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Entry into Markets – KDH Design Inc.

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Abstract

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The aim of the thesis is to give an overview to a company, KDH Design Inc., on Finnish Defence Industry Markets and probabilities to company´s products to enter these markets. KDH Design is not familiar to Finnish nor European Union Defence Industry Markets. The company is interested in exploring new markets for its products and especially for its defence and security related products.

The Commissioner is KDH Design Inc. based in Taipei, Taiwan, where the head office is. The company has also activities in Melbourne, Australia, where the main research and development activities take place. KDH Design specializes in display technology and its innovations. Different applications where display technology is used are e.g., car windows, augmented reality glasses and motorcycle helmets.

Research is qualitative and research strategy is case study. The theoretical part is conducted as in a summarizing literature review based on existing data from entry into markets, Finnish Defence Industry Markets, and the Commissioner. The empirical part consists thematic interviews with subject matter experts and researchers' reflections.

There is market potential for KDH Design´s products and innovations. Recommended market entry strategies are Partnering, Buying a company, and Piggybacking. There is need for a partner or suitable company in all entry strategies. Further research, analysis, calculations, and contacts are needed before final market entry decision. Defence industry markets are remunerating for next years and therefore prosperous markets to consider entering.

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1 Introduction

How to enter markets that are not very well known, are in special interest of states, procurement processes are long and have protectionist features. The increasing difficulty comes when it is not the product but also the technology that is “the merchandise.” With such a product there is, most likely, a necessity to find a partner or consortium to further develop the technology into products that has demands in the markets in question. An additional challenge is when a company that has the technology is a foreign one and not very well known in Europe nor in Finland.

KDH Design Inc., the Commissioner for my thesis, is a company incorporated in British Virgin Islands (BVI) and has roots in Taiwan. The core product of the company is a display technology that is unique. Their innovative display technology has numerous possibilities to system integration, such as Augmented Reality, Artificial Intelligence, and Communication. One example that is already in markets is a motorcycle helmet brand called Jarvish. KDH Design is interested in exploring new markets for its products. In this case, the company is interested in entering European Union Defence Industry Markets where Finland could be used as a starting point.

KDH Design operates in the Asia-Pacific region, mainly in Taiwan, Australia, and United States. The company believes that there would be potential markets for their products and technology in Europe. However, KDH Design does not have experience or contacts in Europe. The company is also growing fast and closing deals in its current markets, which means that they have limited resources in exploring new markets.

1.1 Aim of the thesis

The aim of the thesis is to give an overview to a company, KDH Design Inc., on Finnish Defence Industry Markets and probabilities to company´s products to enter these markets. KDH Design is not familiar to Finnish nor European Union Defence Industry Markets. The company is interested in exploring new markets for its products and especially for its defence and security related products.

1.2 Background and motivation

Defence industry markets, especially in Europe, are not that open and transparent as many other markets in globalized world such as consumer goods markets. Although, European Commission has made efforts to promote openness and transparency in defence industry markets, there is still efforts to be conducted before these markets equals to other markets in Single European Common Market Area. New companies are facing difficulties in entering defence industry markets. These markets are strongly politically guided and centralized. Companies already operating in defence industry markets are previously state owned and have strong connections with their primary customer – domestic armed forces. However, dual use products are increasingly entering to defence industry markets. From the customer point of view these products are interesting because of their price, availability, ready to be used status, and potential for innovations. Dual use products are goods or items that can be used for civilian and military purposes (Dow Jones 2022). Companies delivering dual use products are not necessarily well established and well-known defence industry companies. There are also small, start-up types of companies. The challenge is how to connect and introduce such small companies to a potential customer that has limited resources to constantly monitor dual use product markets. In addition, small companies do not necessarily recognize potential for their products for defence related usage.

When this research initially started, in spring 2021, COVID 19 pandemic has closed societies, freedom of movement was limited and face to face interaction has shifted to online applications. Events and fairs, which are important marketing platforms for defence industry companies were cancelled or postponed. Entry into markets for new companies has become increasingly challenging. I personally noticed this when I approached some companies and Finnish Defence Forces units with the aim to introduce KDH Design and its products. “Let us wait and see” or ”timing is not right” were typical answers to my inquiries. Marketing and research and development budgets were reconsidered. Future was unpredictable and efforts were focused on tackling pandemic.

The gamechanger was in in early 2022, when Russian invasion to Ukraine started. Western countries began to support Ukraine with defence material and at the same time countries started their armament. In truly short notice demand for defence material increased and circumstances were completely changed. It was only ten years ago when defence forces and defence industry were facing shrinking budgets and demand due to global recession. Like in every business also defence industry companies have optimized their production and that optimization has set for normal demand and peace time markets. In current situation supply could not answer to demand. In addition, innovations in (Ukraine) battlefield are challenging well established defence industry companies research and development capacity. There is window of opportunity for Small and Medium Enterprises (SMEs), and with also dual use products, to enter defence industry markets. Customers (defence forces) with increasing budgets are looking for suppliers and well-established companies are busy in demand. (Kukkonen 2022). At the very beginning, I had to familiarize myself with the commissioner, the technology, current products, and potential for future innovations. Finnish Defence Industry Markets are, in general, familiar to me. These markets mainly support Finnish Defence Force's needs. In small markets, companies are small or have a certain part of the company focusing on the defence sector. In addition, companies are looking for consortiums to compete against bigger and foreign competitors in the markets. There are also foreign companies that are offering their products in the markets. The challenge is to find a way into the markets.

Author of this thesis has a military background with nearly thirty years in Finnish Defence Forces. Research and development as well as procurement processes became familiar to me already in my early years in service in special forces. This knowledge matured during my service as a senior officer in different units in defence forces. In my years in Defence Staff, I was assigned also with long term planning and related material procurement. In addition, I was increasingly engaged with last fifteen years in service in international co-operation and assignments in politico-military level, in Finland and abroad. This gained competence was one reason I was approached and asked to consider this thesis subject. After exploring the subject and discussions with the Commissioner I was convinced of the potential that this technology and its innovations could have. I agreed the challenge and started to explore ways and means for this company and technology to enter the Finnish Defence Industry Markets.

