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Internationalization of a health care mobile application

Case study of Onerva Hoivaviestintä Oy

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<p>Abstract</p> <p>Companies have been trying to increase their footprint and target a bigger market share, by internationalising. It has been a global trend not just among corporations but also on the level of society.</p> <p>The following research paper is a case study for Onerva Hoivaviestintä Oy, which is a start-up company. The company connects family members of elderly and the care providers. Due to COVID-19 pandemic it is harder for relatives to see their elderly family members, therefore applications like Onerva is demanded.</p> <p>To gain new opportunities and to expand their business they are obligated to internationalise and target foreign markets. Prior to new market entry it is recommended to analyse potential market areas, as it lowers the risk and shows which countries could bring higher and stable profit.</p> <p>This research was pursued to compare Denmark's, Sweden's and Germany's market suitability for a new instant-messaging application targeted for elderly care. The market study was completed by analysing macroenvironment and microenvironment factors in the chosen countries. The researcher put macroenvironmental factors in focus for the literature review chapter, since the application concept is innovative and there has not been any similar data collected in this topic.</p> <p>The nature of the research is exploratory. The author selected mixed methods approach to support the theory. Firstly, numerical secondary data was collected from other researchers, then with the interviews, the author proved with primary qualitative data the hypothesis. The interviews were carried out with three elderly home workers from Denmark, Germany and Sweden. The interviews were semi structured, as the author wanted to have a deep understanding of the country's elderly health care system.</p> <p>Comparing all the secondary and primary data, the researcher concluded that due to the technological advancement and number of potential users. The most reasonable market for Onerva Hoivaviestintä company, to expand their business first is Sweden.</p>		
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1 Introduction

The population is ageing rapidly, the baby boomers, who were born between 1946-1964 came to an age of retirement. The number of the people who are over 60 years old is instantly growing. The economy is already struggling with the pension, hospitals are overloaded with elder patients, there is not enough caretaker who could assure their wellbeing. Many of the elder people suffer from some illnesses, which requires constant monitoring. Furthermore, during the current COVID-19 pandemic, elderly citizens are more in danger than ever before. The relatives cannot risk visiting the patients.

Therefore, it is an urgent matter to find solutions of ageing population. Technology is most likely the key to this problem. Robots are already used in hospitals as a helping tool for the nurses and doctors. Health professional can access on mobile applications to the patients' transcript, which is more convenient, since it is timesaving, and it is more organized. However, there has not been many mobile applications which were concerned with the relatives of the pensioners, who are under nurse care. There is a lack of trust in the system, which occurred from the scarcity of nurses.

Many accidents occurred, which could have been avoided if the patients had gotten more attention and if the caregivers had told the severe condition to some other colleague or relative, who could have taken care of it. The biggest problem is lack of time, there aren't many care givers however the number of patients is just growing, and the time given for one patient's care is not enough. Also, the management is giving more and more duties to caretakers, to cut the expenditure. One of the solutions for solving this problem could be by aiming for a better communication between parties. As Joseph G. Murphy and William F. Dunn wrote medical errors and poor communication cohere with one another. Medication and technology devices helped a lot in saving people's lives, but the key element for patient care relies in soft skills of the workers. Such as teamwork, communication and devotion towards their work. In their article they mentioned that the Joint Commission on Accreditation of Healthcare Organization found that communication errors cause around 60 to 70 percent of preventable hospital deaths. (2010, 1292-1293.) This is a huge amount, considering that communication is not related to the skill of the doctors or nurses,

which might be the most evident reason for cause of preventable deaths.

Communication failure is a big threat in each business industry but in health care lives depend on the quality of it.

There should be more efficient tools to help in the communication. The communication is not just needed for the workers in health care but also for the relatives, so they know if there are additional services needed for the person who is under health care support. A channel between the nurses and the relatives would be useful for all the parties. Because in many cases the problem is that the hospital or elderly home does not have the resources to give additional care for the patients who need it. And they don't tell the patient's relatives, who could order extra service for elders or sick. As an additional service, people in elderly homes or under the care of nurse can order house cleaning, help for walking outside or a person who does the shopping. Also many of the elders are unable to use smart devices, therefore they cannot see their children and grandchildren growing. With this messaging applications relatives could frequently send pictures to nurses, who could show these to the elderly patients. By doing this, the mental health of the elderly will remain clear. These small things can affect hugely the life quality of the elders

1.1 Background

This research is a case study of Onerva Hoivaviestintä Oy company, they are a small sized company, who is planning to enter new market areas. They only operate in Finland in present day, but they started to think stepping into the international market. The core idea of the firm is to connect relatives with their elderly family member, who is in nursing home or home care, with the help of a mobile application

The employees of the company do not have experience yet in internationalization. Therefore Mr. Ville Niemijärvi, the founder asked for further opinion and an analysis of foreign markets. Mr. Ville chose Sweden, Denmark and Germany as potential countries to expand its market area. Ageing is not just an appearing challenge in Finland, but it is a global problem, therefore going abroad for a health care service company, who is targeting ageing population countries is a sharp step.

This research validates why it is necessary for Onerva to go abroad by analysing the countries macro and microenvironment factors and conclude which country is the

most suitable for a health care mobile service, as Onerva. Microenvironment research can show the elements what Onerva needs to focus on in each country and macroenvironment research can show the bigger societal elements which affect the microenvironment factors.

Ville Niemijärvi is the founder of Onerva Hoivaviestintä Oy, this is a start-up company building communication and co-operation solutions for eldercare. Mr. Ville explained that the service was built in 2014 but the company officially operates from May 2017. The main product is Onerva Communication solution, an instant messaging platform that allows nurses, care providers and family members communicate securely in real time. Onerva has also launched its marketplace, a sharing platform in 2018, where they connect the relatives with wellbeing and health care services, which they can purchase as an additional assistance. (Ville Niemijärvi 2017)

They have two target audience in the marketing campaign, but they only focus on one in their sales. Onerva is selling its application usage to nursing homes. The company's goal is to get businesses as customers, however they need to raise awareness among the relatives of the aged people, because they are the one who would find this application the most valuable.

1.2 Motivation of the research

The author has done previous marketing research for Onerva as a study project, and the process of the project was educational and fascinating, therefore the author decided to do another work with the company, to gain new knowledge.

The professional motivation of the writer is that, ageing population became one of the mega trends. Shortly many of the services and products providers will shift to serve this rising population sector. This research will give a professional advantage, since it shows that the writer understood the needs of the elderly customers and recognized the opportunities in the market in an early stage, which is relevant if the author wants to work again in an industry, where elder customers are the target segment. Secondly, there is a personal driving force. The student has a compassionate personality and thinks that Onerva has a positive impact on the society. It makes nursing care reliable again, since there is a lack of trust in the elderly care. It is a driv-

ing force for the author to help Onerva Hoivaviestintä Oy to prepare this transparency in the communication and create a better healthcare system for elders.

1.3 Research questions

The objective of this study is to find a suitable market for where Onerva Hoivaviestintä Oy could expand its business. As they have been operating only in Finland, with a limited number of customers, thus the clients' amount has not been sufficient. The founder believes that staying in Europe and internationalising within Europe's borders is more advantageous, since these countries are close to Finland physically, mentally, and culturally. He found the following three countries potential markets for Onerva:

- Germany,
- Sweden and
- Denmark.

In the thesis the researcher will look for the most suitable market to enter out of these chosen countries by comparing different attributes. Therefore, the author needs to answer the following question to:

Which is the most suitable foreign market to target for an instant-messaging application to get the greatest number of users among elderly home nurses and relatives in Denmark, Sweden and Germany?

The author will analyse these markets according to the macroenvironment and microenvironment factors to find the most profitable and fitting market for Onerva to expand its business.

1.4 Structure of the thesis

This research paper is divided into five main categories. The first chapter comprises the introduction of the topic, where the author briefly describes the topics discussed in this study. The second chapter is the literature review chapter, which gives a frame to the research problem. The literature review is composed strategically to gradually increase the knowledge of the readers and interest in the topic.

This is followed by the methodology where it is explained what kind of approach was chosen for primary data selection and why. Also, verification of the results is included into the methodology. Which is followed by the primary data collection's results. The final main part is the discussion section where conclusion is formulated from the primary data results. It is analysed and future suggestions are composed for upcoming researchers.

2 Literature review

The literature review chapter examines the definitions of internationalization and macro and microenvironment elements. In the planning of the internationalization process, companies need to take into consideration multiple aspects. Especially if it is a health care service, it is a sensitive issue, since it is organised and received differently in each country. The author collected relevant secondary data of Swedish, Danish, and German markets for the literature review part of the thesis.

2.1 Internationalization

Several companies decided to go international and step into the global market. The reason can be different for each company. It might be for the reason that foreign market would bring higher profit margins or to decrease reliance on one particular market area or the firm's clients are going abroad, therefore if the company want to keep its customers, they need to go abroad with them as well. The last reason for internationalisation is when the business is aiming for a larger customer source, which is the case for Onerva. (Kotler, Keller 2006, 669.) Onerva's reason for globalization is that the domestic market, in Finland is not wide enough, since the population is not vast. If they want to keep growing, then they need to step into the international market. Internationalisation is a way how companies can grow. The growth of a business is crucial, and the only way how they can survive (Saukkonen, 2017). The market is growing constantly, if someone gets caught in an early stage, then the competitors will take over the market. International trade has grown rapidly in the last three decades, which means that the global competition is enormous. Companies are spreading rapidly, as country borders are not barriers anymore. (Kotler, Am-

strong, Harris & Piercy 2013, 569) Therefore companies all need to do a market research and examine if expanding abroad would bring any gain for the company or not.

There are many threats, that the company might not understand without an analysis, such as the foreign culture, preference of the new market, regulations, which might add additional costs. (ibid., 669) These are major factors that can affect the vision of the company. That is why an analysis of the foreign market is required.

Marketing research is necessary tool before entering to a market, which consist secondary and primary data of the new entry market. It can help to decrease unexpected actions, supports decision making, since it reduces the risks, which emerged from lack of information. (Hollensen 2016, 186.) The founder of the company chose Sweden, Denmark and Germany as new market areas, where they would like to operate in the future. These countries were chosen, because their culture is close to Finnish culture. This psychology follows the Uppsala model, which was developed by Johanson and Wiedersheim-Paul (1975) also by Johanson and Vahlne (1977). According to them, staying close to the domestic market, lowers the risks of failure. Their explanation for this was that the company needs to gain experience of globalization and physically closer countries have similar culture, business climate and laws. Danish and Swedish laws are very similar to the Finnish. They are all welfare countries and spend a high amount of the counties' GDP to balance the amount of inequality between society and helping the low-income citizens. The criticsists say that Uppsala model is a too slow process, which is not suitable in the 21st century anymore. (Hollensen 2016, 85-87.) The process speed in Onerva's case would mostly depend on marketing, it is a low risk investment to target one of the European countries but does not indicate that it is not profitable. Onerva would have enough profit if the application implementation would go well in the chosen countries. Onerva still needs to analyse what are the most efficient ways to target customers and for that European smaller market areas are enough.

If companies follow the Uppsala model's stages of international market entry, then first companies would export the goods to a foreign market, which is physically and culturally close to the origin country. Then establish sales sub-branches in the country and lastly bring the factories to the chosen country. This Uppsala model hypothe-

ses were made by observing Swedish manufacturing businesses. And as Sharma Jan Johanson (1987) shown in his research it is much more different for a service business to internationalize. In a manufacturing industry the risks are much higher, since there is a larger nonliquid assets and the capital is affected by each decision. The shipment of goods is harder than the shipment of services. Johanson based his research on technological consultancy services. (ibid., 87-89.)

Onerva Hoivaviestintä provides a communication software for elderly homes, this belongs to the service industry. Christopher Lovelock and Evert Gummerson were one of the people who tried to give a definition of what products and services is. They compared services to renting, the purchaser of a service is renting the usage of a physical object. Mobile application could be categorized as a system and network renting. (Lovelock & Writz, 2007, 13.) The clients rent the right to use the communication software, which they could not establish on their own.

All in all, Uppsala model is correct in this case for a start-up, since in the company no one has wide international experience and the company does not have a big capital yet. Therefore, it is better to target physically closer countries, where the differences are not that wide. It is true that in today's world there is a big amount of data available online and collecting information of foreign market and making a marketing research can be easily done. But the Nordic countries have similar law system, their economic environment is also similar and culturally they are also close due to their historical background. Germany is a bit more different from Finland, these differences are shown later in the research paper with analytics. Finland, Sweden, Denmark and Germany are all developed counties, with a high ageing middle class. They are also part of the European Union, which offers an open single market for services, and they are in a process to fully functionalize the digital single market. All the European based companies can establish new businesses within Europe without limitation. Digital single market allows companies to connect all the customers within Europe with the same restrictions. All the firms need to obey the same laws and offer the same product or service for all the customers regardless of residence. Quality and the price need to remain constant everywhere. (The European single market.)

