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Philips Healthcare:
The purchasing process and decision-making choice criteria in public healthcare

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Abstract

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The purpose of this thesis is to study purchasing processes and decision-making choice criteria in public healthcare, especially in central hospitals and municipal health centres. This thesis is made as an assignment from Philips Healthcare, which is a manufacturer and a supplier of the patient monitors studied in this thesis. The aim of this study is to ascertain how these patient monitors are bought and which criteria affect the purchasing decision.

This thesis consists of theoretical and empirical sections. The theoretical part covers themes such as the medical device industry, the business-to-business market and the institutional market. The empirical part consists of a study conducted via a telephone questionnaire, which includes both qualitative and quantitative characteristics. The sample of this study consists of 33 interviews, of which 20 are from central hospitals and 13 from municipal health centres. The interviewees included several employees working both in hospitals and purchase offices. The thesis and the interviews were all done during the year 2010.

Based on the study, the purchasing of patient monitors usually involves a process, which includes several different phases and participants. Buying processes differ greatly between central hospitals and municipal health centres. The process is more clear and structured in central hospitals, whereas greater variation appeared among health centres. It also appeared that criteria affecting the purchasing decision most often relate to technical qualities, though various economic factors are also taken into consideration. The results correlate to the theory introduced in this thesis.

This study can provide some developmental ideas for the sponsoring company, for example from the marketing point of view. This study shows that the sponsoring company should market their patient monitors primarily to head physicians, chief buyers and head nurses, depending on the unit involved. In addition, the sponsoring company should emphasize both technical and qualitative qualities when marketing their monitors.

Keywords
purchasing behaviour, public sector, health care, Philips Healthcare

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Tämän opinnäytetyön tarkoituksena on tutkia ostoprosesseja ja ostopäätökseen vaikuttavia kriteerejä julkisessa terveydenhuollossa, erityisesti keskussairaaloissa ja terveyskeskuksissa. Tämä opinnäytetyö tehdään toimeksiantona Philips Healthcarelle, joka on opinnäytetyössä tutkittavien potilasmonitorien valmistaja ja toimittaja. Opinnäytetyön tavoitteena on selvittää toimeksiantajayritykselle, miten potilasmonitoreja ostetaan ja mitkä kriteerit vaikuttavat ostopäätökseen tekoon.

Opinnäytetyö koostuu teoria- ja empiirisestä osiosta. Teoriaosio käsittelee aiheita kuten, lääkelaiteteollisuutta sekä yritys- ja julkisorganisaation markkinoita. Empiirinen osa koostuu puhelinhaastattelulla suoritetusta tutkimuksesta, joka sisältää sekä kvalitatiivisia että kvantitatiivisia piirteitä. Tutkimuksen näyte koostuu 33 haastattelusta, joista 20 on keskussairaaloita ja 13 terveyskeskuksia. Haastateltavina olivat useat eri sairaala- ja hankintahenkilökunnan työntekijät. Opinnäytetyö sekä tutkimushaastattelu suoritettiin kokonaisuudessaan vuoden 2010 aikana.

Tutkimuksen perusteella potilasmonitorien osto tapahtuu yleensä prosessin muodossa, sisältäen useita eri vaiheita ja osallistujia. Ostoprosessit eroavat huomattavasti keskussairaaloiden ja terveyskeskusten välillä. Prosessi on selkeämpi ja strukturoidumpi keskussairaaloissa, kun taas terveyskeskusten ostoprosessissa ilmeni vaihtelua. Tutkimuksesta ilmenee myös, että ostopäätökseen eniten vaikuttavat kriteerit ovat lähinnä teknisiä ominaisuuksia, ottaen kuitenkin huomioon kokonaistaloudellisuuden. Tulokset ovat yhteneväisiä esitellyn teorian kanssa.

Tutkimuksen perusteella toimeksiantajayritykselle voidaan tarjota kehitysideoita, esimerkiksi markkinoinnin näkökulmasta. Tutkimuksesta käy ilmi, että toimeksiantajayrityksen tulisi markkinoida monitoreja ensisijaisesti ylilääkäreille, hankintapäälliköille ja osastonhoitajille riippuen yksiköstä. Lisäksi toimeksiantajayrityksen tulisi markkinoidessaan painottaa monitorin teknisiä ja laadullisia ominaisuuksia.

Asiasanat
ostokäyttäytyminen, julkinen sektori, terveydenhuolto, Philips Healthcare

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1 Introduction

The objective of this thesis is to find out, how the buying process is conducted, and which choice criteria affect purchasing of medical devices in public sector. There are only a few studies concerning buying process in public healthcare. Some researching is done in the buying processes of public institutes. For example, Minttu Siukkola studies the role of company image in the decision-making of public organizations in her thesis. Her thesis provides some information concerning decision-making in public organizations to this thesis. However, the main emphasis of her study is on the company image, which is only a minor factor studied in this thesis. (Siukkola, M. 2001.) Therefore, there still remain various factors to study in the field of public healthcare.

In this thesis the other factors that are emphasized are: the actual buying process and its participants, as well as decision-making and the criteria affecting it. In addition to the company image, this thesis studies also other choice criteria, such as: product image, personal experiences, price and technical qualities. Because there are so few previous researches about this subject, this thesis leans on theoretical bibliography. The theory contains subject areas, such as medical device industry, business-to-business market and institutional market.

The public sector includes potential buying organizations, such as; central hospitals and municipal health centres. Especially purchasing processes in municipal health centres are not enough researched. This thesis studies the buying process and decision-making, comparing the results between these two organizations.

The empirical part of this study is done for the assigner company Philips, which is an international manufacturer and supplier for various medical devices. The assigner company lacks also the important information of buying process and choice criteria in public healthcare and cannot obtain the information anywhere else, as easily without costs. So there is a remarkable need for this research, and that is why this study is conducted, concerning this specific subject.

It is assumable, that Philips has done some market research in the field of public healthcare, but they lack information on their relatively new monitor segment. Therefore, this thesis concentrates on studying one specific group of patient monitors of Philips, the value segment monitors.

Organizational purchase behavior, from the business-to-business point of view, has been a subject of great interest during the past 50 years. There have been several studies concerning this subject. As it is stated in the journal *Purchasing Orientation*, published in the Journal of Business & Industrial Marketing, the business-to-business purchasing is going through several changes worldwide. These changes are for example shifting from transactional purchasing to more relation-emphasized purchasing. This means that the supplier relationships are based more on cooperation and partnership. Also the sourcing has become more centralized and global. Additionally cost cutting occurs more often, which has again impacted the role of purchasing. (Lindgreen, A. et al. 2009.)

1.1 Specific concept terminology

This thesis contains some specific medical terms, which are explained below to facilitate the understanding of this study.

Care cycle means a medical treatment process with the following phases: diagnosing, preventing, monitoring and treating.

Decision making unit (DMU) is a unit with a group of individuals who participate in a decision making process. They share common objectives and they try to achieve these objectives with the help of decisions. They also share the possible risks appearing from the decisions. The unit can include many different participants in different phases of decision making. In this thesis buying centre or purchase office is also used with the same meaning of the DMU. Decision making unit is covered in paragraph 3.2 Roles of purchasing process.

Life cycle cost refers to a cost calculation of the monitor after it has been purchased. It can include for example maintenance costs, disposable and additional supplies and

possible spare parts. Life cycle cost is taken into consideration usually while preparing the invitation for tenders. This term appears in a paragraph covering theory, 3.4 Decision making choice criteria.

Medical devices as a term is a concept that means all those devices, systems and equipment that are used in healthcare. These devices are used in all the phases of the care cycle. In this study medical devices are referred to patient monitors. This term appears in paragraph 2 Medical device industry.

Patient monitoring means an electronic medical device that measures the vital signs of a patient. The data received from the monitor can be transmitted to a larger monitoring network. Patient monitors vary a lot, but they usually can include the following measurements: non-invasive blood pressure, pulse oximetry and temperature.

Premium monitors covers the products that are the main market segment of Philips. This means that these monitors are more invested in what comes to selling, marketing and product development. These monitors also cover the major part of turnover. Premium monitors are usually more complex, including many different qualities and therefore also more expensive than the value segment monitors.

Value segment monitor is a group of Philips monitors, which do not include into the primary product segment. These monitors are a secondary segment of Philips, and Philips receives additional value in addition to the premium products. Philips itself calls it a "good enough" product, which means that the customer can get the required qualities with lower cost. Value segment monitors are described more detailed in paragraph 2.4 Value segment monitors.

1.2 Research problems and questions

The main research problem is that Philips does not have enough information to establish its position on the market concerning value segment monitors. The first research question is: How the buying process is conducted, concerning the value segment patient monitors in public healthcare? According to the assigner company, Philips Healthcare, it is assumable that purchases can be made in different ways. For example,

do municipal health centres independently make the decisions and purchase the monitors unit-by-unit, or are there major contracts made between organizations and central hospitals? Can these types of purchases be centralized to purchase offices of hospital districts?

Philips Healthcare is quite familiar with its customers, as well as the buying process in public healthcare, but it lacks information on customer's decision-making process in value segment patient monitoring. Philips sells this segment through resellers and these monitors are relatively new sales field for Philips. That is why they want to receive more information about purchase behaviour and buying process, in order to gain information on potential growth and to add sales in this segment of public healthcare. Philips also wants to strengthen the product line and distribution channels.

The other research question is: How much do different factors affect the purchase decisions when purchasing these kinds of patient monitors? These factors are covered in chapter 1.4 Outlining.

1.3 Outlining

This thesis studies purchase behaviour and buying process from the business-to-business and from the public organizations point of view, public organizations meaning such as hospital districts, hospitals and health centres. The thesis does not cover the business-to-customer field or the aspect of the private sector.

This thesis concentrates only in Philips value segment patient monitors and not in the already known primary segment.

While studying the buying process of value segment, the thesis tries to solve the factors affecting the choice criteria in purchasing. These factors are mostly defined by Philips, because they know their product qualities, the market field and their customers. The factors to be studied are: company image, price, connectivity to other larger data systems, environment of use and clinical parameters such as: non-invasive blood pressure, pulse oximetry, temperature.

1.4 Structure

This thesis begins with the background information for the study. After that the relevant theory part is covered in paragraphs 2, 3 and 4 with themes such as: describing the medical device industry, business-to-business market, as well as the institutional market. Then the research methods and the actual implementation are clarified in paragraph 5.

In the empirical part of this thesis, the results are represented question by question, illustrated with the help of a few figures in the paragraph 6. After that some summarizing analysis (paragraph 7) is done based on the theory and on the empirical part. Finally, in the paragraph 8, the conclusions are made and the development ideas are gathered. This way the assigner company can utilize the concrete development ideas, based on the results of this study.

2 Medical device industry

Medical devices as a term is a concept that means all those devices, systems and equipment that are used in healthcare. These devices are used in all of the phases of the care cycle: diagnosing, preventing, monitoring and treating. (Terveysteknologian toimialaraportti 2007.) Medical device industry covers three (3) per cent of the electronic and electricity line of industry in Finland. (TEM 2008.)

Medical device industry operates in hospitals and municipal health centres, both in public and private sectors. Usually these devices are purchased for long term use and that is why not just selling the products, but also maintenance and technical support are characteristic for this industry. (Haikara, M. 11.3.2010.)

Medical device industry contains for example patient monitoring, which is the research subject in this thesis. Patient monitoring is the largest sales group of medical device manufacture by its sales value in Finland in 2007. (Terveysteknologian toimialaraportti 2007.) The most recent and latest available information concerning this subject is from year 2007.

The future market trend in medical device industry is to produce products with as low expenses as possible. This often transforms the manufacturing to Asia, where the labour force and materials are less expensive. On the other hand, product safety is a very important factor on the healthcare industry so quality control and different kinds of certificates are typical for the medical device industry. (Haikara, M. 11.3.2010.)

The bureaucracy of public sector dictates the medical device industry. The buying process is restricted by law and has many guidelines and obligations. In Finland there is a separate law called JYSE2009 for purchases and services in the public sector. Also the Ministry of Employment and the Economy administers a website, where organizations can announce invitations for tender, free of charge. This way companies can easily find the right customers and their invitations for tender. (Hilma, Julkisethankinnat 2010.)