1.3 Research problem and questions

The research problem is to find strategy, means and ways to KDH Design to enter to the Finnish Defence Industry Markets. To support the problem solution, there are three main research questions. Firstly, what are suitable strategies to a foreign company to enter the markets. Secondly, are there market potential for the products and technology KDH Design possess. Thirdly, what would be recommendations for way forward to KDH Design.

The first research question “*what are possible strategies to a foreign company to enter the markets suitable for this context*.” To answer this question there is literature review for different enter into market strategies as well as Finnish Defence Industry Markets. Interviews with selected experts will be used to further deepen the understanding from the markets and to evaluate suitable market entry strategies. This thesis aims to find possible strategies which are proven to be successful entering into similar markets with similar company in comparable situation. To find answers Finnish Defence Industry Markets needs to be explored in this perspective. If, there already exists non-Finnish companies into markets, their successful entry ways will be also explored. Obviously, there are various entry strategies commonly in use. These “tools” will be explored and most suitable will be further explored and suitability will be discussed for this specific case. As an outcome, this question offers entry strategies (tools) for KDH Design to consider entering Finnish Defence Industry Markets.

The second research question “*are there market potential for the products and/or technology KDH Design possess*” is quite straightforward and self-explanatory, if there are no markets, there is no use trying to enter such markets. However, defence procurement is not grocery shopping. It is a long-lasting process which could take years from call to tenders till closing the deal and delivery. Although, the question itself is easy and straightforward, answering it is not as easy and straightforward. Most likely, there is a need for contacting different actors into the markets with a touch of salesperson attitude, to clarify the situation for KDH Design´s products and technology in the markets. With this question there is need for exploring Finnish Defence Forces procurement processes as well as research and development programs. The market potential is not only narrowed to be explored as of today, but also in the future.

The third research question “*what are recommendations for way forward to KDH Design*” is seeking concrete recommendations with ways forward for KDH Design to decide to enter Finnish Defence Industry Markets. Most likely decision-making demands further analysis and calculations. This strategic decision-making process will be delineated from the current thesis.

Research strategy in this research is case study and research approach is qualitative.

1.4 Delineation of the topic and content

The research is focused only on KDH Design and Finnish Defence Industry Markets. The thesis is aimed at being a generic summary for the commissioner on Finnish Defence Industry Markets and perspectives for KDH Design to enter them. When market entry strategies are recommended, it is merely a recommendation for further exploring and selecting potential strategy for execution. Many details in market entry strategies for example market research and analysis as well as business model with calculations are not explored in this thesis and are therefore delineated from it. These delineations are decided for two specific and simply reasons. Firstly, the master thesis time and space are not adequate for covering all necessary details. Secondly, strategic decision whether enter for such markets using various means and ways and resources would need in depth information from the commissioner, KDH Design. Such a decision and information belong solely to the commissioner. In addition, in depth reasoning for KDH Design to enter new markets is not explored. It is a starting point for the research and not relevant for the scope nor outcome for this thesis.

1.5 Expected results and outputs

There are two possible ways for expected results – negative and positive ones. The negative one shows that there are no markets for KDH Design´s products and technology, or perhaps the timing is not optional, but in the future situation could change. Such a result would prevent the company to make non profitable investments to enter the markets. The positive one helps the company to decide whether to try to enter the markets or not. In any case, there is potential for their products and technology in the markets, but there is need for further research for such a strategic decision.

Regardless of the abovementioned results, the company will have a better understanding what kind of markets there are in Finnish Defence Industry, and how these markets are functioning. Since Finland is a member of European Union, the company will also better understand how European Union markets are functioning. This understanding will help KDH Design to seek business opportunities from European Union markets in general.

Overall, expected results will assist KDH Design to decide whether to trying to enter, and if yes, which way to proceed to enter Finnish Defence Industry Markets.

1.6 Structure of the thesis

There are seven chapters in this thesis. The structure is quite normal used in qualitative and case study research. Chapter one introduces aim of the thesis as well as research questions with rationale, background, and motivation. Chapter two explores and introduces various entry into markets approaches. This chapter also contributes answering the first research question, *what are possible strategies for a foreign company to enter the markets suitable for this context*.

Chapter three focuses on Finnish Defence Industry Markets. In addition, this chapter also contributes answering the second research question, *are there market potential for the products and/or technology KDH Design possess*. Chapter four introduces the commissioner – KDH Design. Knowing the one interested in entering to markets with its products and business model is vital in a case study. In chapter five research strategy and methodology for data collection and analysis are introduced. Also, empirical part, thematic interviews, and way those were conducted and reported are introduced.

Chapter six introduces results and recommendations for this research. Answers to research questions and research problem can be found from this chapter. In chapter seven, the last chapter, researcher discusses on credibility and validity of this research as well as recommendations for further research.

2 Entry into Markets

In this chapter market entry strategies are explored and overviewed. There are variety of books, studies, articles, and other material exploring diverse ways and means - strategies to enter markets. Some sources are listing only a few market entry strategies which could be very theoretical in nature. Some other sources are listing more than ten different, detailed, and practical strategies. (Schwens & Kabst 2011, 62). In this chapter there are nine primary market entry strategies that are overviewed. Before exploring entry strategies, markets, and motivation to enter markets needs to be analysed and considered.

Motivation and interest to enter new markets by the Commissioner – KDH Design Inc. – is not explored and is also delineated from the scope of this research. The starting point is that commissioner is interested in entering new markets, Finnish Defence Industry Markets. This starting point is also excluding, in this thesis, exploring entry strategies targeted to for example domestic markets or emerging markets. (Chen 2022).

Identification of target markets is commonly suggested to start with. The target markets - Finnish Defence Industry Markets – are introduced in chapter three. There are variety of factors that are included in market identification (Hollensen 2014, 334). In Finnish Defence Industry Markets prospective main customer is Finnish Defence Force. Therefore, the scope to market entry, in this respect, is more like business to business (B2B) to a foreign market. Market research is also commonly suggested step before considering suitable market entry strategy (Kotler et al. 2009, 207).

