultants from the construction sector. The roles that have been assigned to construction consultants are project managers and installation coordinators primarily. Procurement consultants have also been used to purchase new medtech equipment.

> *I have used installation consultants who have their base in construction project management, with the specialty of being good project managers.*

(Property Controller, Akademiska Sjukhuset)

We actually had consultants for the procurement of the [Medtech] equipment because it was so much of it [...]. The project also hired consultants to help us keep the installation on track [...]. Normally we do this ourselves, if we rebuild a room, but now it became so large and complex [...]. Therefore, we had installation project managers.

(Section Head at MSI, Akademiska Sjukhuset)

In Region Stockholm there were a similar need for consultants in big building and rebuilding projects, with purchases of medtech equipment and complex installation projects. From the interviews the conclusion could be drawn that the consultants were from the life science industry, where Semcon Stockholm were one of the companies with framework agreements for installation projects. In this care management consultants with basis within life science were used to purchase the medtech equipment.

What roles they ask for in this framework agreement were project managers, installation coordinators, project engineers, time and logistics planners, and project administrators. After we signed the [framework]agreement, we [Semcon] started hiring more people with medical technology background because that was they were asked for a lot.

(Area Manager, Semcon AB Stockholm)

My first assignment was on Nya Karolinska in one of the equipment- or supply projects as it was called. We were [management] consultants for the Region and purchased equipment and made a needs' analysis for the hospital [...]. We did this together with the departments, the suppliers, medical technology engineers and different experts. My role was as project manager support.

(Management Consultant)

7.1.2 Possible Future Needs

Many of the respondents have ideas on areas where they might need the help of consultants. The procuring department said that it is hard to get a grip of the overall need since Akademiska Sjukhuset is such a large organisation. One department within the hospital might put in a request to buy a certain product and another department sends in a similar request for a similar product. The procuring department might not know how to differentiate between these products. Gustav Grangert (2019) believe that consultants might have a role in solving that problem as project managers. Implementing standardisations would make it easier for procurers, suppliers, and the departments.

It is very difficult to grasp the overall need [...], to see how everything is connected. Sometimes we sit with two things where not even the suppliers know the difference.

(Procurement Manager 2, Region Uppsala)

To be a good buyer of medtech equipment or systems you must put a lot of effort in the specifications and requirements in order not to waste money on a product or service that you do not require. This can be difficult and requires both technical knowledge and knowledge about procurements. Several of the respondents say that this is the hardest part in a procurement, especially if it concerns a new product or service. This is why some believe that a consultant can be hired to write the requirements.

The consultant from MSI handled all the IT- requirements in the procurement [...]. I could imagine that something like that could be relevant for you [Semcon].

(Project Manager 1, Akademiska Sjukhuset)

In construction projects or if you would do other major procurements there could be a need for consultants.

(Section Head at MSI, Akademiska Sjukhuset)

During this project there were an active project at Akademiska Sjukhuset implementing automated drug distribution. The project manager had several points where he thought there could be a need for consultants. Primarily in logistics, due to that the hospital lack their own logistics department.

I can imagine that it may be relevant in later parts of the project to get someone [a consultant]. We will do much that has to do with logistics and the Region and the hospital have very limited expertise in logistics. We have no strategic plan at all, we have no logistics manager or logistics department even though it is the second largest cost in healthcare.

(Project Manager 1, Akademiska Sjukhuset)

Other types of consultants that the respondents think that they will need is primarily IT in a combination with construction or medtech, as well as pure construction managers and project managers.

It is the combination of IT and medical technology that we feel that we have a shortage of. Also, within construction, construction in combination with medical technology.

(Section Head at MSI, Akademiska Sjukhuset)

There could be future openings for engineering consultancy services within project management.

(Property Controller, Akademiska Sjukhuset)

7.1.3 Barriers Toward Technical Consultancy Services

There are several things that speak against the need for technical life science consultants in the public sector. First, there are initiatives that the hospital should be more self-sufficient. Region Uppsala is creating a new department with their own project managers so that they will not have to take in external consultants.

What we [Region Uppsala] are doing here is that we are creating a department, the idea is that you should internally acquire project managers instead of taking in external consultants.

(Procurement Manager 1, Region Uppsala)

Furthermore, there are few relevant procurements and several of the respondents expressed that they do not hire a lot of consultants due to a lack of need.

All I can say is that there are very few [life science related] procurements.

(Procurement Manager 1, Region Uppsala)

It is unusual for us to hire external consultants.

(Department Manager, Akademiska Sjukhuset)

One purpose of the public procurement act is to treat all companies equally, but the system is not perfect. There is a risk of personal procurement, that the department in need of a consultant already have a special person in mind when drafting the requirements that only s/he can fulfil.

You want the initiative to come as early as possible [...] sometimes the need is too specific, it is better that we come in early [in the process] and form a framework agreement of a slightly broader variant so you do not control too much. Sometimes it becomes almost a personal procurement, that people know exactly who they want help from in advance.

(Procurement Manager 2, Region Uppsala)

Since the public sector is run by elected officials their work is influenced by the politicians in the region. The politicians want to be part of procurements exceeding SEK 10 million. The politicians in charge can change every four years which can change the conditions.

Furthermore, in such a well-established organisation there is a lot of bureaucracy to consider. Some people with high statuses can influence the work and it can be complicated to understand who has mandate to do what. Before a procurement starts the procurer must check if the person sending in a request has the authority to do it.

> *The politicians want to be involved when the procurement exceeds SEK 10 million, then they will initiate the procurement [...]. Under SEK 10 million, it is usually a department manager who makes the decision.*
>
> (Procurement Manager 1, Region Uppsala)

> *We have quite a few committees and boards here in the region. Everyone has their own delegation of authority, quite similar but it differs in some areas. When we have been assigned a procurement, we have to check if it is actually a person who has the right to initiate it.*
>
> (Procurement Manager 1, Region Uppsala)

The politicians also influence the future of e-health with their laws and policies. Some respondents believe that the politicians are not bold enough to make the necessary decisions that would benefit e-health. This leading to less opportunities than there could have been by these investments.