It is one of the EU's top priority to create a connected digital single market. The European commission realised the potential of the Digital Single Market, since it creates

economic opportunities. (A connected Digital Single Market State of play and the way forward 2015, 2-3.) An OECD study showed that the internet economy is an enormous source of growth, it produces jobs and develops the well-being of the society (The Internet Economy on the Rise: Progress since the Seoul Declaration 2013, 5).

Electronic health (eHealth) is the use of information and communication technology in health sector. (Atlas eHealth country profiles: based on the findings of the second global survey on eHealth 2011, 10). All of the applications which are related to health can be categorised under eHealth, but in eHealth they have a specific segment just for mobile applications, the sub-category's name is mobile health or mHealth. Mobile health (mHealth) is an expression for the usage of mobile and wireless devices, which supports health care's objectives (mHealth: New horizons for health through mobile technologies: second global survey on eHealth 2011, 9).

The most active region in mHealth activities are in the European area (ibid., 10). Therefore, for Onerva European countries are the most potential, since the adaptation of a new mobile application would be easier for society. However, this can be also a drawback, because the number of competitors can rise rapidly.

It is not an app, which can be used by everyone, it has a niche market, specifically designed only for a small group of the society. Niche or concentrated marketing is when a firm is not targeting a big part of a small share, but instead the business focuses on a big share of a small market area. (Kotler et al. 2013, 215) To put this into Onerva's perception, the small market area is elderly care communication mobile application, and Onerva only targets elderly homes and nursing homes. This is a new concept, hospitals have been using similar applications already for few years now, which connects patients with nurses and doctors, but the author has not found similar applications in Germany, Denmark and Sweden, which were developed for messaging between the nurses and elderly. This is a complex application, since during the international distribution the company needs to take into consideration many macroenvironment forces, especially cultural and technological drives.

2.2 Foreign market macroenvironment

Macroenvironment factors are societal forces, which affect the business radically (Kotler et al. 2013, 74). Macroenvironment consists demographic, economic, technological, political/legal environment and cultural factors (Hollsen 2017, 211).

In case of Onerva cultural factor needs to be examined closely, because this element has the greatest effect on the internationalization process. In some countries it is expected from the children to take care of their elderly parents this approach is seen in family centric countries. In Europe only 50% of the over 65 years old population with some physical or mental limitation, receives professional help regularly. 30% of these elder with physical or mental illness get medical care to their homes. They are visited by nurses regularly who checks their health status and give prescribed medication to the elders. 20% of the seniors live in elderly homes. Which means that 50% elderly people living with limitation do not receive any regular supervision from a professional. (Onder, Carpenter, Finne-Soveri, Gindin, Frijters, Henrard, Nikolaus, Topinkova, Tosato, Liperoti, Landi, Bernabei & SHELTER project 2012)

2.2.1 Demographic

Ageing is a global mega trend. The population is ageing in developed and developing countries as well. In developed countries aging is already a problem, while in the developing countries the increase in the elderly population will come in less than 50 years (Verttori 2010, 1). In developed countries the fertility is low because of the technological advancement in birth control, women are well informed, and they chose to have a carrier first. In developing countries, the birth rate dropped, because of political legislations, for example China used to have the one child policy, which the Chinese government introduced in 1979 (Zhang 2017, 141).

The baby boomers are at a retiring age, they worked whole their life and saved money for their retirement. Their children are the generation X, who are mostly family centric. A research discovered that for them their children and their aging parents are essential, and they come first and not their career. They are sensible shoppers who prefers quality. They were the first one growing up in internet era, most of the X generation has smart phones and tablets and they know how to use internet in their

daily life. (Kotler et al. 2013, 80-81.) That is why they are typically the perfect customers for Onerva. Baby boomers who had saved capital, has gone to nursing homes or purchased nurse care, when they needed it. Their working children would be worrying and would want to get more information about the wellbeing of the parents. Therefore, this service is well needed in the developed countries, where the amount of elderly is the highest currently. Later the developing countries will also require similar services, to communicate with elderly relatives.

Sweden, Denmark and Germany are all developed countries. In developed countries the life circumstances are better, and the health care system is more advanced, thus people's life expectancy is greater.

In Europe, women are expected to live 24 years and men 20 years after they turn 60 according to the analytics between 2010 and 2015(United Nations 2015, 52). The life expectancy was only longer in Northern America. The indicators show that in 2050 34% of the European population will be over 60 years old. (ibid., 34.)

These older people have a higher risk to illnesses. Seniors tend to get sick often and there are many mental and health illnesses, which affect mostly elder generation such as Cardiovascular Disease, Hypertension, Mobility Disability and Osteoarthritis (Jaul & Barron 2017, 2-3). These illnesses are the reason why seniors are not able to live without medical care.

In Sweden the population over 60 was 25.5% of the population in 2015, it is expected to grow by 3.1% (28.6%) until 2030 and by 2050 it will reach 29,6% (United Nations 2015, 124). The remaining lifetime typically at age 60 for females was 25,6 years and for males 22,8. According to the United Nations Department of Economic and Social Affairs on average Swedish women live healthily until they turn 73 years old, and men till they turn 70. (ibid., 130.) This means that in the final 10 years of their lives, elderly people are living with poorer health conditions, which could require even long-term care.

Swedish life expectancy is one of the highest in whole Europe. The reason why the old age dependency is not rising heavily, is that in Sweden the amount of immigration is high, and the fertility rate is also favourable in the future (OECD & European Observatory on Health Systems and Policies 2017, 13).

Inhabitants in Denmark, who are over 60 years old reached 24,7% in 2015, this will most likely increase to 29,4% until 2030, which is a radical increase compared to the Danish population change predictions between 2030 and 2050, this shows only a 0,5% increase(United Nations 2015, 124). The remaining lifetime in Denmark at age 60 is 21,3 years for men and 24,2 for women. Men typically remain in good health until the age of 69. For women, it is a little longer, according to the data, women remain healthy until they reach 71. (ibid 129.) The conclusion is that Danish people live at least their last 12 years with illness, which might require check-ups from a medic.

Yet the main changes in the society will occur in Germany. According to the United Nations Department of Economic and Social Affairs, the population over age of 60 was 27,6% in 2015, this would grow to 36,1% by 2030 and the indicators show that in 2050 it would reach the 39,3% (ibid., 125). The life expectancy at age of 60 is around 25,2 years for females and 22,1 for males. Women live healthily about 73 years and men 69 years. It implies that they might need medical help in their last 13 years, approximately. (ibid., 129.)

Table 1. Seniors' health expectancy average (Adapted from World Population Ageing 2015)

Country	Percentage aged 60<			Life expectancy at age 60 in years (2010-2015)		Healthy life expectancy in years (2013)		Expected sickness due to elderly age before passing away	
	2015	2030	2050	Male	Female	Male	Female	Male	Female
Germany	27,6%	36,1%	39,3%	21,6	25,2	69	73	12.6	12.2
Sweden	25,5%	28,6%	29,6%	22,8	25,6	70	73	12.8	12.6
Denmark	24,7%	29,4%	29,9%	21,3	24,2	69	71	12.3	13.2
World	12,3%	16,5%	21,5%	18,7	21,5	60	64	18.7	17.5

2.2.2 Economical

The economic environment of a country is important in health care. Developed countries devote more amount of resources to the health care segment. According to Kotler, Armstrong, Harris and Piercy, investors are taking into consideration two main factors when they are considering the attractiveness of a country: its industrial structure and income distribution. Industrial structure affects the employment rate and the amount of income. For example, in countries where they focus mostly on farming, the income of the people is not that high, and it doesn't create enough new employment opportunities. These countries are called subsistence economies, where the market opportunities are low. (2017, 566.) On the other hand, there are the developed countries, they focus mainly to services, like Germany, Denmark and Sweden. These markets all belong to the industrial economies. Industrial economies are big exporters of manufactured goods, services, and investment funds. They have a big amount of middle-class and their manufacturing activities vary. (ibid., 567.) These factors make industrial economies potential for service and product import companies. The investors know that the industrial economies are safe choices, however bringing business into these countries are more expensive due to the higher costs. The second factor is the income distribution of a country. In industrial economies the household income varies depending on the profession of the family. As it was previously mentioned there is a high amount of middle class in these types of economies. People have higher living standard, which also benefits for the mixed economy, since people have are constantly purchasing products and services to make their lives more convenient. (ibid 566) Denmark, Germany and Sweden all have exceptionally good gross domestic product per capita income. Gross domestic product measurement, counted by adding a country's consumer and investment spending, government purchases and net export (Keegan, Green 2017, 63). GDP illustrates the productivity of the nation. Gross national income is the other measurement, which economist use to measure the economic activity of a country. It is counted by adding the net income received from abroad to the gross domestic product, which means that in this measurement the national and foreign sources are both considered. For example, the World Bank uses this measurement to categorize nations into four categories; low, lower-middle, upper-middle and high-income countries. (ibid., 69.)

In high-income countries elder people have a high paying capacity, since they could save more money for their retirement and the big part of the government transfers go to healthcare. According to The World Bank a country counts as a high-income economy if the GNI is over \$12235 per capita or more than it counts as a high-income country. Germany, Denmark and Sweden all have higher GNI, therefore they all belong to the high-income countries.

Researchers demonstrated that the share of consumption is financed by the working citizens, from which the welfare related costs are paid. In less developed countries, where the amount of financially independent older people's amount is less, the public transfers support less than 15% of the entire 65 years or older people's expenditure. While in the developed countries 30% or more is spent on the elders' consumption. However, the ageing population made some changes in the pension system, nowadays governments cannot afford anymore as big amount as they used to since, more people are reaching the pension age. Almost all the developed countries have constrictive population pyramids type, which means that the fertility rate is low, and the life expectancy is high due to good life quality. Therefore, the system has started changing, people stay longer in the workforce and the pension age is rising constantly. (United Nations 2015, 5-6.)

The social protection system is highly developed in Europe. Since one of the goals of EU is to enhance economic, territorial and social union and solidarity between European Union countries. (Goals and Values of the EU 2020).

This social protection system is also designated to elderly people and helping them with their expenditures for example with the pension, so their life quality remains decent. For EU it is important to support the citizens and offer aid to the people who require it, this is also true for the elderly people. However, the countries individually decide on the amount of support they give for citizens. The most surprising is that Germany does not have a specific expenditure for elderly care, however it is known that they spend a large amount to the health care as they have the highest amount of doctors per inhabitant out of these countries and the fourth highest in Europe. (Eurostat 2019, 2-5)

Sweden has the pension with 11.4% which is 1.4% below the European average. But if we look at the pension per capita they are ranking the second among these three

countries way above the European average pension.

Denmark has a high pension per capita. The third highest after Switzerland and Norway in Europe in 2016. But this is due to the high living costs. Sweden had the fifth highest pension per capita in 2016 and Germany was 11th, while Finland had the 9th highest. (Expenditure on care for the elderly 2019.)

Table 2. Governmental expenditures on elderly (Adapted from: Expenditure on care for the elderly, 2016; Social protection statistics 2016)

		Germany	Sweden	Denmark	EU-28
Expenditure on care for the elderly of the GDP (2016)		0%	2.2%	1.9%	0.5%
Expenditure on pension of the GDP (2015)		11.8%	11.4%	13.5%	12.8%
Pension in million euro	2014	250806.74	41251.42	27123.18	1384295.32
	2015	262932.91	42,045.87	27,345.40	1,455,620.73 (provisional)
	2016	273744.29	43,557.86	26,834.65	1,449,684.94 (provisional)
Pension in euro per inhabitant (at constant 2010 prices)	2014	2,917.89	3,835.20	4,606.38	2,550.77
	2015	3,016.51	3,909.43	4,608.12	2,616.91 (provisional)
	2016	3,094.62	3,991.08	4,463.55	2,648.17 (provisional)

2.2.3 Technological

The most crucial technological point for an eHealth company such as Onerva is to know if people have access world wide web. Because all the data is transferred via internet network. In 2017 in Europe according to the International Telecommunication Union 84,2 percent of the households had access to internet, which is the greatest in the whole world. This number might be this high because in the EU it is a social right for the people to have digital connectivity. There is a national broadband plan, where each country agreed to develop their broadband plans and set a target to achieve between 2017 and 2022. These target goals are mostly about developing the internet speed to offer a higher download and upload speed, also the countries need to develop the coverage area. Denmark's target is to cover 100% of its area with 100 mb/s download and 30 mb/s upload speed by 2020. German's object was to cover 100% of the county's area with 50 mb/s by 2018. And Sweden's target is to have a 95% of coverage with ultra-fast broadband, which can provide 100 mb/s internet speed. They seemed to achieve this earlier therefore a new goal was set for Sweden by 2020 which is 50% household penetration with 100 mb/s by 2020. This means that 50% of total households within Sweden's borders need to be reached with the 100 mb/s speed internet. By 2025, Sweden needs to have 1 GB/s with a 98% of coverage (Connectivity Broadband market developments in the EU: Digital Economy and Society Index Report 2019, 36-37.) Only by these goals it is visible that Sweden and Denmark are more digitally developed country.