There are features and figures that belong to market research. The market size, general trends, possible competitors and procurement process with laws and regulations are explored. (Hamersveld & de Bont 2007, 4). However, this thesis does not include full scope and in-depth market research on Finnish Defence Industry Markets. This thesis is the first step for KDH Design to consider whether to further continue to explore entry in the Finnish Defence Industry Markets.

There are a variety of ways in which a company can enter to foreign markets. No market entry strategy works for all international markets. There are no one size fits all strategies. Direct exporting may be the most appropriate strategy in one market while in other markets a company may need to set up a joint venture and so forth. There will be several factors that will influence a choice of strategy, including, but not limited to, tariff rates, the degree of adaptation of product and services required, marketing and transportation costs. While these factors may well increase costs it could be also that expected the increase in sales will offset these costs. (Anderson & Gatignon 1986, 2). Overall, there is need for initial business plan with calculations in each potential entry strategy before choosing one.

Direct Exporting

Direct exporting is quite self-explanatory way to enter markets. Product or service is delivered to markets and sold there. (Hollensen 2014, 347). The selling itself may be conducted in diverse ways. Mail order is today a very used way to sell products. There is no need for local agents nor distributors to share profits. On the other hand, marketing campaigns are needed, and direct exporting is not suitable entry strategy for all types of products and services. If, for some reason, a company is not willing establishing its own distribution organisation, distribution could be outsourced. Direct exporting in its simplest form is that a company will outsource everything to a local agents and distributors except exporting itself. In such cases it is important to find an agent and/or distributor that can promote products and services. Unsuccessful choice of agents and/or distributors may lead to a reputation loss and business failures regardless how excellent promoted products or services are. (Obadia & Vida 2011, 467). The downsize using local distributors is that a company will be depended on them. There is little control over sales. On another hand, local distributor may have existing client base and has experience in local markets and their functionalities. Direct exporting as a market entry strategy is most suitable for selling products, not services. (Emerhub 2020).

Direct exporting in some sources is described as a market entry where a company is marketing its products it produces in the countries in which a company intends to sell them. In this definition, there is no third-party involvement. Alternatively, a company may export indirectly by using the services of agents, such as international distributors. Companies may often choose indirect exporting if a company is in the beginning to distribute its products internationally. (Indeed 2022).

Licensing

In licensing a company transfers immaterial rights to use its products or services to another company. Manufacturing as well as company name and brand may also be licenced. (Grönroos 1999, 294). Licensing is a low investment method to enter markets. A company purchasing a licence, licensee, is accountable for manufacturing and selling costs. In many cases licensing is used in high technology products with patents, detailed contracts are needed and process to finalize such contracts may be time consuming. (Patentti- ja rekisterihallitus 2016). A company receives royalties from licensee. However, a company is also dependant on licensee´s performs. The risk is that a licensee´s actions may affect negatively on a company´s name and brand. (Grönroos 1999, 294).

Licensing occurs when one company transfers the right to use or sell a product to another company. A company may choose licensing if it has a product that is in demand in target markets and a company, licensee, to which it plans to license the product has a large market in target markets. (Indeed 2022).

Franchising

Franchising is also a low investment market entry strategy. This market entry strategy has its roots in North America. In Franchising business model needs to be easily copied, transferred, and repeated into other markets (Grönroos 1999, 294). Franchising works well when there is already a strong, unique, and well-known brand. In Franchising protection and promotion, a brand is important and needs resources. Franchising is commonly used for example in hotels and restaurants. (Tariq 2011, 252-253). In franchising a company has little more control over the business a franchisor operates. In this respect it is less risky than licensing. (Hollensen 2014, 374-390).

To sum up, franchising is functional market entry strategy if there is a strong brand recognition, as consumers in target market should know what is offered and have a desire to purchase it. For well-known brands, franchising offers companies a way to earn a profit while taking an indirect market entry approach. (Indeed 2022).

Partnering

Partnering is also self-explanatory way to enter markets. This mode of market entry is usually used strategy when target markets differ considerably the ones a company is operating in. There are variety of modes for partnering from a simple co-marketing arrangement to a sophisticated strategic alliance for manufacturing. A company entering to markets benefits local market knowledge, contacts and even customers with partnering. But also like in many other business arrangements, finding a partner with added value is important and sometimes challenging. (Glowik 2016, 169-170).

Joint Ventures

Joint venture is a partnership where two partners are establishing a separate independent company. Joint ventures are market entry mode that could be used in targeted markets. It could also be used for producing or delivering products or services to markets. Establishing a joint company is meant to give added value for founders, but also to share their burden and risks. Burden and profit sharing depends on what type of arrangements and contracts are made. (Root 1994, 146). If, a partnership is with a local partner from target markets, there may be similar benefits as in direct exporting and using local distributor (Grönroos 1999, 294). In joint venture there may also be more than two parties and direct foreign investments are needed. (Emerhub 2020).

In addition, joint ventures may be considered if there are smaller companies that could, with unity of efforts, function like a big company in target markets. In this way of thinking, bigger player has the potential to earn more revenue than small individual companies. Imbalance in company involvement is one of the risks for this market entry strategy. (Indeed 2022).

Buying a Company

On straightforward way to enter markets is to buy an existing local company (Hollensen 2014, 413). There are several benefits for this type of market entry strategy. Firstly, local company may already have substantial market share in target markets. Secondly, such a company may be operating in a same business segment and is a direct competitor in target markets. Thirdly, in target markets there may be restrictive local regulations for foreign companies operating or even entering. Buying a local company may be a straightforward way to enter to new markets. Such an arrangement means that a foreign company with its products and services receives a local status with all the benefits. (Tradestart). However, this type of market entry may also be costly and needs careful considerations and calculations. (Lee & Lieberman 2010, 143). Buying a company cost more than most market entry strategies. On another hand, the shipment and distribution of the products and maybe even manufacturing costs could be excluded from total costs. (Indeed 2022).

Piggybacking

In Piggybacking a company is selling its product or service to a company already operating in target markets. If a company operating in target markets is interested and will purchase product or service in its inventory, that company will also takes care of marketing and resales in target markets. This form of market entry reduces risks and costs for a company to deliver its products or services to a new market. This market entry strategy allows a company to focus on domestic or other markets and let the other company, partner, manage the risk of selling to target markets (Hollensen 2014, 340-341).