> *It is interesting to see what is happening now when there are these visions of the future of e-health. Here, I think that one [the politicians] must think more boldly than one does today. It is not often that the public sector or the politicians dare to be bold.*
>
> (Senior Policy Advisor, Uppsala Handelskammare)

> *I do not know if they dare to be so brave [about legislation on a national e-health system].*
>
> (Senior Policy Advisor, Uppsala Chamber of Commerce)

7.2 Selling Technical Consultancy Services to Region Uppsala

As previously discussed the process of selling services to the public sector is different from other business to business purchases. This section will present some of the things that you should keep in mind when selling consultancy services to the public sector. Such as the different ways to get hints on upcoming procurements, relevant topics in the procurement process, and how to create more value as a consultant when you have an assignment.

7.2.1 Getting Hints on Procurements

It is time consuming to prepare for a procurement, sometimes taking weeks depending on the size of procurement. Therefore, having a lead on a procurement is of advantage. To have an employee working with these questions daily is crucial.

> *We have one in charge of procurements. [...] A person that is good at the tool 'Visma'.*

> (Area Manager, Semcon AB Stockholm)

You can subscribe on special CPV codes that matches your company and observe published request for information's, RFI's. RFI's are published when the procuring department is going to buy something they have never bought before or when they are unsure of the market. To read these RFI's and go to the following hearings can give a company a hint on future procurements and what projects the public sector will be working on later. The goal is for the dialogue to create an understanding of aims and expectations.

> *Every procurement that are announced is coded by a complex nomenclature called CPV-codes. If you are interested in consultancy services, you subscribe to these to see all those procurements.*

> (Procurement Manager 2, Region Uppsala)

> *Hearings exist if you are to procure something you have not had before and want to see what the market look like, normally before a procurement of a framework agreement.*

> (Procurement Manager 1, Region Uppsala)

There are also collaboration organisations like Uppsala Handelskammare and Uppsala BIO where consulting companies can become members. They provide different venues where actors in the life science industry get to meet and discuss present matters.

> *As a member [of Uppsala Handelskammare] you get access to our arenas, meetings, network and our knowledge. You [the company] should make sure to be present in the arenas that addresses these questions. [...] We [Uppsala Handelskammare] understand these different arenas and we can work as an interpreter between them.*

> (Senior Policy Advisor, Uppsala Handelskammare)

> *[As a support partner] you get access to a large network of actors within life science and an opportunity to highlight different obstacles or challenges where we [Uppsala BIO] can contribute with inputs and introduce the different actors to each other.*

> (Business Developer Uppsala BIO)

Contacts can be crucial in the public sector to initiate projects. Knowing who to talk to, either by contacts you already have or by going to sales meetings. Some people are more open than others towards having meetings with private companies.

> *Contacts, contacts, contacts. It is always like that when working with sales.*

<div align="right">(Area Manager, Semcon AB Stockholm)</div>

> *There is nothing that prevents a consultancy company to reach out for a public operator and present their services. This might initiate thoughts and ideas.*

<div align="right">(Chief Digital Officer, Akademiska Sjukhuset)</div>

7.2.2 In the Procurement Phase

Technical consultants can enter the public sector by framework agreements, which are used due to the legal regulation of public procurements. Within these framework agreements the main opening for a new company seem to be as a subcontractor.

> *As a consulting company you can approach another consultant company who has a framework agreement and become a subcontractor to them. That is a possibility for a company that does not have a framework agreement themselves but want to enter the public sector.*

<div align="right">(Chief Digital Officer, Akademiska Sjukhuset)</div>

> *The regulations [LOU] are often limiting, the procured consultancy company often lack the quantity or quality which calls for the use of subcontractors.*

<div align="right">(Property Controller, Akademiska Sjukhuset)</div>

There are some other openings for a company without a framework agreement, for example using different types of procurement. One type often suggested is "innovation procurements" or "innovation partnerships" where you work together with the public sector as a partner, developing something completely new, where no one knows the outcome. However, there are still challenges in how new technology is implemented in the public sector.

> *If we want to do something that no one has done before we can work with innovation procurements. That will work more as a partnership, you work together to solve a problem.*

<div align="right">(Chief Digital Officer, Akademiska Sjukhuset)</div>

One way to bring in new technology and innovations to the public healthcare system is
innovation procurement, but before you have come so far [...] changes are needed in how
to work with bringing in new technologies and innovations in the public sector.

(Business Developer Uppsala BIO)

In the bidding process there are some tactics to keep in mind. Mostly concerning the specified requirements and pricing but also to present the right kind of references. One of the most important things for the public sector is to hire consultants with previous experience from working in the public sector. This can be specified in the RFQ (request for quote) which is a well-defined 'call for tenders' document sent out by the public operator. Furthermore, it is preferable if the consultants communicate well and give suggestions on how to work and deliver.

It comes down to understanding all the requirements. [...] You must meet all the demands
and you have to be able to prove that you can fulfil each and every of these requirements.

(Area Manager, Semcon AB Stockholm)

Pricing is tactics. Where should you position yourself? High or low?

(Management Consultant)

Depending on the RFQ Semcon Uppsala could use Semcon Stockholm as a reference for
having previous assignments in the public sector.

(Chief Digital Officer, Akademiska Sjukhuset)

However, many respondents also express thoughts about how time consuming the procuring process is. The preparations before a procurement deal can be demanding in time and resources for both parties compared to a similar deal within the private sector.

It is a huge job, it takes weeks to go through and collect material to answer all questions
in the procurement phase.

(Area Manager, Semcon AB Stockholm)

The public sector is a gigantic and complex market. Agreements that might take everything
from a couple of months up to a year might take several years of continues discussion. You
need to be prepared to be in it for the long run.

(Chief Digital Officer, Akademiska Sjukhuset)

Concerning the question whether large or small companies are preferred there is a difference of opinion among the respondents. Some think that smaller companies are discriminated against

because they do not have the same muscles to answer unreasonable large procurement requirements and some respondents argue that smaller companies have an advantage in being experts in a niche area. However, the politicians continually work towards making it easier for smaller companies with their policies.

> *Many of our members have expressed the feeling that smaller consultancy companies are discriminated in procurements.*

> (Senior Policy Advisor, Uppsala Handelskammare)

> *Often the case is that smaller [consultancy] companies are more niched within areas that larger companies are not.*

> (Procurement Manager 1, Region Uppsala)

> *It is one of the things we usually point out in our policy, that small and medium-sized companies should always be offered the same opportunity.*

> (Member of the Regional Executive Committee, Region Uppsala)

7.2.3 In Assignment

As mentioned before, the public sector is different from many private companies. This becomes especially important to keep in mind if you are to sell your services to the public sector, and especially the public healthcare since it is stagnant and highly regulated.