Germany, Sweden and Denmark have all high user amount. In all three countries the amount of internet users is greater than the European average. The graph below shows the how many people use the internet in these countries, this data was collected by the International Telecommunications Union.

Table 3. Number and percentage of Internet users in Germany, Sweden and Denmark in 2016 (Adapted from ITU statistics)

	Number of internet users 2016 (million)	Percentage of internet users amount
Germany	73	90%
Sweden	8,8	90%
Denmark	5,5	97%

For Onerva and other mHealth companies the usage of mobile broadband is also a crucial factor, since the nurses need mobility and access to the message board at all time. The amount of mobile internet users is less than the total internet users' volume. However mobile broadband is quickly growing segment of broadband market. By 2018 70% of the active SIM cards used in Europe had mobile broadband. Most of these subscriptions are used in smartphones, but tablets and laptops can also have their own SIM cards, which can provide mobile data for the device. It is nowadays a tendency that one person uses multiple devices, therefore people have more than one mobile broadband. In Denmark, in average 100 people have 131 mobile broadband subscription, in Sweden the subscription amount is 123 and in Germany 81 per 100 people. (ibid., 23-24.)

According to Digital Economy and Society Index Report 2019 Finland, Sweden, Denmark and the Netherlands have the most developed digital economies in EU. In the graph below there is a detailed internet connectivity comparison between the European countries. By fixed broadband the graph means the basic broadband, which has at least 256 Kbit/s internet connection. Mobile broadband includes all the internet activities, which are made with mobile data, including the newest 5G technology. Fast broadband is internet connection, which provides at least 30mb/s and ultrafast broadbands are all the internet connectivity which can give at least 100 mb/s inter-

net speed. If we conclude all the connectivity developments, then Denmark is the most developed according to the 2018 data collection. (2019,3.)

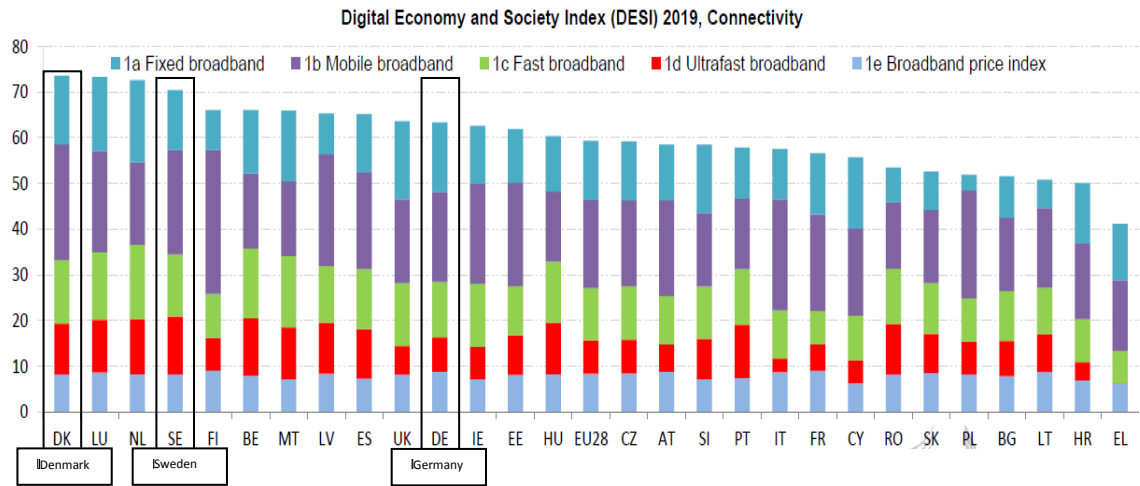


Figure 1. Connectivity Broadband market developments in the EU (Adapted from: Digital Economy and Society Index Report 2019, 3)

All the Scandinavian countries are the leaders in the usage of mobile internet, the reason behind this might be that the subscription fees and calling rates are low, and the income level is high. High income households tend to have higher amount of broadband than people with lower income. (ibid., 29.) Mainly as it is also seen in the graph Finland and Denmark is leading in the amount of mobile broadband users in Europe, but Sweden is also in the top. The 4G coverage is the least favourable in Germany compare to Denmark and Sweden, there are many places in the country-side where the mobile internet is not working or there is just possibility for slow internet connection.

As it is seen in the table below(See Table 4.) the 4G coverage only reaches 90% of the households, which sounds high, but since Europe is the most digitally developed area 90% of 4G coverage is even below the EU average which is 94%, which places Germany in the ranking to the 24th place out of the 28 countries (Digital Economy and Society Index (DESI) 2019 Country Report Germany 2019, 5). For Onerva this can be a

disadvantage, since some of the elderly people live in the countryside, where there is no possibility to send messages and pictures to the relatives via the application or the upload speed would be so slow that it would hinder the work of the nurses.

Germany has an average connectivity and usage of internet services only % of the population has never used internet. They have a high amount of IT experts in the country. The biggest problem in Germany is with the use of e-government it has one of the lowest ranks in EU since most of the governmental issues cannot be one online and citizens can handle governmental issues only face to face. The most alarming data for Onerva is that only 7% uses e-health services. Connectivity progresses have been done in Germany as well however in the last three years their development slowed down, and their overall rank dropped from 9 to 11 in EU. As it is seen in the table below Germany has a high ranking in fixed broadband usage, 5G readiness and internet price index. These indicates that Germany has a high potential to develop its connectivity. Germany's government is working on its GB strategy, they aim to have a full coverage of GB-ready internet connectivity by 2025. (ibid., 5-6.)

Denmark has an exceptionally high fixed broadband and 4G coverage of households, it almost reaches 100%. Only 2% of the population has never used internet. They rank the first in Europe for the usage of internet services, which means that in general people have a high demand and knowledge about online services. Danish people are the biggest internet users in whole Europe. And their development pace will not be changed in the future either, since the government is investing around 134 million euro in a program called "Digital Strategy for Denmark's Digital Growth" which aims to ensure that Danish people become the most digitally ready in EU. They plan to achieve this by improving connectivity and providing digital skill classes from early age and adult vocational trainings. (Digital Economy and Society Index (DESI) 2019 Country Report Denmark 2019, 3-4.)

In the last four years they have developed their ultrafast broadband coverage tremendously which lead also to a higher usage amount. In Denmark the development of the connectivity is not a question for any of the parties. In 2018 they all agree to aim for 100mb/s download and 30 mb/s upload speed with a 100% household coverage by 2020. No matter where the citizens live it is the government's duty to give the

people a fast internet connection. As it is seen in the table below Denmark is almost in the top 10 in all the connectivity ranking, the authorities take internet connectivity prioritisation very seriously. Denmark received the lowest score in the pricing, however Danish people have the highest average salary among these chosen countries, therefore for Danes the price is not considered too high. (ibid., 4-6.)

Out of the selected three countries Sweden is the most developed in the digital economy and readiness. In Europe they rank as second after Finland. The major reason why they rank so high, because they have the largest number of citizens with basic and higher knowledge of digitalisation. They follow similar strategies to Denmark, education and training starts at early age, also they have funds just to educate elderly citizens. Ultra-fast broadband is important for Swedish people. According to an analysis they are even willing to pay 2000 euros just for installation of fibre network connectivity, to have the fastest speed possible. This enthusiasm shows in the numbers as well they have the highest number of households using ultrafast broadband. Their biggest weaknesses are fast broadband coverage and fixed broadband coverage, in both they were only ranked as 16th, which is still above or equal with the European average. The reason behind it is that Sweden's area is large and in rural areas people live far away from one another also because the European standards are high and the countries' connectivity coverage is significantly big. This challenge is hard to overcome. However, Sweden is keeping up well and focusing on developing the coverage and the other attributes. (Digital Economy and Society Index (DESI) 2019 Country Report Sweden 2019, 3-6.)

Table 4. Connectivity indicators based on 2018 data (Adapted from Digital Economy and Society Index 2019)

	Germany (2018 data)		Denmark (2018 data)		Sweden (2018 data)		EU (2018 data)
	<u>value</u>	<u>rank</u>	<u>value</u>	<u>rank</u>	<u>value</u>	<u>rank</u>	<u>value</u>
Fixed broadband coverage % households	98%	15	99,5%	10	97%	16	97%
Fixed broadband take-up % households	87%	4	82%	8	76%	12	77%
4G coverage % households (average of operators)	90%	24	99%	5	96%	15	94%
Mobile broadband take-up Subscriptions per 100 people	81	23	131	5	123	7	96
5G readiness Assigned spectrum as a % of total harmonised 5G spectrum	33%	3	33%	3	22%	10	14%
Fast broadband (NGA) coverage % households	88%	14	95%	6	86%	16	83%
Fast broadband take-up % households	44%	14	55%	8	60%	5	41%
Ultrafast broadband coverage % households	66%	16	92%	4	84%	8	60%
Ultrafast broadband take-up % households	15%	19	28%	11	54%	1	20%
Broadband price index Score (0 to 100)	93	3	86	13	86	15	87
	<u>Score</u>	<u>Rank</u>	<u>Score</u>	<u>Rank</u>	<u>Score</u>	<u>Rank</u>	<u>Score</u>
Total connectivity	63.4	11	73.6	1	70.4	4	59.3

Integration of using digital technology is important for a health care application like Onerva, since their application is using similar tools and features as social media and if the integration is developed with digital technology that means that adopting to a new application would be easier for the customers.

In Germany in 2018, 57% of the internet users used social networks, which is way below the European average, which is 65%. In video calls they rank as 12th in EU, however Germans are keen to shop and sell online, which is important when it comes to purchase extra services within the application. In 2019 they ranked as 9th in Europe in the usage of internet services classification. (Digital Economy and Society Index (DESI) 2019 Country Report Germany 2019, 9-10.)

Denmark is the leader of internet users, and they have been for longer than 3 years. Danish people use internet to help in their daily duties, such as banking professional social networking and video calls. The only two things where they are not in the top, but still better than EU average is reading news online and doing online courses. (Digital Economy and Society Index (DESI) 2019 Country Report Denmark 2019, 9-11.)

Sweden ranked 3rd for their use of internet services in 2019, which is one rank lower than what it got in previous years. Swedish people are the biggest subscribers to video on demand and they are taking the greatest number of online courses in Europe. They are a bit ahead in the internet users compared to Germany since 91% of the population uses regularly internet. The internet users use regularly online banking and shopping services, which indicates that across generation, everyone has a basic knowledge of internet usage. (Digital Economy and Society Index (DESI) 2019 Country Report Sweden 2019, 9.)

Digital public services are behind in German and their development does not keep up with the European progress speed. They are always falling behind, in 2017 they ranked as 18th, in 2018 they ranked as 20th and lastly in 2019 they were on the 24th place out of 28 European countries on the digital public services index. This means that there is no online integration between the authorities and the nation. Only 7% of the people use e-health services (which ranks Germany 26th), 26% of the people do the medical data exchange with their doctor as online (which makes Germany the 17th in Europe) and 19% uses e-prescriptions (which makes Germany the 19th), these

are way below the average. Even though Germany's internet users' amount is in the top 10 and it is a developed country, their health care digitalisation is behind, and the government needs to invest in this sector of digitalisation as well. They have started developing online health care system, after 2015, when the eHealth Act was introduced, which lead to the roll out of multiple essential infrastructure. (Digital Economy and Society Index (DESI) 2019 Country Report Germany 2019, 12-14)

Compared to Germany Denmark has much better digital public services, but over the past few years, they were not able to keep up with the pace and they fall from the second to the fifth rank over the past 3 years. The lowest ranking in digital public service sector is the open data performance, Denmark rank as 27th, with 27% behind European average. Otherwise the digitalisation in the public services are excellent, especially the digital public services for corporations, and their e-health services are excellent, including medical data exchange and e-prescriptions. Denmark is a leader of the online health system of Europe and it has a leading worldwide role in public service digitalisation in the world. Which means that services such as Onerva, people adapt without difficulty to new digital applications, since the Danes got used to handling their medical records online and communicate with doctors and authorities via online platforms. The government has new projects such as the establishing an electronic identification system, which would support the digitalisation of the authentication in all types of governmental and medical platforms. The government is launching multiple projects to develop the digitalisation in health care, since if technology is used, then it is easier to predict illnesses beforehand and make the life expectancy longer. As all the data is stored in one place, it is easier to health care employees to analyse the medical record and see the whole picture. Their system is transparent, safe and coherent. (Digital Economy and Society Index (DESI) 2019 Country Report Denmark 2019, 12-13.)