In medical device industry there are various operators, which are described in chapter 2.3. Philips Healthcare Finland, when covering the competitors.

2.1 Royal Philips Electronics

Philips Oy Finland belongs to Royal Philips Electronics, which is a multinational company founded in the Netherlands in 1891. In 2009 Royal Philips Electronics employed approximately 116.000 employees in more than 60 countries all over the world. In 2009 the turnover was 23.189 million euros. (Philips Oy 2010 c.) The Philips business lines are: healthcare, with turnover of 6.4 million euros, consumer lifestyle with 5.4 million euros, and lightning with 4.3 million euros. (Philips Annual Report 2009.)

Philips is a worldwide market leader in cardiac care, acute care and home healthcare, energy efficient lightning solutions and new lightning applications, as well as lifestyle products for personal well-being and pleasure. Philips has also strong leadership in flat TV, male shaving and grooming, portable entertainment and oral healthcare. (Philips Oy 2010 c.)

Philips has production plants in 228 countries and places of business in 150 countries. Philips invests in research and product development for over 1.6 billion euro per year and is the owner of 60.000 patents. (Philips inter-company presentation. 2010.)

Philips has a brand promise "sense and simplicity", which reflects to all its businesses and sectors. The brand promise means that Philips tries to understand the needs and aspirations of consumers and customers, in order to deliver innovative solutions that are advanced and easy to experience. (Philips Oy 2010 e.) The brand promise is described below by Philips.

> It is the combination of two unique capabilities that enables us to deliver on our "sense and simplicity" promise. These capabilities are firstly, by understanding people and secondly, technology integration and product design.
>
> We put our end users front and centre of product innovations starting with understanding their needs and aspirations. We use best-in-class research facilities and agencies to validate and ensure that our product innovations are designed around people's needs and aspirations, easy to experience and advanced. (Philips Oy 2010 e.)

2.2 Philips Healthcare

In Finland, Philips Oy is better known as a manufacturer of consumer lifestyle products and lightning. The healthcare business again, is better known in foreign countries than in Finland. This thesis is made for Philips Healthcare, which was founded in 1895. (Philips Oy 2010 d.) Philips Healthcare focuses on the whole care cycle: from disease preventing to screening and diagnosis, to treatment, health management and monitoring. It focuses also in key areas, including cardiology, oncology, critical care and women's health. (Philips Oy 2010 a.)

Philips Healthcare operates in the following businesses: home healthcare solutions, professional healthcare, imaging systems, clinical care systems, healthcare informatics and customer services. (Philips Oy 2010 a.) This thesis concentrates on the healthcare informatics because patient monitoring is a part of it.

In 2009 Philips Healthcare accounted for nearly thirty per cent (30%) of Philips overall sales. This makes healthcare product division the company´s 2nd largest contributor to sales, right after consumer lifestyle business. (Philips Oy 2010 b.)

2.3 Philips Healthcare Finland

Philips Healthcare Finland has 12 employees (in October 2010) at the office, which is located in Espoo. However, the company operates and has customers all over Finland. The products offered by the company are: ultrasound devices, patient monitoring, telemetry monitoring, clinical and anaesthesia data systems. It also contains the maintenance, installation and support service for the above mentioned devices. (Philips Oy Finland Annual Report 2009.) The turnover of Philips Healthcare Finland is confidential information and cannot be shared in public.

The main competitor and one of the biggest operators in the whole field is GE Healthcare, with a turnover of 17.392 million of dollars in 2008. GE Healthcare has not published the annual report for 2009 yet. (GE Annual Report 2008.) Other big competitors are for example: Life Med Oy, One Med Oy and Fenno Medical Oy. Every company has its own emphasized business sector and that is why, it is difficult to

specifically define the market share. For example Philips Healthcare Finland is one the market leaders in patient monitoring in Finland. (Haikara, M. 1.3.2010.) In value segment field the main competitor is Fenno Medical Oy. (Haikara, M. 11.3.2010.)

2.4 Value segment monitors

This thesis studies Philips´ special segment, from which Philips uses the term *Value segment monitors*. Value segment monitors are so called secondary segment of Philips. Philips itself calls it a *good enough* product, which means that the customer can get the required qualities with lower cost. So the customers can choose, based on their needs, which qualities they require and how much they are willing to pay for it. This gives an opportunity to the customers not to automatically choose the premium monitors, which include several qualities but also cost a lot more. (Haikara, M. 11.3.2010.)

Value segment monitors are a relatively new segment and therefore, Philips wants to strengthen the product line and the distribution channel. At the moment, these monitors are sold through resellers. For example Convatec Oy is one of the resellers and they represent Philips´ products concerning these monitors. Convatec Oy also represents competitor´s products but from a different product line. So it is possible for the resellers to represent different companies, but the products have to be from different product lines and cannot be competitive products. (Haikara, M. 11.3.2010.)

On the market the actual product line of Philips is called SureSigns patient monitors. The product line includes at the moment (in October 2010) seven monitors with varied qualities. The monitors measure for example pulse oximetry, non-invasive blood pressure, respiration, basic arrhythmia, temperature and optional invasive blood pressure. Because the monitors are quite small and portable, they are most commonly used in health centres, ambulances and rest-homes. These monitors are used also in hospitals but they differ from the premium monitors, which are used more in intensive care. (Philips Oy 2010 f.)

Figure 1. An example of Philips value segment monitor, SureSigns model VM4. (Philips Oy 2010 f.)

3 Business-to-business market

The connecting factor in business-to-business markets is that the customers are always companies or organizations. Customers can be commercial organizations, public organizations or non-profit organizations. It is essential to remember, that the purchased product is not purchased by a customer for his/hers personal need, but to the need of the organization. This means that the goods are always organization bounded. So the purchase decision is based on personnel´s experiences in organizational operations and the specific need of the organization. Organizational purchasing can vary a lot depending on organization, for example how much resources and expertise are available. (Rope, T. 1998, 13-14.) The supplier in business market needs larger customers and is therefore assumed to customize its offerings to meet the requirements of the customer. (Kotler, P. & Keller, K. 2009, 223.)

Other characteristics for business-to-business market are for example, that business customer´s single purchase is much larger compared to a single purchase of an individual consumer. Also the buying decisions often include many buying influences on business market. (Hutt, M. & Speh, T. 2010, 17.) The main differences compared to consumer markets are in market structure and demand, the nature of the buying unit and also in the types of decision and its involved processes in the decision-making process. (Armstrong, G. & Kotler, P. 2009, 183.)

In business markets there are fewer buyers but at the same time they are bigger compared to the consumer market and therefore orders are usually also larger. Even in large business markets, only a few buyers do most of the purchases. (Armstrong, G. & Kotler, P. 2009, 183.) Business demand is derived demand which means that it usually derives from the demand for consumer goods. It is also possible that sometimes business-to-business marketers market their product directly to final consumers to increase business demand. (Armstrong, G. & Kotler, P. 2009, 183.) Anyhow, this is not the case in this thesis as Philips Healthcare´s customers are always business customers and never singular consumers.

Also inelastic demand is characteristic for business markets. This means that total demand for business products is not easily affected by price changes, especially in a short period of time. (Armstrong, G. & Kotler, P. 2009, 183.) Fluctuating demand is also typical for business markets, which means that demand for products and services usually changes more and also more quickly, than the demand for consumer goods and services.(Armstrong, G. &Kotler, P. 2009, 183.)

Buying unit is an important part of business markets and purchase decisions. Business purchase usually involves more participants in decision-making process and a lot more professional purchasing effort. Business product purchases can be done even by purchasing agents. Also if the purchase is complex, then several people will participate in the decision-making process. (Armstrong, G. & Kotler, P. 2009, 183.)

3.1 Organizational purchasing process

Usually the purchase process is very complex and multi-level in business-to-business market. Other characteristics for purchase process are for example direct purchases with higher price, products with specific qualities, and requirements for installation, care and support services. (Rope, T. 1998, 15.) That is why the close and good relationship between supplier and customer is important, because the purchasing process is so time and effort consuming. (Kotler, P. & Keller, K. 2009, 223.)

The purchase behaviour of the organization is never a separate act but a process with varied stages. Every stage precedes a decision, which includes multiple organizational persons. As the process goes further, the quantity of the decision makers varies. (Hutt, M. & Speh, T. 2010, 67.)

The purchasing process can include many phases, such as test use and interviews of the potential users. Each purchasing process can be different, depending on the purchase and how complex and expensive it is. Also the previously bought purchases affect the future purchases, as for example some goods can have connectivity issues with totally new products. (Rope, T. 1998, 18.)

The phases of purchase process are defined for example by Timo Rope and David Jobber but of course the order of the stages can vary depending on the organization. Understanding the purchasing process and its different phases, help the companies to plan their marketing and other operations considering organizational purchasing. The following figure describes the purchase process with a pattern formed by these two authors. (Rope, T. 1998, 20-24; Jobber, D. 2007, 157-160.)

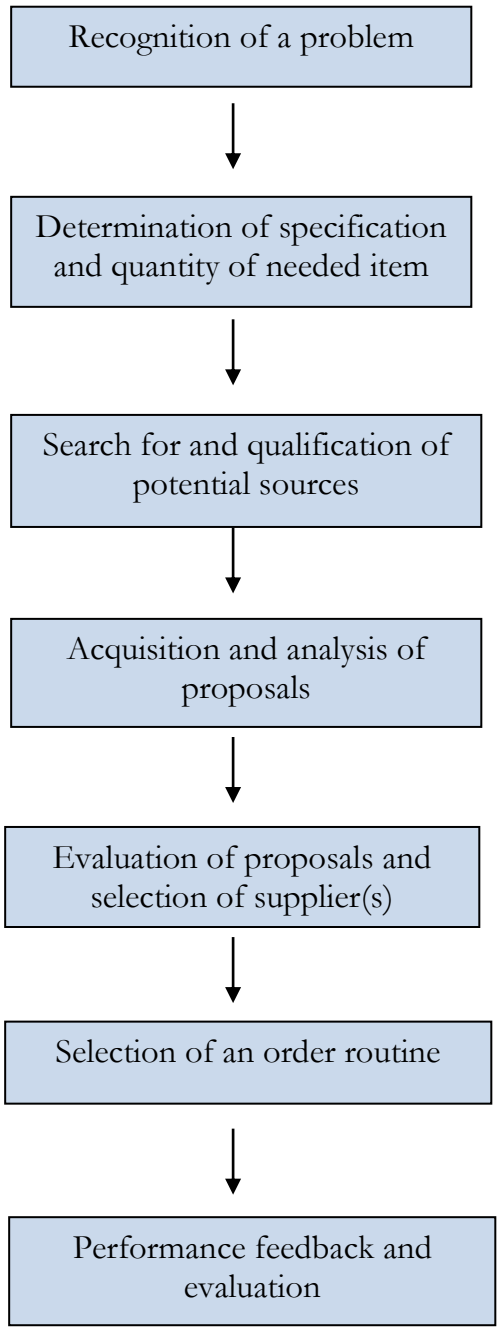

Figure 2. The phases of the organizational decision-making process. (Jobber, D. 2007, 156-161.)

The purchase process starts according to both authors with defining the basic needs of the organization (*Recognition of a problem/need*), such as raw materials, production devices etc. The organization can also have additional needs that are not necessary, such as marketing researches. In these cases the company has to sell its products to the organization, because the need will not come up on the organization´s own initiative. (Rope, T. 1998, 20-24; Jobber, D. 2007, 157-160.)

According to Rope, the next stage is to consider the alternative solutions, which means that the organization tries first to research all the optional choices so that the need will be satisfied. These can be for example different kinds of leasing contracts or data updates etc. (Rope, T. 1998, 20-24.)

The next stage by Jobber is described as *determination of specification and quantity of needed item*. At this stage the organization decides, what is required to meet the requirements. If the supplier is able to influence the specification of the product, it can give the organization an advantage in the future process. The sale may be closed at this stage, if the supplier succeeds to persuade the buying company to specify features that only their product possesses. (Jobber, D. 2007, 159.)

Rope considers that at the third stage the organization searches and finds all the suppliers or sources on the market, which may have the ability to meet the requirements of the organization. It helps the company to get onto the list of suppliers, if it is already known and has a good image on the market. (Rope, T. 1998, 20-24.)