> *You have to understand that the public healthcare system is stagnant.*

> (Business Developer, Uppsala BIO)

> *Public healthcare is a sector that is heavily regulated and does not easily adapt to new technologies and methods.*

> (Strategic Relations Officer, SciLifeLab)

Furthermore, the ones with authority to buy a consultant might differ. It is not always the managers who sits with the mandate to decide on projects, sometimes when the projects are highly technical and high in priority the project leaders have the mandate. They can threaten to cancel a project if s/he does not get a consultant, even when there is no budget. Other project leaders can have their project cancelled by their managers if the project is not properly anchored in the entire organisation.

It is not always crystal clear how the decision chain works and how you can move forward in the organisation [...] To understand the hierarchy and how our operators act in the organisation might take time if you are new.

(Chief Digital Officer, Akademiska Sjukhuset)

It is hard to say no to me because I [as a project manager] sit on the knowledge. They can say that "this is impossible looking at the budget" but then I can counter with "ok but then I will cancel the project". [...] In these kind of professional organisations [Akademiska Sjukhuset] you sort of have a reverse balance of power. The manager is a manager but out in the periphery you have an advantage of knowledge and that creates asymmetry.

(Project Manager 1, Akademiska Sjukhuset)

We can see that there is so many needs, but we do not really have the mandate to decide over people's time. [...] You must have a mandate from the top, preferably as far up as you can come. It is about getting a mandate to run the projects. [...] It is the alpha and omega to get those managers on board.

(Project Manager 2, Region Uppsala Innovation)

Almost all respondents express that you must understand how the Region, the hospitals and the public healthcare system work to be a consultant there. It does not matter if you are an expert in your area, without the combination of previous knowledge it will not work. To be able to work together with the public sector you have to understand the complex ecosystem-of-systems and how your assignment will affect the organisation and vice versa.

You can bring in experts within a field, but it has to be balanced with people [from the organisation] [...], otherwise I do not think it will work. A disadvantage is that it is hard for a consultant to enter a business you do not know.

(Management Consultant)

Generally speaking, it is very important that you do not come to an assignment as a consultant in the public sector and know nothing of how a Region work.

(Section Head at MSI, Akademiska Sjukhuset)

A big challenge is to make consultants understand how everything in the hospital works; how this complex ecosystem-of-systems actually work.

(Chief Digital Officer, Akademiska Sjukhuset)

7.3 Region Uppsala as a Customer

To understand your customer is vital for any seller to create more value. In this section the things that are important for the buyer in the procurement stage, and what they consider their fears and concerns about hiring consultants, are presented.

7.3.1 The Procurement Process

To be objective and to treat different people and companies equal in the procurement process is a dilemma that many of the respondents share. To be objective and give others a fair chance becomes especially difficult when there are well functioning consultants that have been hired before. However, this is something that the procurers continuously work with.

> *The two biggest difficulties I can think of is objectivity and equal treatment.*

(Procurement Manager 1, Region Uppsala)

Several respondents express that it is important to write good specifications, to be explicit and clear. Otherwise it can lead to reviews of the procurement or a badly delivered service. The responsibility of the quality of the service lies with the buyer. If they do not require it, they will not get it. This is a problem that is frequently touched in the interviews. Validation and verification can, and should be, suggested from the consultant firm if it is not required in the specification.

> *It is extremely important to have a clear assignment description if you hire a consultant. [...] You [the consultant company] might have a directive on what to do but it is a stupid order, then how do you deliver in a good way? It can be a dilemma.*

(Project Manager 1, Akademiska Sjukhuset)

> *As a public operator it is important to put a lot of effort into getting a well-defined RFQ [...]. The work is preferably as agile as possible with validation and verification continuously throughout the whole delivery. If not specified in a state of work specification it is a good suggestion that the consultant firm suggest that approach to the public operator, especially if in an innovation partnership with the public operator, to make sure that the best solution is delivered.*

(Chief Digital Officer, Akademiska Sjukhuset)

The respondents agree on that the preferred way of using consultants is via framework agreements. Framework agreements are a fast and easy way of hiring a consultant. They are broad and can give a lot more freedom in what they can get a consultant for and what type of consultant.

Due to the degrees of freedom within the framework agreements I would say that it works.
[...] You have an easy access to the competence you need.

<div align="right">(Project Manager 1, Akademiska Sjukhuset)</div>

They [the public sector] try to make the framework agreement as broad as possible so that
they can hire many different kinds of consultants.

<div align="right">(Area Manager, Semcon AB Stockholm)</div>

When procuring the buyer looks at several things. There have been instances where consultant companies have presented good consultants at a fair price but later those consultants are not available, and you are limited to a more expensive or less qualified consultant. Credibility is therefore an important aspect for procurers. Today, they look a lot at references and places high value in having relevant proof that the consultants can perform what was promised. Of course, price is also an important factor.

They [consultancy companies] may have very nice consultants in the bidding process and
then they are suddenly booked elsewhere. Then you get some others that are not as good.
So, it is important to ensure that you get the right person.

<div align="right">(Procurement Manager 2, Region Uppsala)</div>

What really defines if we get the consultants or not is based on RFQ fulfilment in relation
to cost and quality. It is important to be able to present relevant references.

<div align="right">(Chief Digital Officer, Akademiska Sjukhuset)</div>

In general, the views are positive towards the use of consultants in the public sector and the rules of hiring them. Still many respondents have expressed the desire to have more freedom of choosing consultants, and that it would be good to find new ways to procure services.

I think it would be great to find new ways [to procure services and consultants].

<div align="right">(Procurement Manager 2, Region Uppsala)</div>

7.3.2 The Buyers Fears

During the interviews the respondents expressed several of their concerns about hiring consultants. The ones most specific to technical consultants is that a consultant is there for a short period of time and then leaves with all the competence the department might still need. Another concern is that the consultant wilfully makes him or herself irreplaceable to have more business.