Sweden ranked as 6th in digital public services, they achieved higher ranking in previous years, which shows that the Swedish digital public services progress slower than the average European improvements. Their eGovernance is going effective as Swedish people have the largest amount of governmental forms, which they can submit online. Their e-health system also ranks high they are the number one users of e-prescriptions in Europe. Their medical exchange rate ranks as 3rd with 81%, which is

38% higher than European average, which shows that in Sweden they have a highly functional digitalised eHealth system, which is also transparent. Sweden ranks as 4th in e-Health services, in which their 1177 platform contributes largely. Through this platform patients can book appointments, look for their described prescription, they can get health advices. This platform is accessible for everyone and requires eID sign in to access personal data. (Digital Economy and Society Index (DESI) 2019 Country Report Sweden 2019, 12-13.)

Table 5. eHealth connectivity indicators based on 2018 and 2017 in Germany, Denmark and Sweden (Digital Economy and Society Index reports 2019)

	Germany Desi 2019		Denmark Desi 2019		Sweden Desi 2019		EU Desi 2019
	value	rank	value	rank	value	rank	value
e-Health services %individuals	7%	26	42%	3	33%	4	18%
Medical data exchange % of general practitioners	26%	17	98%	1	81%	3	43%
e-Prescription % of general practitioners	19%	22	98%	3	100%	1	50%

2.2.4 Political and legal environment

The major matter in case is the taxation of a country. Pensions, health care and education are usually founded from taxes. Keegan and Green reveals, that in Nordic countries there is a Nordic model, which means that private companies and government both take part in the ownership of industry sectors. These are welfare states, where centrally planned capitalism and capitalism appear in the economic system. There is a high taxation, from which they spend a massive amount to the health care and education. While in Germany there is a social market economy, where the private ownership dominates. (2017, 65.)

Since all three countries are part of an economic union it is easier for services to internationalise within the boarder of this union. There are less differences in legislations, policies, taxation and government spending since these are tried to be harmonised by EU. The European countries are all free trade area, this means that the services, people, products and capital can move freely. Onerva can sell its mobile application as a service within the EU without any restriction. (Hollensen 2016, 233-237.) Since Onerva is registered in Finland and they also receive avenue from different countries, under the MOSS scheme the company does not need to tax in every country but only make payments in one single place. (VAT on digital services (MOSS scheme 2020))

Handling personal data is also regularised in EU under General Data Protection Regulation also known as GDPR. It is the strictest privacy and security law in the whole world currently. It came into effect on 25 May 2018. It applies to every company who is handling data of the European citizens. The most important parts which it regulates are personal data, data processing, data subject, data controller, data processor. As a data processor SME company, Onerva needs to be transparent with all the data collected and process the data only what the company requires for, data cannot be given to any other 3rd party without the consent of the users. Only the compulsory data can be collected from the users, all the data requests need to be minimalised. Personal data must be accurate and up to date, always need consent to store the data from the user. Furthermore, all the data need to be encrypted and securely stored. Any company handling personal data can be asked from Data Protection Of-

ficers to prove fulfilment with all the principles. If they are not compliant, then the businesses are heavily fined. Onerva is meeting all the GDPR requirements, that is why they can operate in Finland. (What is GDPR, the EU's new data protection law?)

In Germany the health expenditure is financed differently than in the Scandinavian countries. The compulsory health insurance is the most common way of financing health expenditures. It comes off the personal income, the employer also pays a small proportion of the employee's insurance. The insurance is 15,5% of the earnings before tax, the employer pays 7,3 percent, while the employee pays the rest, 8,2 percent. Higher earning Germans compensate a part of the lower earning people's health insurance. But there is a maximum limit, one person does not need to pay more than 3,937,5€/month, even if the salary would indicate it. There are many insurance companies, which issue with the compulsory insurance. There can be alterations in benefits, they can charge for these extra benefits, but Germans can choose freely from the different offers. (Germany Health Insurance System) Those who pay the compulsory public health insurance are automatically become member of the long-term care insurance as well. It is obligatory for the privately insured persons to purchase private long-term care insurance. Insured person is eligible for these long-term care benefits, those persons are eligible for long term care who are unable to do normal daily activities for a longer period, due to mental, physical, psychological factors. However low-income entrepreneurs fall in a grey area. They need to purchase the private insurance and even if they cannot afford it, they do not get governmental help for their payment as compulsory health insurance owners can get. There are various forms of long-term care services. Elders can choose to have nurses coming to their home, or they can choose to have in kind and cash benefit.

According to the 2007 data 68% of the beneficiaries got nursing or other unprofessional home care, while only 32% stayed in nursing homes (Schulz 2010a, 24). If the patients' health condition indicates it, then there is an option for day or night care and full-time nurse care in elderly home institution. The law sets these benefits, there are different categories according to the health state of the patient. This is strict in Germany there are no exceptions, everyone has the same right for the same benefits. If someone wants to get additional assistance, then they can pay for it indi-

vidually. All insured Germans are entitled for these benefits, even those, who live in another country in Europe, but they can only receive the benefits in cash. (ibid., 4-6)

Sweden and Denmark have a different way to approach long term care and health care, since they have a state responsibility model as most of the Scandinavian countries. State responsibility model means that, the citizen's health care is the primary task of the country. If the relatives do not wish to take care of the elderly then Swedish and Danish people do not need to, since the state needs to provide then full care for the elderly citizens. The elderly care policies in both countries are that it is available for everyone, regardless of own or family financial status. (Schön& Heap 2018, 5-6)

Sweden has 21 decentralised regions, which are responsible for financing, acquisition and implement health services (Sweden: Country Health Profile 2017, 6). The districts organise the administration and decide, who can eligible for health care support and to what extent, based on the patient's health condition. All the people who have permanent residency in Sweden are entitled for medical care.

I Denmark the overall social and health policy framework was developed by the state. However, it is the responsibility of the regions to oversee and control all the activities in health care, including long-term elderly care. The objective of the state is to provide care to everyone who needs it and it is mostly free of charges for everyone, including people with high income. As in Sweden local authority can decide on the amount of care which the patients can receive, based on the health condition. (Schulz 2010b, 11-12)

In Denmark and Sweden, it cannot happen that elderly who are sick do not receive any health care. It is the right of everyone to get free health care if they require it. It is the responsibility of the country to take care of everyone. As it is also seen in the below graph the health expenditures in Sweden and Denmark mostly paid from the government expenditures. Which comes from the taxes. Scandinavian welfare countries vastly depend on taxes, as the high government scheme shows it the state spends a lot of the taxes to health care. While in Germany the biggest amount is coming from compulsory health insurance which derives from the salary of the citizens.

Table 6. Table 7 Health expenditure by type of financing in 2015 or nearest year in Germany, Denmark and Sweden (Adapted from Health at a Glance 2017 OECD indicators)

Country	Government schemes	Compulsory health insurance	Out of pocket	Voluntary health insurance
Germany	7%	78%	13%	1%
Denmark	84%	0	14%	2%
Sweden	84%	0	15%	1%

The government's role in long term care can also be seen from the ownership types of the care homes. In Germany, they have the least amount of publicly owned nursing home, only 5% of the nursing homes were public, in the country the largest amount of ownership type is non-profit private provider which had 55% of the market in 2011 and the second most common is for-profit elderly home by 40%. While in welfare countries the care home market is mostly controlled by public providers. In Sweden the public care home amount is 86%, in Denmark is not that much lower, it reaches 84% and private nursing homes amount is almost insignificant.

Table 7. Number of care homes by ownership (Adapted from: Care homes for older Europeans: Public, for-profit and non-profit providers 2017, 54; Descriptive statistics of Quality means presented by type of ownership 2011)

Country	Public providers	Non-profit providers	For profit providers	other	Total number of beds in elderly homes (2011)
Germany (2011)	571 (5%)	6319 (55%)	4679 (40%)		875549
Sweden (2011)	2324 (86%)	62 (2%)	123 (5%)	201 (7%)	131814
Denmark (2013)	925 (84%)	136 (12%)	9 (1%)	28 (3%)	45460

2.2.5 Cultural

Cultural aspect is also important for Onerva Hoivaviestintä service provide. They are targeting institutional homes, where professional staff takes care of the elderly and the elderly stay in these elderly homes their whole time. They also support home care services, where nurses go to visit the patients and to check up on their condition. Usually these elderlies who receive care in their homes do not live with their relatives, mostly only with their spouse. That is why they require long-term care from caregiver.

And there are cultures where the social circle of the elderly does want to keep the dependent seniors close and instead of using professional caregivers, the family and relatives take care of the elderly. These cultures tend to be more family centric. And some of the countries do recognize this effort from them and want to compensate for the time which they spend on taking care of their senior family member.

As it is seen in the Figure 4, Denmark has the highest amount of elderly people in some type of long-term care out of these 3 chosen countries. In the graph institutional care implies to health services and housing such as nursing homes, retirement homes and service housing. Home care-service refers to services when care providers come to the elderlies' home to provide medical help in their own homes. Home care-cash benefit means benefits which the elders receive in cash to pay for informal carers or hire personal assistance. They have around 4.5 percent of over 65 years old in institutional care, elderly home. Around 13% of elderlies have care providers coming to their homes. Sweden is similar to Denmark, they have only people in nursing homes and in homes, where nurses visit them. In Sweden the institutional care amount is a bit higher than in Denmark, it is around 6%, while the home care services are slightly below, it reaches only 9%. People receive care in -kind, which is opposite to Germany, since German seniors mostly get their benefits in cash, which they give to the person who takes care of them, usually this is to the informal career. (Rodrigues, Huber& Lamura 2012 84.)

Informal care usually refers to unpaid caretaker, who has social relationship with the dependent person, such as kids or a friend or partner. Informal care can include all types of chores around the house or helping to the dependent person in their every day's tasks. (Broese van Groenou& De Boer 2016.)

In Germany around 4% of the pensioned live in institutional care, about 1% has care providers coming to the dependent elderly people and more than 9% receives cash benefits, which they give to the informal carer. Only few countries in Europe give home care cash benefits to the elderly and Germany happens to be one of them. (Rodrigues, Huber, Lamura 2012 84.)

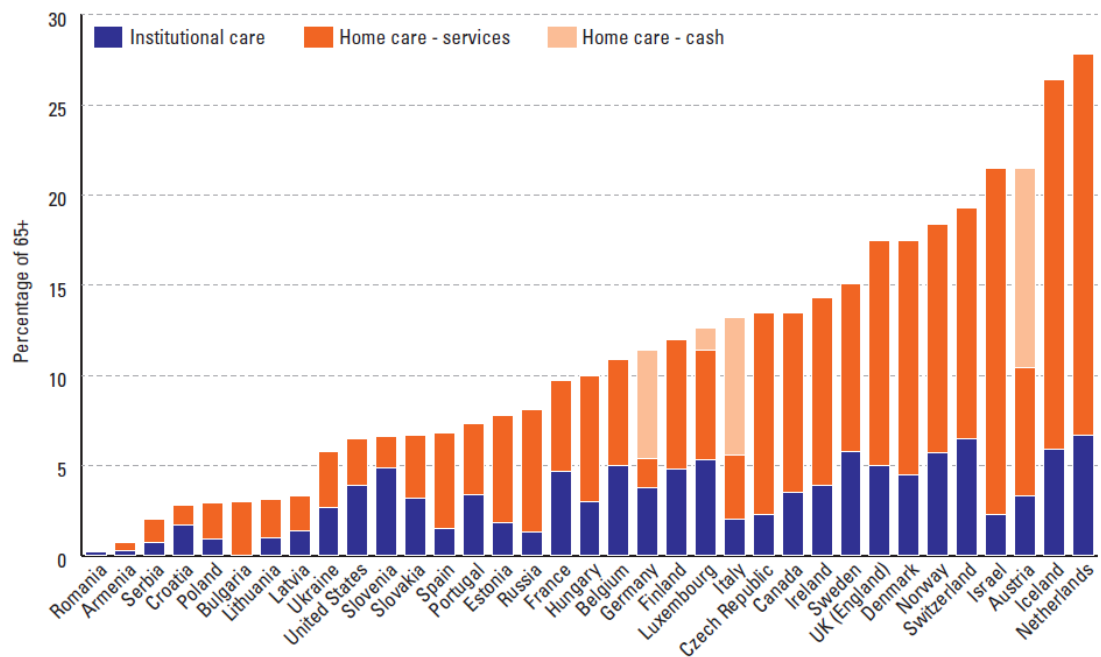


Figure 2. People aged 65 and older receiving care benefits (cash or in-kind) in different care settings – 2009 or most recent year (Adapted from Rodrigues, R., Huber, M. & Lamura, G. 2012, 84)

All in all, this data reflects that in Denmark and Sweden elderly do not move to their close relatives, so they need to take care of them. Since it was earlier mentioned the state takes over this responsibility from the citizens. On the other hand, the most significant amount of elderly health benefit in Germany is received in cash which goes to informal care or personal assistant. This means that the elderly are highly dependent on the close social circle, so most likely they live with their relatives. This information is important for a mHealth company who is connecting care takers with relatives, because in Germany the highest amount of elderly live with them so there is no use of the application. However, in Denmark and Sweden it is the ordinary to live separately from old relatives who require long-term care.