Turnkey Projects

Turnkey project is listed as a market entry strategy. This type of strategy could be used by the companies providing services such as environmental consulting, architecture, construction, and engineering. The project name itself is self-explanatory; make everything ready and turn the key to a customer when a product or service is operational. An example is building a plant from the very beginning and turn it over to a customer once it is fully operational. If financing and other terms for such a project are secured this is a low-risk way to enter foreign markets. (Cova 2002, 8-7). This market entry strategy could be considered if a client comprises foreign government agencies (Indeed 2022).

Greenfield Investments

Greenfield investments is a market entry strategy where a company is practically doing everything. Market entry starts from buying a piece of land, building a facility, plant, or warehouse, and continues by operating business in target markets. This type of market entry is costly, needs great deal of involvement and has high risks. On another hand, such a market entry mode may be the only way to enter due to local regulations, transportation costs, and the ability to access technology or skilled labour. (Hill 2000, 441). The word “green” refers to new facilities a company is constructing from beginning. Due to direct foreign investments, this type of market entry is favoured in most receiving countries. The main advantage of this market entry is overall and complete control over established company. (Emerhub 2020).

This complete control could also be one reason to choose Greenfield investment as a market entry strategy. With this tight control of each operation there is an extremely minimal risk losing technical competence to a competitor. However, Greenfield investment is a complex and costly process. Building a new facility is also time consuming. (Indeed 2022).

Other Market Entry Strategies

Outsourcing is sometimes explained as a market entry strategy (Indeed 2022). Nowadays it is custom to outsource at least some elements from the production to retail sales to other company or subcontractor. For example, a company may use direct exporting as a market entry strategy, but still outsource distribution. In such case, is a company using direct exporting or outsourcing as the market entry strategy. Therefore, outsourcing is not listed as a primary market entry strategy in this thesis.

Countertrade is also a market entry strategy according to some sources (Indeed 2022). Countertrading functions as a barter system. Companies trade each other's goods instead of offering their products for purchase. One may ask if countertrade is just a form of piggybacking or partnering. With this logic, countertrade is not listed as a primary market entry strategy in this thesis.

2.1 The Best Market Entry Strategy

Viability of entry is the key question where market entry strategies with thorough market analysis are looking for an answer. Like market entry strategies there are also variety of books, studies, articles, and other material exploring entry risks and barriers to entry. Such risks could be from weather to culture and entry barriers like a company´s inadequate financial capital. (Luostarinen 1970, 72-73).

Market entry strategies could be considered as roadmaps for companies to enter international markets. To be able to choose and decide the best market entry strategy, such strategies with differences needs to be understood. Market entry strategies are methods companies are using to plan, distribute and deliver goods to international markets. Companies will choose the best market entry approach based on their goals and target market. Obviously, market entry strategy with most benefits is the one to be explored. Since every company has its own goals for entering new markets, having the option to choose from several types of strategies may give a company the opportunity to find one that fits its needs. (Root 1987, 5).

In figure 1 are several factors to be considered in the process of making a market entry decision. Factors are divided in external and internal ones.

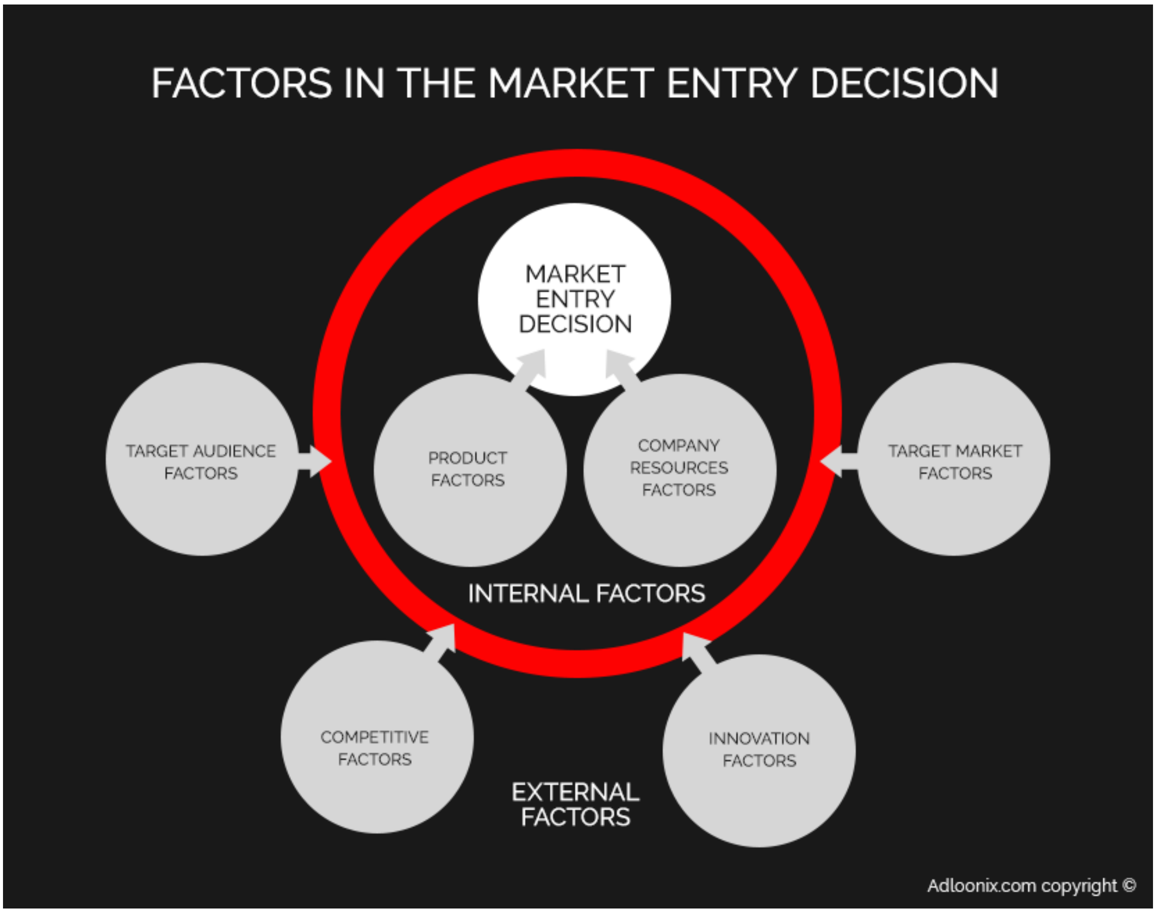

Figure 1. Factors in the market entry decision (Adloonix 2020).