> *There is a fear that the acquired knowledge from consultants during a project will disappear through the door when the assignment is over and not be fed back into the organisation.*

<div align="center">(Chief Digital Officer, Akademiska Sjukhuset)</div>

> *There is a driving force for consultants to make themselves needed, of course, it is quite obvious.*

<div align="center">(Project Manager 1, Akademiska Sjukhuset)</div>

Another fear is the review procedures, the public procurement act states that companies that feel mistreated in the procurement procedure can call for a review. A review procedure takes a lot of time and consequently cost a lot of money, so the public sector is afraid of this because it puts projects on hold for up to half a year.

> *There is a almost a tradition among some companies to send in review inquiries as soon as they do not get the procurement. You [we] are afraid of that, because it is time consuming [...] it takes half a year and in the meantime, you cannot do anything.*

<div align="center">(Section Head at MSI, Akademiska Sjukhuset)</div>

> *LOU is a damn drawback in some ways [due to the review procedure].*

<div align="center">(Project Manager 1, Akademiska Sjukhuset)</div>

Employees in the public sector are often not sure of what they are allowed to do when dealing with private companies, and vice versa. It is widespread that there is a fear of interactions between these sectors since the rules are so unclear.

> *It is widespread that people [employees in the public sector] have a fear of contact with companies.*

<div align="center">(Project Manager 3, Region Uppsala Innovation)</div>

> *Can you accept lunches? Can you travel together? [...] It is about educating the staff, so they feel safe in such meetings.*

<div align="center">(Project Manager 2, Region Uppsala Innovation)</div>

It is of course important for a seller to understand their customer but many of the respondents have felt that consultancy agencies and other companies that contact them do not know what they do. This have led to a negative view and consequently no cooperation.

I think the reason we have not hired consultants is that those we have talked to thought that
we are working with the construction of [medtech]products but we do not.

<div align="right">(Section Head at MSI, Akademiska Sjukhuset)</div>

7.4 Attitudes Concerning Technical Consultants

There have been many recent articles in the media portraying consultants and the use of their services in a negative way. If this is the general opinion, Semcon must be aware of it when trying to enter the market of the public sector. Therefore, the authors wanted to view the attitudes towards consultants of those who hire consultants and those who could have the need of hiring consultants.

The respondents had mostly positive or neutral comments about consultants. Many believe that consultants are needed in the public sector and that the cooperation between the private and the public sector needs improvement. However, they agree on that the general medial view on consultants is negative even though no respondent actually expressed a negative attitude themselves.

If it works well, our own staff gets an increase in skill by watching the consultant works.

<div align="right">(Property Controller, Akademiska Sjukhuset)</div>

In the hospital, one could say that the attitude towards consultants is positive. If we had a
better economy, we would probably hire a few more consultants than we can do today.

<div align="right">(Section Head at MSI, Akademiska Sjukhuset)</div>

Consultants always have bad reputation for some reason.

<div align="right">(Member of the Regional Executive Committee, Region Uppsala)</div>

As previously discussed, there are different types of consultants and some more suitable than others depending on the task. The general view is that management consultants are the most controversial ones and can bring more problems than solutions, whereas technical consultants are not seen as such a problem.

Region Stockholm thought that consultants would solve their organisational problems at
Karolinska Sjukhuset, I could have told them at once that it would not work [...] but
consultants themselves are not a problem. After all, we procure consultants when needed,
it is nothing strange.

<div align="right">(Member of the Regional Executive Committee, Region Uppsala)</div>

7.5 Using the Term Life Science

Using the term 'life science' in this study has shown to be complicated. Even though the respondents used the term for their answers, none of them seem to be sure of what it constitutes. During the initial email contact the use of the term sometimes led to being rejected, sent to the wrong person or in circles. Some of the collected citations from the interviews are presented below, anonymously, in order to visualise how some people, work in the dark.

> *I think it [life science] is hard to define. [...] I realise now that I do not know any definition.*

> *Life science is such a broad definition. It is everything in life.*

> *What do you mean by life science?*

8 Analysis

From the empirical data together with impressions from the interviews the authors have interpreted the findings to understand the prerequisites of this business development. This is done by analysing the future of the life science industry and the attitudes towards consultants, as well as explaining the current situation in Uppsala in comparison to Stockholm. Finally, by presenting identified strengths, weaknesses, opportunities and threats that Semcon hold in combination with an analyse of perceived quality of service. Lastly, the authors will give suggestions as to different possible approaches for Semcon to create value for Region Uppsala as a customer.

8.1 The Future of the Life Science Industry

The government of Sweden has decided on a plan of action to put Sweden on the map as a leading life science nation, within science and innovation (Näringsdepartementet 2018). This will affect anyone working in the life science industry. The strategy includes three priority areas:

- ❏ Utility of digital healthcare data

- ❏ Precision medicine - the future diagnostics, treatments and cures

- ❏ Care and welfare of the future - integration of science and innovation

The Ministry for Health and Social Affairs in Sweden together with the Swedish Association of Local Authorities and Region has set out a vision for e-health 2025. The vision essentially states that Sweden needs a long-term view and plan for e-health which should be universal for all of Sweden's regions (Ministry of Health and Social Affairs *et al.* 2016). The vision will affect Uppsala as well and it includes:

- ❏ A regulatory framework to strike a balance between rights and efficiency

- ❏ Implementing common terminology including codes, concepts, terms and structures of services to guarantee quality

- ❏ Quality and security standards in order to make it possible to exchange information in a safe way

Considering this, life science is an industry that the government of Sweden and many organisations see as an important part of Sweden's future success. However, some respondents expressed the feeling that they consider these efforts to be a bit cowardly if we are to succeed in becoming a leading life science nation. They imply that the goals that are set are to cowardly and the action plan to reach them often almost inadequate or non-existent.

Despite this, the authors believe these efforts will have a positive outcome on the life science industry, and that it is a great industry to progress within. For Semcon, one step toward this can be to offer their services to the public sector, to be part on when these changes arise. The future of the life science industry seems to be bright!

8.2 Attitudes Toward Consultants in the Public Sector

The public opinion of consultants working within the public sector would not be considered positive due to medal reporting. Between the years 2011-2017 many consultants were hired to work with Karolinska Sjukhuset in Stockholm and the cost almost reached SEK 1 billion. In addition, according to an article from Svenska Dagbladet written by Mellgren (2018) more than SEK 200 million of these public procurements did not follow the public procurement act. This created a discussion whether consultants should be used in this extent in the public sector.