2.3 Foreign market microenvironment

Microenvironment factors affect closely the company's ability to serve its customers. The following actors belong to microenvironment, the company, suppliers, marketing intermediaries, customers, competitors and public. (Kotler et al. 2016 71)

Onerva has currently all the workers who can program, code and develop the application, and for a firm whose main selling service is an application, they do not need any major supplier who they depend on. Thus, supplier category can be left out from the analysis

2.3.1 The company

The company's performance mostly depends on the employees. If the management is not effective, then it doesn't matter how good the service is, they will not be able to become successful. The management need to set up the mission, objectives, strategies and policies which the employees can follow, and it sets up a performance indicator for the whole team. (ibid., 71) As this is a start-up company, it has limited employees who take multiple roles in the company. The biggest emphasis is on the research and development, since they are offering a mobile application service for customers. For internationalisation they would also require hiring a separate marketing expert, who could help to get new customers for the team.

2.3.2 Market intermediaries

Market intermediaries support the firms promoting, selling and distributing its products or service to end users. (ibid., 72) In case of health care mobile application, the market intermediaries are application store platforms, such as Play Store in Android devices or App Store in Apple gadgets. From these the customers can find the application. Market intermediaries play a smaller role in the distribution, since Onerva is selling the service for businesses and elderly homes are currently not using any application, therefore Onerva needs to make advertisements on different platforms to reach the buyers. The application is free on the platform, but businesses need to pay per customers a monthly subscription. Onerva has not planned in their strategy yet to use resellers, the company's intention is to contact consumers directly.

2.3.3 Customers

The customers are the most important part of the company's success. In a service and product creation, the companies should always think of the customers and put their needs first. The service should create a high value for the clients and a strong relationship, so they remain loyal for the service and most importantly become word

of mouth marketers, which is the most valuable advertisement. (Kotler, Armstrong, Lloyd C., Hongwei 2020, 74-75.) The target market for this specific type of health care messaging applications are businesses. Business market is working as a reseller, they buy the services and then distribute for the elderlies' family. In the usage of the service the work of the nurses is crucial, therefore the targeted for the end users, the relatives, to whom it brings the highest value. Therefore, care homes need to be the target customer, who also have an interest on the service, since they would buy the product to make their business more attractive to the elderlies and their families.

In each of the country the customers remain the same. Elderly homes can be found in each country. The amount of elderly homes differs, due to the population difference. It is comprehensible that Germany has the highest population out of all the countries, thus they have the highest amount of care homes also.

In this case also the ownership of the nursing homes matters as well. The public care homes receive the patients based on the local authority decision, which means that they will be always full and home care nurses working for public providers will also always have patients to go to. Therefore, the need of this type of a service is less important. Public care homes do not need to compete for customers. However private for-profit elderly homes need to, because the fee for these are high what not everyone can afford, therefore the competition is higher. This motivates the care providers to offer a bigger variety of services to the elderly and their family to make the institution and home care more attractive.

2.3.4 Competitors

Companies need to give a more significant value than the competitors. (ibid., 73) The positioning of the company is important. Onerva is currently in a niche market, where the number of competitors is slight. The competitors' volume is in accordance with the technical readiness of the country. Technically developed countries have a higher possibility to have similar services offered.

As it was discussed in the technological part, Denmark is the most technically developed country out of the chosen countries, also one of the leaders In Europe. Their advancement in eHealth and digitalisation of health care is extraordinary. The second

most advanced is Sweden not that much behind Denmark. On the other hand, Germany still needs to develop radically, their eHealth system is underdeveloped. In health care digitalisation, Germany is one of the worst in Europe.

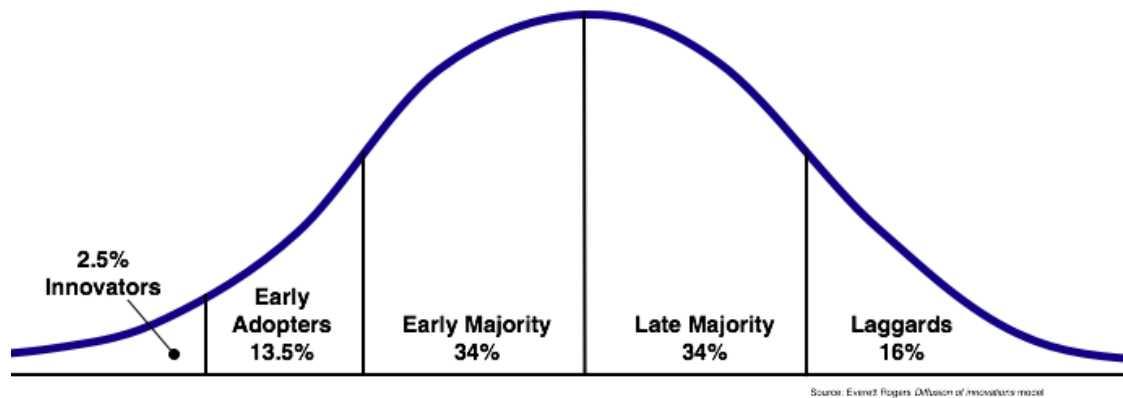


Figure 3. Technology adaption life cycle Roger's bell. Juha Saukkonen 2017

Roger's bell shows (Figure 3.) the innovation phases of an inventions. Messaging applications used just for medical purposes are not yet well known. As it was mentioned earlier Denmark is the leader of the medical data exchange via digital services. This implicates that in the market there are already applications used for exchanging medical data. In the same category Sweden ranks as 3rd and Germany as 17th. In Denmark 98% of the practitioners shared medical data with their patients in a digital channel while this number is only 26% in Germany. This shows that there is a huge digitalisation difference in health care digitalisation between the two countries. In Sweden this number is 81% which is also extraordinary. (Digital Economy and Society Index (DESI) 2019 Country Report Denmark 2019, 12; Digital Economy and Society Index (DESI) 2019 Country Report Germany 2019, 12; Digital Economy and Society Index (DESI) 2019 Country Report Sweden 2019 12.)

In this research they were collecting data about the data transfer between doctors and patients. Messaging application between elderly home nurses and relatives are unique and inventive. It is in an earlier invention status.

According to Roger's bell curve Onerva would be an innovator in Germany, while in Denmark and Sweden they would belong to early adopters, since these are technologically ready countries with multiple applications in health care.

2.3.5 Public

Public in microeconomic counts as the group of people who have commitment or influence on company's triumph (Kotler et al. 2020, 74). Public in health care is generally highly involved. Health applications have a high impact on the society. From all levels Kotler, Armstrong, Lloyd C. and Hongwei identified 7 public types which can be involved in an organisation's operation. In case of Onerva there are two types of publics which are mostly involved. The first is general public. Since this group is the end user of the application, their opinion matters the most to the care homes. If the relatives are not satisfied with the work of the care takers then, they will be the one rising their voice against the elderly homes, not the elderly, because most of the elderly don't have access to the same channels due to lack of technical knowledge. The second highly involved public is the government. (2020,75-76.) They are responsible for the health care in general. If some of the elderly homes do not comply with the requirements, then that will affect the general public who affect the current government. Thus, it is in the government's interest to have highly functioning elderly homes, and if they are public care homes then the tight budget with high value is the primary goal. The Danish and Swedish government interest in applications like Onerva is larger, because the amount of public elderly homes is high.

2.4 Theoretical framework

The theoretical framework shown (Framework 4.) shows the overall visual structure of the literature review and what the next step to take for the researcher

Philip Kotler and Kevin Lane Keller (2012) created the major decision in international marketing framework. Its first step is making the decision if it is worth it to go abroad and its second step is to decide where it is the most efficient to enter. This research paper will follow this framework by analysing the countries market and social environment and conclude based on the findings to which market area is the most prof-

itable to enter (62.). The author adapted their method and combined with the researcher's own framework. This contains attributes which are important elements in the success of internationalisation for mHealth company, like Onerva

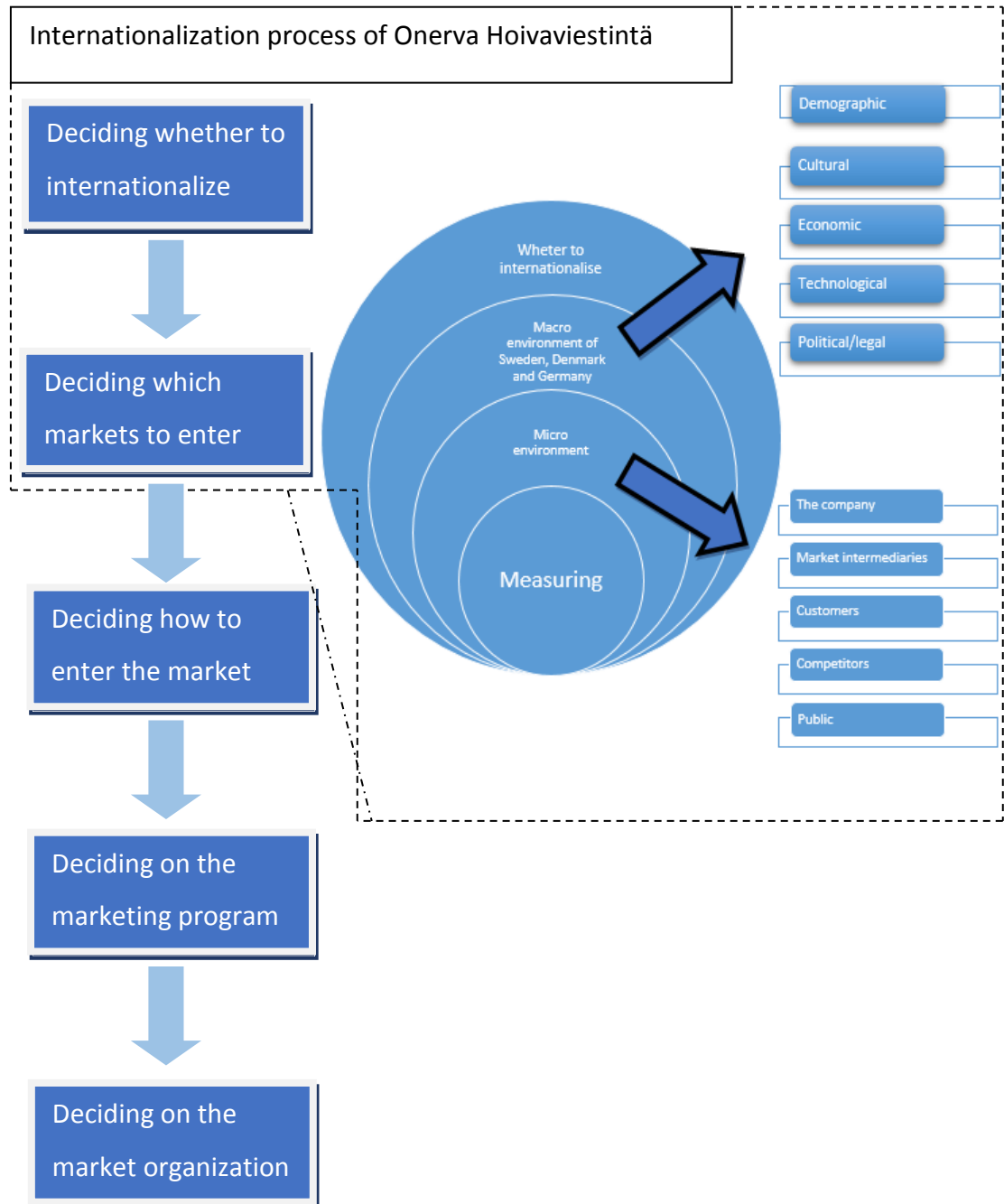


Figure 4. Major market international decisions analyses with macroenvironment and microenvironment aspects (Adapted from Kotler, Armstrong, Harris & Piercy 2017, 580)

3 Methodology

Methodology provides a detailed description of the research approach, framework, data collection, analysis and finally verification of the results. The following research methodology part will be based on the research onion which was created by Saunders, Lewis and Thornhill (2009, 108). This “onion” helps for the reader to have a better understanding of which way the data was collected and why the author chose that specific method.

