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ENTERING INTERNATIONAL MARKETS WITH A NEW MEDICAL DEVICE

CASE: INNOMENTARIUM OY

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ABSTRACT

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The case company is a Finnish medical device manufacturer which has developed a mammography upgrade solution. With a well-established local market, the case company is now exploring opportunities to expand to international markets, including Lithuania.

The goal of this thesis is to study the business environment and assess the market potential of a mammography digitizing solution in Lithuania, and to guide the commissioning company on the most suitable market entry strategy.

The theoretical chapter is based on well-known and reliable printed and electronic sources. The study consists of a theoretical framework for the fundamentals of entry into the Lithuanian market and the analysis of the customers of medical equipment in Lithuania. Printed and electronic sources have been used. References are drawn from official Lithuanian and European statistics and reports on mammography and medical equipment market in general.

Qualitative research was chosen for the study, information was gathered through interviews and online surveys to support theoretical and practical understanding. Findings from the research shows that Lithuania is an attractive investment country for Finnish companies due to its business-friendly regulations. There are no specific restrictions for the case company to enter Lithuania with a new medical device, however, according to the findings, the market size is small.

During the research, I realized the need to study the complexity of procurement processes, both in public and private, and to find out whether the procedures are similar or more complicated in public hospitals than would be the case in private hospitals. This would be an area that could be further studied in the future.

Keywords: Mammography, digitizing solution, buying behaviour, Market entry

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1 INTRODUCTION

According to The World health organization, breast cancer is the most common type of cancer amongst women around the world. It also causes the highest number of cancer related deaths among women. Statistics shows that in 2018 alone, 627,000 women succumbed to breast cancer. (2019, cited 3.2.2020.) In the year 2018, 2,088,849 new breast cancer cases were recorded which represents 25.4% of the total number of the all new cancer cases diagnosed in 2018 (Worldwide cancer data 2018, cited 3.2.2020). To reduce this high mortality rate and improve treatment, early diagnosis of breast cancer is paramount (American Cancer Society 2020, cited 5.2.2020).

Research has shown that regular mammography can lead to early diagnosis of breast cancer when it is most curable. A mammogram, which is a low dose x-ray exam of the breast, can detect breast cancer up to two years before it can be visibly detected. (American Cancer Society 2020, cited 5.2.2020.) Whilst digital mammography equipment has been shown to be more effective and useful in detecting breast cancer at an early stage than analogue mammography, a report shows that the high capital cost is one of the drawbacks to moving from analogue to digital mammography (International Atomic Energy Agency 2011, cited 23.2.2020). This situation therefore opens a market for a more affordable solution for digital mammography. The case company has developed a solution which I will describe more later in this chapter. Innomentarium, like many other companies, is now considering entering international markets to boost its sales, build a larger customer base and compete in a global marketplace.

Expanding a business by entering a foreign market is a critical decision for any business because of the risks involved. One of the critical decisions is choosing the most appropriate entry mode. There are several means through which a company could expand its business beyond geographical boundaries, from establishing its own manufacturing operations overseas to selling the products or services on a new international market through the Internet. Unavoidably, these channels could vary from being incredibly complex, particularly if a company decides to make direct investments in the foreign country to being relatively straightforward, provided that critical issues and associated risks are fully considered beforehand (Ghauri 2008, chapter 3.1). This research will therefore examine how Innomentarium can find out the potential of a new markets and how to reach that market.

Company and product

Innomentarium is a privately-owned Finnish health technology company. The business operations began in 2014. Among other products in the portfolio, the company has developed a new solution that transforms a used analogue mammography to a digital mammography exclusively. This innovation involves a digital upgrade package integrating new digital technology into analogue mammography systems. Digital mammography systems have an automated detector that transfers mammogram images directly to your computer. For easier understanding, digital mammography can be compared to a digital camera connected to a computer therefore, a separate image plate or a film is not required. The upgrade package eliminates the need to purchase a new device, since the hardware of the analogue system would operate just like a new digital machine. In 2019, after years of research and development, the product named FeniX was launched into the market.

This solution targets a market niche of hospitals/clinics and educational institutions that use analogue mammography systems. This product has been targeted for two main types of customers:

- a. Customers whose investments are restricted by the resource power - This refers to primary and secondary level health care providers such as rural hospitals whose buying decisions are mostly based on the price of the product and affordability. These hospitals are usually operated by small counties that struggle to get financial resources and rely on taxpayers' money, frequently ending up in financial constraints.
- b. Customers who mainly appreciate the cost effectiveness of the product to provide higher profit margin - Private hospitals/clinics as opposed to public owned hospitals are profit oriented and compete on the basis of quality of service and price. This therefore makes it necessary for these clinics to reduce their expenditure so that the value is extended to the customers in form of lower prices. Typically, the end customers are paying for the services therefore the price and quality is essential.

The FeniX solution has been tested and sold on the local market and feedback on customer satisfaction has been obtained. This research will therefore examine the market in Lithuania, the

factors that the study will investigate will include, the business environment, market potential, market size, consumer behaviour as well as the suitable market entry mode.

Problem discussion

A research problem in general relates to the challenge a researcher faces in either a theoretical or a practical situation and tries to find a solution to it (Kothari 2004, 24). When analyzing the foreign market, it is important to recognize the differences between the local market and the host country. Those differences may determine whether or not the product should be adjusted to local needs. Businesses that decide to enter international markets are faced with challenges related to societal differences of new markets, economic factors that vary from the local environment, legal and political demands, expertise and the environmental surrounding of a business. (Glowik 2016, 54.) In order to avoid risks, it is important for a company to evaluate these conditions and determine whether or not the target market is desirable for business. The company's business operations, technical capacity, human experience, management, and financial resources should also be taken into account when choosing what markets to enter and the most suitable market entry mode. (Glowik 2016, 55.)

The aim of this study is to assess the market attractiveness in Lithuania and find out whether there is potential for a solution for digitization of mammography and then to determine the most suitable mode of market entry. The research questions addressed in this study are:

- Is Lithuania an attractive market for the FeniX solution?
- Which market entry mode could be used by the case company to enter Lithuania?

Structure of the report

A theoretical review of this study will be provided in the second and third chapters of the report. Secondary sources used in these chapters will include books and journals, websites of health industry associations, business publications and news articles of the European Union and government data in Lithuania as well as websites of commercial research institutions. The second chapter of this report will give an understanding of the current market situation for mammography devices in Lithuania. It will also examine the market potential for a mammography digitizing solution

and provide a background for the first research questions. The third chapter will discuss how to enter the Lithuanian market, it will dive into the different modes of entry. It will also discuss the external business environment that the case company should be aware of. The fourth chapter will discuss the research methods and data analysis methods applied in the study and the fifth chapter will reveal the specific findings from the research that was conducted.

2 MARKET ANALYSIS

The analysis of the market could simply be defined as a study of market attractiveness. It is used to help companies formulate a strategy on how to run their business in a certain market (Market analysis 2019, cited 28.3.2020). Accordingly, this chapter will give a bird's eye view of the healthcare system in Lithuania and the potential market size for mammography digitizing solutions in that market.

2.1 Market overview

This market overview is a short description of the commercial market situation of medical devices and, specifically, that of mammography devices in Lithuania. Its aim is to include an up-to-date analysis of the industry in order to better understand the key elements that are relevant and find out if there is market potential for FeniX solution in Lithuania. The first, part will cover in brief how the healthcare system of Lithuania is organized and the stakeholders. The second part will cover the market study which will include a qualitative and quantitative assessment of the market potential.

2.1.1 Healthcare system in Lithuania

The Ministry of Health is a key player in the regulation of the health system in Lithuania. It is responsible for regulating and authorizing capital investments. It also lays out guidelines and criteria for healthcare systems across the country. The Ministry of Finance is responsible for the allocation of funds to the Ministry of Health and the creation of the annual expenditure for health care, as defined in the national budget. While the national spending on healthcare is ranked low as compared to other European countries, the whole country of Lithuania is covered by a well-run health insurance fund scheme. (European commission 2019, 10.)

Statistics show that after the year 2000, the number of hospitals has decreased steadily in Lithuania. In 2013, the number dropped to less than one hundred hospitals and has remained the same ever since. In 2017, the country had 93 hospitals, which is the least number recorded within the same timeframe (see figure 1). (Stewart 2019, cited 13.03.2020.) The statistics indicate that

there were 85 public hospitals in Lithuania in 2017. In 2000, there were 120 public hospitals and in 2017 this number dropped to only 85 public hospitals (see appendix 3). (Stewart 2019, cited 13.03.2020.)

Although the number of hospitals in Lithuania is considered to be small compared to other European countries, the World Health Organization report states that, despite its small geographical size, Lithuania has a large number of hospitals. The study reports that there are 60 general hospitals spread across 63 municipalities across the country. Consequently, given the small geographical area and the small population, the number of hospitals is sufficient for the population of Lithuania. (WHO Europe 2017, cited 6.5.2020.)

Public hospital facilities are owned by the national healthcare system of Lithuania. The delivery of treatment in public health centers is funded by the Compulsory Health Insurance Program. These services are provided free of charge. (National Health Insurance Fund 2019, 22.04.2020.) Public institutions have dominated the healthcare system in Lithuania, especially in the area of inpatient services (OECD 2018, cited 13.03.2020).

The Ministry of Health of Lithuania issues licenses to private healthcare companies. Unlike public hospitals, private healthcare services are paid for by the customers. The private institutions determine prices independently in accordance with their own internal processes and policies. Private hospitals operate in collaboration with the territorial insurance schemes, which pay expenses for people insured for mandatory health insurance. The National Health Insurance Fund (NHIF) is one such insurance fund which is responsible for the national health insurance program. It also oversees the compulsory health insurance system. The NHIF is controlled by the Ministry of Health. (OECD 2018, cited 9.3.2020.)

The private sector plays a crucial role in the areas of dentistry, cosmetic surgery, psychotherapy, rehabilitation and primary care. Nevertheless, the privatization of the health system has been restricted by the ministry of health, particularly in the area of inpatient treatment. (OECD 2018, cited 9.3.2020.)