However, in this study the results show that the general attitudes among those who hire consultants is not as bad as one might think. The respondents from Region Uppsala consider themselves different from, and not at all in the same position as, Region Stockholm. They argue that the situation in Stockholm will not affect the way they work in Uppsala. If they need a consultant, they will hire one. Employees of Region Uppsala put high emphasis on that it is themselves that are responsible for the result when hiring consultants. They must provide proper guidance and specify what task the consultant is expected to do. That will lower the possibility for such occurrences.

Even though the general attitude would be considered positive or neutral there are differences in opinion that can be observed from the interviews performed in this study. One theme was: the older the respondent was (≥ 50 years) the less inclined they were to see the possibilities of using consultants. Younger respondents (≤ 50 years) had a general positive view of consultants and could spontaneously come up with ideas of what areas they could need a consultant in. They were also a lot more open to the idea of having meetings with consultants and to find new ways to cooperate. The older respondents had on the other had a more fixed, predetermined,

view on consultants. They said that they did not need a consultant or that they rarely need one and if so then only for very specific tasks.

It is important to note that this is not representative since there are only 14 interviews performed, this only reflects the specific interviews performed in this study. Other things that might affect this result can be for instance the position that the respondent held. It might be easier for a project manager to express exactly what kind of competence that is needed, while department managers have less insight in this, leading to less specific answers.

The advice to give Semcon from these interviews is to find the right people to have meetings with. Focusing on younger people in charge of departments or younger project managers with authority and a will to innovate might be crucial for establishing a business relationship with the public sector. The fact is that LOU supports meetings in the first stage of a procurement process since the dialogue conduces the understanding of what value the business can create, leading to a more appreciated service. During these meetings it is crucial for Semcon to explain how the public sector can benefit from a collaboration. Requirement specification is a complex process and dialogue is therefore necessary. However, there are still people who are unsure of how to interact with private companies which should be taken into consideration.

8.3 Comparison to Stockholm

The authors have identified that Region Stockholm and Region Uppsala might hire different types of consultants for the same type of tasks, purchasing medtech equipment and installing it. Region Stockholm have hired management consultants with a basis in life science to purchase the equipment and technical life science consultants, Semcon Stockholm amongst them, to the installation projects. Region Uppsala have hired procurement consultants for the purchasing of equipment and consultants from construction to the installation projects. However, our study cannot exclude that Region Stockholm have not also had procurement consultants and construction consultants, they most likely have.

With this in mind, the authors can conclude that the current possibilities for Semcon Uppsala to get a framework agreement with the Region are smaller than for Semcon Stockholm. This even though both offices hold almost the same expertise within life science. However, the possibility for Semcon to contribute within the public sector is just as high in both cities. It all comes down to if Region Uppsala will recognise the opportunities of changing their approach of hiring consultants, leading to the realised benefits of collaboration. Furthermore, this would increase the possibilities for Semcon Uppsala in the private sector.
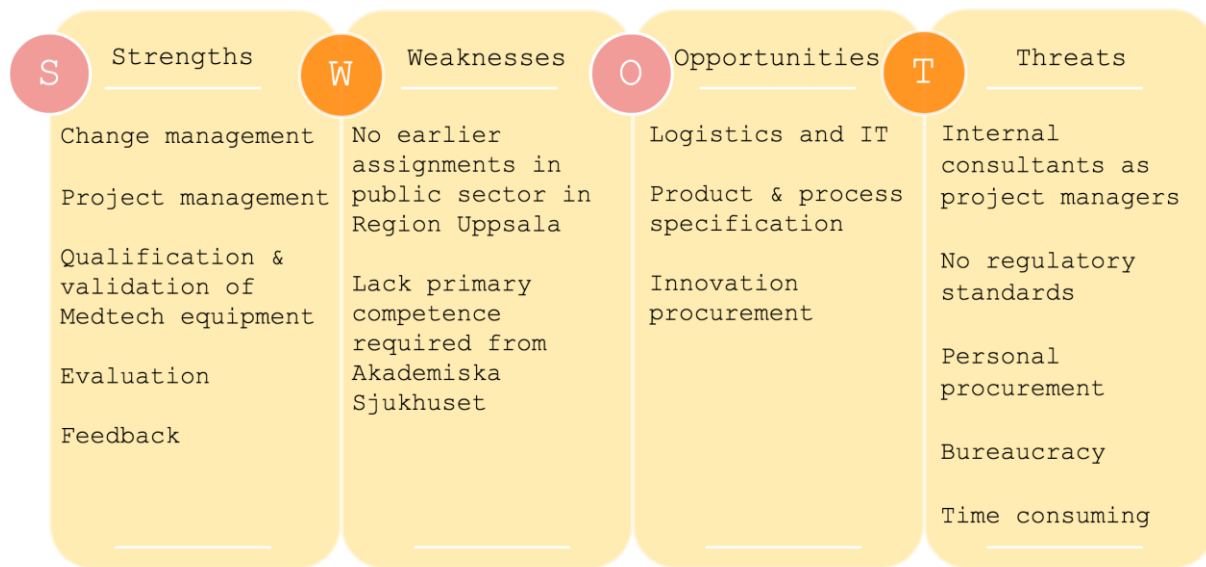
8.4 Being a Subcontractor

Almost all the respondents expressed that being a subcontractor is the most common way for a new consultancy company to enter the market of public sector. Region Uppsala expresses that the consultancy companies who have framework agreements often lack the competence and quantity that they need, leading to the use of subcontractors. The respondents see no difference in using the consultant company having the framework agreement or the company's subcontractors.

It must be highlighted that the Medtech department of Akademiska Sjukhuset in Uppsala wished that the installation consultants had greater knowledge of medtech. Medtech in combination with construction or IT would be desired combinations if working at Akademiska Sjukhuset. All together suggesting that Region Uppsala are buying the wrong types of consultants, the medtech knowledge being of more importance in these roles. This combination of expertise can be considered one of the major opportunities for entering the public sector. Thus, cooperation between Semcon and another technical consultancy company, who have a framework agreement within construction, could be optimal. Such a consultancy bureau is, as of May 2019, Bjerking AB. This cooperation could benefit both parties since they are not competitors in the same field and their competences could improve quality and create more opportunities for business for both companies.