3.1 Research approach

In the first layer of the research onion the philosophies belong. The philosophies help to structure the research and limit upcoming decisions. For my type of research interpretivism is the most suitable philosophy. Since interpretivism, assists researcher to make a better understanding of social and cultural life and to comprehend how society interprets about their own and others’ action. (ibid., 115-116.) Marketing mostly consist social science, since it is aiming to better understand customer’s mindset and their cultural background, to target them better.

There are three different research approaches. The first one is when the researcher develops a new hypothesis and then with a research strategy, test the hypotheses. This method is called deductive or quantitative approach.

The second type of approach is inductive also known as qualitative research. In which the researcher collects data and out of all the information develops a hypothesis. (ibid., 124.)

And the third research approach is the mixed methods, in this the researcher combines both quantitative and qualitative data to support the hypothesis.

Deduction method is used for scientific research mostly when there are laws which can be used as a basis explanation. For this kind of approach, a larger countable data needs to be collected, from which an evident pattern can be interpreted (ibid., 125.) The quantitative data was collected in the literature review chapter, it was adapted from different researchers to support the literature discoveries.

Qualitative or inductive researches are used to better understand the nature of the problem (ibid., 126). Inductive research methods are intended to help researchers comprehend the society, how they communicate, behave, social and cultural backgrounds (Myers 2013, 11).

The task of the researcher is to conduct few in-depth interviews, analyse this data and from the result of the analysis create a theory (Saunders et al. 2009, 126). For primary data collection, qualitative research approach was chosen, since the research question is concerned about the suitability of a new mobile health care application. To find a resolution to the research problem, the researcher needs to analyse the primary data to better understand the operational methods of elderly homes and the cultural background of the citizens, whose elderly relative is receiving long-term care in Germany, Sweden and Denmark. According to Braun and Clarke in the field of health and wellbeing qualitative research is the most adequate. Since it gives a rich insight into the actual words, experiences and perspective of health professionals. (2014.)

The author has not found any previous data in this specific subject, due to the early stage of these types of messaging applications, which has a niche target area. This was also why the researcher chose to do a qualitative research analysis to explore this new research area and interpret the data and from the findings formulate a theory. (Saunders et al. 125-126.)

Then the primary interview data was combined with the secondary research findings. The researcher interpreted this two data type and found the hypothesis for the research.

3.2 Research context

The research problem of this study was mentioned by the CEO of Onerva Hoi-vaviestintä during a previous project with the author. The founder needed a detailed market entry analysis to explore the opportunities of internationalisation and asked the researcher to do this analysis of Germany Sweden and Denmark.

In Finland the company has achieved to have numbersome customers. They have been working for 10 private elderly homes, mostly in central part of Finland and 10

local government chose to use this service in their city. The municipality bought the rights for the usage and then deployed the application in multiple nursing homes within the area.

Since mobile applications can be easily deployed abroad, after different language settings are created, the next objective for the company is to move to a foreign market. Currently Onerva has a slight budget as they are just a small start-up company. Therefore, they need to consider strategically which market area to enter first, as they do not have any capital surplus and time to waste. Expanding their market area to other countries, would generate more customers and the company would have a high-quality future prospect.

Three countries were chosen by Ville Niemijärvi, due to their cultural closeness and business contacts. Denmark and Sweden have almost the same elderly care system as in Finland. That was the main reason why Mr. Ville has chosen these countries.

Germany has the largest population in Europe, which also means that since they are a developed country, they are an aging population as it was discussed in the demographics. They have a large base of elderly in Germany, thus the market area for Onerva is the largest there in Europe. Furthermore, Onerva Hoivaviestintä Oy is in contact with Business Finland, who helps for SME corporations to export their businesses abroad. Business Finland has reliable connections with Germany, they could help in boosting Onerva's customer base, using their network.

3.3 Data collection

In qualitative approach, data is collected from primary sources, for example individual and group interviews (Bryman & Bell 2017). To get the most amount of information for developing hypothesis, the author chose to do in-depth interviews to have the best understanding of the different aspects of this research. Interviews can have different level of formalisation and structure. According to Saunders, Lewis and Thornhill there are three types of interview categories. These are:

- structured interviews,
- semi structured interviews and
- unstructured in-depth interviews.

Structured interviews questions are predetermined, the same questions are asked from all the interviewees without any modification. Unstructured interviews are or as mentioned in the book “in depth interviews” have no pre-set questionnaires. In semi structured interviews the interviewer has some set questions but based on the replies the researcher can add or modify the questions to explore the researched topic more in details. (2009, 320.)

For this study primary data was collected with semi structured interview. Based on the interviewees’ answer the interviewer changed or added some questions to have a deeper understanding of the new information, which was provided by the participants. The semi-structured interviews supported the researcher in creating an elaborated conclusion.

There were 3 interviews conducted for this research paper. All three had different nationalities working in different countries. The common point in the interviewees were that they all worked in nursing homes, for a longer period and they all knew about the long-term care operation in the country.

The first interview was conducted with a Swedish nurse, working in the countryside near to Stockholm. She has been working as a licensed practical nurse for 30 years. Currently she is working with elders who are in the Alzheimer department of the elderly home. The interviewee spoke Hungarian. Therefore, the interview was conducted in Hungarian and the researcher translated the transcription to English

The second interviewee was a Danish student, who has worked in elderly home for over 6 years while she was studying. The elderly home where she was working was in Odense, with around 100 employees. The interview’s language was in English.

The last discussion was with a hospital nurse, who worked in elderly home at early stages of her carrier and currently she has many elderly patients who are in ambulatory care. She worked in elderly home in Munich and currently she is working for the biggest hospital there. This last interview was also led in Hungarian, as with the first interview, the author translated the transcriptions to English.

Each interview was phone recorded. Each of the interviews lasted around an hour. They were transcribed using a transcription software and saved in a word document. The researcher ensures that the entire data collected were legitimate and did not present any untruthful or distorted information. Most of the interviewees did not speak English and they were uncertain if they would want to publish their name in a paper, which they do not understand. Therefore, they asked the researcher to not reveal their full name. All the interviewees will be referred with a different name in this study as it is seen the table below (Table 8).

Table 8. Information about interviewees and their referred name in this research

Participants and provenance	Position	Referred in this work
Mrs. K./ Swedish	Licensed nurse for 30 years	Participant 1
Ms. M./ Danish	Part time nurse for 5 years Full time nurse for 1 year	Participant 2
Mrs. E./ German	Few years in elderly home, currently working in Munich hospital	Participant 3

3.4 Data analysis

In literature review the researcher collected numerical data from previous statistics and analysis, but for primary data collection user used qualitative data to analyse the cultural side of each country. The data as it was previously mentioned was collected via semi structured interviews, from professionals working in elderly homes.

Semi structured interviews can have a several data quality issues, due to reliability, biased opinion, validity and generalisability. (Saunders et al. 2009 326) The researcher knew these risks and took cautions to prevent all these types of quality issues. As with reliability, in all types of interviews related to social science this is a risk factor,

that is why the author of this research has done a multi-layered research of the macroenvironmental factors from secondary resources.

The researcher remained unbiased for all the interviews. The main questions in each interview remained the same, additional questions were only added if the interviewer wanted to have a better understanding of the system. For example at the first interview, the participant shared a new information that there are multiple types of nurses working in the nursing home, of which the researcher did not know at the time, so more questions were asked about the types of nurses and the differences in their roles. This information helped the author later in the other interviews, since in all the countries there are multiple types of nurses working in long-term care, with different authorities and roles. From interviewee general questions were asked only about the system and about the operation of elderly homes this way personal opinions were eliminated from the process. Only at the last part of the interview there were viewpoints asked, if according to the participants these types of communication mHealth would work in that specific country.

The interview questions were prepared to cover all the literature topics and find answers to the current conditions in the country. The last questions were about the usefulness of the application and if it would be a good market fit in the current environment.

As Klaus Krippendorff units can be defined five ways. For this type of data, categorical distinction seemed the best alternative out of syntactical, physical, propositional and thematic. Categorical distinctions define units by their connection in a class or category by their having something in common. (2004, 105.)

The research questions were already organised by topic, thus the author decided to use these categories for the coding. The interviews were transcribed and translated, where it was necessary. Then researcher familiarised with the data by rereading it and organising the data. The data was arranged according to the question's subject, which was then again reevaluated, and the similar answers were merged into one topic. Afterwards researcher recategorized these topics into smaller subtopics based on the similarities and dissimilarities between the countries founding.

3.5 Verification of the results

Assessing the authenticity and quality helps in assessing other researcher's studies by comparing similar subjects and outcomes, furthermore it supports future researchers' decision making on approaching similar topics and methodology. (Briggs, Coleman & Morrison 2012, 75). Guba and Lincoln found a new replacement for reliability and validity. They substituted this with a new term, called trustworthiness. This consist 4 aspects: credibility, transferability, dependability, and confirmability. (Morse, Barrett, Mayan, Olson & Spiers 2002, 15.)

The author made sure of the credibility of the research, by accessing only academical resource and for primary data collection, only professionals were asked, who have been employed in the health care industry for longer. The interviews were reported as they happened.

The collected information is transferable to any kind of research related to eHealth and mHealth, as all the sources were reliable.

If another researcher would want to repeat the analysis, the conclusion would be corresponding. The analogous results would prove the dependability of the results. Onerva Hoivaviestintä will most likely prove that the founding correctness, when they internationalize, which will arrive shortly. If the company can be profitable also abroad that will confirm the results of the analysis

4 Results

The results will be divided into three main bigger section, as the questions were also divided into this main category for examination. The same attributes will be described in all country's results. So first the counties' elderly care system will be examined, then the technological advancement of the country and health care based on the interviews of the citizens. Then finally professional opinion of Onerva mobile application will be analysed based upon the answers of the elderly care workers

4.1 Denmark

Participant 2 was interviewed for exploring the Danish elderly care system. She has worked all together 6 years in nursing homes, which gave her a good understanding

of the elderly homes' operation. During the day shift she was responsible for 4-10 people and during the night for around 15 elderly. She revealed that both of her grandparents are currently receiving home care services, so she had an insight to both sides, working as a nurse and being a relative to an elder, who stands in need for nursing care.

4.1.1 Danish elderly care system

Firstly, the researcher wanted to find out how common it is to get long-term care for elderly, since this greatly differs in different cultures. Based on the answers from participant 2, the researcher found out that the elderly care in Denmark is the responsibility of the government. They need to offer health care to everyone who needs it. It is not usual that the family takes care of the elderly, when they are unable to do their daily activities. The local authorities come out to the elderly and decide on the level of the care, which they will need. The most common is that people receive home care. This means that the representatives from municipality will come to visit the elderly and decide based on their health condition that how many times they need to receive care.

In cases when the elders are in worse condition, they are given the opportunity to go to an institutional elderly home. Which is covered by the government and from the pension, which the elderly receive. However, the fee for the care depends on their received pension, elderly do never need to give all their pension for the care, they always have some savings.

As in many other countries the government tried to reduce the costs of health care including elderly care. The Participant 2 said that:

"It's pretty normal to get long-term care for elderly, but it's getting harder to get into the nursing homes. You have to be sicker to get facilitated in one."

In case of Onerva it is important that nurses don't feel that they are always in a rush and there are too many things to do, because the CEO of Onerva has noticed through the feedbacks from Finland, that the success of the application all depends on the work of the nurses. Many of them reported that they were too busy and did not have time to write to the relatives, even though Onerva has added readymade messages

which could be sent immediately, did not motivate the nurses to keep in contact with the relatives. In case on Denmark participant 2 said that:

“I will say there's definitely a lack of time and lack of resources and lack of people taking care of the elderly. You have to really run fast. You have a lot to do “

As it is available for elderly people many of them live with the option and use home care or nursing home services. Which means that there are many potential clients for Onerva. Since in Denmark it is not common that multiple generations live in the same house and as participant 2 said it is common that people move for work to other cities, which makes it harder for them to visit their elderly relative frequently. Onerva would be able to help in these cases, to overcome the communication gap.