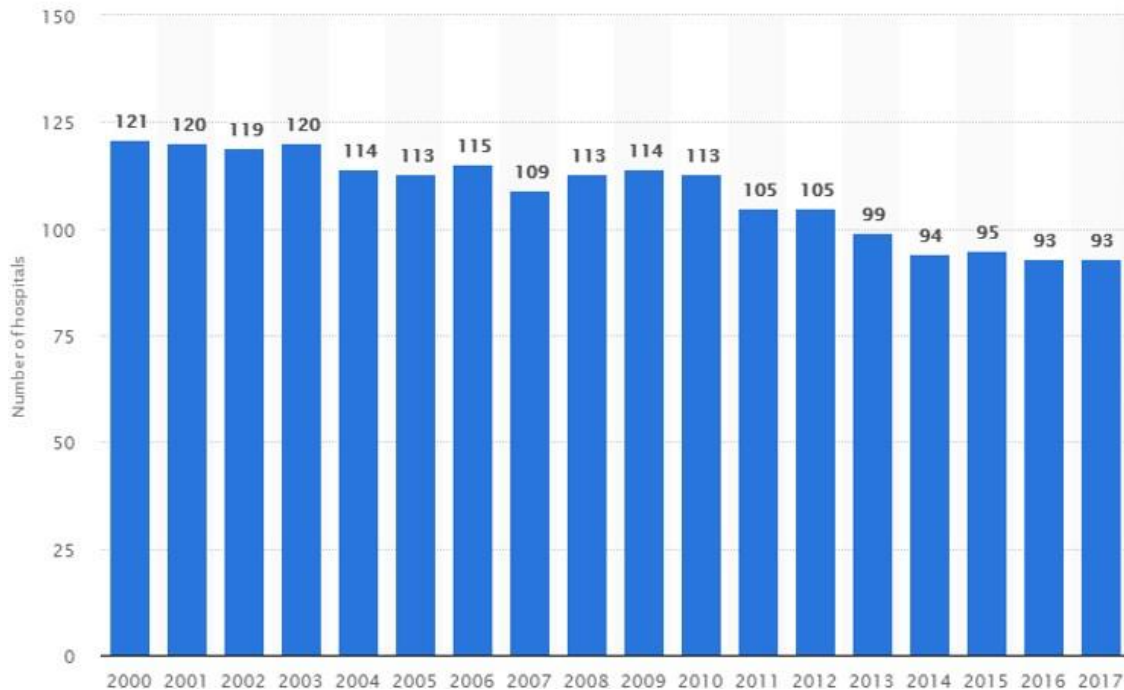


FIGURE 1. The decrease in the number of hospitals in Lithuania between the year 2000-2017 (Stewart, cited 28.2.2020).

2.1.2 Breast cancer screening in Lithuania

According to a report by The World Health Organisation, breast cancer is the most prevalent type of cancer among women in Lithuania. The report reveals that in 2018, 13,500 people in Lithuania had breast cancer. In that report, was found that up to 30 percent of women who were diagnosed had early-stage breast cancer which then spread to metastatic cancer. (cited 2.3.2020.) In 2018, there were 2,728 new breast cancer patients diagnosed, and in the same year 526 people died from breast cancer (Saukiene 2019, cited 13.5.2020). The number of breast cancer deaths in Lithuania reached 597, which accounted for 1.58 per cent of total deaths, according to the latest figures published by the World Health Organisation in 2017 (cited 2.3.2020).

While early detection of breast cancer has been proven to reduce the amounts of deaths, several of these instances of breast cancer are found at a later stage. This is because women are still reluctant to take part in screening program which later contributes to tumors being identified at a more advanced stage. This makes the treatment process lengthy, expensive, and complex. Few

cases of males are occasionally diagnosed and an average of 10-15 males are found to have breast cancer per year in Lithuania. (Ministry of Health 2020, cited 13.3.2020.)

A nationwide breast screening program was initiated in Lithuania in 2005 targeting women from the age of 50-69 every two years (OECD 2019, cited 21.3.2020). Nonetheless, there is still a worrying number of breast cancer deaths in Lithuania. It is worth noting that Lithuania beside Portugal and Romania is one of three European Union countries which do not have a coordinated national breast screening invitation program (Antonio, Guglielmo & Anttila 2017, 17). This may be one of the reasons for low attendance which does not meet the standard prescribed by European guidelines.

According to a research study published in 2019, the evidence indicates that the adoption of a central invitation program through a population register may increase breast cancer screening attendance and increase screening coverage compared to self-serve screening, which depends on an individual and/or a medical professional initiative. According to the findings of the study, the proportion of women taking part in screening has increased in recent years and is expected to continue to rise in the future. (Steponaviciene 2019, cited 10.5.2020.)

2.2 Market Study

The market attractiveness is the first primary determinant of a company's profitability (Porter 1985, 16). Before entering a new market, a company must carry out a market assessment by evaluating the market potential of its product in that market, followed by the development of an appropriate marketing strategy to meet that potential. In this context, the company should examine three basic market indicators, these are the market size, the market value and the market intensity. The market size refers to the approximate total amount of sales or prospective buyers, often calculated over a span of one year (Bragg 2010, 281). It is important to know the potential market opportunity when entering a new market. This is because it will allow a company to determine whether or not it is necessary to spend time and money on that market.

Market value, on the other hand, refers to the sum of sales and profits that can be generated from a given market while market intensity is the degree of purchasing power in terms of per capita income and the ability / likelihood to purchase. In order to determine the value of the market, a

business must know the number of potential customers or the amount of annual transactions in the target market. (Bragg 2010, 150.)

Additionally, commercial infrastructure and economic freedom must be addressed in a market study. Business infrastructure refers to accessibility of channels of distribution. This is a reliable way of assessing the attractiveness of the market. Some of the variables involved in commercial infrastructure are transportation infrastructure, population by retail outlet, quality of living of the population, etc. whereas economic freedom includes tax laws, corporate regulations, wages and price controls, black market practices, etc. (Pervez, Tamer & Milind 2002, 269.)

A report which was made by the Lithuanian State Health Care Accreditation Agency, medical technology division, shows that there was a total of 37 mammography devices in Lithuania in 2018, of which 33 units (89%) were in public hospitals and 4 units (11%) were in private hospitals (see figure 2). With a population of about one million women, the number of mammography devices in Lithuania meets and exceeds the International Agency for Research on Cancer's recommendations. (VASPVT 2019, 10.)

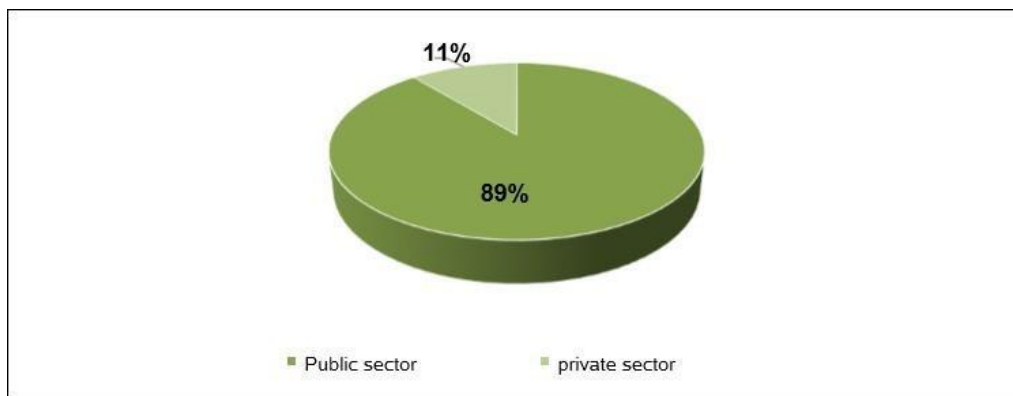


FIGURE 2. Distribution of mammography by sectors in Lithuania (VASPVT 2019, 10).

In 2018, the mammography devices were available in all counties across Lithuania with most of them, 11 units (32%) being in Kaunas county (see table 1).

TABLE 1. Distribution of mammography devices by counties in Lithuania (VASPVT 2019, 14).

Counties	Public hospitals	Private hospitals	Number	Percentage
Vilnius	8	1	9	24%
Kaunas	11	1	12	32%
Siauliai	2	-	-	5.5%
Panebežys	2	-	2	5.5%
Alytus	2	-	2	5.5%
Tent	1	1	2	5.5%
Utena	2	-	2	5.5%
Marijampole	2	-	2	5.5%
Taurage	1	1	2	5.5%
Total	33	4	37	100

According to the report, 19 units (54%) were digital while analogue mammography devices accounted for 16 units (41%) of the total number. The technology in two units (5%) was unknown. In 2018, Lithuania made a total of 303,597 mammography examinations which was the biggest number of examinations compared to earlier years. Most of these examinations were done in Vilnius County while the least number of examinations were done in Klaipedia county (see table 2).

TABLE 2. Number of mammography examinations by county in Lithuania (VASPVT 2019, 23).

Counties	Number of studies	Percentage
Vilnius	103055	34%
Kaunas	71407	24%
Siauliai	37090	12%
Panebežys	14800	5%
Alytus	4550	1%
Tent	12490	4%
Utena	17742	6%
Marijampole	9026	3%
Taurage	5320	2%
Klaipedia	28117	9%
Total	303597	100%

The latest mammography report by the State Health Care Accreditation Agency under the Ministry of Health of the Republic of Lithuania showed that analogue mammography devices were available in the following hospitals in 2018 (see table 3).

TABLE 3. Names of hospitals with mammography devices in Lithuania. (VASPVT 2019, 26).

Public hospitals	County
The National Cancer Institute	Vilniaus
PI Ukmergė hospital 2. PI Ukmergė hospital	Vilniaus
LUHS Kaunas Clinic Hospital	Kauno
LUHS hospital clinics fil Kaunas. Oncology Hospital	Kauno
PI Kėdainiai Hospital	Kauno
Klaipėda University Hospital	Klaipėdos
Alytus S. Kudirka Hospital	Alytau
PI Marijampole Hospital	Marijampolės
Tauragė Public Hospital	Tauragės
VšĮ Centro (2 analogue units)	Vilniaus
VšĮ Kauno miesto clinic (2 analogue units)	Kauno
Private hospitas	
JSC SK Impeks Medical Diagnostic Center	Vilniaus
UAB "Medicum centrum"	Tauragės

In Lithuania, the recommended total lifespan of mammography devices is 8 years. Nevertheless, according to the Ministry of Health, there are many mammography devices that are 10 years and older. These old machines limit the effectiveness of the screening, to rectify this situation, The Ministry of Health of Lithuania is currently in a process of buying ten brand new digital mammography systems to replace outdated machines around the country. The devices are scheduled to be delivered by the 1st of August 2020. This procurement plan is financed by the compulsory health insurance program. As seen in figure 3. A total of euros 665,461 has been

allocated for the purchase of four digital mammography units without tomosynthesis and an addition of euros 683,659 has been allocated to acquire digital mammography with tomosynthesis. This project, according to the ministry, will benefit hospitals / clinics listed in the table below. (Ministry of Health 2020, cited 30.1.2020.)

Skaitmeniniai mamografai su tomosinteze (4 vnt.)	Skaitmeniniai mamografai be tomosintezės (6 vnt.)
1. Nacionaliniam vėžio institutui 2. LSMU ligoninei Kauno klinikoms 3. VšĮ Respublikinei Šiaulių ligoninei 4. VšĮ Respublikinei Panevėžio ligoninei	1. Nacionaliniam vėžio institutui 2. VšĮ Centro poliklinikai 3. VšĮ Šeškinės poliklinikai 4. VšĮ Kauno miesto poliklinikos Šančių padaliniai 5. VšĮ Kauno miesto poliklinikos Dainavos padaliniai 6. LSMU ligoninei Kauno klinikoms
Bendra prietaisų suma: <u>665.461 Eur</u> (su PVM)	Bendra prietaisų suma: <u>683.659 Eur</u> (su PVM)

FIGURE 3. Hospitals that will benefit from the new government procurement of mammography devices (Ministry of health 2020, cited 30.1.2020).