Jobber divides the third stage into two: *Search for and qualification of potential sources* and *Acquisition and analysis of proposals*. The need for information search varies a lot and the basic rule is that, when the product is cheaper and less important, and when the buyer possesses a lot of information about the product, less searching is done. And after the buyer has found a number of companies that are qualified to supply the product, they will invite tenders. (Jobber, D. 2007, 159.)

The fourth stage, according to both authors, is the evaluation of alternatives, which means that the organization tries to evaluate which tenders and suppliers have all the

required features as a whole. Each tender will be evaluated by the people belonging to the decision making process. The final outcome of this stage is deciding the supplier. (Rope, T. 1998, 20-24; Jobber, D. 2007, 159.)

According to Rope the next stages are purchase phases, which consist of two separate parts: decision making and the actual purchase. These phases are divided, because in the end the organization may be forced to purchase from another company than what they first decided. This can happen for example due to problems or delays in deliveries. Of course the normal situation is that the purchase happens straight after the decision is made. (Rope, T. 1998, 20-24.)

Whereas Jobber considers the next stage to be the *Selection of an order routine,* in which the details of payment and delivery are agreed on. Usually this stage is conducted by the purchasing officer. (Jobber, D. 2007, 159.)

The last stage by both authors is the evaluating of the experiences. This is a critical stage where the goods or/and services are tested. Either formal or informal evaluations can be made, for example by the purchasing department. (Rope, T. 1998, 20-24; Jobber, D. 2007, 159.)

It is important to create a positive experience of the whole process, because usually the market is quite small and every operator knows each other. That is why customer satisfactory is a very important element, as well as maintaining the customer relations good and satisfactory to both sides. (Rope, T. 1998, 20-24.)

3.2 The roles of purchasing process

As said before, the decision-making in organizational buying consists of many persons with different roles. Usually the actual decision is made in a decision making unit (DMU) or often called as a buying centre. This unit is not always a firm, fixed unit, but can change during the process. Also the size and the number of persons in DMU vary a lot. Many marketing theory authors define specific roles to DMU and for example David Jobber has categorized them into the six following roles:

1. *Initiators* are those persons who begin the purchase process and discover the need.
2. *Users* are those who really use the product and they usually give information about technical requirements etc.
3. *Deciders* are those who have the actual authority to make the decisions and select the suitable suppliers or models.
4. *Influencers* are those who gather additional information and add choice criteria during the process, in order to influence others to some outcome.
5. *Buyers* are the persons, who have the right to do the actual purchasing and are in contact with the suppliers concerning visits, making contracts and effecting delivery and payment.
6. *Gatekeepers* are the ones to control the information flow and they usually are secretaries, who can allow or prevent access to a DMU member. This is an additional role and not essential in all buying processes. (Jobber, D. 2007, 156–157.)

For business-to-business marketers it is important to acknowledge all these units and persons and try to convince them the product´s worth in marketing. Marketers should learn carefully, who the ones to make the decisions are, and what criteria every role uses. It could be insufficient to contact for example, just a purchase secretary because he/she may have a very small influence in decision- making. For example, if the product is highly technical, it is important to contact also engineers in the buying organization and give all the possible information also to them. That is why relationship management is crucial, concerning all the possible decision making roles. (Jobber, D. 2007, 156–157.)

3.3 Organizational purchase decision-making

The characteristics of purchase decision-making are the offered goods, other companies operating on the market, competition, purchasing organization and the situation. On the other hand, it is important to remember that also in organizational purchasing process the actual people make the decisions, as well as on the consumer market. (Rope, T. 1998, 18.)

The affecting factors of products are for example physical features, image and purpose of the product. Also companies and the competition on the market affect by reputation, image, market position and the quantity of supply. The size, industry and the pur-

chasing groups and policy of the organization affect to the decision-making process. As a situational factors the meaning of the product for the company, frequency of the purchases, location of the company and technique affect decision-making. (Rope, T. 1998, 18.)

3.4 Decision-making choice criteria

Choice criteria include the various factors that affect the decision-making. Different roles in buying centre can use different choice criteria. For example engineers can respect the technical qualities more as the purchase managers appreciate low costs. The choice criteria can be divided into technical, economic, social and personal factors. (Jobber, D. & Fahy, J. 2009, 63-65.)

Technical choice criteria are usually related to the performance of the certain product. For example qualities such as: durability, comfort, reliability and use convenience play an important role on technician´s criteria. If the product is industrial, the buying organization respects more the quality than the price. Reliability of the product is extremely important factor, especially in healthcare industry, where people´s lives are dealt with. (Jobber, D. & Fahy, J. 2009, 63-65.) Technical quality includes also the continuity of supply. This means that the supplier has to have the ability to avoid major delays or disruptions while delivering the product. Suppliers that can guarantee functional service in supplying, have significant advantage while evaluating the tenders. (Jobber, D. 2007.)

Economic criteria consist of many more factors than just the actual purchase price. Many decision makers appreciate also for example: the value for money, running costs, residual value and life cycle costs. Especially public organizations, which have strict budgets, take into account the life cycle costs including productivity savings and maintenance costs. (Jobber, D. & Fahy, J. 2009, 63-65.) When supplier´s tenders are very similar, the buying organization may emphasize more the personal values, such as the quality of the service. On the other hand, when supplier´s products differ a lot, the buying organization makes the decision based more on economic factors. (Armstrong, G. & Kotler, P. 2009, 188.)

Social choice criteria include features such as: status, social belongings, and convention. This means that the purchase decision are made by the person´s own relationships and the influence of social values. On the other hand, the personal criteria consist of the product correlating with the image of the company and its personnel. Emotions are concerned to be a very important factor on decision-making. (Jobber, D. &Fahy, J. 2009, 63-65.) Business buyers are definitely not just calculating and impersonal, but human and social and therefore, react both to reason and emotions. (Armstrong, G. & Kotler, P. 2009, 188.) Especially, if certain market is small and every operator on the industry knows each other, the personal likes and dislikes play a big role. That is why the suppliers do not afford to make many unsuccessful business acts or mistakes in the customer service.

4 Institutional market

Institutional market can be defined as a group of institutions which must provide goods and services to people in human care. Those institutions can be for example hospitals, schools and nursing homes. It is normal, that these institutions usually have low budgets and certain customers. In many cases the public organizations are one of the major buyers of goods and services. Usually the purpose of the purchase is not to gain profit, because in public healthcare the purchase is often a part of the total service package. (Kotler, P. & Keller, K. 2009 242-243.) For example, when a hospital buys medical devices their purpose is to serve both the patient and the personnel, instead of charging the patient directly for the use of the device. This can be compared to private hospitals, where the total sum of patient´s treatment consists of certain chargeable treatments examined with different medical devices.

Because of the low budgets, public organizations prefer to choose the tenders that offer the best price. In case of only scarce competition, the public organizations usually purchase on a negotiated contract basis, which means that the contracts need to have opportunities for customizing. (Kotler, P. & Keller, K. 2009 242-243.)

4.1 Public purchases

The definition of purchase is wide. Public purchases are such goods, services or construction works which are purchased by government, municipalities, federation of municipalities or other purchase units defined by the law. The purchase can be made through actual buying, renting, leasing and instalment purchasing, or based on option contracts. It is essential, that the organizations buy for example goods always outside of the own organization against a remuneration. The purchase has to be tendered and conducted, following the legislation for public purchases. (Kuusniemi-Laine, A. & Takala, P. 2007 21, 46-47.)

Very thorough planning and budgeting is characteristic for public purchases. It is necessary to plan the budget as far in the future as possible. The budget includes the major investments at least for the next accounting period. To save costs, the organizations prefer buying larger quantities or whole purchases. Usually the organizations have strict

purchase strategies or they use already existing information on purchases when planning the purchase. Organizations get strategic guidelines for purchases also from the Ministry of Finance. On the other hand, the municipalities have their own purchase guidelines. (Kuusniemi-Laine, A. & Takala, P. 2007 29.)

4.2 Legislation for public purchases

The Finnish legislation has a specific law for public purchases which is called JYSE2009. The legislation is made to enable equality among bidders and suppliers, exploit the competition possibilities and to keep the competition open and comparative. On purchase organization´s point of view, the legislation helps the buying units to find the best solutions for purchases, meeting the price and quality requirements. (Kuusniemi-Laine, A. & Takala, P. 2007 23-24.)

However, the main purpose of this legislation is to avoid the discrimination in all stages of the purchase process. The principle of indiscrimination is offended when, for example organization gives an advantage position to the former bidder or supplier, owned by the buying unit. However, the buying unit can make demands to the bidders concerning for example language skills, when it is justified in the invitation to tender. (Kuusniemi-Laine, A. & Takala, P. 2007 23-24.)

The legislation also consists of sincerity principle, which means that almost every document concerning the purchase is open to public. The organization is obligated to notify the bidders about the purchase process and the decisions made based on it. In addition the principle of comparative competition is important part of this legislation. A concrete example of this principle is, that all the tenders must arrive to the buying unit by the last given return date. If some supplier`s tender comes at least half an hour late, it cannot be taken into consideration in the certain purchase. (Kuusniemi-Laine, A. & Takala, P. 2007 23-24.)

One of the essential parts of this legislation is the threshold value of the purchases. All the purchases exceeding the threshold value of 30.000 euro need to be tendered and to be conducted through the legal process of governmental bureaucracy. (Finlex 2010.) The monitors studied in this thesis do not exceed the threshold value, when bought in

one unit. However, the purchases often consist of many different monitors and other equipment, so therefore the total amount of the purchase can easily be over 30.000 euro. In that case the legislation will apply to the purchase process.

5 Research methods and implementation

In this paragraph the method of the research is covered and the collecting the material is explained. The interviewees of the study are introduced in paragraph 5.2. Also the implementation is covered by explaining the phases and the schedule of the study. The last part of this paragraph covers the quality of the study.

5.1 Method

The thesis is conducted mostly as a qualitative research but it also has some characteristics of a quantitative research, because the purpose is to get general information widely. The first research question is conducted through qualitative methods because it is a very open question and it cannot be structured. Also this open question gives versatile and qualitative results. On the contrary, the second research question is mostly quantitative question, which includes predetermined factors, which are studied. So this question gives specific and structured results.

The sample size of this thesis is quite big and the information per respondent varies. Type of analysis is statistical but the interviews give also subjective results. The interview is also easy to respond because we have a personal connection to the interviewees. (Proctor, T.2000, 182.) To achieve as high response rate as possible Philips was willing to offer a product prize. The price was drawn lots among the respondents.

The data collection method of this thesis is survey and was conducted by a telephone questionnaire, interviewing different hospital districts, central hospitals and municipal health centres. When doing a telephone interview, there is a semi-structured questionnaire helping the interview go smoothly, without interruptions and oblivions. The questions for the interview are based on the theory part of the thesis and some guidelines (in paragraph 1.3 Outlining) are given by Philips. It is very important that the interviewees specifically know, what types of monitors are referred to and that the interviewer and the interviewee are discussing the same issue.

Because so many customers are being interviewed and the officers in the health care industry are very busy, it is reasonable to do the interview by telephone. The response

rates are usually higher in telephone questionnaires, because an immediate answer is received. Because the sample is quite large, telephone questionnaire is cost-efficient and a fast way to conduct the survey. (Lahtinen, J. & Isoviita, A. 1998, 64.) Personal interview would not be possible due to the large sample and the fact, that the interviewees are located all over Finland. The interview is conducted in Finnish but the results are then translated into English so that the assigner company can use them for further purposes.

The advantage of telephone interview is that any problems of understanding can be dealt straight away. In this case it is very important because organizational buying process and officers´ responsibilities are very complex in public organizations. It is crucial to find out that the right person is on the phone and that additional, specific questions can be asked immediately. (Lahtinen, J. & Isoviita, A. 1998, 64, Stone, M. et al. 2004, 122-123.) The questions should be quite short and it is essential to speak clearly and a bit slower than in a face-to-face interview. It is also advised to encourage the interviewee with approving words and sounds during the pauses not interrupting the interviewee. (Hirsjärvi, S. & Hurme, H. 2006, 65.)