4.1.2 Danish technological advancement

For Onerva as it was discussed in the macroenvironmental part it is really important that the country is technologically advanced enough and also that the elderly homes have a developed digitalised system.

Participant 2 has explained that the healthcare is digitalised and the data of the patients are all stored in one system to which doctors who are authorized by the patients can have access to it. There is an application used on which patients can book the appointment with the doctor also the results are available for the patient. The health records for the patients are digitalised for almost the last 10 years and they are all available for the Danish people. Furthermore, no paper prescriptions are used anymore, the patients can request from their GP for some medication, without visiting them through an application. This digitalisation makes the people's and doctors' job more convenient, since this process is much quicker than face-to-face meetings.

Participant 2 said that elderly care has changed a lot as well in the last 10 years. In the nursing homes they used to use paper notebooks for communication with the relatives.

“They used to have like a little notebook, and they would write if they elderly needed something. And if it was urgent, they would call the relatives, like a contact person. There's always at least one contact person. They'll call them and ask”

But they elderly homes changed as well as other parts of health care. Participant 2 said in the interview the following:

Later, when Participant 2 has stopped working, every single room in the nursing home got an iPad in their room. So instead of having like an actual book where they would write to the relatives what the elderly requires, they would write on the iPad. Additionally, some nurses already have smart work phones, especially the ones who are going to homes. In nursing home, there were just only 2 phones per department.

Participant 2 revealed that the cellular data in the country is excellent, due to the flat surface and technological advancement. According to her in Denmark, it's cheap, using mobile data, besides it is easily accessible. She thought that almost everyone with a smartphone has mobile data. She told that, if you took a gender specific target group then like some sixty-five plus men are not into technology, but that is a small group. When interviewee asked about messaging applications, participant told that almost everyone is currently using Facebook Messenger, even her mother-in-law who is 60 years old. Therefore, it would not be a complication for Danish to use messaging applications. According to Participant 2, it would take a bit longer for people over 60 to learn the usage of a new app, but they have basic phone handling skills, so it would not take too long.

The legislations are not different from most of the European countries. The participant 2 explained that if all the GDPR legislations are fulfilled, then legally there would not be any problem, with this application.

All things considered Denmark is technologically tremendously developed. The health care system shows that almost everything is digitalised and even they took steps to develop the elderly care system. Since everyone has smartphone and mobile data it would be easy to use messaging applications, at any time.

4.1.3 Thoughts about Onerva from a Danish perspective

Participant 2 told that if the application was easy and fast to handle then it would bring some value. Since the nurses would still need to write their working journal, so writing down twice what happened with the elder is time consuming. She said that

the service ordering function would be useful, because the current procedure is too long if the elderly is missing something.

Participant 2 expressed some concerns about this type of an application, firstly she was afraid about the data if the phone is lost. Someone then would have access to all the data stored in the phone. Secondly, she was worried that depending on the age of the nurse, a smart phone would be distracting in their work, since they would pay more attention to the phone than to the elderly patient.

Also, currently if someone falls and it is not a major incident or when one of the patients is really missing the family members, about these not serious issues, nurses would not notify the family. But after hearing about this application, she said that it would be good if the communication would be more transparent between the elderly care companies and relatives. Since it would also help to preserve elderly's mental health. Also if relatives know in advance what they need to buy and are able to order all these online, then during their visit at the elderly home, they could fully concentrate on the patients and they would not need to worry about all the things what the seniors need. And currently there is no similar application according to her knowledge in Denmark, but there are similar apps to keep in contact between patients and hospital doctors.

4.2 Sweden

Participant 1 was interviewed to get information about the Swedish elderly home system. The interviewee has been working in elderly homes for most of her life, she has around 30 years of work experience in this field. Currently she is working near to Stockholm in a city, with elderly patients, who have Alzheimer. The department is small, there are just only 8 seniors and 2 nurses are working during the day shift with them and she is one of them.

4.2.1 Swedish elderly care system

Sweden's elderly care is similar as the previously described Danish system, as they all have the Nordic welfare model. Participant 1 has told that everyone who needs help will get from the local authorities. There are no large waiting lines for elderly homes but are never empty beds. Many people decide to stay home even though they

would be applicable for nursing homes. If the patient remains in home care service, then registered nurse and licensed practical nurse will both come to visit their place as frequently as it was determined for them. Participant 1 believed that there are really few private nursing homes, and she has never known anyone who went there. *“There is private elderly home, but there is no difference between public and private. They all get the same treatment”*. The costs for the elderly home get deducted from the pension also extra services like hairdresser and manicure. But it is always enough for the elderlies, because the government also supports them financially.

When interviewer asked Participant 1 if there are too much work, she said that it all deepens what kind of patients they have. *“There are always harder times, but usually we are not that busy”*. Participant 1 stated that in the same department there used to be 3 people working, but the government had to cut the costs as it was mentioned previously. However, she stated that from the amount of resources they never cut back. If one wheelchair breaks or they require sickbed then someone from municipality will bring it the following day.

As in Denmark many of the elders receive long-term care from professional nurses, generally in their homes where they live alone or with their spouse. Nurses would be available to use additional gadgets for their work because they are not overloaded with work. Therefore, Sweden’s elderly care system would be ideal for Onerva.

4.2.2 Swedish technological advancement

Nurses report every day of bigger daily events in their journal, as in Denmark. The nurses need to write a report every day and tell about the most important happenings of the day, for example if someone got injured or if they didn’t take their medication. This journal if necessary, can be also accessed by doctors and whenever the registered nurse comes read these journals, before checking seniors’ condition. It is all stored in the cloud, so it is easily accessible for authorized people. When seniors move into elderly homes then they write a

In the nursing homes there are also phones, from which the nurses can call for relatives and doctors. Usually all the communication between nurses and relatives are through phone, or verbal when they come to visit them. Participant 1 told, about the

relatives that *“whenever they come, they always call and ask if there is anything needed for their elderly relatives. For the municipality if we need anything usually, we write an email”*. At the beginning when a new patient arrives to the institution, the nurses write together all the information about them. Participant 1 said that they print these out and put it in one folder, so it is easily accessible.

In Sweden the health care is digitalised as in Denmark. Patients don't receive paper prescription. They can book appointments online, by signing in a platform via their social security number. And ask for medication from their doctor online. It is like the Danish system as well, in Sweden is eHealth Sweden is developed. Participant 1 has told that she appreciates that the government is offering them free health screening and require the citizens to go every once in a while, since the goal is to keep the Swedish people healthy, and notice serious health issues at early stage.

Sweden's health system is not the only thing like Denmark, but also their technological advancement. All the citizens have smart phones and mobile data. Participant 1 was already over 60 years old, but she said that she is always using Whatsapp to keep in contact with her family who are living further away from her. She said that everyone nowadays had smartphones, even elder people between age of 50-65.

In Sweden the health care system in general is digitalising, and they are switching to eHealth care methods. But in elderly homes they still do not have multiple digital devices to log their journal. For that they are still using computers. The work phone which they have in the elderly home is not smart. But the nurses who are taking care of elders in their houses use smart phone as their working phone. The changes do not need to be radical to make elderly homes more developed, since the base is there.

4.2.3 Thoughts about Onerva from a Swedish point of view

According to participant 1, there are not too many calls, therefore they don't need to spend too much time on phone. Usually they come to visit instead of calling often. But she can see the usefulness in the application, because not everyone lives close to the elderly home, since Sweden's area is enormous. However, she said that in her current department, relatives are not that curious to know always everything about

the parents or spouse, because in most of the cases the Alzheimer patients do not even recognize their relatives, thus it would not make sense to send pictures to them. But in other departments this would be useful, and nice so the elders could keep in touch with the family. Especially nowadays, because during COVID-19 virus, the relatives are afraid to visit, so they don't bring the virus in to the elderly homes. In general Participant 1 thought that there is no current need for this application, but maybe in the future, because she notices a tendency, that for younger people it is easy to move and many of the Swedish young adults even move out of the country. Then this type of a tool would come handy. But she has never heard about any similar application either, they have similar apps as mentioned earlier by the Danish nurse

4.3 Germany

4.3.1 German elderly care system

According to Participant 3, there are not too many people who receive long term care from nurses. In Germany it is not the task of the government to take care of the elderly. It is not the local government who chooses the degree of care, but it is the health insurance companies who determines that. Most of the institutes are private and the cost is high-priced, since they are company for-profit and as Participant 3 said they are quite profit oriented. The pension does not cover the fees for care takers. Germans need to pay insurance throughout their lives to receive a good long-term care from insurance companies. According to Participant 3, home cares are more frequent than staying at an elderly home. *“Around 20% of the elders who need long term care live in nursing homes and 80% are on ambulant, care in Germany”*. Participant 3 caregiver was saying that in homes there are too many residents, but lack of nursing staff. Therefore, they are always in a rush

Participant 3 said that in Germany there is a law that it is the duty of the children to take care of the parents, if they require it, financially or letting them into their homes and taking care of them. It is quite common that younger relatives take care of the seniors, in return the government provides financial benefit.

4.3.2 German technological advancement

In nursing homes, they use computers to do the reports, and phone to communicate with the relatives and suppliers. When interview asked how the relatives communicate with the elderly in nursing homes, Participant 3 said that *“they usually call, that is the most frequently or write an email, but some chose an old fashion way still and write letters and send it in post to the elderly home”*

When user was asked if the nurses contact the families if anything happens with the elderly, any accident, but the interviewee said that only at request, but usually not.

Participant 3 said the mobile broadband is not complete yet. The connection is not that good everywhere. *“Older generation in Germany does not have good smartphone handling skill, but everyone under 65 are quite good at it and many of them also have mobile data.”* The husband of number 3 is working for a telecommunication company and they just received from the biggest private elderly homeowner an order to set up Wi-Fi connection in all the 220 homes which they currently have. Because the company thinks that Wi-Fi will be an attractive attribute for elders, as more and more old learn to handle smart devices. Also, for the now 50-60 years old people it will become essential when they get to the age and health condition to go to elderly homes.

Digitalisation in health care is not that advanced compared to Sweden and Denmark. Participant 3 told that it is in plan to digitalise healthcare in Germany, but currently there is no digital healthcare records and ePrescriptions are not in use. Whenever someone goes to a different GP, they need to bring the paper version of the health record with them.

Germany currently is not having a good digital healthcare system, but there are signs of development. The healthcare system has not changed for a long time and there were no developments. The government was talking about data being linked to the social security number. Thus, screening the health circumstances of the patients would be speedier, but hasn't been any actions taken yet.

4.3.3 Thoughts about Onerva from a German point of view

Participant 3 can see some potential in this type of an application. She has seen some advantages in making the work of the nurses faster with messaging application. As the relatives don't worry that much about the patients. However, it is impersonal, and it would require human resource commitment to learn the usage of the application. Currently nurses are not so worried about the relationship with the relatives, so this application would not solve the transparency in the communication.

“Currently our biggest problem in elderly care is that we do not have enough nurses and the work is stressful, but if this issue gets solved then I can see a future in this application. Of course, only when the broadband connection problem is solved it is now insufficient”.

As the technological background of Germany shows. The country still needs to develop in other parts, so an application like this would be applicable in most of the elderly, homes. There is opportunity for Onerva, since there are more developed private care homes, these cost more than average, but in these homes technical skills and equipment are not a problem.

5 Discussion

In the discussion part of the research all the findings from this study come together, from all these data the key conclusion will be disclosed. The discussion chapter presents the researcher's reflection on this research paper, and the process how the author was able to answer to the research problem.

The case study's objective was to analyse different market areas based on attributes which are relevant for the internationalisation process of Onerva. The research question was:

“Which is the most suitable foreign market to target for an instant-messaging application to get the greatest number of users among elderly home nurses and relatives in Denmark, Sweden and Germany?”

In the beginning of the study the researcher noted a connection for the success of a mobile application in health care. And developed a hypothesis from that observation. First, the country's technology needs to be developed (mobile broadband connectivity, society's smart phone usage, digitalised health care). Also, it culturally needs to be acceptable in the country, that the seniors live separately from relatives. If these two factors are not fulfilled then it does not matter that the country has many elderlies in long-term care, since the society will not find the application useful otherwise

5.1 Answers to research questions

The objective of the research was to find out which market should enter next as part of its internationalization process. As it was mentioned earlier in each country first the technological advancement and the culture needs to be analysed if this is not satisfactory, then the county is not a good market fit.