2.3 Customer analysis

This subchapter will analyze the target customers and will examine the customers' purchasing behavior. The first part of the customer analysis will use the marketing strategy tool of segmentation, targeting and positioning (STP) to identify the potential customers, then the second part of the analysis will cover the customer purchasing behavior and process.

2.3.1 Market segmentation, targeting and positioning (STP)

Market segmentation can be defined as the process of dividing a market in smaller groups with similar products needs or identifiable features in order to select suitable target markets. Effective segmentation helps a company to define and target different segments accordingly. (Michael 2012, 294.) In his book, Michael insists that a valid segmentation process should include meet the following criteria:

- Consumers inside the market are comparable in terms of the need for the product.

- Significant and clear distinctions may be found between the segments
- The segment should be large enough to be generate enough revenue and make profits

Customers of the case company can be segmented into two main groups, public hospitals and private hospitals. These two groups of hospitals are divided into either primary care, secondary care or tertiary care. These sub-groups are the divided based on which hospitals have mammography units under each group. With further investigation, the different hospitals under each category that have analogue mammography will be identified.

Targeting refers to the proactive selection by an organization of a suitable market segment aimed at focusing strongly on its marketing offers and activities towards this group (Kotler & Keller, 2005, 35). After segmenting, considerable decisions have to be made so that all segment's needs can be met. The selection of the target market should be guided by four key factors and the selected segments should meet the following criteria. It should be measurable, i.e. the ability to measure the size of the target segment in terms of sales and revenue capacity. Second, the segment should be accessible in terms of marketing campaigns and sales. Next, the segment should be actionable, which means that the company is able to develop strategies that could fulfil the business and, finally, the target market should be substantial. This means that a minimum profit size can be achieved. (Kotler et al. 2005, 35.) An effective targeting strategy would address questions about which distribution channel would be used to reach the customers, what advertising tactics will be most effective, and how prices could be tailored to suit the market (Kotler et al. 2005, 28-29).

The creation of a clear market positioning of a brand / product is often part of the overall marketing strategy of an organization. Some companies have a goal to develop strong brands as compared to their competitors. Proper market positioning helps these companies to achieve this goal. A variety of products / brands that are distinctly placed improve the company's competitiveness in the marketplace. They have better brand awareness and better market share. (Wilkinson, cited 24.3.2020.)

The mammography digitizing solution is positioned as a high-end product. Compared to similar solutions offered by other suppliers, FeniX solution has a high technological advantage that gives better results for imaging. According to a market price research done by the company, FeniX

solution is among the highly priced solutions. This pricing is justified by the high quality of the product and value it offers (Innomentarium 2019, cited 22.2.2020).

2.3.2 Customer buying behavior

Buyer behavior refers to actions displayed by buyers at different stages of acquiring a product or service (Michael. 2016, 3). Buyer behavior is a process and it is influenced by a variety of factors. This process includes product search which involves search for information about different product options. Product selection is an activity, where the customer assesses specific characteristics during product purchasing and product consumption. After the actual purchase, the behavior, which indicates the pleasure or frustration of the customer with the disposal of the product is also studied. (Michael 2016, 6.)

The study of buyer behavior is divided into two main branches, consumer behavior and organizational behavior. Consumer behavior focuses on behaviors of the end users while organizational behavior focuses on behaviors of the business firms at various stages of the procurement process. (Learning 2015, cited 17.3.2020.)

Businesses that seek to enter new markets must study the buyer behavior in the new markets. This allows them to know how consumers decide to buy certain products and the motivations behind their decisions. With this knowledge, companies can therefore position their products and marketing activities to target the right people and at the right time.

Organizational buying behavior

There are some characteristics that are consistent between consumer and organizational behavior, including rationality in the decision-making of purchases. Buyers in companies are individuals and can also be affected by feelings and perceptions (Learning 2015, cited 17.3.2020). Organizational purchasing on the other hand is a more complicated process compared to consumer purchasing (Weele & Arjan 2005, 26). Some of the characteristics of organization purchasing behavior are:

- Decision making involves many people from different departments. For example, the procurement department will involve the production department in deciding on the best materials to be purchased for production purposes. The procurement department will then

consult the accounts department on the budgets, and the top management will then be approached to approve the procurement.

- Organizational buying processes are lengthy, systematic, and pre-planned.
- Organizational purchases involve large quantities of goods and money, as opposed to consumer purchases.
- Organizational purchase is done by professionals. (Weele et al. 2005, 26.)

It should also be kept in mind that organizational purchasing decisions appear to be more information-intensive than consumer purchasing decisions. Organizations are typically searching for accurate information to guide their decisions. Unlike in the case of consumer purchases, it is impossible for an organization buyer to make a final purchase decision based entirely on the details they see in the typical commercial. (Michael 2016, 6.)

Organizational buying decisions involve different stages (see figure 4). It also involves certain levels of complexity that are specific to the companies and their operating environments. The first form of complexity is time complexity, this implies that the organizational decision-making cycle often takes a considerable amount of time, which creates a significant gap between the actual interaction of the marketer with the consumer and the purchasing decision. The second is the technological complexity. Complex technical requirements of the product or service in the demands of organizations may arise. The last third type of complexity is the nature of the organization, that is to say, the different dimensions of the organization. (Learning 2015, cited 15.3.2020.)

Since each company is managed differently, it is almost difficult to reach a single conclusion regarding to buying dynamics. Marketers need to know the specific personality and culture of each institutional buyer. Also, there are some unique factors that affect the purchasing decisions of each organization. For example, so called individual factors imply the effect of the vendor selection process on the final decision by the individuals in charge. Depending on the hierarchical level and ties, different influencers may have an effect on the choice of vendor. The other unique factor is the organizational factor, where purchasing decisions, particularly on high- purchases, can be influenced by the policies, goals and performance of the company and, lastly, the market environment, i.e. the state of the economy, the government's policies on the competitive situation and the regulation. (Learning 2015, cited 17.3.2020.)

STAGES OF ORGANIZATIONAL BUYING



FIGURE 4. Stages of organizational purchase process (Learning 2015, cited 17.3.2020).

Several people including hospital administrators and physicians take part in decision making when it comes to purchasing a new medical equipment. Therefore, it is important that a company focuses its marketing message appropriately. Carrying out a business intelligence can make a major difference in producing outcomes in the end. This will help to approach the appropriate medical professionals with information that capture their attention. Health technology companies must have access to up-to-date, safe data so that they can properly customize their advertising and reach out to their target consumers effectively. According to a study that was conducted in 2012, The following factors were found to be common motivations behind a hospital buying decision:

The value added to the hospital

Hospitals are corporate entities that are interested in generating revenue and making profits just like any other business. The overall value offered by a medical device should be reflected in the ability to generate more revenue and attract more customers. These benefits are:

1. Increased quality of performance that will lead to improved results for patient treatment. In private hospitals especially, it is important that their work performance is optimized so that their services attract more clients, thereby increasing revenues and profitability.
2. An easy to learn and use medical device. Physicians and radiographers enjoy the ease of use of tools for a smoother workflow.
3. Hospitals administrators appreciate a device that helps to speed up workflow. From the administrator's point of view, faster workflow implies that doctors would be able to treat more patients hence more productivity. (Mohammad, Jamil & Fardin 2012, cited 28.03.2020.)

After sales services

A purchase process does not end at the time a medical device is delivered. The vender who is chosen to supply medical devices must show the capacity to offer great after sales services. Most medical devices typically require maintenance and repairs in case of breakdown.

Companies that can offer product warranty and guarantee low maintenance costs for the device are in a better position to close a sales deal. The company should also be able to show high skills of the engineers in the maintenance of the devices as well.

Hospital administrators would like to ensure that the accessories needed to be used together with the purchased devices will be easily accessible. Also, a training environment where professionals can learn how to use new technology in the shortest time possible is an important factor. The vendor of the equipment should be able to provide basic user training to the hospital staff concerned. (Mohammad et al. 2012, cited 01.04.2020.)

Brand

The third factor that affects hospitals buying decisions is brand reputation and reliability. They also may be concerned about the country of origin of the brand. Certain countries have better reputation for producing high quality medical devices compared to others.

Price

When selling a new medical solution careful pricing strategy is vital. The pricing strategy should strike a balance between being both sustainable and profitable for business. One of the considerations to be weighed by hospital managers when choosing a vendor is their price bid. Usually, the price would be the competing point if several vendors are offering exactly the same product. As a matter of fact, while a low price of the equipment is not enough, the vendor must also be able to guarantee that the accessories used with the unit are equally affordable. (Mohammad et al. 2012, cited 01.04.2020.)

3 MARKET ENTRY

There are several reasons/motives as to why business firms are interested in entering international markets. These are:

Operational motives - These are mainly cost related motives. Firms want to reduce cost, increase their revenues, and generate more profits (Varma 2015, chapter 2). Due to the difference in labor costs in different countries, different taxation laws and different regulations, businesses try to find a more suitable place that would favor their operations.

Growth motives - For a business to grow, it should be able to increase its capacity to generate profits and reduce costs. Going to international markets helps businesses to increase their business operations, reach more customers and generate more profits. (Varma 2015, chapter 2.)

Strategic motives – These motives involve leveraging of firm's capabilities. They relate to building brand image, a market leadership position, and customer loyalty (Varma 2012, chapter 2). This translates to having a competitive advantage in the market.

3.1 Entry mode selection

Once a company decides to move to a foreign market, they need to choose how to establish their presence in the new market. The three main categories of entry-mode criteria are trade related entry modes, contractual entry modes and investment-related entry modes (Varma 2015, chapter 2).

3.1.1 Trade related entry modes

The three branches of trade related entry mode are exports, entrepôt trade and counter trade. In the export mode of entry, the company maintains its production in its home country, but continues to sell its products on the foreign market. Since most of the production activities are carried out on the domestic market, less capital investment is required on the foreign market and therefore less

risk is involved. An organization may decide to sell to foreign markets directly and assume responsibility for logistics, regulations, marketing, etc.

The benefit of direct export is that the company is able to control its own manufacturing activities in its home country thus avoiding the risks associated with outsourcing of production overseas. The disadvantage of direct exporting, however, is that a company needs to invest heavily in market research, marketing activities in the new market and taking responsibility for all matters relating to logistics and regulation.

In contrast, indirect exporting is where a company decides to sell in the new market through intermediaries. These intermediaries will take responsibility for all the involved activities until the product reaches the end consumers. Furthermore, the exporting company does not have to worry about other factors such as political instability that could potentially harm its production and if the company wants to exit the market, it can easily withdraw its operations in that market. (Varma 2015, chapter 2.)

Entrepôt trade is the process of re-exporting goods originating in another country and subsequently being processed and repackaged while countertrade also known as barter trade is where goods are exchanged with other goods rather than with currency (Varma 2015, chapter 2). When goods are shipped from one EU taxpayers state to another, as it is the case of trade between Finland and Lithuania, the trade is then referred to as 'intra-community trade also known as intra community supply (Veroskatt 2020, cited 15.4.2020).