In this example there are four external factors. Target audience factors are focusing on potential customers, their interests and needs. For the marketing purposes it is essential to know and understand your customers and with this knowledge the company may developed successful market strategies to reach key customers. (Hollensen 2014, 336). Target market factors are the characteristics in the target markets. These factors for example could be geographical, cultural, gender based or social, overall, there are various segments in each market and the ones should be identified in order to tailormade marketing campaign accordingly. (Anderson & Gatignon 1986, 14-15).

Competitive factors are the ones that differentiate the company and its products from its potential competitors. This means that besides the company needs to identify its strengths, weaknesses, skills, and capabilities it is also necessary to analyse potential competitors the same way. As a result of such analyses the company is better capable of understanding its opportunities and is more prepared to meet competition in the markets. On another hand, such analysis may lead to conclusion that markets are already heavily competed with strong competitors that decision to enter such markets is reconsidered. (Hollensen 2014, 334). Innovation factors are the ones that may affect company decisions, strategy and policy and are beyond company´s management. Such factors could be changes in the markets like legal and tax regulations, labour market regulation and business environment in general. (Agarwal & Ramaswami 1992, 6). Company entering new markets is needed to monitor and anticipate probable future changes and be ready to innovatively act accordingly if needed.

Two internal factors in this example are product and company resources factors. Product factors are focusing on product(s) and its demand in the markets. When a product meets market needs and requirements it is up to the other factors to support market entry. There is also a role for research and development to support product demand in the markets. Flexibility in product development supports product lifecycle in the markets as there might be need for further develop or adjust the product based on shifts in demand. Company resources factors are related mainly to available funds and skilled labour. Market entry needs additional funds for example marketing. In addition, research and development needs to be sufficiently resourced in order to be able to alter the product if needed. Motivated and skilled labour has a key role in all company functions from manufacturing to marketing. Having right people in right places now and in the future supports positive market entry decision. (Hollensen 2014, 335).

An article *10 International Market Entry Strategies (With Definitions)* lists (only) three factors. These three primary factors that affect a company's choice of international market entry strategy are:

- Marketing: Companies consider which countries contain their target market and how they would market their product to this segment.

- Sourcing: Companies choose whether to produce the products, buy them or work with a manufacturer overseas.

- Control: Companies decide whether to enter the market independently or partner with other businesses when presenting their products to international markets. (Indeed 2022).

Companies may also choose a strategy based on the type of product they sell, the value of the product and whether shipping their products requires special handling procedures. In addition, companies may also consider their current competition and consumer needs in target markets.

Market entry strategies are important because selling a product in an international market requires precise planning and maintenance processes. These strategies enable companies to stay organized before, during and after entering new markets. Also, more direct investments needed more control and ownership over business. (Emerhub 2020).

3 Finnish Defence Industry Markets

The Finnish Defence Industry Markets are explored and introduced in this chapter. The aim is to give an overview on the markets and its functions to the Commissioner. There is a limited number of public reports and studies exploring the Finnish Defence Industry Markets. Therefore, it is safe to say, that to understand how markets are functioning, one needs to have consultants, advisers, or partners to support efforts to entry in the markets.

3.1 Overview

Origin of defence industry is to support country´s national defence and be self-sufficient with the defence material. Although, self-sufficiency has not been a reality in many decades for majority of the countries in the world, the idea is still there and affects the defence industry markets. Times when a national defence force was the only customer for national defence industry is in the history (Mikkola, Anteroinen & Lauttamäki 2012, 187-188). However, a national defence force is still an important customer for national defence industry. From the Finnish Defence Budget, one third is spend on procurement (Puolustusministeriö 2020). In recent years this is around one billion euro annually (Puolustusministeriö 2021).

One of the Finnish Ministry of Defence aims is to keep national defence industry vibrant in targeted functions and capabilities. One practical example is research and development programs which are mainly channelled for national defence industry. Products and services that are ready to be used and have no need for research and development, could be purchased from foreign defence industry markets. (Puolustusministeriö 2020).

Finnish Defence Industry is employing directly over 5 000 employees with the turnover approximately 700-950 billion euro annually. Most of the companies are relatively small and there are only two companies having most of their turnover from defence industry markets. Finnish Defence Industry is centralized, and Finnish Government is heavily involved and majority owner, directly or indirectly, in two biggest companies. To maintain national defence industry vibrant exporting and internationalization is promoted. (Eduskunta 2021).

Finnish Government´s ownerships are one tool to ensure strategic guidance for defence industry. The strategic aim is to integrate national defence industry to be part of the national defence, security of supply and international co-operation. (Government's Defence Report 2021). This kind of centralization and government involvement in defence industry is not unique, more likely it is a standard around the world. For the KDH Design this is familiar operation environment that company has acquainted with in Taiwan.

For the small country with limited resources, such as Finland, there is a need to prioritize critical defence industry capabilities. These capabilities are:

1) management and networks

2) intelligence, surveillance and targeting

3) striking

4) cover.

Technologies that are essential for above mentioned capabilities are also priority. These technologies are:

1) command and control, networks, intelligence, surveillance and targeting technologies

2) material and composition technologies

3) multi-technology systems and system governance technologies

4) bio and chemical technologies.

This prioritizing supports Ministry of Defence´s strategic guidance for national defence industry´s self-sufficiency. (Puolustusministeriö 2020).

3.2 Procurement

Public procurement is regulated with national procurement legislation and European Community Directives. One of the aims of the regulation is to enhance the competitiveness of national and European enterprises. There are different financial thresholds for procuring different goods and services for both national and European Union level procurement. (Act on Public Procurement and Concession Contracts 1397/2016). In addition, there is a regulation for public sector procurement in the fields of defence and security. This regulation is allowing more leverage than Public Procurement Act. (Act on public procurement in the fields of defence and security). In table 1 are examples on national and European Union financial thresholds for procurement.