Based on the primary and secondary data the researcher found Denmark the most suitable technologically. Not much behind Sweden is also technologically ready for a new messaging application for elderly care. Both countries have already a magnificent digitalised health care, the mobile data and smart phone usage is also high. Germany is behind, since their health care is not digitalised and not that many people use mobile internet also the coverage is not that good according to the citizens.

Second most important is the cultural factor. The researcher had to examine if it is acceptable in the country to live separately from seniors, when they require care. In this Denmark and Sweden was both fitting, as it is the state's job to take care of the elderly. In Germany the situation is different, the elderly care is expensive, and the government supports relatives if they take care of the elderly. It is the duty of the children to take care of the parents by law.

The largest effect on the decision making where to enter first after the technological and cultural factor is the number of beds in elderly homes. The higher these numbers are, the better the chances are for Onerva to succeed, because large amount of elderlies in long-term mean, larger number of potential customers and application users.

Also, the number of elderly homes is a good indicator for Onerva to decide, which country to choose. In this case Germany is the best performer in multiple ways. Firstly, it has the highest number of elderly homes. Secondly, most of the elderly homes belong to big nursing home chain, so it would be much easier to target only one company for Onerva, which could implement the application in all the nursing homes. For example, in the future Koran Group would be an excellent option, as they are just planning to set up Wi-Fi in all the 260 elderly homes which they own.

Table 9. Ranking of different aspects in Denmark, Sweden and Germany

	Denmark	Sweden	Germany
Nursing homes	1. Home care 2. Nursing home	1. Home care 2. Nursing home	1. Informal care 2. Home care 3. Nursing home
	Rank: 1	Rank: 1	Rank: 2
	1098 nursing and elderly homes (2013)	2710 nursing and elderly homes (2011)	11569 nursing and elderly homes (2011) Elderly home chains
	Rank: 3	Rank:2	Rank:1
	45460 nursing and elderly home beds (2011)	131814 nursing and elderly home beds (2011)	875549 nursing and elderly home beds (2011)
	Rank: 3	Rank: 2	Rank: 1
Technical advancement of the country	Everyone uses smartphone 4G coverage everywhere Total connectivity rank 1 st in Europe	Everyone uses smartphone 4G coverage almost everywhere Total connectivity rank 4 th in Europe	Almost everyone uses smartphone Mobile broadband coverage is not good everywhere Total connectivity rank 11 th in Europe

Table 10. (continuing) Ranking of different aspects in Denmark, Sweden and Germany

Rank of country's technical advancement	Rank: 1	Rank: 2	Rank: 3
Technical advancement of elderly homes	Uses iPad Wi-Fi in elderly home Everything is digitalised	Everything is digitalised	Starting to build LAN Wi-Fi in some of the elderly homes Most of the health records are still in paper form
Rank of elderly homes' technical advancement	Rank: 1	Rank: 2	Rank: 3
Total rank	1,8	1,8	2

Currently comparing all the primary and secondary data, Sweden would be the most appropriate market to enter first. The technology is advanced, nearly as good as Denmark's. Culturally the country is like Finland. But most importantly it is more effective to target a country first, with a larger number of potential users. Nevertheless, for a Finnish company it would be physically closer, which will be important as the marketing and deployment requires face-to-face meetings. Also, because in Finland it is easier to find someone who could do the marketing, talk with the customers and translate the application as in Finland the second official language is Swedish, and everyone is required to learn it.

Out of these three countries the author found Denmark the second most appealing. As their technology in eHealth is the most developed out of these countries and its

connectivity is the best. Due to the technological advancement and based on the primary findings, the author finds it the most likely to have a competitor in Denmark for Onerva, as they are developing applications rapidly. Therefore, also the microenvironmental factors also points towards Sweden, because competition would only arise later there. The only drawback in Denmark is the amount of nursing homes, since it is a small country with the lowest population, from these countries.

According to the author's observation, Germany currently is not developed enough technologically to be a good market suit for Onerva. It would be possible to implement this messaging service in more developed nursing homes. However, there is a big diversity between technological readiness of elderly homes. Some private institutions are more developed, due to the higher fees. In Denmark and Sweden there are no big noticeable differences, since most of them are owned by the government and every person in these countries need to receive the same amount of care.

If Germany develops its eHealth system, then it has a huge potential, As it was seen from the predictions currently the amount of elders is almost the same in all the three countries, but this percentage will radically change in Germany according to the estimates as it was mentioned in the demographic part.

All things considered the, author concluded that currently with all the data analysed. Sweden should be the first marketplace to enter, especially since the country is focusing to become number 1 in eHealth services by 2025. The moment the company has enough capital, then the company should expand to Denmark. Lastly it would be Germany. According to the numbers of potential clients, Germany would be the best option, however the technical readiness makes it the least promising choice out of the three chosen countries.

5.2 Assessment of the results in the light of literature

In the literature review the research discussed internationalisation macroenvironment and microenvironment factors. Based on the founding it became evidential that Onerva has nothing to lose with covering a foreign market which is suitable to the application. The company just need to translate all the features before. As all the interviewees said that with the application itself, there is no problem and almost all the participants forecasted a time, when it could be applicable in the country. For

example, in Germany Participant 3 said that first they needed to solve the shortage of nurse problem and when the broadband coverage would be good then she can imagine using this type of an application in elderly homes.

5.2.2 Macroeconomics

In macroeconomics we will leave out the political and legal aspects, since the researcher found that if the company fits for the GDPR policy, which is already the case, then there are no additional rules applied.

The demographics are similar in each country. The population is ageing and currently everywhere the nursing homes are full always, the nurses are stressed for their work. Therefore, the demographic factor only matters for Onerva, because due to the population difference, in Germany there is a much larger potential.

The research showed that there is an actual difference in economic circumstances of the country. Nordic model countries support elderly citizens much more than in Germany. In Germany lower income level people cannot afford to go to elderly homes. Therefore, the relatives need to take care of them, which is not suitable for Onerva. Also, financial situation of elderly homes is not good currently anywhere in Europe, it is a tendency that elderly care institutes let the staff go.

Technological development from primary data showed the same as in theoretical literature. In Germany everything is paper based, while Denmark and Sweden have a highly developed electronical health care and technology readiness. In Sweden based on the interview the elderly home did not seem that advanced, but as the interviewee said it was a smaller institution, therefore this could be the reason why the data did not match.

The cultural aspect came out also as expected. In Nordic countries it is rare if someone wants to take care of the elderly relative, while informal care in Germany is the most widespread. The reason however does not rely only in culture but also in financial aspect as it was mentioned earlier. People cannot afford to go to elderly homes and many of the times the family decides to take care of the senior on their own as it is the most budget friendly.

5.2.3 The microenvironment

Onerva would face the same problems abroad as in Finland. The marketing strategy would need to be developed, to get more clients. Market intermediaries work the same way as it is a standardized platform.

The customers everywhere in Europe have the same problem, they lack nursing staff, because the funds for health care decreases so the easiest solution for that is firing the staff. This causes too much stress for the remaining number of workers and they would say that they do not have time for sending messages. None of the staff has told about similar applications which is used in elderly care, therefore Onerva could be first of its kind in each country. This would make the internationalisation much easier.

Finally, the public is same everywhere, they would all see the potential in this application. The author has been asking around for several years to clarify this question and all the replies said that they would see the advantages of this type of an application, because the relatives just only gain from using this service.

5.3 Practical/managerial implications

For the founder of Onerva it is recommended to hire a new personal just for the marketing purposes, so the marketing strategy of the company would be improved. Since the founding of this research is that Sweden should be the next target market for Onerva it is crucial that the new marketing staff can speak Swedish, as it makes the customers more comfortable if they can express their thoughts and doubts in their mother tongue.

The next step for Onerva's management is to find the most tech-savvy elderly homes in Sweden and target those. Most likely they will be near to bigger cities, where municipality has more budget.

Denmark is also a great target market next. If the company has enough budget to expand their business to multiple locations, then the company should definitely consider Denmark as well, but the management should be prepared that the cost in Denmark are higher than in Finland or Sweden.

Lastly the researcher only suggests Onerva to enter to the German market in 3-5 years, when there technology advances more.

The researcher highly advises the company to do the internationalization rapidly, because the current COVID-19 pandemic, created a huge market opportunity for Onerva. The relatives are afraid to visit their elderly relatives in home care or nursing home, but they want to find ways for communication. Thus it is advised for Onerva Hoivaviestintä to try to step into the first foreign market, rapidly, by contacting elderly homes in Sweden.

5.4 Limitations of the research

During the research the author had faced some difficulties, which were challenging to overcome. Firstly, some data was only available from different years, such as the ownership of elderly homes and researcher had to collect several reports to find the same secondary data indicator of three different countries. As it is a new concept and they only started digitalising in elderly homes recently, there were no secondary data found on elderly care state of development in terms of technology

Researcher noticed that the older interviewees had a bigger resistance to change in their way of doing work. Other 2 interviewees gave more initial thought about using different methods and were able to critically evaluate the advantages and disadvantages of a new application. However, researcher noticed that the person who has been working mostly in elderly homes and had a higher age, did not consider changing in the current system and was not able to assess the changes from all perspective. This seem to be a psychological issue, the longer someone is doing something in a certain way, the harder it gets to change in this habit. However, this shows that not every nurse would be happy to use additional tools, because they find it overwhelming and unnecessary. This is an issue which Onerva needs to analyse and overcome, because this issue seems to be the biggest problem with the usage of the service. Thus, finding a solution for the nurses' motivation, would increase the value of Onerva Hoivaviestintä instant-messaging application tremendously.

5.5 Recommendations for future research

The researched showed clearly from the literature review and from the statistics that which of the countries have the most amount potential for mHealth service as Onerva. Future researchers who would like to analyse the same markets' elderly home

sector and dig deeper into the topic. The author of this research recommends them to do a 360-degree assessment for the primary data collection. It would give a better understanding of the topic if all the aspects were taken into consideration and not just nurses' viewpoint. So, the management's opinion matters to see if the value which the service brings is worth the fee and time of training the nurses of the usage. Multiple nurses need to be surveyed to see if they would be motivated to use this type of a service. Furthermore, asking relatives if this messaging application would bring them such a value.

With this research paper it would be possible for the company, Onerva to take all the aspects into consideration and start testing in the chosen countries. From the testing another analysis could be made. Analysing if the environment is suitable for the service the advantages and disadvantages of the application in different countries. The level of adaptation based on the culture, checking if different countries have different problems with the application. Observing if nurses have different level of motivation for the usage and questioning the source of the reason for that.

There multiple ways to continue this research problem. If the author decides to work further with the company and continue the research, then the testing would be the researcher's next action, to measure if the methods used in this research paper were accurate.

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Appendices

As it was mentioned the interview was semi-structured therefore the base of the interviews had the same questions additional questions were add for each interviewee to clarify certain unclear topics. Fundamental questions of the interviews:

Topic 1.-The operation of elderly homes and home cares

1. How common is it in the country that an elder, who is requiring it, receives nurse care?
2. If elderlies receive long-term care, which one is more widespread to have a nurse visiting at their homes or moving to elderly homes?
3. Who determines and how is it done that who can receive long term care?
4. Are there too many patients who the nurses need to take care of? Are the elderly homes lack of nurses?
5. Which one is more common in the country do relatives take care of the elderly or do they use the long-term care system in the country?
6. How do elderly people pay for their long-term care? Is it a service which can only the upper-class can afford?

Topic 2.- Working gadgets and communication channels used by nurses

7. What kinds of electronical gadgets do nurses use for their work?
8. Do elderly carers get a work phone?
9. Through what channels do relatives communicate usually with their elderly?
10. Do nurses contact elderlies 'relatives to give an update on the seniors' condition?
How often and how do they contact them?

Topic 3.-Technical development of the country and citizens

11. How common it is to use mobile messaging application in your country for communication? Is it also used by people between age of 50-65?
12. Do people have basic smartphone handling skills across generations?
13. Does the country have a good mobile broadband connection (5G/4G/3G) across the whole state or is there any problem with the cellular data in the countryside?

14. How many people use mobile data in the country? Do people between age of 50-65 also use mobile data?

Topic 4.-Thoughts on a messaging application designed for elderly care

15. What do you think, would elderly homes be interested in a messaging application targeted for communication between nurses and relatives of the elderly?
16. What would be the advantages and disadvantages in the usage of this application?
17. Are there similar applications used by nurses in the country?
18. What problems, would this application solve in your opinion?