3.1.2 Contractual Entry Modes

Contractual entry modes involve the transfer of ownership or use of properties, e.g. technological properties, intellectual properties, or assets, in exchange for royalty fees. The main feature of this entry mode is that one party acquires proprietary user rights from the other party. These modes are mostly used in businesses related to technology and the intellectual. (Varma 2015, chapter 2.) The different contractual modes are named below:

International Licensing

Contract license arrangements describe the transfer of intellectual property between a common licensor and usually multiple licensors. As the owner of intellectual property protecting their product, the licensor must have a secured copyright or trademark that effectively forbids the licensee from exploiting his intellectual property without his authorization. When licensing is used as a mode of market entry, the licensor gives exclusive rights to the applicant resident in the foreign country to use the intellectual property or technology for a defined period of time, as agreed by all parties to the contract. (Wührer 2014, 308.)

The reward of the licensee, agreed upon and recorded in the contract, is generally determined, and paid based on each unit sold by the licensee. License agreements grant the user the right of receiving specialized yet lawfully protected technical knowledge. The licensee shall carry the entrepreneurial responsibility and make capital commitments to the procurement, development, marketing, selling and distribution of goods and services in overseas target markets where licensed technology is used. (Glowik 2016, 164.)

For small businesses with little or no financial means, licensing may be a reasonable choice, because it allows them to start up operations outside their home country. In addition, licensing as a means of market penetration is desirable in industries characterized by comparatively short product and service life cycles, such as high-tech firms. The possible disadvantages for the licensor arise from a lack of control over the operations and quality of the licensee's goods and services. (Grant 2015, 255.)

International Franchising

In franchising a franchisor sells to franchisees the right to offer products or services under the existing brand identity of the franchisor, and a developed business model. The franchisee receives ongoing commercial, operational, and technical support during the contractual arrangement. In exchange, the franchisee typically pays the initial start-up fee, sales-based royalty, and promotional costs all depending on the terms agreed in the franchise. (Kotabe & Helsen, 246.) The franchise model combines the benefits of continued research and development, promotion and increased efficiency offered by the franchisor's entrepreneurial skills. Franchisees are most likely familiar with

the local business environment, preferences, and behaviors of customers, and can therefore customize the business to fit the market. (Glowik 2016, 166.)

The disadvantage of this method of market entry is that the franchisor has limited control over the franchisee since a franchisee is an independent entity not answerable to the franchisor. This raises the risk of wrong activities of the franchisee which could damage the franchisor's reputation. Second, the franchisor is highly dependent on the franchisee for market intelligence such as demand patterns and local market customer preferences. Accordingly, demand predictions and perhaps product modification information relies on the keen observation of franchisee. (Glowik 2016, 166.)

Management contracts

In management contract market entry mode, one organization provides administrative skills to another company for a specified period of time. This could be in return, for example, for a single payment or a percentage of sales value or volume. Sectors that typically use management contracts are utility service providers, such as water control in emerging markets where they require assistance from developed markets. Management contracts may serve as a convenient mode of entry in situations where the local party has expertise and expertise but is not in a position to own assets overseas. It brings a balance if the party on the foreign market is dependent on or in need of management skills. The risk arises when the contract relies on enforcement and remuneration for a limited period of time. In addition, it may be difficult to build and develop brand awareness in some cases of contract management. (Creatovate 2014, cited 24.4.2020.)

Joint ventures

A joint venture is a business corporation that is collectively run by two or more individuals who otherwise retain their distinct identity. It is formed when two or more legally distinct entities come together to co-own a business. The parties to the specific joint venture are legally bound by the contract. The controlling partners, also referred to as joint venture parents, shall contribute assets and income and costs, depending on the resources of each group. (Rugman 2012, 260.) An equal joint venture applies to the situation in which each partner invests half of the capital sum, thus sharing the company's assets, liabilities, and income. However, most joint ventures have one partner that contributes more than 50% of the joint venture and is in charge of strategic management decisions and the subsequent distribution of capital. (Glowik 2016, 166.) The

international joint venture defines a situation in which at least one parent company is located outside the country of operation of the undertaking or where the undertaking has a significant amount of activity in more than one region. Driven by the significant changes that have taken place in recent years towards business internationalization and competitiveness, international joint ventures have become an important mode of international market entry. (Glowik 2016, 172-175.)

Turnkey projects

Turnkey defines a business entry model in which the organization provides full operations including product sourcing, manufacturing, product testing, after-sales services, as well as warranty support (Glowik 2016, 168). In other words, the contractor agrees to complete a construction facility until it is ready for use. The sole responsibility of the construction lies with the contractor until the complete facility is handed to the customer (Llamazares 2019, cited 21.04.2020). Turnkey operations are typically used in large-scale projects, such as building and installing a new production plant. Market entry through turnkey typically requires training, certification, and consultation with local employees. The risk of this mode of market entry is especially if the main contract is with the local government of the target foreign country, as is often the case in politically and economically unstable countries. (Glowik 2016, 168.) The company may face the government-initiated threat of contract termination if difference of opinion exists between the contract parties in relation to the project priorities and objectives, that might happen over time (Glowik 2016, 169).

3.1.3 Investment-related entry modes

Investment-related entry mode includes the purchase and possession of physical assets, such as constructing a factory, establishing offices and purchasing land in a foreign country. There are two types of foreign investments, foreign direct investment (FDI) and foreign portfolio investment (FPI). Foreign direct investment means investment in a company's assets to control foreign operations and economic activity while foreign portfolio investment means investment in financial instruments like bonds and stocks through stock markets. In terms of the long-term commitments in the funds, FDI is a more suitable because it is a stable type of investment. FPI is more volatile and can be exited easily. (Varma 2015, chapter 4.)

3.2 External factors that impact market entry

External factors are issues outside the company that have a positive or negative influence on the business and are beyond the control of the company. External factors could either be opportunities for a company to grow or a threat to business growth. The study of the external environment in a new market helps in deciding whether or not to proceed with the plan to enter that market. It also prepares the company to cope with possible changes, such as technological changes or regulatory changes. (Varma 2015, 2.) This section of the report will discuss the factors that would influence business activities in a foreign country in general, then will point out on specific situations in Lithuania that the case company should be aware of. The external factors discussed below are political, economic, social, technological, ecological, legal and competition.

Political factors

The political environment of a country is a critical factor. With an increasing global business development, partnership between governments and businesses with transparency and safe environment is becoming more important each day. The functioning of the political system depends on the internal institutions and governance structures, as well as on the influence of national and global forces.

Some of the political factors that would directly affect business are the taxation laws, business regulation and compliance laws, and the political stability of a country. In addition, other factors, e.g. the national budget and the allocation of expenditure, also have a significant impact on the different sectors of the country and their attractiveness to foreign companies. (Varma 2015, chapter 2.)

Economic factors

Economic conditions have a huge impact on the success of a business enterprise. These factors include economic development of a country, rates of inflation, currencies rates, interest rates, businesses and consumers spending power. (Varma 2012, chapter 2.) These factors can have positive or negative, short-term or long-term effects on a business because they influence the consumer buying power and can alter demand / supply patterns in the market. This eventually affects how businesses determine the price of their products.

Social factors

Social factors, also known as socio-cultural factors, include the traditional values and behaviors of the population. Such factors include population development, health awareness and buying behaviors. Such variables are particularly important as they directly affect how companies assess the customers in a certain market and how a marketing message is structured to motivate these people to purchase products. (Varma 2012, chapter 2.)

As an example of the effect of social factors, there is a research study showing that more women in Lithuania, living in cities attended a breast screening program compared to those who lived in the villages. The study also shows women with less education had far less knowledge regarding the importance of mammography screening and had a bad attitude towards it compared to more educated women (Kriaucioniene & Petkeviciene 2019, cited 19.4.2020). This in the business perspective means there will be low patient turn up in rural areas which translates to less revenue generation for those hospitals.

Technological factors

Technological factors include technological advances that can have a beneficial or unfavorable effect on the business of the industry and the economy. This applies to the opportunities in technology development, the level of creativity, production capability, level of research and development, new innovations, and high level of consumer intelligence in a certain market. Such aspects may affect decisions on whether to enter or not to enter certain markets. By understanding the technological situation in a certain market, it will guide a company on making critical decisions before starting business operations in a new market. (Oxford 2016, cited 21.4.2020.)

Ecological factors

Global industrial processes are largely associated with environmental destruction. While there has been a huge amount of awareness about the need for green technology, it is suggested that the world's healthcare technology is not making enough effort to be environmentally responsible (Advancing Safety in Healthcare Technology 2016, cited 21.4.2020). In addition, this article recommends that the manufacturers of medical devices should take into account the sustainability

of all their business operations, from the manufacturing to the manner how the products will be used by the final consumers.

A company's strategy to improve productivity and environmental performance for socio-economic development as a whole can be described as a clean production. Cleaner production methods contribute to a reduction in waste generation, whether in liquid, solid or gaseous form. By implementing sustainable development strategies, businesses will have enormous economic and environmental benefits. (Varma 2012, chapter 2.)

The mammography digitizing solution provided by the case company is described as environment friendly. It encourages an increase in the lifespan of the existing mammography machine by maintaining the old machine and still being able to experience the digital features like those of a brand-new mammography machine. The solution saves the environment from old machinery being disposed of. (Innomentarium 2019, cited 22.4.2020.)

Legal factors

When entering a new market, a company must recognize what is lawful and permissible in that market. They must always be informed of any legislative changes and their implications for business operations. Legal factors that could have a direct impact on a business include labor laws, consumer protection laws, health and safety laws, financial and trade laws and licensing and registration laws.

Since 2004, the national regulatory authority in Lithuania, The State Health Care Accreditation Agency, has stated that the only medical devices that comply with the medical device directives can be placed in the Lithuanian market and put in use. All medical devices should meet the requirements and standards of the medical device legislation and must include the European mark of quality, the CE mark. Once the product reaches the end user, regardless of consumer competence, whether professional or not, all the manufacturer's materials, labelling and user manuals, must be handed over in Lithuanian language. (VASPVT 2019, cited 6.4.2020.)

Foreign companies are expected to comply with the regulations during their business operations in Lithuania. In the event of non-compliance, The State Health Care Accreditation Agency (SHCAA) will enforce the following penalties:

- The equipment may be suspended from being placed into the Lithuania market or sale and/or use of the device.
- Termination and/or withdrawal from the market.
- Prohibition of medical product promotion, distribution, and use.
- A fine, between euros 30 and euros 1.500 could be charged by SHCAA. (TGS Baltic 2018, cited 6.4.2020.)

Legal concerns that have been raised regarding medical device business in Lithuania are corruption and lack of transparency. According to a report made by Ambassador Michael B.G. Froman, Office of the United States Trade Representative, stated that Lithuania still does not have a transparent public procurement process. There is also some doubt that certain tenders are too thinly defined to be aimed at a specific company. The administration has prioritized contracting reforms and is starting to improve transparency by implementing the online policy recruitment of the main project management organization. In 2013, the government adopted regulations requiring all public contracts to be conducted on a common online portal and all contracts to be published in that platform. (Froman 2016, 157.)