8.5 SWOT Analysis

The following SWOT analysis (Figure 4) highlights Semcon's strengths, weaknesses, opportunities, and threats in the case of business development to offer their services to Region Uppsala. The empirical data is the foundation to these conclusions.

Starting with the internal evaluation, Semcon's *strengths* can be identified as they have a lot of experience in change management, project management as well as qualification and validation of medtech equipment. The public sector expresses the fear of losing the competence when a consultant finishes their assignment. Here Semcon could have an edge against competitors by providing learning opportunities to transfer knowledge as a part of the assignment by evaluation and feedback. This would reduce the risk of losing valid competence for Region Uppsala.

Strengths	Weaknesses	Opportunities	Threats
Change management	No earlier assignments in public sector in Region Uppsala	Logistics and IT	Internal consultants as project managers
Project management		Product & process specification	No regulatory standards
Qualification & validation of Medtech equipment	Lack primary competence required from Akademiska Sjukhuset	Innovation procurement	Personal procurement
Evaluation			Bureaucracy
Feedback			Time consuming

Figure 4: SWOT analysis covering Semcon's internal strengths and weaknesses, and their external opportunities and threats.

Semcon's *weaknesses* are that they have no experience of working in the public sector in Uppsala, something that most respondents find necessary to get large assignments there. This is a weakness Semcon needs to be aware of since it can affect their opportunities of winning procurements. Another weakness is that Semcon's main area of expertise is not within IT which is one of the most requested competences in the public sector.

Continuing with the external factors, several *opportunities* for Semcon to enter the market of Region Uppsala could be identified. According to Anders Westermark (2019) Akademiska Sjukhuset lack a logistics department even though logistics is the second largest expense within healthcare. There is at least one ongoing project in Akademiska Sjukhuset that will require consultants within logistics in the future. The need for IT consultants and services that are IT related are high. Region Uppsala awarded numerous consultancy companies a framework agreement last procurement process, and it might be a good idea to be prepared for the next time the framework agreements are up for procurement by 2021. Furthermore, when purchasing quantities of medtech equipment, new technology equipment, or large systems, the public sector have a hard time specifying the requirements for the procurements. They need to change their mindset and be able to think about what they need instead of how they want something done. One opportunity is for Semcon to help the public sector by providing technical expertise within product or process specification. Another observation is that innovation procurements, a

collective name for several procurement procedures, are getting more popular. This creates open dialogues and partnerships to promote innovations. To be a part of an open landscape between private and public companies and to be a partner in innovation might be an opportunity ahead for Semcon. A partnership reduces the bureaucracy that you otherwise can encounter.

There are a number of *threats* towards Semcon establishing themselves in the public sector. First, they are not the only ones trying to approach Region Uppsala within life science. Therefore, it is crucial for Semcon to know their strengths and weaknesses, to know how to profile themselves. The risk of personal procurement is a present matter, if someone has a foothold in the public sector they might be favoured in a procurement process, deliberately or not. However, this threat could be turned into an opportunity if Semcon are awarded their first contract. Furthermore, Region Uppsala are developing their own department of project managers to use internal employees instead of external consultants. They also have their own medtech department with consultants working in medtech related projects in the entire Region. External consultants are only needed in large and complex projects, projects like Framtidens Akademiska Sjukhuset (FAS). Furthermore, there is also a lot of bureaucracy in such a well-established, large and highly regulated organisation. Making it hard to understand who is in charge, who the key persons to talk to is, and that it will take a lot of time communicating and running everything by everyone before you can make changes. Finally, doing business with the public sector takes a lot of time and resources, meaning entering the market requires a great investment. You will not get anything in return if you are not awarded the contract.

8.6 Quality of Service

As previously discussed the way of working towards a customer in the private or the public sector differs a lot. However, considering what you can offer in terms of good service is just as important whomever you offer your services to. Combining Grönroos seven criteria for perceived service quality with the empirical data and a value creating mindset the following points are important for Semcon to consider:

❏ Professionality and Competence: Semcon need to prove previous knowledge within the public sector, and more specifically the public healthcare if they are to have some advantage in the process of meeting the requirements of the procurement. Possibly, this can be proven by the collaboration Semcon Stockholm have with the public sector. Furthermore, Semcon need to prove that they have the exact competence in the specific area that the procurement implicates.

❏ Attitude and Behaviour: Semcon need to be clear about that they stand for their philosophy "people first, then technology". Some respondents expressed a fear of consultants "only wanting to make money". Obviously, turnover is important, but the public healthcare need to know that Semcon are truly dedicated to solving their problems. They want to make public healthcare better, not just make money. Adding to the philosophy, many employees of Semcon are interested in working for the public healthcare to improve life for everyday people. This is a prerequisite if this collaboration is going to prosper.

❏ Availability and Flexibility: In a public procurement the assignment and requirements should be very clear. However, many respondents expressed the feeling that they as a buyer is not always as good as they need to be to write these requirements, leading to the assignment being over or under delivered. Here Semcon can be of help, if they have won an agreement. If the requirements are weak Semcon can sit down with the customer and outline the unclarities. Furthermore, continuous communication and feedback is important since some preconditions can change during the assignment.

❏ Trustworthiness: One fear the respondents expressed is that sometimes the consultancy companies promise one consultant when they submit tender but deliver someone else over- or underqualified to the job. This lowers the trustworthiness greatly and should not be happening. In addition, the requirements are a part of this as well. If the buyer has written an imperfect requirement specification and Semcon interpret it wrong, it can lead to a delivery of something the customer is not be satisfied with. However, as previously stated, going through the requirements seller and customer together will lower the risk of this happening.

❏ Service Recovery: Again, the continuous reconciliations are a part of being in control of the situation. If you do not know the problem, how can you provide the solution? Furthermore, the employees of Semcon are used to finding solutions to problems, that is one of the consultants' greatest assets, and is one of Semcon's strengths.

❏ Service Environment: The practice is that Employees of Semcon Uppsala work at the site of the customer. Therefore, both the consultants and the customer should feel familiar with the environment of service delivery which is preferable.

❏ Reputation and Credibility: If the customer can trust Semcon to deliver the right consultant, and not an someone overqualified and more expensive the price should not be an issue. This because the price is set when Semcon submit tender on a procurement,

in where the customer chooses the consultancy firm considered the best fit. As previously discussed, living your philosophy and having continuous feedback and evaluation becomes ever so important if the customer is to feel satisfied with Semcon, meaning it is something that Semcon need to focus on.