Threshold	**Public (€)**	**Defence and security (€)**
Supply and service (National)	60 000	100 000
Public works contracts (National)	150 000	500 000
Supply and service (EU)	140 000	400 000
Public works contracts (EU)	5 382 000	5 000 000

Table 1. National and European Union procurement thresholds from 1 January 2022.

Financial thresholds mentioned in table 1 are directing competition procedures for public procurement. Public procurement is strictly regulated and vital to know to be able to do business in Finland. All procurement norms are aiming to enhance openness, transparency, and equality in European Union markets. These norms and aims are applying in public sector procurement in the fields of defence and security as well.

There is one exception and that is in the fields of defence and security. That is in the article 346 in the Treaty of Functioning of European Union:

> *1. The provisions of the Treaties shall not preclude the application of the following rules:*
>
> *(a) no Member State shall be obliged to supply information the disclosure of which it considers contrary to the essential interests of its security;*
>
> *(b) any Member State may take such measures as it considers necessary for the protection of the essential interests of its security which are connected with the production of or trade in arms, munitions, and war material; such measures shall not adversely affect the conditions of competition in the internal market regarding products which are not intended for specifically military purposes.* (Article 346 in the Treaty of Functioning of European Union).

Dual-Use Goods are excluded from the article 346. Procurement and trade for such goods is regulated with national norms and legislation. (Mikkola et al. 2012, 165).

Article 346 means in practice that openness, transparency, and equality are not applying in all defence and security related procurements. One example is that suppliers are preselected, and only selected ones are approached and asked to tender. Facility Security Clearance is usually the first selection criteria verified in preselection process. Therefore, if a company is intended to do business in defence and security sector in Finland or European Union markets such clearance is mandatory. (Salonen 2022).

In Finland defence capabilities are developed based on national defence needs. These needs with strategic guidance mean that domestic defence industry is developing its products mainly for Finnish defence purposes only. There is a risk that there are no markets for such products due to specific conditions products are meant using. (Mikkola et al. 2012, 189-192).

Finnish defence capability is developed with Defence Forces strategic development programs. Lifecycle for strategic development programs is 12 years and it is replanned in every four years following strategic planning cycle. Strategic development programs are divided in sub programs and eventually in projects and sub projects. (Puolustusministeriö 2020).

Planning phase for project may last two to three years. Project implementation phase, which includes procurement, may last three to five years. Both phases are including various sub phases depending on projects size and complications. Once criteria for product is finalized, during planning phase, Defence Forces may approach selected companies with Request for Information. This request may be the first time for companies to receive any information that such project exists. (Salonen 2022).

Timing is crucial. For the company with no relations to Defence Forces it is extremely challenging to receive information from projects and opportunities. Strategic development programs are classified. Procurement for product with separate phases are long lasting and once procurement starts it is practically impossible to be noted if company is not already included in the process. (Salonen 2022).

After Request for Information and receiving and evaluating requests follows Request for Quotation for selected companies. Not all the companies necessarily receive Requests for Quotation. There could also be several Request for Quotation cycles before supplier is selected and final negotiations for closing agreement are starting. (Salonen 2022).

Finnish Defence Forces is quite notorious for trying to get value for its money. Criteria for products are strict and mandatory to be filled before Request for Quotation. If there are more than one company offering products, the one with lowest price usually will be the supplier. Defence material procurement is long lasting, technically complicated and challenging in many ways. On the other hand, Defence Forces is dependable customer with the tendence for valuing long lasting customer relationships. (Salonen 2022).

4 The Case company – KDH Design Inc.

In this chapter, the case company and its products will be introduced and explored. By knowing the company with its products, it is possible to evaluate whether there is interest and potential to enter markets, or another way around, whether there are markets for such products and company. The company in question is also the commissioning company.

The official name of the company is KDH Design Inc. (later KDH Design). KDH Design was founded in 2015 and is based in Taipei, Taiwan, where the head office is and Melbourne, Australia, where the main research and development activities take place. KDH Design was founded by the key members of Communication & Network Solution Business Group (CNSBG) of Foxconn. Utilizing industry expertise, the team is the leader in smart wear, Netcom, and Augmented Reality (AR) technology industries. KDH Design specializes in the vertical integration of the innovative optical architecture and design of micro-optics on top of their proprietary patent-pending “Transparent Integrated Guiding Enhanced Reality (TIGER)” display technology. KDH Design´s capital is little over 9,6 million USD. (KDH Design, 2022). In figure 2, it is illustrated an example on using display in grocery shop. Letters and numbers maybe changed remotely.

Figure 2. Tiger display shelf. (KDH Design 2022).

The Advanced Augmented Reality Technology is based on above mentioned display, which is transparent, flexible and with super high brightness. There are numerous applications in different areas where this technology could be used, such as car windows, augmented reality glasses and motorcycle helmets just to name a few. In next few years, the company is going to commercialise Augmented Reality film technology by exploring various applications for the technology world-wide (KDH Design, 2022). In figure 3, it is illustrated an example on augmented reality glasses.