In 2012, Lithuania was ranked 48th in the world and 23rd among the 30 member states of the EU and Western Europe in terms of the Corruption Perception Index (Transparency International 2012, cited 6.4.2020). The Global Barometer for Corruption reveals that corruption in Lithuania is a big concern. On the other hand, an article by the Chambers of Commerce in Helsinki shows that Lithuania has an economic potential. In the article, Finnish companies are advised to begin trading with Lithuania citing that "the process of setting up a business in Lithuania is straightforward and stress-free" (Sarapinas & Hatanpää 2018, cited 23.4.2020).

Competition

As defined by the business dictionary, a competitor in business is “a company in the same industry or a similar industry which offers a similar product or service” and a competitor analysis is “a strategic technique used to evaluate outside competitors” (2020, cited 3.3.2020).

Porter's Five Forces is a useful tool particularly for companies that are about to enter a new market. It helps to evaluate the level of competition within a given market. According to Porter, successful analysis of competition in market depends on five different forces, these are:

Threats of new entrants - New entrants into a market introduce new pressure on the prices as they try to obtain a market share in the new market. Particularly as new competitors diversify from other sectors, they will utilize their internal resources and cash reserves to shake up demand. The threat of entry places a price limit and enforces the investment needed to prevent entry of new competitors. (Porter 1985, 4.)

Bargaining power of buyers - Consumer purchasing power can force down prices for products on the market. Consumers are powerful and can primarily apply their influence to either increase or reduce prices, particularly if consumers are price sensitive. The buyer's power influences the prices that companies can charge, and they influence the threat of substitute. The negotiating power of consumers could also increase prices if buyers require more services and products of high quality. (Porter 1985, 5.)

Statistics show that Lithuania's overall healthcare procurement standards are among the lowest in comparison with other European countries. These figures show that Latvia and Slovenia were more powerful than Lithuania. (Eurostat-OECD 2012, 294.) The general buying power could be characterized as small due to the limited government spending in the healthcare sector and purchase processes involving medical devices in Lithuanian public hospitals. For the private hospitals, depending on the size of hospitals and the annual revenue generated, the amount of the purchasing power may differ significantly.

Bargaining power of suppliers - Powerful suppliers could manipulate market prices through higher prices, restrictions on quality or services, or by transferring costs to other members of the

industry. Strong suppliers can also reduce the profitability of the industry by lowering the prices of their products and affecting the ability of other competitors to compete with the prices Suppliers' bargaining power will also determine the cost of raw materials as well as other inputs. (Porter 2008, 78.)

Lithuania imports most medical equipment, medicine, and pharmaceuticals (European Commission 2017, 14). Therefore, medical equipment offers foreign suppliers a good prospect. As the entry barriers in Lithuania are not strict, there is a large number of both local and international suppliers in the market in Lithuania. Due to the large number of suppliers, the supplier's bargaining power is weak for medical devices. This is particularly due to the low switching costs of hospitals from one supplier to another. (European Commission 2017, 14.)

Threat of substitute products - The substitute product performs the same function as the main industrial product. Tea, for example, is a substitute for coffee. Other substitute products are indirect, for example, watching sports games at the bar competes with visiting art galleries, cinemas, or live music. (Porter 2008, 91.)

Regarding long lead times and high capital costs, substitute medical devices typically have the same business problems as the main goods. For a market with less entry barriers, there are likely to be more product substitutes. Hence, this influences the overall market price of the substitute goods. (Maresova 2014, 140.)

Rivalry amongst the existing competitors - Rivalry between existing competitors comes in different ways, such as price reductions, service optimizations or marketing campaigns that give one supplier a better advantage over the others. The effect of rivalry depends on the competitive intensity and the basis on which they decide to compete. For example, competition in prices, competition in quality and so on. Rivalry intensity influences both price of products and costs that comes with competing for example it could affect price of production, product development, marketing costs, and hiring of sales forces. (Porter 1985, 6.)

Many companies are fighting for a share of business in the medical equipment industry. There are about 25,000 European firms in the field of medical technology. They are based primarily in

Germany, followed by the UK, Italy, Switzerland, Spain, and France. Nearly 95 per cent of the medical technology sector is comprised of small and medium-sized enterprises. (MedTech 2013, 294.) With high levels of competition, companies are also trying to optimize their level of technological innovation. Also, there is a price struggle on the market with all manufacturers trying to win a share of the market.

The combined power of these five factors dictates the capacity of firms in a market to make profits. The intensity of these five powers differs between different markets and industry and will shift as an industrial sector expands. In the end, not all industries will be the same in terms of profitability.

The case company has two main competitors Agfa-Gevaert Group company and Carestream company. Agfa-Gevaert Group is a Belgian company founded in the 19th century and has been in business for more than 150 years. Its revenue in 2019 was 2,239,000,000 with a gross profit of 729 million. The Agfa-Gevaert Group designs, manufactures, and distributes a broad variety of imaging products and IT solutions, mainly for the printing, healthcare, and specialized industrial applications. Its mammography digitizing solution is a DR 24M flat panel digital X-ray detector. (Agfa 2020, cited 12.4.2020.) Agfa-Gevaert Group is a strong competitor in the field of mammography digitization because it is a big enterprise and a strong brand. It also sells a range of medical products therefore it has a good network in hospitals

The second main competitor is the American medical technology company, Carestream. It's revenue in 2018 was approximately \$1.6 billion. Carestream has more than 5000 employees around the world. Carestream is a world leader in medical imaging products and offers a large range of medical products. (Carestream 2019, cited 12.4.2020.) Carestream is a challenger to Innomentarium in the field of mammography digitizing solutions due to its worldwide presence and a famous brand, along with having more resource power compared to Innomentarium.

The competitive advantage of Innomentarium lies in its high technological knowledge and its level of innovation. Its product has been proven to deliver high quality performance and results. The weakness of the company, however, is that it is a start-up company with limited resources. It is also an emerging brand that is not well known to the industry's customers.

4 RESEARCH METHODOLOGY

This section of the report will elaborate the methods used to identify, select, and interpret information collected for this study. Research methods could be defined as all the tools / techniques used to conduct research (Kothari 2004, 7). The research methods are classified as quantitative and qualitative methods. Quantitative research methods involve the collection of data in numerical form. This type of data can be collected through close ended questionnaire or surveys. This method of data collection is cheaper, and it is easier to analyze the findings. (Dudovskiy 2020, cited 5.4.2020.) Qualitative research method on the other hand is an investigative research that is used to gain understanding of fundamental issues and motivation behind people's behavior. In other words, it answers questions about why and how people act as they do and helps develop an idea or hypothesis.

4.1 Interviews

Interviews are social encounters where respondents and interviewers work together to produce a reflection of their past (or future) actions, experiences, feelings and thoughts through discussions (Seale, Gobo & Gubrium 2004, 13). Structured interviews are based on a series of predefined questions that are answered in turn, whereas unstructured interviews focus on a predefined topic and allows a conversation to take place between the interviewer and the interviewee on the subject (Alshenqeeti 2014, cited 2.4.2020). Interviews are preferred as a means of gathering data when in-depth information is needed. It is also an effective way to gather confidential or personal information because the interviewer can prepare the interviewee so that the interviewee is at ease. The third advantage of using this data collection method is that there is less likelihood of misinterpretation of the questions since the interviewer can elaborate the questions more clearly. Finally, this method can be extended to a wide range of scenarios and demographics, such as the disabled, the elderly or children.

However, the disadvantage of using this data collection method is that it can be costly and can take a lot of time to gather information. Secondly, the quality of the information depends to a large extent on the skills of the interviewers and, finally, the researcher may become a bias by his or her way of

framing questions or using questions that might limit the interviewee to certain answers and not give freedom to express his or her true opinion. (Kumar 2011, 144,145.)

One of the other risks of using this data collection method is that the interviewee may provide too much information and therefore it is the ethical responsibility of the interviewer to assure the participants that their identity will be protected and remain anonymous (Alshenqeeti 2014,cited 2.4.2020).

There are three types of interviews: structured, semi-structured and unstructured interviews. Structured interviews are to a large extent, controlled by the interviewer and therefore provide less flexibility and opportunity for the interviewee. The nature of the questions asked by the researcher is very brief, and the subjects are required to respond in a similar manner with brief and concise answers. (Adhabi & Anozie 2017, cited 20.5.2020.) Like structured interviews, semi-structured interviews also include an overview of the researcher's topics and questions. However, unlike structured interviews, semi-structured interviews have no strict adherence. Their implementation is based on how the interviewee tackles the researcher's question or topics. Subsequently, unstructured interviews are the absolute reverse of formal interviews. The essence of their execution is disjointed. The interviewer will observe, describe, and informally ask questions when making notes. (Adhabi & Anozie 2017, cited 20.5.2020.)

There are no systematic procedures, methods, or practices for qualitative analysis. Qualitative analysis takes the direction of logic and reasoning. Consequently, it is rather important to explain, interpret, record and report data collection in qualitative study. Qualitative data analysis can be done in the following three steps: coding, defining concepts, patterns, and relationships, and lastly, summarizing the data. A 'code' may be a phrase or a short statement explaining a concept or an idea. Titles must be allocated to all codes. Elements that cannot be quantified, e.g. events, attitudes, etc. are coded. (Dudovskiy 2020, cited 5.4.2020.)

A theory-based approach, otherwise referred to as deductive analysis, is typically based on a specific change of theory or logic model that describes the concept of development intervention or a series of interventions. Theoretical assessment is usually aimed at evaluating the transition at each point of the theory development in order to check the interconnections between the different stages of the transition. (Dudovskiy 2020, cited 5.4.2020.) Essentially, a theoretical assessment is

designed to evaluate the theory and see whether it remains valid. If so, the role of the evaluator is to create a convincing argument of proof that demonstrates what has changed and explains what action has led to the change.

4.2 Online surveys

Online survey is where a set of survey questions is sent to target group through the internet and the respondents can respond through the same. Online survey could be carried out through different online channels such as social media, emails, over the website and so on. (Bhat 2020, cited 12.4.2020.) Online survey, compared to other survey techniques provides the ultimate flexibility, freedom, and convenience to both the researcher and the participants. It is the fastest way to send customised survey questions to different target groups in different geographical locations. (LeClaire 2010, 22.)

Depending on the nature of the study, an online survey may not be the best tool for collecting data in certain scenarios, and it is therefore recommended to use an online survey when the sample size is fairly large and geographically distributed. Online surveys can be costly and therefore more beneficial if the survey is optimized. It is also recommended to use online surveys when there are time constraints, for instance, sending an email survey will reach many people faster than postal mailing. If the information collected is sensitive and there is a need for anonymity, online survey tools can hide the identity of the respondent. This assurance of anonymity encourages the participation of more respondents. (Ritter 2012, 10-11.)

Compared to other survey techniques, online survey is a relatively quick and cost-effective way of reaching the target audience. This is due to the minimum requisite resources. The other advantage is that the rate of error is reduced because there is no mediator between the researcher and the respondent. In addition, the respondents are more truthful and willing to respond compared to a face-to-face encounter because of the respondents' anonymity. (Ritter 2012, 11.)