Assigner company provides the customer database, which includes 5 university central hospitals, 20 central hospitals and 54 district hospitals and 194 health centres. (Kunnat.net, kuntatiedonkeskus 2010 a. & b.) So altogether, the total population is 273, from which 20 central hospitals and 13 municipal health centres are interviewed.

5.2 Interviewees

Before the interviews it was impossible to know the specific number or target of the interviewees, because it is one of the main research questions of this thesis and clarified while implementing the study. The assumption was that secretaries of the purchase offices would have the knowledge needed to answer the questions but as appeared in the chapter 6 Results, people with a lot of different working titles were able to answer the interview.

Before the interviewing process, 21 central hospitals formed the sample. However, one of them declined on answering to the interview. It was more complicated to select in-

terviewees from municipal health centres, because of their complex and wide field in Finland. The structure of central hospitals is well-known and clear, whereas in health centres the centralization varies more. The total amount of interviews was 20 central hospitals and 13 health centres or their federation of municipalities, together a sample of 33 interviews.

5.3 Collecting the material

While gathering the questionnaire form for the telephone interview the assigner company was consulted. They provided the basic structure for the questions, which were then modified and completed. These questions included more of terminological information, which was important to have when interviewing persons on a specific medical field. In addition to the questions given by Philips, also the background information question was essential to include to the questionnaire.

It was also essential to maintain the amount of the questions on a certain limit, because of the nature of the telephone interview. It is difficult to keep the interviewees on the telephone for a long time without distraction in the concentration.

Before starting the actual interview, it was important to agree on common guidelines and distribution of work because of two interviewers. Every question was carefully gone through and it was secured that the questions had the same understanding and correct definitions to the interviewers.

Philips contributed to the costs of the interview by offering a prepaid subscriber connection. This way the interviewing was not dependent on specific days and the interviewing could be done flexibly during office hours, when also the interviewees were reachable.

Collecting the material was conducted by telephone without the possibility to record the conversation. Therefore, all the answers were extensively written down. This was the other reason to form such questions that could be easily and briefly answered. This way also copying the answers was effortless and authentic, because every word could be written down.

5.4 Implementation

In the following chapters the implementation is described in detail. It is divided into two chapters explaining the specific phases and the schedule of the interview process.

5.4.1 Phases

Because of the complex interviewing process done by telephone questionnaire, it is important to recognise certain phases, so that the interview could be done fluently. All the phases of the interview process are listed below, in the form of a figure and then described more detailed in the text.

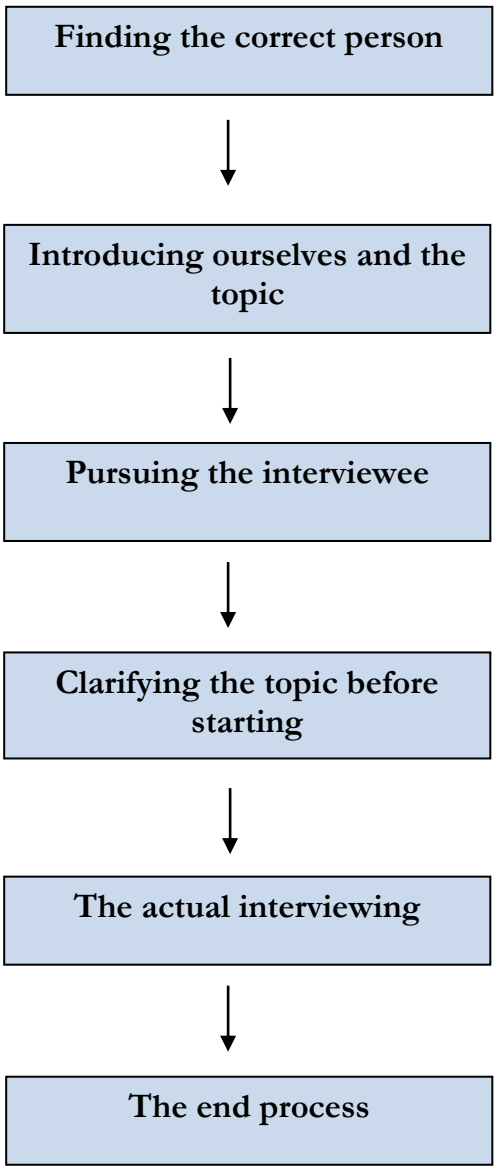

Figure 3. The phases of the interview process.

The first phase of the interview was finding the correct person to answer the questions. The most common order to reach the right interviewee was to first call to the telephone exchange. Usually the call was then connected to the purchase office and only after that the right person was reached.

Second phase was introducing ourselves; as students of HAAGA-HELIA University of Applied Sciences, as well as introducing the assigner company and the topic of the interview. After that it was crucial to reassure that the person was really able to answer the questions and that this was his/hers responsibility area. If the person hesitated, he/she was encouraged by clarifying the questions to be simple and of basic knowledge. It was also explained that the questions were related to purchasing process of the certain monitors, and not technical specifications of them. The interviewees were also assured that answering of the questionnaire would not take long, only 10 to 15 minutes.

Occasionally, some of the interviewees were willing to take part in the questionnaire but they were busy at that moment. Often this was solved by rescheduling a suitable time for the interviewee. Later it was easy to come back to the topic, when time was reserved especially for it. These types of interviewees also seemed to be more relaxed when answering, because the interviewees had had some time to prepare.

Third phase was pursuing the person to answer the questions. It is good to give the interviewee an impression, that the topic and especially the interviewee´s share in the interview process are important. The pursuing is based on the theory that the interviewer has to make the interviewee believe in the subject and in the person conducting the interview. When pursuing the interviewee, it is also good to emphasize the interviewee´s uniqueness and importance for the study. (Hirsjärvi, S. & Hurme, H. 2006, 85.)

The pursuing in practice was done in several ways, for example informing already at the beginning about the lottery, in which Philips donates a juicer to one of the interviewees. This was usually experienced as a welcome compensation for the inconvenience, caused by answering the questionnaire. Another way of pursuing the person was

to convince that the study is important, and it will give useful information considering the future. Also a good argument was to tell that the sample included most of Finland and it would be favourable, if all the areas were represented in the study. For example, when interviewing the central hospitals, the interviewee was told that the study covers all the central hospitals in Finland.

The fourth phase was starting the interview by assuring, that both the interviewer and the interviewee were speaking about the same types of value segment monitors. The price spread and the technical qualities were once more clarified before starting the questions. After that it was safe to continue through with all of the questions.

Going through the questionnaire was the fifth phase. Occasionally it included some detailed explanations about the questions, when the respondent considered the question for example difficult or unclear, or if the respondent hesitated in the answers. This is why the interviewing process was more like a supporting conversation with communicative atmosphere. Because the questions were briefly answered, in some cases also the interviewer had to ask for a clarification.

The last phase was the ending process of the interview which included ending the interview, thanking for the inconvenience and taking the personal information of the respondent for the lottery. After the telephone conversation, all the received answers were once again checked and completed. This was important phase, because this way every little detail was fully written down.

5.4.2 Schedule

The implementation was originally planned to start in the end of the spring 2010, with the deadline for the beginning of autumn also 2010. According to the theory, the most favourable months to conduct an interview would be either from April to May or from September to October. (Hirsjärvi, S. & Hurme, H. 2006, 73.) The actual interviewing in this study was conducted during two months. The central hospitals were interviewed in June and the municipal health centres during July. It was expected beforehand that the response rate for July would be insufficient because of the holiday season. Anyhow enough respondents were reached.

One interview including ten questions took approximately ten to fifteen minutes per respondent. So the estimated total time for all the interviews was circa 6 hours. This was taken into account when planning the implementation of the interviews during the summer months. As it has been researched, the maximum duration of telephone interviews is approximately 20-30 minutes. (Hirsjärvi, S. & Hurme, H. 2006, 64.

5.5 Quality of the study

In qualitative research the concept analysis and structure validity are the essential parts, when evaluating the reliability of the answers. Certain things have to be taken into consideration when evaluating the results. For example, the interviewer has to keep in mind that he/she influences on the results already in the phase of collecting the background information for the study. It is all about interviewer's interpretation and the concepts he/she uses. This is why the interviewer must argue the statements and results thoroughly. (Hirsjärvi, S. & Hurme, H. 2006, 188-190.)

The collection of the thorough background information before creating the questionnaire increased the reliability of the study considerably. All the essential terms and concepts of the specific medical and technical field of public healthcare were familiarized carefully beforehand. It was crucial to use correct terminology when forming the questionnaire, to create reliable common understanding between the interviewer and the interviewee. The assigner company knows its operation field and the rules dominating in that particular business area. This is why Philips´ guidelines were utilized when forming the questions, to get more reliability to the actual interview.

On the other hand, the background information and guidelines provided by Philips created certain expectations and preconceptions. These probably affected in some extent first to the forming of the questions and that way also to the final answers.

When analysing qualitative material, reliability relates more to the interviewer´s actions than to the interviewee´s answers. The results should reflect the interviewee´s way of thinking as much as possible. On the other hand, the result is always a reflection of both interviewer´s and interviewee´s common discussion. It is essential that all the

available material is taken into consideration and that all the information is lettered correctly. (Hirsjärvi, S. & Hurme, H. 2006, 188-190.)

During the interview, the correct terminology was also used cautiously to avoid misunderstanding and misinterpretation. It was taken into consideration that the interviewer´s own attitudes could affect the results. However, the interviewee´s answers had to be led in some cases. This occurred mostly when a few interviews had already been conducted and when the interviewee hesitated answering a question. The leading to the answers was done for example, by giving the interviewee options and introducing other interviewees´ answers by asking if they operated in the same way. Usually this opened the discussion and the interviewee brought own ideas and opinions to the question. However, it did not lead to copying the option given to them.

The researched overall sample was considerably high, considering the qualitative research´s point of view. On the other hand, the sample can be considered relatively small, when considering it from the quantitative point of view. This is because the population of the research is unknown. Therefore, the results for the second research question, including choice criteria, are only indicative.

The lettering of the answers was done by maintaining the answers as original and consistent as possible, so that their correct meanings and tones were not distorted. The analysers' own assumptions and embellishments were acknowledged and avoided. Of course there is always a possibility that some parts of the original answers are not interpreted correctly. For example, it is sometimes difficult to recognize all the emphasis that the interviewee expresses while responding.

When analysing the received answers, a certain process was followed. First, all of the answers were gathered together per each question. After that some of the questions were combined to larger titles, for example process participants were clarified through questions about the initiators, participants and decision makers. Then all the answers were calculated and the most common answers were recognized. In addition, when analysing the answers of preconceived choice criteria (question 9), average rates were also calculated to facilitate the comparison.

All and all, all the telephone interviews were successfully done without any distractions or interruptions. Not once, was the interview interrupted or interfered by any technical problems. Also all the unclear answers were clarified already during the interview with additional questions and specifications. All these factors increase the reliability of this study.

As a whole, all the respondents regarded the telephone interview positive and pertinent. All of them, except one, were willing to take part in the questionnaire and provided extensive answers. The common tone and atmosphere of the interviews was friendly and polite. Some of the respondents even wanted more information about the study and asked additional questions afterwards. For example, from respondents´ curiosity and interest, it can be assumed that the subject was considered important and interesting. Therefore their answers can also be considered reliable and actually useful for the assigner company.

6 Results

This paragraph covers the results of this study. The results are divided into six titles, which cover different theme areas combined from the questionnaire. These titles give answers to the two research questions of this thesis: How the buying process is conducted concerning the value segment patient monitors in public healthcare? And how much do different factors affect the purchase decisions when purchasing these kinds of patient monitors? These questions will be covered when going through the process phases.

6.1 Structuring of the results

First the buying process initiators, participants and decision makers are sorted out. Next the buying behaviour is studied. This explains how the actual buying is conducted, regarding for example, the agreements. Also the monitors´ unit of use is covered, explaining where the monitors are actually used inside the hospital. After that the answers to the second research question are given, covering the choice criteria used within the process. The choice criteria include both verbal and numeric answers.