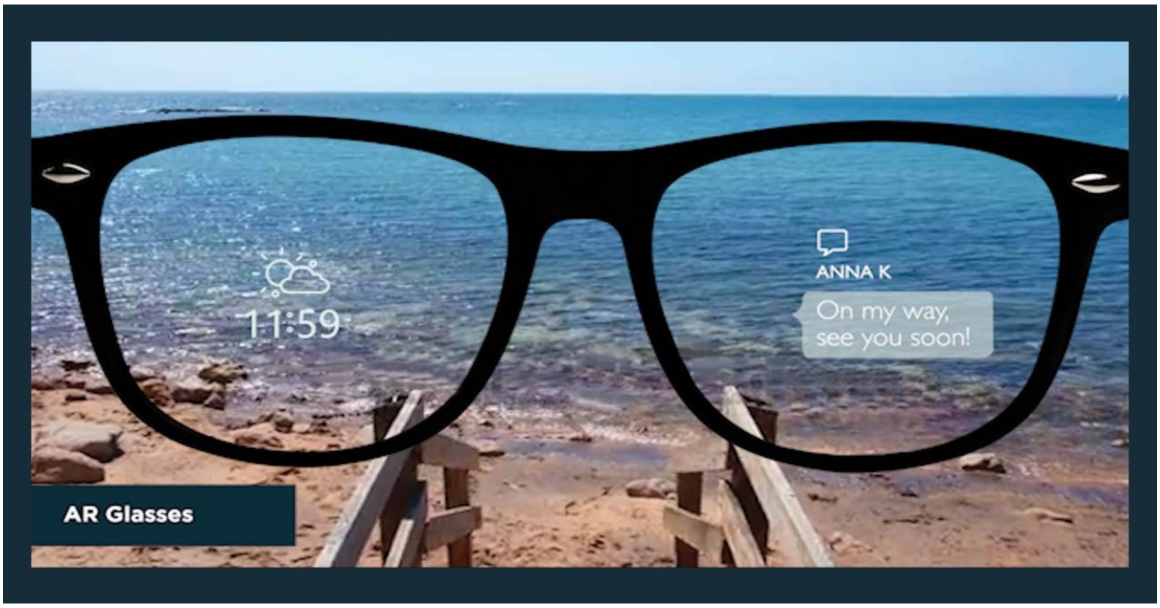

Figure 3. Augmented reality glasses. (KDH Design 2022).

The Smart Manufacturing is another focus field for the company. It consists of shelf construction which plans and optimizes the use of shelves according to customer needs and provides site storage and assessment of the site´s traffic flow. It also consists Automated Guided Vehicles (AGV). This part of the smart manufacturing plans and provides Automated Guided Vehicle solutions in accordance with the actual site conditions. These AGV`s can be either fully automated or human-machine collaborative. AGV systems would be designed and planned according to required load weight and height. Systems can relate to existing Enterprise Resource Planning (ERP) systems. The last product in this focus field is Warehouse Management System (WMS) this is to customize the automatic warehousing process according to customer´s storage requirements and interface with existing ERP system. The WMS system can be connected to conveyor belt, AGV, robotic arm or field sensor information. The company has developed smart warehousing solution and implemented military warehouse in Taiwan (KDH Design, 2022). In figure 4, it is illustrated an example on shelf construction with Warehouse Management System and in figure 5 it is illustrated an example on Automated Guided Vehicle solution.

Figure 4. Shelf construction with Warehouse Management System (KDH Design 2022).

Figure 5. Automated Guided Vehicle solution (KDH Design 2022)

KDH Design also did produce and deliver Epidemic Prevention Supplies, such as protective cover clothing, medical isolation gowns, nitrile gloves, face shield, and surgical masks during COVID 19 pandemic. After the peak of pandemic and demand for prevention supplies was over, the company gave away these products. (KDH Design, 2022). In figure 6, it is illustrated an example on epidemic prevention supply.

Figure 6. Epidemic prevention mask (KDH Design 2022).

KDH Design has a trademark called Jarvish for its motorcycle helmets. The vision was and still is to bring superior design, high-quality accessible head-mounted products to consumers, governments, and institutions around the world. The company with the trademark specializes in integration of software and hardware to motorcycle helmets. Prior to launching the first smart helmet in the market, in 2017, the company spent two years of in-depth and diligent research, with the goal of innovating and revolutionizing the markets. The company utilizes in its head-mounted products also augmented reality and artificial intelligence (AI). (Jarvish 2022). In figure 7 it is illustrated an example on Jarvish motorcycle helmet.

Figure 7. Jarvish motorcycle helmet (KDH Design 2022).

KDH Design mission for Jarvish trademark is to create the world´s most advanced smart helmets integrating 5G+AI+AR. Vision for Jarvish is seamlessly connect people and technology for a safe, efficient, and enjoyable experience. At the time when the company started to work with motorcycle helmets, there were several challenges to be tackled:

- Lack of connected and integrated smart helmets on the markets
- Dissatisfied riders with unsafe riding behaviours and limited situational awareness
- Increase risk of accidents, and delayed response for rescue at accidents
- Uncomfortable customer experience and complicate process in getting a customized helmet. (Jarvish 2022).

After intensive two years of research and development answers to these problems were developed. Head worn devices were integrated with 5G+AR+AI across industry sectors such as sport, industrial, law enforcement and military. Jarvish carbon helmets are custom sized for each customer. Data from smart phone or tablet is stored in Jarvish cloud. Delivery and shipping directly to consumer is automated, accurate and quick. (Jarvish 2022).

Customers are empowered with accurate, efficient, and reliable design, development, and production. As stated, the company started to fulfil its mission by introducing smart helmets in 2017. The revenue for Jarvish trademark in 2018 was half a million USD with 4 000 global customers. In 2019, revenue was 2,2 million USD with 22 000 global customers. With these numbers, it is evitable that Jarvish trademark was able to tackle existing problems and deliver products satisfying growing number of customers. Unfortunately, due to COVID 19 pandemic, helmet sales dropped considerably. (Jarvish 2022). In figure 8, there is five-year prediction for TIGER Display Shelf Revenue. This is illustrating a steep curve in demand and revenue. There are similar predictions on KDH Design´s other products. With such increase of turnover, there are also more resources for research and development to keep up technological advantage.