The disadvantage of this data collection method is that the respondents may lack cooperation. In this internet age, people are getting so many surveys some of which are irrelevant, and have therefore learnt to ignore them, this may lead to them missing out on the relevant ones. Secondly, since not all respondents provide truthful or accurate information, the data given by the respondent

can be uncertain. Finally, because this method of performing a research is highly dependent on resources such as electricity and internet access, the capacity to collect accurate information could be poor if the target audience is in remote areas without these resources. (Bhat 2020, cited 12.3.2020.)

Due to the nature of this study, the qualitative research method was applied. Interviews and online survey were selected as the data collection tools. Semi-structured interview was selected because it would guide the interviewer on the important topics, and it also would give the interviewee the freedom to elaborate their answers and add their opinion. Interviews were conducted via telephone and email. These channels were chosen due to the geographical distance and it was convenient for both parties. The interview questions were in English. For the telephone interview, the conversation was recorded using a voice recording device with the consent of the interviewee. The conversation lasted approximately thirty minutes. The raw data from the telephone interview was later transcribed and coded and then a summary of the codes was derived. The email interviews were requested by the interviewees instead of telephone calls. This was for time convenience. Responses were sent on the same day. The data was coded over the next two days, and a summary was derived.

In the online survey, multiple-choice questions were used where the respondents had the opportunity to add their response if it was not represented in the choices given. Online survey was found to be useful in the collection of data in relation to the study because due to the geographical distance and it would help to reach a larger sample group and in a short period of time.

Theoretical and empirical data were used for the analysis of all the the information obtained. These two were combined and compared so that proper interpretation of data was made possible, and conclusions could be drawn.

5 RESEARCH RESULTS

The research aimed at addressing the research questions concerning the attractiveness of the market and the appropriate market entry mode. Questions were asked about the purchase process, customer behavior, regulations and opinions on the most appropriate market entry mode. The answers provided were to determine whether the market appeals to foreign companies and to dictate what would be the way for the case company to start business operations in Lithuania.

Semi structured interview was one of the methods used to collect information. This method of data collection was designed to help gather detailed information and to gain more insight on the phenomenon. The interviews were conducted via phone and email. Two days before the phone interview, questions were sent to assist interviewees in planning on the topics. Two interviewees preferred email to phone interview because they said they wanted to think about the answers and respond at their convenient time. Responses from the emails were received a day later.

All the respondents interviewed were identified through my personal professional network. Two of the interviewees are employees in different medical device companies in Lithuania. They were chosen on the basis of their experience in marketing and selling medical devices, so they could give their perspective on the distribution of medical devices in Lithuania. One is the sales manager for a major medical device company and the other is a sales representative. The third interviewee is an administrative radiologist in a public hospital in Lithuania. He was selected to give his perspective as a hospital administrator and to represent the viewpoint of a healthcare professional. Telephone calls were made to six more hospitals to request for an interview, in two of those cases I experienced language barrier since the person on the phone only spoke Lithuanian language while the other four declined to do the interview.

An online survey was sent to 62 hospital contacts which were obtained from the internet. These contacts included public and private hospitals. The responses to the survey were made anonymous. The respondents' anonymity was to encourage the respondents to take part and to be truthful in their answers (Vaughn 2017, Cited 13.5.2020). Online survey was chosen because it would reach a larger sample of hospital representatives in a short time. 5 responses to the online survey were received.

Source of funding

The first question was, “What is the source of funds for the procurement of expensive medical devices in both public and private hospitals?” Expensive medical equipment is defined as the medical equipment that are beyond the price of euros 145,000 inclusive of tax. These may include, computed tomography, MRI, angiograph, mammography devices, gamma camera, linear accelerator and other. (VASPVT 2020, cited 2.5.2020.) According to the respondents, private hospitals’ funding is mainly from the hospital’s revenue although under special circumstances, it could be subsidised by the government. Public hospital’s funding would vary from the European union funding, national government or municipal budget. This information was specifically requested by the case company as it would help them to learn how large the opportunities for foreign companies to participate in the procurement process are.

Buying behaviour

Some respondents showed concerns over the irrationality displayed by officials in defining procurement of devices. “Each individual has a different way of choosing which medical device to buy, all situations are different and unpredictable.” Said one of the interviewees. Personal relationships are also identified as an important factor in the sale of medical equipment. According to the respondents, all except one said that hospitals would prefer to purchase from a local company. This matter was explained in the interview that the customers want to be assured of easy access to after-sales services. The other one respondent thought that it did not matter whether it was a local company or not.

Decision makers and influencers

It is crucial for the case company to know who the decision-makers are in order to target them effectively. The results of the question, “Who is the decision-maker for the procurement of medical devices?” both from interviews and online survey data showed that decision-makers could vary. The department head can be key decision-makers in the purchase of up to certain amount of money; in some hospitals up to euros 300,000 while the head of the hospital would then be the key decision-maker with a budget of up to euros 500 000. However, this could vary in private hospitals depending on the size and management of the hospitals. Typically, according to the respondents, the head of departments nominates an expert group of professionals who will be involved in the buying process. These are usually the professionals who in one way or another are involved with

the use of the equipment and their professional opinion therefore counts. The same group will also evaluate the offers from different suppliers and make a proposal to the head of department whose decision will be final.

Decision making process

This information is important to letting the case company recognize how to market and who to market the products to. An undisputed response from all respondents acknowledged that all hospitals make independent purchasing decisions without the interference of the government. Different hospitals have specific requirements, the number of patients varies, equipment condition may also vary.

Direct or indirect buying

According to the respondents, depending on the budget involved, hospitals may buy directly or through the Central Contracting Authority (CPO LT). The Public Procurement Law stipulates that complex and usually lengthy public procurement procedures may be performed by CPO LT. One respondent clarified that buying through CPO LT is beneficial because they perform all procedures much faster, thus saving a lot of time. These processes are done by the central contracting authority and are made public. Transparency is also ensured.

Factors that influence buying decision

Results from both the interview and the survey showed that price, usability, and quality were the main factors they consider when purchasing a new medical device. Safety of patients and ability to speed up workflow were also mentioned. In the survey, two respondents said that brand of the product would also affect their buying decision.

These factors affecting buyers' decision can be summarized in line with results from an earlier study addressed in the second chapter. The study shows that hospital buyers' decisions are based on products that would enhance service efficiency, easy to use products that will make the professional's work easier and eventually fasten the workflow without compromising the safety of patients. When different suppliers are able to satisfy these requirements then they compete on the price basis.

Distribution and promotion of medical devices in Lithuania

The question about the distribution and promotion of medical devices was asked to the respondents who worked in medical device companies. The results show that medical device promotion is not strictly regulated. Other than the fact that the new medical product must undergo an EC compliance examination, have a CE marking or be licensed with SMCA there are no additional requirements for medical device distribution.

There are no special laws applicable to international companies within the EU that wish to market medical devices in Lithuania. In general, the regulations for medical devices are derived from the applicable EU directives. In accordance with the free movement of goods principle, any product legally placed on the market in an EU Member State can also be sold in the Lithuanian market, although some formalities such as registration and conformity assessment may apply.

Geographic entry mode

This question was asked only to the respondents who worked in medical device companies so that they could give their opinion based on their experience of selling medical devices in Lithuania. When asked what the most appropriate mode of entry for a Finnish medical device manufacturing company to Lithuania would be, the interviewees thought there are different options for entry depending on the company's policy and resources. For example, the company could decide to sell directly, promote and carry out the sales activities directly and independently, or sign a distribution contract with a local distributor of medical devices. However, detailed information from the phone interviews shows that personal relationships and the ability to learn and understand different customer's needs is an important factor when selling medical devices. Therefore, having a local representative was thought to be an easier way to reach the decision makers and build relationship.

TABLE 4. Summary of theoretical and empirical results

Market study	External environment	Customer analysis
Hospitals	Politically stable country	Decision making is irrational and based on individuality
85 main public hospitals	Basic infrastructure available	
8 main private hospitals	Educated and health conscious population	Head of departments are the key decision makers
Mammography screening		The main influencers of buying decision are radiologists, radiographers, and physicists.
Breast cancer screening program available	The regulations for medical devices are derived from the applicable EU directives	
No coordinated national breast screening invitation program	Medical device promotion is not strictly regulated	Inexpensive medical devices are bought directly by the hospital. No purchasing agency is involved
Mammography devices		
Total 37 units	Corruption could be experienced in procurement processes	In public hospitals, purchase process is mainly funded the national government and the European Union
Digital 19 units		
Analogue 16	Medium competition present	
Unknown 2 units		In private hospitals, purchasing is mainly funded by the hospital revenue
There is a threat of substitutes for a digitizing solution i.e. brand-new digital device		Hospitals make the buying decisions independently

6 CONCLUSION

This section will be divided into two parts, the first part will focus on the first research question and the second part will focus on the second research question.

Is Lithuania an attractive market for the FeniX solution?

A market analysis was performed to establish the attractiveness of the market. This includes a market study, a customer analysis and an external environmental analysis. Both the theoretical framework and the research findings of this study provide answers to the first research question. A market analysis in the second chapter identified the potential market size and market potential for the mammography digitising solution.

Market study

It was established that the existing analogue mammography devices are mainly in the public hospitals. Vilnius county has a largest number of mammography devices and they also perform the highest amount of examinations. However, the news about the ongoing process of Ministry of Health of Lithuania in acquiring 10 brand new digital mammography devices may cause a drastic change in the number of analogue mammography devices still in use in the near future. The news report shows that seven hospitals that have been named analogue mammography devices will receive a brand-new digital device. This will reduce the total number of potential customers for a digitizing solution.

Regulations

In the external environment analysis, both theoretical and empirical results show that the regulation on the sale of medical devices in Lithuania is not restrictive to foreign companies. The European Union directives, which the case company is already aware of, shall apply also in Lithuania. Lithuania is also a politically stable country with all the basic infrastructure in place and the general population is well educated and health conscious.

Competition

The case company is likely to experience competition, as expected in any market. However, the different segment of the customer creates a need for product customization, both in terms of technology and price. The bargaining power of buyers is relatively higher in large government-owned hospitals. These institutions can have a great deal of influence on the price that the suppliers charge on the product. Public hospitals purchase large quantities of medical equipment and have a higher purchasing power, making it a point of interest for most suppliers. The scenario is different for midsize and small private hospitals.

The bargaining power of the suppliers and the rivalry between the existing competitors is reflected in the price reduction of the products. According to Porters, strong suppliers can lower the prices of their products, thus affecting the ability of other competitors to compete with prices (2008, 78). Competitors such as Agfa Gevaert Group have had a wide range of products and have been on the market for decades. This gives the company a competitive advantage due to its already known brand and existing customer relationships. In addition, there is definitely a threat of substitute products in the field of mammography upgrading. Customers have the option of purchasing a brand-new digital mammography. As time passes and technological developments improve on a daily basis, the use of analog mammography devices continue to decrease and are replaced by digital equipment.