The purpose of the first question in the questionnaire was to find out the background information of the respondent. It was essential to ask only the working title of the interviewee, as for example age or sex does not play any role in this study. Many different working titles appeared in this study but the most common title was chief buyer with ten (10) answers. The second common title was purchase secretary with seven (7) answers. This working title was assumed to be the most common one at the beginning of the study. Also a few of very different kinds of directors, from finance to logistics and some head nurses were interviewed. The respondents included also titles, which were not that common, such as IT manager, master of maintenance and central store manager.

Comparing the working titles of the central hospitals to municipal health centres, central hospitals clearly had more chief buyers as respondents. From all ten (10) of the chief buyers, nine (9) was from central hospitals as only one (1) from the health centres. The working titles of the municipal health centres varied a lot more, as all the ti-

tles which were not that common, were from the health centres. It can be interpreted, that the organizational structure of municipal health centres is not that organized and clear, as in central hospitals. It is also assumable, that as the central hospitals are bigger, so also their purchasing operations are more centralized and more invested in.

6.2 Buying process initiator

Question 2 was made to find out, who are the persons or the units that start the buying process and especially, express the need for these kinds of monitors. This question was essential for finding out the target group, considering the marketing of these monitors in the future. This way the assigner company can target their selling to the right units and persons, to save resources, such as money and time.

All 33 respondents answered that the primary need for these monitors comes directly from the unit, which requires the monitor. The central hospitals were not able to name any certain persons to be initiators. As according to the respondents, the need comes from the users themselves and not from the singular specific persons.

On the contrary, in the municipal health centres the need can be expressed by many different working titles. Majority of the titles were head nurses (4/33) or nurses (4/33). In some cases also doctors (2/33), care assistants (2/33) and a nursing director (1/33). So again the answers from health centres varied more compared to the central hospitals.

There were differences between the initiators, if there was a need to replace an already existing broken monitor or if they just had the pure need for a new monitor. For example, in the purchase office of the city of Kuopio, the answer to this question was: *'The head nurse of the buying unit is in a key position and also a head nurse with budget responsibility. Although, if the monitor is broken, the need might come straight from the user of the monitor, for example from a doctor.'*

6.3 Buying process participants

This thesis tried to find out the buying process participants through questions 3 and 4, which were: Who are all the participants that take part in the buying process? And especially; which units take part in the process? These answers varied tremendously between all the respondents, regardless of the respondent being from the health centre or from the central hospital. It was common to most of the respondents, that the buying actually was a process including several participants taking part in different phases.

6.3.1 Central hospitals

The results were very clear and coherent in the central hospitals. Over a half of the respondents, fourteen out of twenty (14/20) central hospitals, expressed consistent pattern to the buying process. In this process the same participants and their tasks were mentioned repeatedly. For example, in the central hospital of Kymenlaakso, the buying process was described clearly in the answer: *'The need comes from the unit, in which the head physician makes the decision to purchase the monitor. The financial decision is made by the management group of the hospital. The decisions concerning technical specifications are made by maintenance unit. At last, the purchase office tenders the monitors.'* Figure below describes this process and its participants in central hospitals.

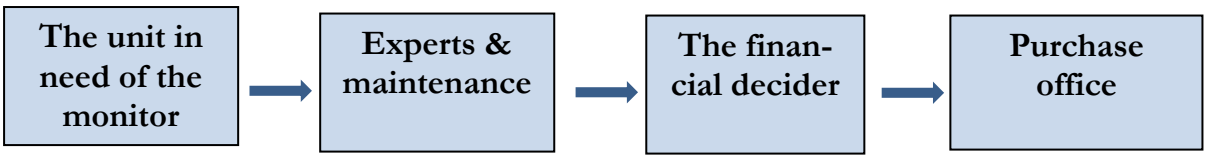

Figure 4. The buying process and its participants in central hospitals.

The process starts always from the unit which is in need of a new monitor. Usually the head nurses or head physicians are the initiators inside the unit. After that, the technical unit with its experts are consulted. They usually give their ideas concerning the technical specifications of the monitor and its connectivity to the existing equipment in the hospital. The users and maintenance experts appear also in the later phases of the

process. If the monitor is actually purchased, these persons are responsible then for testing the monitor before taking it into use.

The financial decider is described more detailed in the chapter 6.4 Decision makers. However, it is an important factor in the whole buying process. In fourteen cases out of twenty (14/20), the financial decider of the purchase is the head physician or the director of the unit. The financial unit has the responsibility to follow the budget, and appears always on the background of the process. Especially on the field of public healthcare, where everything is carefully long term budgeted and cost efficiency is a major factor.

The last participant in the buying process is the purchase office, which tenders the monitors within the qualifications given by the experts and the unit in need. The purchase office has the role of a tendering expert, and therefore has its say also in the final decision making of the supplier.

In the central hospital of Satakunta, the answer varied extremely from the other consistent answers. In Satakunta, only the unit in need of the monitor and purchase office were participants of the process. Their answer was: '*The personnel in the unit in need have the best expertise of the technical qualities. All needed is done inside the unit; other units do not take part in the process, not even the technical unit. And only purchase office is responsible for the tendering.'*

6.3.2 Municipal health centres

On the contrary, the answers of health centres were very different from each other. However, the answers had some same characteristics with the process of central hospitals. The most common, seven out of thirteen (7/13), pattern included three same participants as in the central hospitals´ answers. All the answers included the *Unit in need of the monitor* as well as the *financial decider. Experts & maintenance* and *the purchase office* did not appear in all of the processes; however, one of them regularly was included.

The most common answer included participants listed in the figure below, in which *the experts & maintenance* or the *purchase office* alternates. For example in Social and Health

Service of Imatra the answer was: *'The need comes from the nurses or the users which play a big role for example in testing the monitor and specifying its technical qualities. In addition the profit area manager or head physician are involved in the decision-making as financial deciders.'*

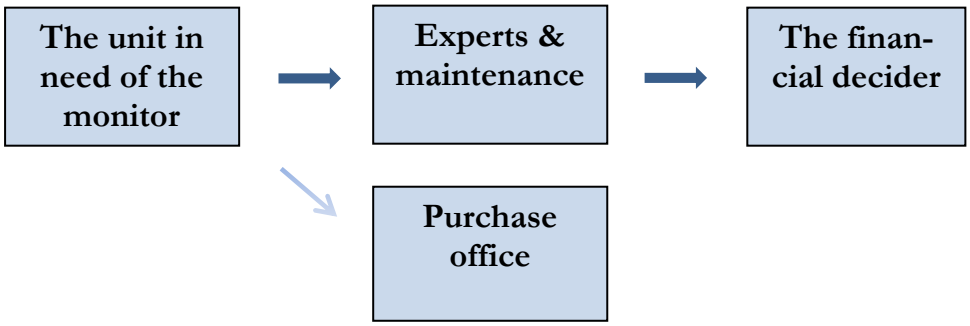

Figure 5. The buying process and its participants in municipal health centres.

The purchase offices did not appear in all of the answers as participants in the process. The reason for this appeared to be again, the narrowness of the operations of the health centres.

One case differed totally from the others. In this answer the whole process lies on one participant. In Healthcare Federation of Municipalities of Raahe, the head nurse was the only one responsible for the process. The head nurse makes the decision and then places the orders to the central store. This case of Raahe seems to be a singular and not the common way of purchasing in all of the health centres. The reason for this may be that the operations are so narrow in that particular health centre, that the processes are kept simple and not multi-phased.

6.4 Decision makers

If the buying process participants varied considerably between central hospitals and health centres, this question had almost same answers in both research targets. The question 5 asked: Who is responsible for the final decision of the purchase? Answers included many different working titles. Most common ones were chief buyers with nine out of 33 (9/33), as well as head physicians with the same amount of answers. Also chief finance officers or profit area managers had the result of eight out of 33

(8/33). Head nurses appeared seven (7) times in the answers. Five (5) of them were from the central hospitals, as only two (2) from municipal health centres.

For some reason, two (2) of the respondents could not answer to this question and both of them were respondents from health centres. One of them was not sure, who the final decider actually is, but he assumed that the decision comes from the unit. He could not mention a specific working title, but he stated that the decider is always the person with the authority to decide inside the unit. The other respondent was quite hesitative with the other questions in the questionnaire as well, so maybe that was the reason for answer: *'I do not know.'* According to these answers, it could be assumed that the infrastructure of health centres is not that organized, which leads to ignorance inside the organization.

In some cases the respondents gave multiple answers as decision makers, because people with different working titles are responsible for purchases to certain extent. For example, in smaller purchases the head physician can make the decision him/herself, whereas in larger purchases the chief finance officers have the responsibility. Also different decision makers can make the decision together, as in the case of central hospital in Päijät-Häme: *'Usually the unit makes the decision together with the purchase office.'* Another example is the case of central hospital of Kanta-Häme: *'There is no one precise decision maker but usually chief buyer has the last word'*. All the mentioned working titles are listed below:

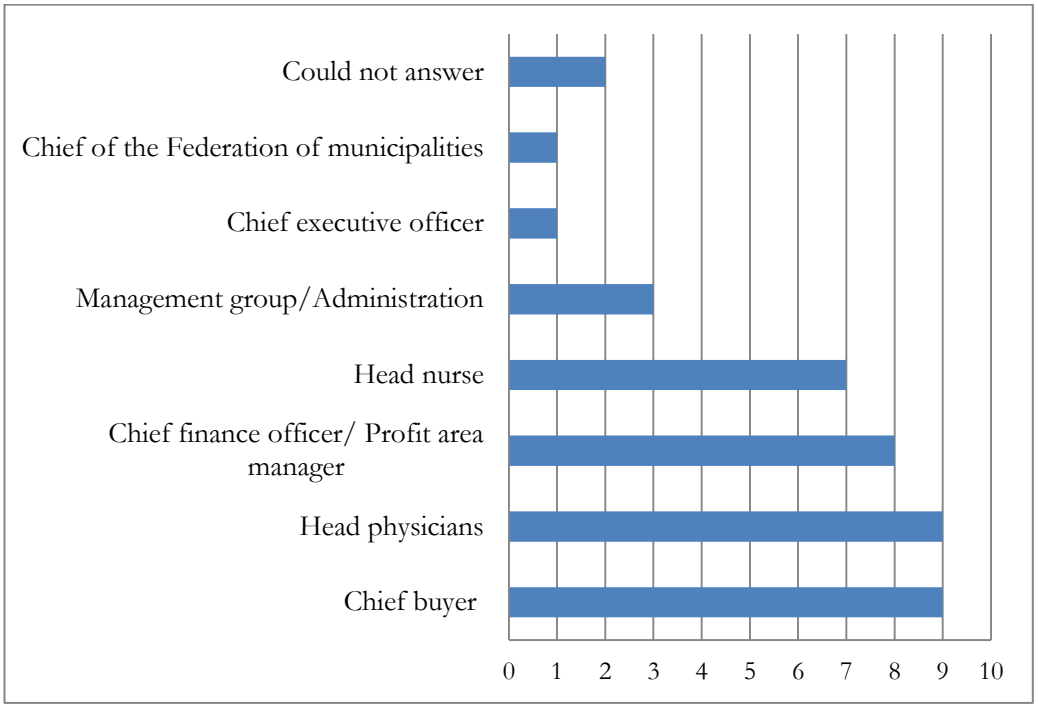

Figure 6. Working titles of the decision makers.

Five (5) respondents out of 33 emphasized, that the head physicians can make decisions in to a limit less than 10.000 euro per purchase. The purchases exceeding 10.000 euro are usually decided by the profit area managers. But because this thesis studies monitors under that limit, this information is not that relevant.

6.5 Purchasing behaviour

The next question clarified the buying behaviour at the viewpoint of actual buying. How these types of monitors are bought? This meant finding out the method of buying, concerning various agreement types; with tendering or straight purchases without tendering. While interviewing, some alternatives were given to the respondents. These three alternatives, which were assumed to be the most common ones, were: unit by unit –agreement without tendering, skeletal agreement covering larger districts at once, or just an ordinary agreement made after tendering. The question was formed according to these assumptions of the assigner company and the theory.