These points may not differ greatly from how Semcon act toward customers in the private sector, but there are some differences to realise. Having these points in mind can help Semcon to submit tender on public procurement by being aware of how the public sector perceive quality of service. This is one of the most crucial parts in understanding what creates value for the customer.

8.7 Value Creation

The interviews highlighted several elements that creates value for the public sector. First, the assignment should not be over or under delivered. The services need to be strictly planned and meet the budget. This can only be solved with good communication, planning, and a very direct and explicit approach.

Furthermore, the healthcare system anticipates huge challenges with an aging population and not enough people to take care of them. Efforts that can contribute to nurses having more time to provide care rather than doing administrative tasks is crucial and is one of the biggest opportunities for value creation. The automated drug distribution system will be an enormous time saver according to Anders Westermark (2019) since the manual distribution takes 25 % of the nursing staff's time today.

One way to provide more value for the public healthcare is implementing new ways to make their workplace more efficient. This without making numerous large changes since the public sector tend to be laggards in terms of the technology diffusion model (Figure 5). This can coincide with consultants who tend to be innovators and early adopters. To make changes that matter require well established projects, large parts of the organisation on board with the changes, and staff involved in the solution process. Otherwise the solutions risk being ignored. The authors believe that the required approach in the public sector fits very well with Semcon's philosophy people first, focusing on the end user, and that they could become successful partners.
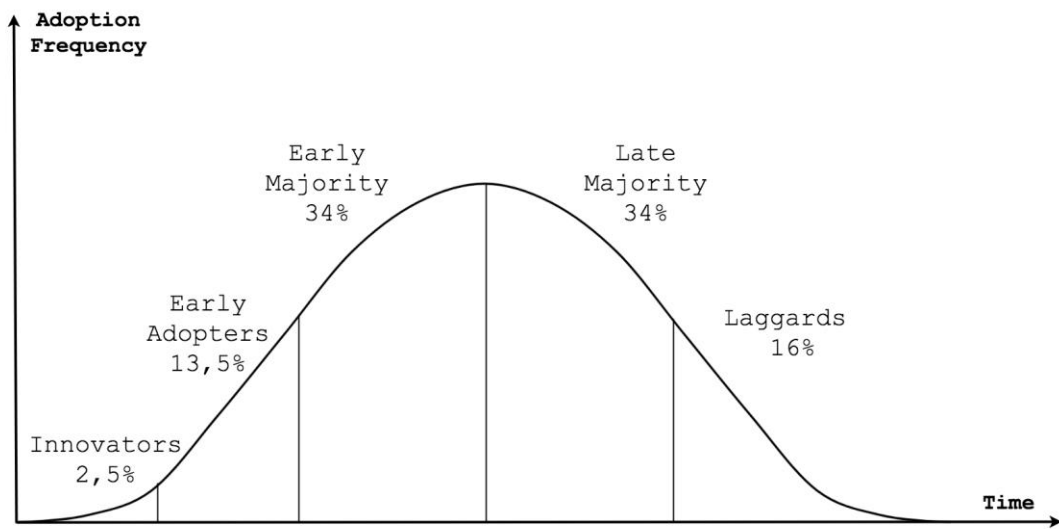
Figure 5: Technology diffusion model, developed from Rogers (1962).

9 Conclusion

Based on the interviews in this study the authors can conclude that it might be difficult for Semcon to establish a business with Region Uppsala as a customer. Partly since the need is not realised in the public sector. In general, they do not trust others to solve their problems. It will require both a lot preparatory work, finding the right people to talk to, and a bit of luck to succeed. One possibility lies within the collaboration organisations that exist in Uppsala. To meet and discuss present matters can create conditions for new assignments in the public sector.

The authors have concluded that Region Stockholm and Region Uppsala have different approaches as to what consultants they hire. One opportunity is to work with the current situation and form collaborations with construction consultants that have a framework agreement. Another option is to convince Region Uppsala that Semcon's competence within medtech and installation is more important than pure construction knowledge, before the next procurement. This would create similar prerequisites as in Region Stockholm where Semcon Stockholm have established a business.

Another recommendation is to hire consultants with experience within logistics since Akademiska Sjukhuset lack that competence. To have the best chance to win a framework agreement Semcon should hire IT-consultants. This might be crucial in order to compete in Region Uppsala's next framework agreement for IT-consultants. To prepare for an IT-consultant framework agreement one recommendation is to look at the public documents from previous procurements, the requirements are likely to be similar in the next procurement process. Furthermore, to have consultants with documented experience of working in the public sector will be of great value for Semcon. If there are none in Semcon Uppsala it is highly important to highlight the close relationship with Semcon Stockholm who have established a business in the public sector today.

Today procurements are in the middle of a transition phase, going from requiring predetermined frames for the solution to procure the desired function instead. However, this transition is not without challenges. To have assistance from consultants who are used to think innovative, with the end users' needs in focus, might be beneficial in the requirement phase. This can create another opportunity for Semcon.

10 Acknowledgements

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Appendix 1: How Public Procurements are Performed

Every year there are public procurements carried out in Sweden covering SEK 683 billion (Verksamt 2019). All purchases the public sector make over a threshold value of SEK 586 907 must go through public procurement and that is a highly regulated procedure. It is influenced by numerous factors and follows the public procurement act (LOU). Public procurements change the purchasing process a lot compared to private companies' business to business relationships. The first step is that the contracting authority creates contract documents. Everything concerning procurement in these contracts must be specified to meet the contracting authorities need completely (Upphandlingsmyndigheten 2019b). The contracting authority then submits the notice. If it is under the threshold amount it can proceed to *direct award* where the service or product can be bought immediately (Upphandlingsmyndigheten 2019a). If the amount is over the threshold value, the procurement goes public and is open for all companies to submit tenders on. A selective procedure is then performed to ensure that the companies can offer the specifications on the contract document, and to select which company that can do it to the lowest cost and/or with best quality for that *specific procurement*. It is common to use a scoring system when it comes to consultancy services according to Anders Kembler (2019) since judging quality in a consultancy service is much more subjective than evaluating a physical object.