Buying process

In the case of a mammography digitizing solution, the price is not within the range of expensive devices. Hence, it is likely that the hospitals would purchase directly and not through a purchasing agency, in which case the head of the radiology department would be the decision maker and right person to target together with his team of influencers. This team comprises of physicists, radiographers and radiologists.

In conclusion, the environment in Lithuania is attractive for businesses. Purchase processes are not complicated, and once the case company identifies the individuals involved in the decision-

making process, it is easier to target them. Direct purchases also make the process less complicated. Although competition exists, with proper targeting and market positioning, the case company is able to compete in Lithuania. However, the market size, which as defined earlier in this report, refers to the approximate total amount of sales or prospective buyers of the digitizing solution is relatively small and could be even smaller if the current procurement project is successfully completed by the Ministry of Health.

Which market entry mode could be used by the case company to enter Lithuania?

The different market entry modes have been discussed in the third chapter and intra-community trade has been identified as the only option that would apply to the case company with regard to entering Lithuania. However, a crucial decision must be taken whether to enter the market directly or indirectly through a local representative. This decision should be based on the behaviour and preference of the customer.

Customer behaviour

The purchasing process in Lithuania is defined and regulated by the law. Nevertheless, despite the normal requirements and conditions applied to the purchasing process in Lithuania, the procurement process is characterized by dynamism and individuality. Although organizational buyers are expected to make their decisions on the basis of logic, as already discussed in the theoretical framework, it is important to remember that they are human and that personal emotions may come in the way of their decisions.

If the company decides to enter the market without an intermediary, it will require to have a lot of knowledge of the customers, because it is only then that it will be possible to prepare the technical specifications properly and to perform all the necessary procurement procedures properly. Understanding different customer's needs is also relevant when selling medical equipment in Lithuania, as different customers / decision makers have specific needs and preferences.

Market entry mode

On the basis of the findings and arguments provided, it is recommended to enter the new market using a local representative company in order to successfully reach the target customers and to make sales in Lithuania. The contractual mode of entry of the International Licensing might well apply. The reward of the licensee, as discussed in the third chapter, is generally determined and paid on the basis of each unit sold by the licensee. The licensee would then assume the entrepreneurial responsibility for the marketing, sale and distribution of goods and services in Lithuania. This will also mean that the case company does not have to invest heavily in order to start a business in Lithuania.

On the flipside, if the local representative is involved in illegal or unethical activities, there is a risk that the reputation of the business will be damaged. Also, the profitability of the sales in Lithuania would depend mainly on the efforts of the distributor.

7 DISCUSSION

The aim of the thesis was to help the case company learn about Lithuania and decide whether or not it is worth investing its resources in order to enter the new market. The study also sought to help the case company learn the different factors that would have an impact on business and to help the case company decide what the best entry-mode strategy would be. The writing of the thesis started in February and ended in May. Time constraints were imposed but the findings were obtained successfully, and the research questions were answered.

One thing that stood out about the market in Lithuania was that it is particularly important for the case company to be able to learn about different customer needs and not to make general assumptions about all customers. There is also a great deal of knowledge needed about sales processes to identify decision makers and legal issues. This quite clearly shows the need for a local representative.

During my research, a concern about the complexity of purchasing processes both in public and private hospitals arose. And whether the procedures are similar or more complicated in public hospitals than would be the case in private hospitals. This would be an area which could be further studied in future.

The semi-structured interview proved to be a very useful tool for collecting information. This led to a detailed discussion and the respondents were able to give a broad outline of the topics. The online survey seemed to confirm the information collected from the interviews.

Due to the small number of hospitals in Lithuania, the overall target sample was therefore small. This study was also conducted at the time of the outbreak of Covid-19, when most businesses and offices were closed. I sought the opinions of government officials and authorities that would have been relevant to the study. These included Business Finland representatives in Lithuania, the

chamber of commerce in Helsinki and the ministry of health of Lithuania, but the phone calls went unanswered, which would mainly mean that they were not present in their offices. The survey was sent to hospitals, but because of the Covid-19 situation, most hospitals were too busy to participate. However, the answers from the different respondents were mostly unanimous and they did not include contradictory information. Therefore, although there were quite a few respondents, the information can be considered comprehensive and reliable.

The challenges faced during the study were that most of the online sources providing information about Lithuania were in Lithuanian language and some of the websites did not have English translations. Language barrier was experienced during the telephone calls as well. There was also insufficient information on the internet about Lithuania.

This study was quite a good challenge for me. The knowledge that the information would ultimately be useful to the case company pushed me to look deeper into reliable sources. Having worked for the case company in the past, I was more familiar with the product and I was able to identify what information would be useful to the company.

I have learned a lot from this study especially in the field of market entry and customer analysis, by combining theory and practice. Also, the subject was in the field of international business, which is my area of interest, so I was motivated to work on the study. Even though there was a time restriction while working on my thesis, I invested a lot of hours of work. From my own point of view, the thesis was able to provide the case company with systematic guidance on starting business activities in Lithuania. The thesis offers a clear context theory, demonstrating the key factors to be taken into account. Also, after working in the case company, I am convinced that the thesis will also have a practical effect on their decision-making.

REFERENCES

Oulu University of Applied Sciences 2014. Bachelor's thesis instructions. Cited 2.2.2020,
<https://oiva.oamk.fi/utills/opendoc.php?aWRfZG9rdW1lbnR0aT0xNDMwNzY0Njky>

Adhabi, E. & Anozie, C. 2017. Literature Review for the Type of Interview in Qualitative Research. Cited 20.5.2020,
https://www.researchgate.net/publication/320009898_Literature_Review_for_the_Type_of_Interview_in_Qualitative_Research

Advancing safety in health technology 2016. New TIR Zeroes in on Environmental Impact of Medical Devices. Cited 21.4.2020,
<https://www.aami.org/productspublications/articledetail.aspx?ItemNumber=3129>

Agfa 2020. DR mammography cassette-sized aed detector. Cited 2.4.2020,
<https://medimg.agfa.com/main/direct-radiography/dr-24m/>.

Alshenqeeti, H. 2014. Interviewing as a Data Collection Method: A Critical Review. Cited 2.4.2020,
<https://www.semanticscholar.org/paper/Interviewing-as-a-Data-Collection-Method%3A-A-Review-Alshenqeeti/463065fe0e82bec7cd9086c484df23ca4f690697>

American Cancer Society 2020. American Cancer Society Recommendations for the Early Detection of Breast Cancer. Cited 5.2.2020,
<https://www.cancer.org/cancer/breast-cancer/screening-tests-and-early-detection/american-cancer-society-recommendations-for-the-early-detection-of-breast-cancer.html>.

Antonio, Guglielmo & Anttila 2017. Cancer screening in European Union. Turin: IARC.

Ashford University 2017. How to Use Situational Analysis and STP in Your Marketing Plan Segmenting, Targeting, and Positioning. Cited 5.5.2020,
<https://www.ashford.edu/online-degrees/business/how-to-use-situational-analysis-and-stp-in-your-marketing-plan-segmenting-targeting-and-positioning>

Bhat, A. 2020. Online surveys: definition, characteristics, examples, advantages and disadvantages. Cited 12.4.2020,
<https://www.questionpro.com/blog/what-are-online-surveys/>.

Bragg, S. 2010. Business ratios and formulas. Second edition. John Wiley & sons Inc. New Jersey.

Business Dictionary 2020. Competitor. Cited 03.3.2020,
<http://www.businessdictionary.com/definition/competitor.html>

Cancer care 2014. Early detection of breast cancer. Cited 25.2.2020,
<https://www.beckershospitalreview.com/finance/the-financial-challenges-facing-hospitals-health-systems-4-takeaways.html>

Carestream 2019. Solutions for women's healthcare. Cited 2.4.2020,
<https://www.carestream.com/en/us>.

Cliquet, G. Hendrikse, G. Tuunanen, M. & Windsperger, J. 2007. Economics and Management of Networks: Franchising, Strategic Alliances, and Cooperatives. Springer Science & Business Media.

Creatovate 2014. Management contract. Cited 24.4.2020,
<https://creatovate.wordpress.com/tag/management-contract/>

Cremades, A. 2018. How to effectively determine your market size. Cited 13.05.2020,
<https://www.forbes.com/sites/alejandrocremades/2018/09/23/how-to-effectively-determine-your-market-size/#66e0f2a613d8>)

Delfi Health News 2019. Around 1,500 women are diagnosed with breast cancer in Lithuania every year: when to check up. Cited 27.2.2020,

<https://www.delfi.lt/sveikata/zinoti-sveika/lietuvojekruties-vezys-kasmet-diagnozuojamas-apie-1500-moteru-kada-verta-pasitikrinti.d?id=82370831>

Dudovskiy, J. 2020. methodology. Cited 5.4.2020,

<https://research-methodology.net/>.

Froman, B.G. 2015. National Trade Estimate Report on foreign trade barriers.

<https://ustr.gov/sites/default/files/2015%20NTE%20Combined.pdf>

Ghauri, P. 2008. Globalisation. London. Dorling Kindersley Limited.

Glowik, M. 2016. Market Entry Strategies. Oldenbourg: Walter de Gruyter GmbH.

Human Health Series no.17, Vienna. Cited 23.2.2020,

<https://www.iaea.org/publications/8560/quality-assurance-programme-for-digital-mammography>

Innomentarium Fenix 2019. An affordable and ecological choice to digital mammography. Cited 22.2.2020,

<https://innomentarium.fi/>

Kothari, C.R. 2004. Research Methodology: Methods and Techniques, New Age International Ltd.

Kotler, P. & Keller, K.L. 2005. Marketing Management. 12th Edition. New Delhi. Prentice-Hall of India Private Limited.

LeClaire, Vivek & Jennifer. 2010. Online Surveys For Dummies. Hoboken. Wiley Publishing.

Llamazares, O. 2019. What Is A Turnkey Contract? Cited 21.4.2020,
https://www.globalnegotiator.com/blog_en/international-contracts/.

Lumen learning 2011. Boundless marketing. Cited 1.4.2020,
<https://courses.lumenlearning.com/boundless-marketing/chapter/the-business-buying-decision-process/>.

Maresova, P. & Kamil, K. 2014. porter's five forces on medical device industry. Czech Republic: MMSL.

Market analysis 2019. Definitions. Cited 28.3.2020,
<https://pestleanalysis.com/market-analysis-definition/>.

Med-tech Europe 2019. Medical device Europe. Cited 21.03.2020,
<https://www.medtecheurope.org/about-the-industry/what-is-medical-technology/>

Michael, B. 2016. Foreign trade barriers. Executive office of the President of the United States.
<https://ustr.gov/sites/default/files/2016-NTE-Report-FINAL.pdf>

Michael, S. 2012. Consumer behaviour. 3rd edition. Pearson education. Australia.

Michael S. 2016. Consumer behaviour: A European Perspective. Pearson Education. Australia.