6.5.1 Central hospitals

Again there was a quite remarkable difference between central hospitals and health centres. The most common answer in central hospitals was that the purchasing is made case-specific by tendering every purchase separately. The answer appeared 14 times out of 20 (14/20). The second common answer was a skeletal agreement, which included to eight (8) responds. The skeletal agreement means a larger agreement with many monitors and to wider area, including several units. For example, in the central hospital of Kainuu the answer was: *'A part of the purchases are made by centralized purchase circle of Oulu University Hospital. This means that the purchase circle does the tendering and after that, the selecting council decides how the purchase is conducted. It also decides what to buy and with what cost.'*

Also in the central hospital of Satakunta, there is a larger purchase circle called ERVA, which is partially responsible for the purchases and the tendering process. This ERVA tendering process is conducted in Turku, by the purchase office of Turku University Hospital. In this case the purchase office can also tender the purchase, with co-tendering of two different hospital districts.

There were only three (3) central hospitals that mentioned unit by unit –agreement without tendering as their method for purchasing. Common for these answers was the fact that this type of buying was made when the purchase was relatively small.

To assigner company´s interest there were two interesting cases, which provide concrete information about its clients. First was one central hospital, which would be interested in making a skeletal agreement for these types of monitors. The central hospital of Central Finland expressed that they are considering this kind of agreement, because they regard it as a useful and valuable method of buying.

The second answer from central hospital of Mikkeli was also interesting from the viewpoint of Philips. The respondent answered: *'Singular purchases were not made that often during the last few years. We do not make skeletal agreements. The majority of monitors are bought from Philips and therefore we will prefer Philips in the future as well. We usually have asked for a request of tender directly from Philips and chosen Philips as a supplier.'* Philips could take these

two cases into consideration when planning the next market approach for their monitors.

6.5.2 Municipal health centres

On the contrary to the central hospitals, the majority of answers (8/13) in health centres consisted of unit by unit –agreements, without any specific tendering process. Some of these answers included also other methods of buying, for example tendering, but with less bureaucratic process. For example, in the purchase office of the city of Kuopio, the alternative for unit by unit –agreement is an unofficial tendering done by e-mail. However, the same respondent said that before the actual order, the previous orders and suppliers are researched. Also new suppliers are searched from the Internet with the help of Google.

The second common answer was an ordinary tendering with seven answers out of 13 respondents (7/13). The process had some special conditions in terms of previous orders or special partnership agreements. In those cases also direct orders are possible. Some health centres had several methods of purchasing. For example in Social and Health Service of Imatra the answer was: *'Usually we always tender the purchases. However, at the moment we do also some unit by unit –agreements. In the future the purchases will be centralized and therefore, it is assumable that also the number of skeletal agreements will increase.'*

Again there was one hesitative answer, where the respondent could not provide specific information to this question. However, the answer included an assumption that the buying is centralized in the federation of municipalities.

6.6 Monitors´ unit of use

The question number 7 asked: Where or in which unit these types of monitors are used? Answers to this question help the assigner company to target their marketing and selling to the specific units. The answers varied a lot and multiple units appeared in the results.

The health centre ward was the most mentioned answer with 17 out of 33 (17/33) as central hospitals gave nine (9) answers and health centres eight (8) answers, clarifying that health centre ward is the most common unit to use these types of monitors. The second common answer was emergency duty with total of nine (9) responds. This amount was almost evenly divided between central hospitals (5 answers) and health centres (4 answers). The intensive care unit was mentioned seven (7) times, from which six (6) was from central hospitals and only one (1) from a municipal health centre.

Operating theatres, outpatient departments, emergency outpatient departments, surgical units and internal diseases units were all mentioned five (5) times out of 33 in the answers. However, for example all of the five (5) operating theatres were mentioned only in the central hospitals´ answers. This is natural phenomenon, as operations are not done in small health centres. On the contrary, the amount of outpatient departments and surgical units was bigger in health centres with the result of three (3) answers.

After these units and amounts, the dispersion is larger in the answers. Some singular responds were given also from the following units: anaesthesia unit, surgical unit, paediatric unit, gynaecological unit, observation unit, doctor´s unit, internal disease unit and maternity clinic. Some of these units appear in the central hospitals but not in the health centres and vice versa.

Three (3) central hospitals could not give a specific answer but expressed that these types of monitors are used all over the hospital. For example, the central hospital of Kanta-Häme said that*: 'It is hard to mention singular units but for example health centre wards use these monitors. On the other hand, I could say that every unit in this hospital needs these types of small monitors, at least in some extent.'*

Because of the wide range of units answered, the following figure clarifies the units, divided in central hospitals and health centres.

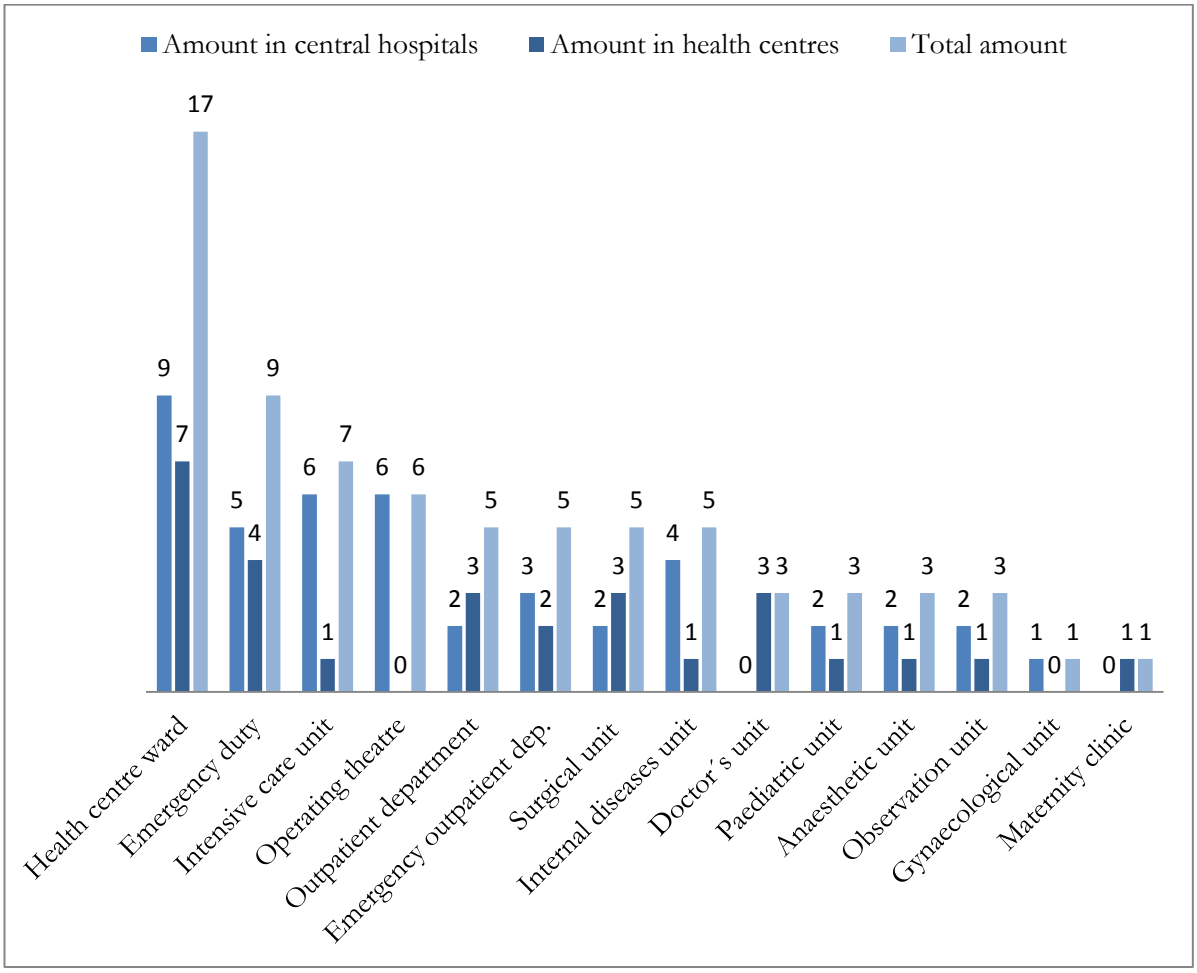

Figure 7. Units of use.

6.7 Choice criteria

The assigner company needs information about the criteria behind the purchase decision to help their marketing in the future. Therefore, two questions were formed to clarify the criteria. Question 8 was an open question, in which the respondents were encouraged to name all the criteria they thought, affects their purchase decision. However, Philips also wanted to provide some predetermined criteria align with the open question. So the purpose of question 9 was to have the respondents prioritize and evaluate the given criteria, to describe their order of importance.

6.7.1 Open question criteria

Question 8 was an open question: In your opinion, which criteria affect the purchase decision? As it was assumed, the answers varied a lot in this question. The respondents

were not given any ideas about certain prospected criteria, but simply encouraged to answer those important criteria that came into their minds.

There were no major differences between the answers of central hospitals and health centres. Price appeared to be the most common criteria behind purchase decision, according to its frequency in the answers, since price as a criterion, was mentioned 18 out of 33 times. The second common criterion according to the answers was functional and technical qualities with 17 out of 33 answers. Ten answers (10) included usability and adaptability as an important criterion. Also seven (7) respondents answered that the most relevant criteria is that criteria required by the unit in need of the monitor.

Other relatively frequently mentioned criteria were: quality (6 answers out of 33), maintenance with technical support and spare parts (6), functionality and simplicity (5), connectivity (4), reliability (3) and time of delivery (2). Also some singular criteria was mentioned, such as: the size of the monitor (1 answer out of 33), experiences (1), durability (1), the reliability of the supplier (1), the language of the monitor, which was required to be Finnish (1), time of guarantee (1), technical values and merits (1), trainings organized by the supplier for the personnel (1) and testing the monitor before the purchase (1). All the criteria mentioned in the answers are listed in the figure below, to clarify the various criteria received from the question.

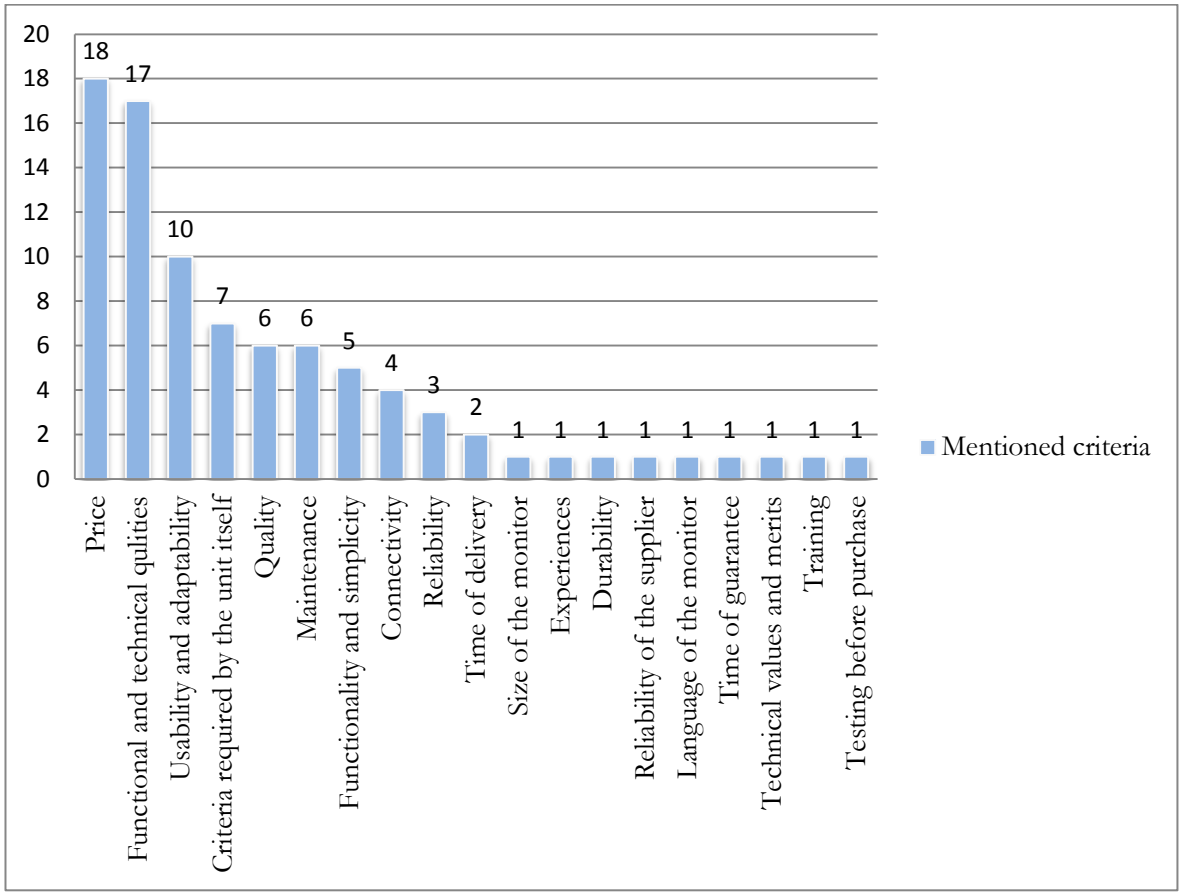

Figure 8. Summary of the open question criteria

Usually the respondents mentioned several different criteria and rarely just one. However, both kinds of answers appeared. For example, the municipal health centre in Joensuu listed the following criteria: *'Quality, durability, reliability, simplicity and the time of the guarantee.'* Whereas the health centre in Helsinki mentioned only: *'The criteria that the unit in need of the monitor itself requires.'* As a third example the central hospital of Kymenlaakso said: *'The unit itself defines the relevant criteria. Functional qualities arise from the unit´s need. In most cases the functional qualities affect 60 per cent and price 40 per cent.'*

Since the respondents and their working titles were not known before this study, it was slightly assumed that respondents with different working titles would answer this question differently, emphasizing their own domain. Anyway this did not appear as much as expected, because the respondents considered all the criteria affecting all units and not just the criteria affecting their own unit.