When the contracting authority does not know to what extent they will need a service it is common to use a *framework agreement*. This is the most common type of procurement concerning consultants. The procuring process is very similar but there are often several companies that are awarded the framework agreement. When there is a need for that type of consultants all companies that have the framework agreement get targeted notices sent to them. They then go through the process called *renewed competition,* where they submit tenders once again. This deal is called a call-of agreement.

An alternative to having your own framework agreement is to be a *subcontractor* to another company who has the framework agreement. This is a common method among consultancy firms. The company holding the framework agreement can use subcontractors when they cannot provide the consultant asked for in the call-off agreement. To be a subcontractor does not require any procurement on your part. The tough requirements of a framework agreement can sometimes require a company to provide competence they do not hold. If they can prove to have a subcontractor that does, they can be awarded the framework agreement. In this way both companies will have the opportunity for revenue. Figure 1 displays an overview of the process and the different outcomes of a public procurement.
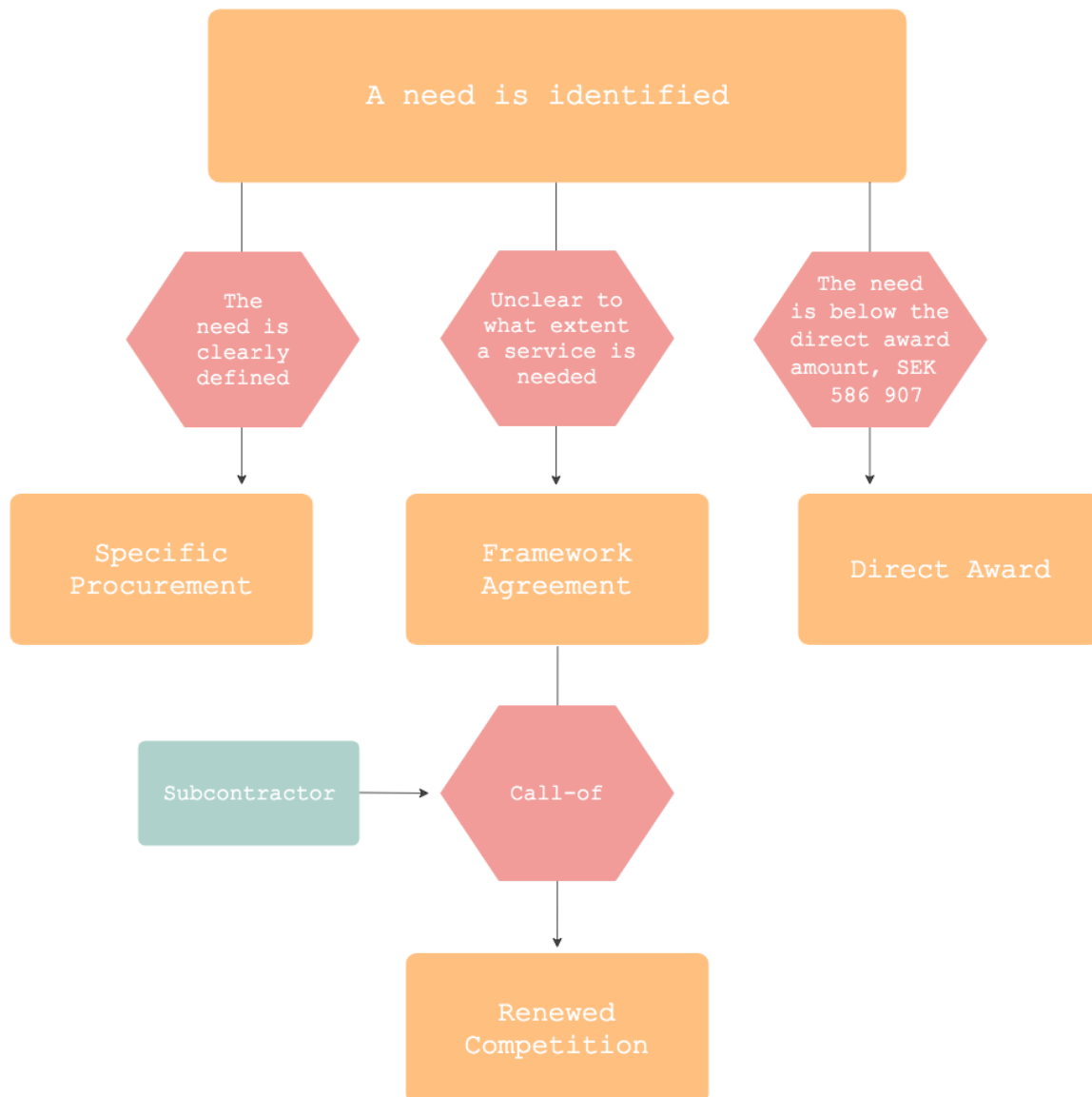
Figure 1: A basic overview of the public procurement process.

Furthermore, Uppsala municipality has decided on a policy for public procurements. It works as a guideline and as a complement to the LOU for procurers in Uppsala. This policy states that the procurements shall pay special consideration to economic, social and ecological sustainability (Uppsala Kommun 2018).

Appendix 2: Relevant CPV Codes

The following section contains CPV codes that could be relevant for technical consultancy companies. These can be found on the database Visma Opic where you can subscribe to them to be updated on upcoming assignments.

CPV codes from Semcon Stockholm's framework agreement:

❏ Corporate and management consulting and related services 79400000-8 (08)

❏ Project management, except construction 79421000-1 (08)

❏ Architectural, construction, engineering and inspection services 71000000-8 (08)

❏ Construction services 71500000-3 (08)

❏ Technical testing, analysis, and consulting services 71600000-4 (08)

❏ Construction engineering consulting services and building services 71310000-4 (08)

❏ Construction engineering consulting services and advisory services 71318000-0 (08)

❏ Consulting services for construction 71530000-2 (08)

CPV codes from a contract won by another technical consultancy company:

❏ Software development services for particular industry 72212100-0 (08)

❏ Medical software development services 72212180-4 (08)

❏ System services and technical consulting services 72220000-3 (08)

❏ Project management consulting services 72224000-1 (08)

❏ System and support services 72250000-2 (08)

❏ Program-related services 72260000-5 (08)

Another CPV code that might be of interest:

❏ Health and safety consulting services 71317210-8 (08)