Ministry of Health of The Republic of Lithuania. Diagnostic options for women with breast cancer are improving. Cited 13.3.2020,
<http://sam.lrv.lt/lt/naujienos/gereja-diaagnostikos-galimybes-moterims-del-kruties-vezio>

Mohammad & Jamil 2012. Priority of Determinants Influencing the Behavior of Purchasing the Capital Medical Equipment using AHP Model. Cited 28.3.2020, <https://mmsl.cz/pdfs/mms/2014/04/01.pdf>

National health Insurance Fund 2019. Health insurance system. Cited 22.04.2020, <http://www.vlk.lt/sites/en/health-insurance-in-Lithuania/health-insurance-system>

OECD 2019. Breast cancer screening. (mammography), survey data and programme data Cited 25.4.2020, <https://stats.oecd.org/FileView2.aspx?IDFile=eb5acd7d-2445-401a-b624-62fcdad85091>

OECD 2018. OECD Reviews of Health Systems: Lithuania. OECD library <https://www.oecd.org/health/health-systems/OECD-Reviews-of-Health-Systems-Lithuania-2018Assessment-and-Recommendations.pdf>

Oxford college of marketing 2016. What is pestel analysis. Cited 18.3.2020, <https://blog.oxfordcollegeofmarketing.com/2016/06/30/pestel-analysis/>

Pervez, N. Tamer, C & Milind R. 2002. Doing Business in Emerging Markets. California. Sage Publications.

Petkeviciene, Kriaucioniene, V. & Janina 2019. Predictors and Trend in Attendance for Breast Cancer Screening in Lithuania, 2006-2014. Cited 19.4.2020, <https://www.ncbi.nlm.nih.gov/pubmed/31744058>.

Porter, M. 1985. Competitive advantage. Maxwell Macmillan International. New York Oxford Singapore Sydney.

Porter, M. 2008. The Five Competitive Forces That Shape Strategy. Carlifonia: HBS Centennial.

Powell, Ghauri, P. & Sarah 2008. Globalisation. Delhi. Dorling Kindersley Limited.

Radiological society of north America 2018. Digital mammography increases breast cancer detection. Cited 8.2.2020,

<https://www.rsna.org/en/news/2018/November-December/digital-mammography>

Report by European Commission 2017. State of health in the EU Lithuania: country health profile. OECD library.

http://www.euro.who.int/data/assets/pdf_file/0010/355987/Health-Profile-Lithuania-Eng.pdf?ua=1

Report by European Commission 2019. State of health in the EU Lithuania: country health profile. OECD library.

https://read.oecd-ilibrary.org/social-issues-migration-health/lithuania-country-health-profile2019_35913deb-en#page10

Report by International Atomic Energy Agency 2011. Quality assurance programme for digital mammography.

https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1482_web.pdf

Ritter, Valerie M. Sue & Lois, A. 2012. Conducting Online Surveys. Carlifornia. Sage publication.

Rugman, A. 2012. International Business. Manhattan. Random House

Sarapinas & Valdemaras 2018. Lithuania. Cited 23.4.2020,

<https://helsinki.chamber.fi/economic-outlook-of-lithuania-today-and-what-are-the-prospects-for-the-country/>.

Saukiene, I. 2019. Paradoksas: šiuolaikinis krūties vėžio gydymas Lietuvoje prieinamas tik ištraukusioms laimingą bilietą. Cited 13.5.2020,

<https://www.15min.lt/gyvenimas/naujiena/sveikata/paradoksas-siuolaikinis-kruties-vezio-gydymas-lietuvoje-prieinamas-tik-istraukusioms-laiminga-bilieta-1028-1161844>.

Seale, C. Gobo & Gubrium 2004. Qualitative Research Practice, SAGE Publications.

Steponaviciene, L. 2019. Cancer control. Cited 10.5.2020,
<https://journals.sagepub.com/doi/10.1177/1073274819874122>.

Stewart, C. 2019. Number of hospitals in Lithuania from 2000 to 2017. Cited 9.2.2020,
<https://www.statista.com/statistics/561385/hospitals-in-lithuania/>

Tamer, S. Milind, R. & Agarwal 2002. Doing Business in Emerging Markets: Entry and Negotiation Strategies. Sage Publications. London.

TGS Baltic 2018. Regulatory, Pricing and Reimbursement. Cited 6.4.2020,
<https://pharmaboardroom.com/legal-articles/regulatory-pricing-and-reimbursement-lithuania/>

Transparency international 2012. Corruption perceptions index. Cited 6.4.2020,
<https://www.transparency.org/en/cpi/2012>

Valdemaras S. & Hatanpää A. 2018. Economic outlook of Lithuania today – and what are the prospects for the country? Cited 4.5.2020,
<https://helsinki.chamber.fi/economic-outlook-of-lithuania-today-and-what-are-the-prospects-forthe-country/>

Varma, S. 2015. International Business 2nd Edition, Pearson Education. India Sumati V.2012. International Business. Person Education. India

VASPVT 2019. Mamografija 2018 medicinos technologijų skyrius. Cited 6.4.2020,

https://www.vaspvt.gov.lt/files/Brangus_medicinos_prietaisai/MMG_2019%20%282018%20m.%20duomenys%29.pdf

VASPVT 2020. Medical devices (due to EU regulations).
Cited 23.03.2020,
<https://www.vaspvt.gov.it/en/node/275>

Vaughn, G. 2017, Should your next survey be anonymous. Cited 13.5.2020,
<https://blog.zef.fi/en/should-your-next-survey-be-anonymous-or-not>

Veroskatt 2020, International trade within the EU – intra-Community supplies and acquisitions.
Cited 15.4.2020,
<https://www.vero.fi/en/businesses-and-corporations/about-corporate-taxes/vat/international-commerce/intra-community-trade/>

Weele, A. 2010. Purchasing & supply chain management: Analysis, strategy, planning and practice.
5th ed. Andover, Hampshire: Cengage Learning.

Wilkinson J. 2013. Market positioning. The strategic CFO. Cited 24.3.2020,
<https://strategiccfo.com/market-positioning/>

Worldwide cancer data 2018. Breast cancer. Cited 3.2.2020,
<https://www.wcrf.org/dietandcancer/breast-cancer>.

World Health Organisation 2019. Breast Cancer. Cited 3.2.2020,
<https://www.who.int/cancer/prevention/diagnosis-screening/breast-cancer/en/>


World Health Organisation Europe 2017. State of health in the EU. Lithuania. Cited 6.5.2020,
http://www.euro.who.int/__data/assets/pdf_file/0010/355987/Health-Profile-Lithuania-Eng.pdf?ua=1

Wührer, G. 2014. International Marketing Compact. Wien, Austria. Linde Verlag GmbH.

Interview questions.

1. What is the source of funds for the procurement of expensive medical devices in both public and private hospitals?
The answer could be, but not restricted to following options: funded by the national government, European Union, hospital revenue etc.
2. Who is the key decision-maker in the hospital procurement process of medical devices?
3. Who are the influencers of buying decision in hospitals?
4. Do public hospitals make purchase decisions independently or is the decision made by the government?
5. Do hospitals buy directly from suppliers or do they use procurement agencies?
6. What do customers look for when purchasing a medical device?
7. In your opinion, what would be the most suitable mode for a Finnish medical device company to start selling in Lithuania?
8. Are there regulations/restrictions that apply to foreign EU companies on the promotion and distribution of medical devices in Lithuania?

Survey questions


OULUN AMMATTIKORKEAKOULU

Medical devices procurement process in hospitals in Lithuania

1. What is the source of funding for the procurement of expensive medical devices e.g. mammography devices in Lithuania

- European Union funding
- National government funding
- Hospital revenue
- Other. Please specify.....

2. How is the procurement decision done for expensive medical devices, for example mammography devices.

- Independently decided by the hospital
- Decisions are made by national government
- Other. Please specify.....

3. Who is the final decision-maker for the acquisition of medical devices in a hospital.

- Hospital administration
- Head of department
- Medical device users eg radiographers
- Others. Please specify.....

4. Who are the influencers of buying decision in hospitals?

5. What influences your decision of buying a medical device? (you may choose more than one answer).

- Brand
- Quality
- Price
- Usability
- Other

6. Do hospitals buy directly from suppliers or do they use procurement agencies

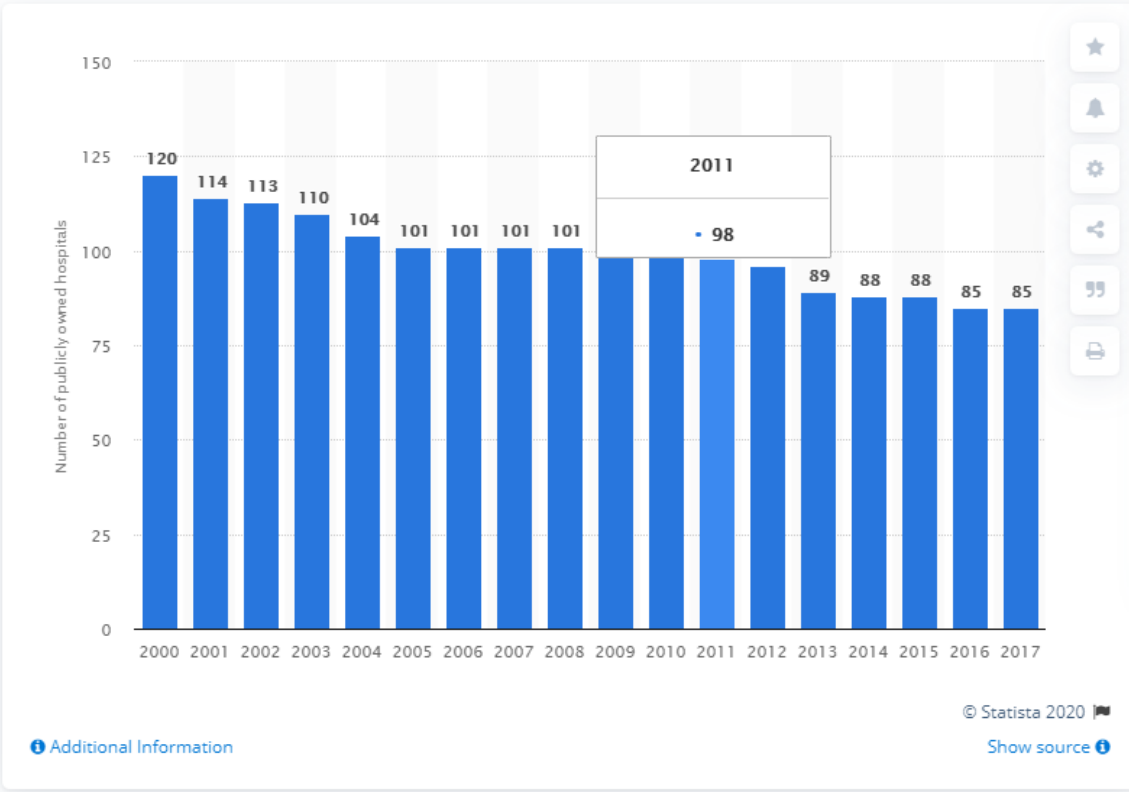
- Yes
- No
- Other. Please specify

7. I prefer to buy from a local company

- yes
- No
- It doesn't matter

Number of public hospitals in Lithuania

Number of publicly owned hospitals in Lithuania from 2000



(Stewart C, cited 07.07.2019.)