6.7.2 Scale criteria

Philips provided certain specific criteria to the questionnaire, in order to gain specific information concerning the criteria affecting the purchase decision. This way the assigner company can plan their marketing for the future and develop the product range. It is extremely important to the assigner company to know, which qualifications its customers value.

These predetermined criteria were *company and product image, previous experiences, price, clinical parameters* and *connectivity*. In question 9 the respondents were asked to evaluate the importance of the criterion, by grading it in a Likert scale of one to five; one meaning that the criterion does not have any importance at all, and five meaning that the criterion was highly important.

The figure below explains all the given criteria, which the respondents had to evaluate according to their importance in the question 9.

Choice criterion	1 (pcs)	2 (pcs)	3 (pcs)	4 (pcs)	5 (pcs)	Average grade
Company and product image	8	8	**13**	3	1	2.42
Previous experiences	5	2	10	**15**	1	3.15
Price	0	3	**14**	12	4	3.52
Clinical parameters	0	0	3	13	**17**	**4.42**
Connectivity	0	1	4	**16**	12	4.18

Table 1. Summary of the scale criteria.

Once again there were no major differences between the answers of central hospitals and municipal health centres. *Company and product image* was mostly graded as a 3 as 13 out of 33 respondents graded it so. The average grade of *company and product image* was 2.42, which was the lowest average grade of all the given criteria.

The second criterion, *previous experiences,* was commonly graded as a 4 by 15 answers out of 33. It was also referred to as a 3 ten (10) times. The average grade of *previous experiences* was 3.15, which was the second lowest average grade.

Price, which was mentioned as an important criterion most commonly in the open question (Question 8), received the average grade of 3.52. Still *price* was not the most highly graded criterion in this question. It was graded as a 3 fourteen (14) times. None of the respondents answered *price* having no importance at all.

Clinical parameters were graded as the most important criterion, receiving seventeen (17) grades as a 5. The average grade of *clinical parameters* was 4.42, which was the highest average grade from all of the provided criteria.

Connectivity was graded the second highest average grade 4.18, as it appears in the Table 1. it received 16 answers as a 4 and 12 answers graded as a 5. All and all *connectivity* had relatively high importance as a criterion.

Some resemblances appeared when comparing the answers of the open question and the answers of this evaluation question. For example as a resemblance, *company and product image* did not appear, under that particular term, at all in the open question. Although terms such as: reliability, and especially reliability of the supplier, can be considered meaning the same as: *company and product image*. In question 9, this criterion received the lowest average grade from all the predetermined criteria, so in both questions this criterion was not considered nearly as the most important criterion.

Also *previous experiences* were mentioned only one (1) time in the open question answers. Even though, some criteria, such as reliability, can be connected to experiences. Usually reliability is experienced from the previous occasions. P*revious experiences* were graded as not so important criterion and received the second lowest average grade also in question 9. So once again, it was not significant in both answers.

Clinical parameters had a positive resemblance in these two questions. It was mentioned as functional and technical qualities 17 times in the open question and graded as highly important (grade 5) also 17 times in the evaluation question.

Also some major differences appeared when comparing the two questions and their answers. For example *price* was mentioned 18 out of 33 times in the open question, being the most common criterion answered. However, in the evaluation question it received the average grade of 3.52, which ranked it only as the third important criterion. The differences between these two questions can be an implication of a fact, that when asking the criteria affecting the purchase decision, price is a relevant and easy criterion which is also often remembered. It can be assumed, that every respondent considers price to be an important criterion, when any predetermined other options are not given. For example, the budget of the central hospital or municipal health centre affects all the respondents' daily work.

Connectivity had also differences in these two questions. In the open question connectivity was mentioned only four (4) times out of 33. However, in question 9 it was graded as the second important criterion by the average grade of 4.18. This can be an implication of the fact, that connectivity is not so common and easy term to remember. It may not affect all the respondents' daily work same way the price for example does, and is therefore not so memorable.

Although question 9 did not require any other comments besides only the grades, one respondent added a comment. The central hospital in Keski-Pohjanmaa evaluated price, clinical parameters and connectivity all as a 5 but then added: *'These three criteria which received the grade 5 do not stand out as individuals but affect the choice criteria as a whole.'* This can also be realized from the open questions, in which respondents rarely stated only one criterion but mentioned various.

7 Results analysis

As it came out from the results, several initiators for the buying process appeared in central hospitals and municipal health centres. As it was stated before, not any specific persons were named as initiators in central hospitals. So it can be assumed that in every purchase the primary need comes from the actual users or units that are daily in contact with the monitors. So it can be assumed that the buying process starts from the employees rather than for example from the management.

When analysing the participants of the buying process, it came out that the actual buying is in a form of a process. The process includes several participants which take part in different phases of the process. The process has some differences between central hospitals and health centres. These differences may occur from the fact that the buying process in central hospitals is more multi-phased and complex than in the health centres. This is probably because central hospitals are so large organizations that they require functional processes and precise structures, in order to operate fluently. Then again for municipal health centres more flexible and simple processes are required because of their small size of operations. The main difference between the buying processes was that the health centres usually did not have a separate purchase office. The reason for this could be that there is no use to centralize purchases to one unit, because of the small amount of the purchases. It is also more cost efficient that the information is shared between the members of the existing personnel of the health centre.

Decision makers of the buying process can be persons with very many working titles. It can be assumed from the results, that there is not only one decision maker in central hospitals or health centres. Almost every hospital and health centre has their own way working with the purchases and this way also different persons deciding the purchases. The reason for this can be the wide range of responsibilities with their financial restrictions, for example budgets.

When analysing the buying behaviour, the three alternatives, which were assumed to be the most common ones before the study, also came out from the results. These alter-

natives were: unit by unit –agreement without tendering, skeletal agreement covering larger districts at once or just an ordinary agreement made after tendering. In central hospitals the most of the purchasing is made case-specific by tendering every purchase separately. Whereas in health centres it is usually done by unit by unit –agreements, without any specific tendering process. This quite remarkable difference could be explained again with the fact, that in central hospitals the whole buying process is more complex and a greater number of purchases are done. The great amount of purchases leads to the tendering, as central hospitals want to study all the possible alternatives in order to gain the maximum cost efficiency and to have the most suitable supplier.

Some health centres tender the purchases, but the majority of health centres in this study still preferred the unit by unit –agreement. As the results for health centres show, the difference between tendering and not tendering is only one response. So any major conclusions cannot be made about the tendering process by implying that the health centres do not tender purchases at all.

As a result, the buying behaviour is more flexible and less bureaucratic among health centres than in central hospitals. The simple unit by unit agreements have their advantages considering the flexibility and simplicity. On the other hand, the tendering is more fair way of buying when considering all the suppliers in both central hospitals and health centres. Again the difference between infrastructures reflects to these results. It is reasonable to think, that health centres need more freedom and quick decisions in their daily functions.

When considering the monitors´ unit of use, multiple units were mentioned. As a conclusion from the results, these types of monitors are used in the whole hospital or health centre. One reason for this can be the fact that these monitors are transferrable and can be used with different patients. The health centre ward was the most common answer in both the central hospitals and in health centres. The reason for this could be the usability of the monitor. The clinical parameters of the monitor are the most suitable for the basic treatment used in the health centre wards.

The choice criteria included several different responses in this study. A great number of criteria were mentioned in a scale, for example from price to the language used in the monitor. It is essential to take into account, that although several criteria were mentioned, there were not that many differences in the answers between the central hospitals and the health centres. So it can be assumed that both value the same criteria for the monitors.

Price, clinical parameters and connectivity were the most common criteria combined from both of these questions. It is quite clear, why price was one of the most important criteria, as all the purchases are budgeted in the health care sector in Finland. However, the clinical parameters required to a monitor, are a big part of cost-efficiency as well. It is essential that the personnel have all the necessary parameters, but at the same time there is no need to pay extra money for the unnecessary qualities. This factor is well presented in these types of monitors of this study. Connectivity is an important criterion at the moment, but especially in the future, according to the results. This is because technology is developing, and more often the patient data is collected to one larger system to save resources. So it appeared to be important that all monitors can be connected into larger data systems.

Although various working titles included among the respondents, it is interesting to find out that the responses were not that different. The respondents were able to answer on behalf of the whole unit, and not just answering on the base of their own domain. This could imply that the personnel are multiply skilled, or they have at least the knowledge of other responsibility areas as well.

8 Conclusions and development ideas

This paragraph covers the conclusions made from the results as well as development ideas provided to the assigner company.

8.1 Conclusions

In this paragraph the results are compared to the theory and the purpose is to find out, whether the results answered to the research questions formed before the actual study. The first research question was: How the buying process is conducted concerning the value segment patient monitors in public healthcare?

First of all, it was common to most of the respondents, that the buying actually is conducted in a form of a process including several participants taking part in different phases. This conclusion correlates very well with the theory of organisational purchasing process. As it was mentioned before in paragraph 3.1 Organizational purchasing process, the process usually is very complex and multi-level in business to business market. Also other characteristics such as products with specific qualities, requirement for installation and care and support services appeared in both; the theory and the results. (Rope, T. 1998, 15.) The fact that large amount of persons are involved with the process and as the process goes further, the quantity of the decision makers varies, also appeared in the theory and the results. (Hutt, M. & Speh, T. 2010, 67.)

The above mentioned theory facts correlated mostly to the majority of the responses in the study. Of course, some exceptions also occurred, for example in health centres, where the process in any case was more variable. The theory did not recognize differences between the processes of two different organizational institutes; central hospitals and health centres, covered in this study. As it came out from the results, the processes varied a lot between these two institutions.

To learn about the actual buying process, the questionnaire was formed to find out the participants of the process. Instead of inquiring the actual stages of the process, it was assumable that the participants could clarify the process in more detail. It was also considered that one single participant may necessarily not know the whole process. There-

fore, the questions found out the initiators, participants considering the persons and the units, as well as the final decision makers. This way, also the phases of the process came out naturally from the responses.

On the contrary to the questionnaire´s approach, the theory considered the buying process through phases. As it was mentioned in theory paragraph 3.1 Organizational purchasing process, Jobber defines seven phases to the process in his book *Principles and Practice of Marketing*. The results reflected well these seven phases but from a different point of view. Whereas Jobber considers the first phase to be *recognition of a problem (need)*, the question clarifying the initiator of the process offered an answer to this; the recognition of the need comes from the unit in need of the monitor. Also Jobber´s second phase *determination of specification and quantity of needed item* is cleared, when asking of the initiator. As it was mentioned in many central hospitals and health centres, the specifications of the monitor usually come from the users of the unit in need of the monitor.

The next three phases according to Jobber are: *search for and qualification of potential sources, acquisition and analysis of proposals* and *evaluation of proposals and selection of suppliers*. All these phases appeared in the answers concerning the tasks of the purchase offices. In the results, the most common situation was that the purchase office finds out the potential suppliers and then begins the tendering process. After that they can provide an assembled range of alternatives of suppliers and equipment to the final decision makers. Although, this case had also its exceptions, for example in one health centre where one head nurse could own the whole process from the very start to the end.

Selection of the order routine is Jobber´s next phase. The answers and results to this were covered in the question, which clarified the actual buying inside the process, including for example different agreement types and ways of purchasing. Jobber´s final phase *performance feedback and evaluation* do not have a directly referring question in the questionnaire. Still, performance feedback and evaluation of the monitor is conducted in the end of the process. This factor appeared in some of the answers, for example in the form of test use and evaluation of technical specifications of the monitor. However, because the questionnaire did not include a question concerning the actual end

evaluation of the process, it did not come clear, whether the organizations do such evaluation or collection of feedback at all.

The first research question included also an assumption that purchases can be made in different ways, according to the assigner company. For example, do municipal health centres independently make the decisions and purchase the monitors unit-by-unit, or are there major contracts made between organizations and central hospitals? Can these types of purchases be centralized to purchase offices of hospital districts?

The above mentioned assumptions correlated to the results, as it for example came out that the majority of health centres purchase these monitors independently unit-by-unit. Then again the central hospitals tended to tender the majority of the purchases. In addition, it came out that the majority of the purchases are done through purchase offices but mainly in the central hospitals.

The other research question was: How much do different factors affect the purchase decisions when purchasing these kinds of patient monitors? The purpose of this question was to find out the specific criteria affecting the decision-making and the buying. Supporting the original assumption, several criteria were received. The first question was open without any given assumptions and therefore, cannot be based on theory. On the contrary, the second question included preconceived alternatives, which correlated with the theory and with the guidelines provided by Philips. Both of these questions and their results again support the theory.

According to the theory by Jobber and Fahy in their publication *Foundations of Marketing,* the choice criteria are divided into technical, economic and personal factors. In the questionnaire, the personal factors were clarified with the following given criteria: image of the product or the supplier and the previous personal experiences. According to the theory, emotions are concerned to be a very important factor on decision making. (Jobber, D. & Fahy, J. 2009, 63-65.) This came out from the responses indirectly since the average of these criteria was not so remarkable comparing to the price for example. As a conclusion, the respondents admitted that personal experiences and emotions have some importance, when actually it should not affect that much.

Price was regarded as an important criterion, although the technical criteria had more emphasis. Economic criteria did not just consist of the actual purchase price but also took into account the value for money and life cycle costs. As it was assumed that the public healthcare has strict budgets, also the respondents strengthened the assumption that price matters quite a lot.

The criteria that had the biggest importance correlated to technical qualities, including clinical parameters and connectivity of the monitor. On the contrary to the original assumptions, that price matters the most, the conclusion is that technical criteria affect most to the purchase decision. Also one factor that came out to be important was the reliability of the monitor, which strengthened the original idea of the theory as well. It is a natural phenomenon in health care industry dealing with the safety of people´s lives.

The company and product image did not seem to have a high importance in the results affecting the purchasing behaviour. This phenomenon appeared also in thesis of Siukkola, in which she stated that the image of the company does not have that much effect on the purchase behaviour. On the other hand, any exact conclusions cannot be made from this result, because different factors, such as updating of the medical device, relate to the company image. (Siukkola, M. 2001.)

8.2 Development ideas

The development ideas based on the results are collected for the assigner company to use in the future. The ideas are gathered to develop areas such as: marketing, sales, product development and customer service.

When considering the development ideas from the point of view of marketing, the assigner company should take into consideration the target groups. These appear from the results considering the participants, specifically the initiators and units of use. From this study the assigner company can recognize the wide range of users for the monitor, and therefore can target their marketing more efficiently to the right target groups. When the company is acquainted with its target group, the company saves resources such as money and time. As it appears from the results, the assigner company should

target their marketing mainly to head physicians, chief buyers and head nurses, when considering actual persons. Then again when considering the units, the most reasonable units to market are the health centre ward and emergency duty. Because these answers varied a lot between central hospitals and health centres, Philips should take this difference into consideration when marketing to these two organisations.

It is extremely important to the company to know, which qualifications its customers value considering the criteria being given in the answers. For example, when preparing marketing material, such as promotional advertisements, Philips can now point out all the relevant criteria to achieve the customer´s interest. All these factors help Philips to establish its position on the market.

It is essential for the sales persons to know which person to contact in the organization to recognise the factors that affect to the purchase decision. It also saves resources of the assigner company, when they know how to target their selling to the right units. It is also important for Philips to acknowledge that decision makers vary a lot between central hospitals and health centres. The persons with same working titles do not always have same authorities to make decisions. Therefore, it is not worthwhile to assume for example, that in every central hospital the head physician makes the final decisions. Therefore, the final decision makers should be defined case specifically.

The answers received from the choice criteria gave a lot of information, considering product development. As the majority of the criteria relate some way to the technical qualities of the monitor. These qualities are for example: connectivity, functionality and simplicity, reliability, usability and adaptability, the language of the monitor, the size of the monitor, as well as functional and technical qualities of the monitor.

Especially connectivity was considered as an important quality for the future of healthcare technology. Because of the constantly developing healthcare technology, more and more singular monitor data must be transferrable to larger data systems. So Philips should invest to product development, when considering this aspect.

Although Philips Healthcare Finland may have limited possibilities on influencing the product development, they can utilize the results by taking them into international levels. On the contrary Philips Healthcare Finland can focus on developing their marketing, selling and customer service.

The fact, that so many different criteria were mentioned among the responses is a natural phenomenon. No matter which commodity is in question, every potential buyer has the desire to achieve as many benefits from the commodity as possible. Therefore, it is essential for Philips to find the means to fulfil as many criteria as possible compared to the competitors.

Considering customer service of Philips, the choice criteria included important factors to be taken into consideration. In the open question criteria the importance of maintenance was mentioned more than once. Because this study is about healthcare industry and about technical equipment, it is crucial that the customers can rely on the monitor´s functionality and especially on the maintenance support when needed.

Also criteria such as: time of delivery, time of guarantee and trainings, provided by the supplier, were considered important. As the market structure for these types of monitors consists of only few suppliers, the importance of customer service is highly relevant. There is no room for errors in customer handling as customer service can be one of the most efficient methods of competing in this narrow business.

All the development ideas gathered above provide various benefits to Philips. As they requested before the study, they now have information to help to gain the potential growth. Now they also have an opportunity to add sales in this segment of public healthcare. With the help of the results, Philips is able to strengthen and expand the product line and the distribution channels.

Sources

Armstrong, G. & Kotler, P. 2009. Marketing, an Introduction 9th edition. Pearson Prentice Hall. London.

Finlex 2010. Laki julkisista hankinnoista 30.3.2007/348, 15 §. Retrieved from: http://www.finlex.fi/fi/laki/ajantasa/2007/20070348 13.5.2010.

GE Annual Report 2008.

Haikara, M. 1.3.2010. UM Manager Philips Healthcare. Telephone consultation.

Haikara, M. 11.3.2010. UM Manager Philips Healthcare. Meeting.

Hilma, Julkiset hankinnat 2010.Retrieved from: http://www.hankintailmoitukset.fi/fi/docs/kynnysarvot 31.3.2010.

Hirsjärvi, S. & Hurme, H. 2006. Tutkimushaastattelu. Teemahaastattelun teoria ja käytäntö. Yliopistopaino Kustannus. Helsinki.

Hirsjärvi, S., Remes, P. & Sajavaara P. 2009. Tutki ja kirjoita. Tammi. Jyväskylä.

Hutt, M. & Speh, T. 2010.Business Marketing Management: B2B 10th edition. South-Western, Cengage Learning. Canada.

Jobber, D. 2007. Principles and Practice of Marketing 5th edition. The McGraw-Hill Companies. New York.

Jobber, D. & Fahy, J. 2009. Foundations of Marketing 3th edition. The McGraw-Hill Companies. New York.

Kotler, P. & Keller, K. 2009.Marketing Management 13th edition. Pearson Prentice Hall. New Jersey.

Kunnat.net, kuntatiedon keskus 2010 a. Sairaanhoitopiirit. Retrieved from: http://www.kunnat.net/k_perussivu.asp?path=1;29;353;553 23.4.2010.

Kunnat.net kuntatiedon keskus 2010 b. Sosiaali- ja terveydenhuollon järjestäminen 2009. Retrieved from: http://www.kunnat.net/k_peruslistasivu.asp?path=1;29;353;554;110521;149348 23.4.2010.

Kuusniemi-Laine, A. & Takala, P. 2007. Julkisten hankintojen käsikirja. Edita. Helsinki.

Lahtinen, J. & Isoviita, A. 1998. Markkinointitutkimus. Gummerus. Jyväskylä.

Lindgreen, A., Révész, B. & Glynn, M. 2009. Purchasing Orientation. Journal of Business & Industrial Marketing. Issue 3/4 2009.

Philips Annual Report 2009. Retrieved from: http://www.annualreport2009.philips.com/pages/performance_highlights.as 18.10.2010.

Philips Oy Finland Annual Report 2009.

Philips Oy 2010 a. Healthcare. Retrieved from: http://www.healthcare.philips.com/us_en/about/Company/whatwedo.wpd 18.2.2010

Philips Oy 2010 b. Healthcare. Retrieved from: http://www.healthcare.philips.com/us_en/about/Company/factsandfigures.wpd 18.2.2010

Philips Oy 2010 c. Company and press. Retrieved from: http://www.usa.philips.com/about/company/companyprofile.page 18.2.2010

Philips Oy 2010 d. Healthcare. Retrieved from: http://www.healthcare.philips.com/us_en/about/Company/historyandtimeline.wpd 18.2.2010

Philips Oy 2010 e. Our brand promise. Retrieved from: http://www.philips.com/about/company/brand/brandpromise/index.page 1.3.2010

Philips Oy 2010 f. Patient monitors. Retrieved from: http://www.healthcare.philips.com/main/products/patient_monitoring/products/patient_monitors/index.wpd 7.4.2010

Philips inter-company presentation. 2010.

Proctor, T.2000. Essentials of Marketing Research. Second edition. Financial Times, Prentice Hall. Pearson Education. London.

Rope, T. 1998. Business to business –markkinointi. WSOY. Porvoo.

Siukkola, M. 2001. Yrityskuvan rooli julkisen organisaation ostopäätöksissä. Lääketieteellisten kuvantamislaitteiden jälleenmyyjän imagotutkimus. Amk-opinnäytetyö. Haaga Instituutin ammattikorkeakoulu. Helsinki.

Stone, M. & Bond, A. & Foss, B. 2004. Consumer insight. Marketing research in Practice. London.

TEM 2008. Toimialaraportti elektroniikka- ja sähköteollisuus.

Terveysteknologian toimialaraportti 2007.

Attachments

Attachment 1. Telephone interview form

Taustatiedot

1. Asemanne organisaatiossa (titteli/työnimike)

Ensimmäinen tutkimuskysymys

2. Kuka ilmaisee ostotarpeen?
3. Ketkä kaikki osallistuvat hankintapäätökseen?
4. Mitkä osastot ovat mukana ostopäätöksen tekemisessä?
5. Kuka päättää lopullisesta hankinnasta?
6. Miten tämän tyyppisiä monitoreja ostetaan? (sopimus, unit-by-unit, puitesopimus)
7. Missä/Millä osastoilla tämän tyyppisiä monitoreja käytetään?

Toinen tutkimuskysymys

8. Mitkä kriteerit vaikuttavat mielestänne hankintapäätökseen?
9. Kuinka paljon seuraavat kriteerit vaikuttavat?

- persoonatekijät
  - yritys-/tuotekuva
  - henkilökohtaiset kokemukset
- taloudelliset tekijät
  - hinta
- tekniset ominaisuudet
  - kliiniset parametrit eli mittausominaisuudet
  - monitorin liitettävyys laajempiin tietokantoihin