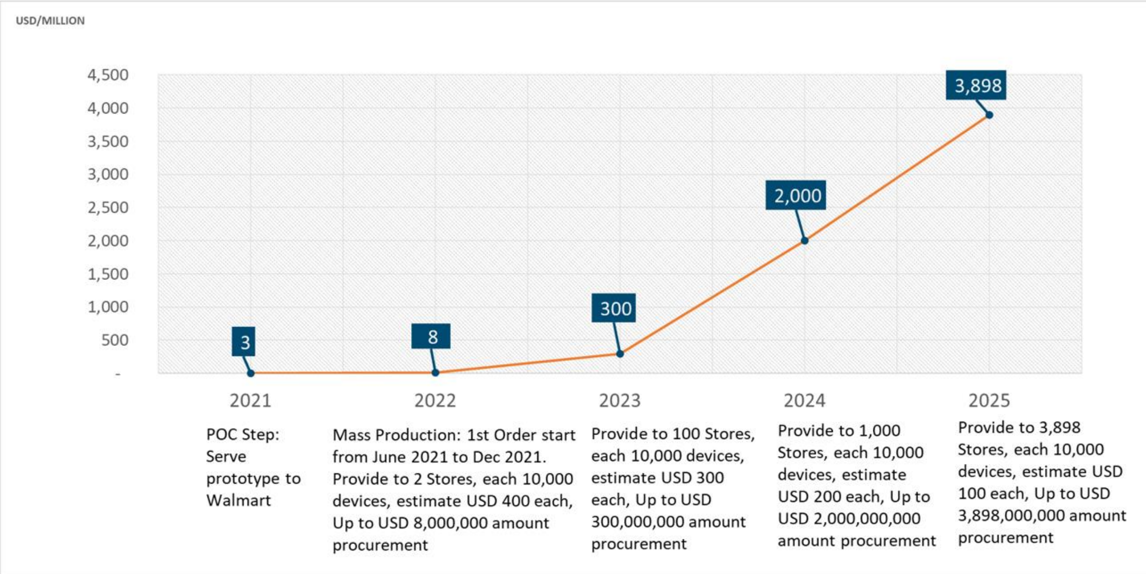

Figure 8. Estimation on TIGER Display Shelf Revenue (KDH Design 2022).

KDH Design with Jarvish trademark for smart helmets focus field produces purpose-built helmets for motorcyclists, sports, and police users. There are four main characteristics for such helmets:

- Hundred percent hands-free. This is achieved by voice-based SDK.
- Safety. The smart helmets are meeting all current safety homologations and electronics certifications world-wide.
- Complete system integration with existing helmets or head-worn devices.
- Integrated visual Head-Up-Display (HUD) and audio system. (Jarvish 2022).

All the characteristics are also similar than anticipated for military purposes. In addition, AR and AI solutions will bring added value for situational awareness for users and using it in multiple situations. KDH Design delivers military helmets with its technology to Taiwan armed forces. Confident in their success in this field, KDH Design is exploring opportunities from military markets for their products and technology. (Jarvish 2022). In figure 9, it is illustrated an example on military helmet.

Figure 9. Military helmet (KDH Design 2022).

In the future, KDH Design is planning to move from B2C focus, which means selling smart helmets to customers, to B2B focus. This shift to B2B means focusing on the company´s core competency, developing advanced technology for Augmented Technology film. This strategic decision shifts also most of company´s resources to research and development and product development in general. Shift of focus and resources affects to marketing budget which will be considerably less than would be needed in B2C business. KDH Design believes that focusing on Augmented Reality film technology their technology will solve current issues and difficulties in Augmented Reality display. The company also believes that there are major prospects Augmented Display markets in a near future. (KDH Design 2022).

KDH Design has been successful in Taiwan and won tenders delivering smart warehousing project and smart military helmets for Taiwanese Armed Forces. The key factor, according to KDH Design, winning previously mentioned tenders was (and is) the company´s technical superiority and innovative technological solutions. Lessons learned from working with military, and governmental customers in generally, is that it takes time. Relationships with customers are built gradually and are based on confidence and reliability. There is a need for close collaboration long before tender process officially starts. This collaboration and cooperation period is needed in order to demonstrate fully KDH Design´s technological advantages and solutions to meet customers' needs. (KDH Design 2022).

During KDH Design research and development cooperation and procurement processes, the company has recognized strengths, weaknesses, and gaps. The strength is, besides technology, innovative research, and development to understand customer needs, refine innovative ideas and deliver solutions to meet customers´ requirements. The weakness is, as relatively typical for start-up types of companies, lack of capital and financial resources. The gap is that KDH Design has mainly operated in Taiwan. It is very much likely, that the way the company is operating in Taiwan cannot be simply copied and transported to other markets. This thesis is one of the efforts to explore entries into new markets. (KDH Design 2022).

5 Methodology

In this chapter research strategy, data collection and analysis methods used in this research are explained. Also, at the end of this chapter, credibility, and validity of research and results are explored.

5.1 Research strategy

This research is qualitative. Kananen (2009; 2017) has used Strauss & Corbin (1990; 1998) as a source in differentiating qualitative and quantitative research. Qualitative research means that outputs are to be explored without using statistical methods or quantitative measures (Kananen 2009, 18; 2017, 35). Qualitative research aims at describing phenomenon, understanding, and interpreting it (Kananen 2009, 18; 2017, 32-34).

Kananen (2017) has used Trockim and Donelly (2008) as a source categorizing justification for using qualitative research. Qualitative research is relevant when:

- There is lack of information, theories, and research from the phenomenon
- There is need for in depth understanding from the phenomenon
- New theories and hypothesis are created
- Mixed methods research strategy is used
- Description from the phenomenon is needed. (Kananen 2017, 33).

When the research problem for this thesis and above listed categories is considered, conclusion is that all five categories are fit for using qualitative research for this specific thesis.

Firstly, there is no information nor research for KDH Design to enter Finnish Defence Industry Markets. There is material, information and even research from market entry strategies and Finnish Defence Industry Markets. However, KDH Design, with its´ specific features, entering such markets has not been explored.

Secondly, entering new markets is a strategic decision for companies. There is need for in-depth information before such a decision. Currently, there is no such information. Thirdly, this research aims at creating hypothesis (recommendation) for KDH Design to enter new markets.

Fourthly, researcher aims at using different methods for collecting data and analysing phenomenon. Lastly, we go back to the research problem, and for the need from the Commissioner to receive description from the phenomenon.

Creswell (2018, 181-182) has identified typical features for qualitative research as follows:

- Research takes place in its´ real environment and natural setting. Researchers often collect data in the field at the site where participants experience the issues or problem under study. Face-to-face interaction is particularly important.

- Researcher is a key instrument and collects data through examining documents, observing behaviour, and interviewing participants.

- Collected data consists multiple forms of data, such as interviews, observations, and documents. Data is gathered from multiple sources and are open-ended forms of data. Collected data is then organized into categories or themes that cut across all the data sources.

- Data analysis is inductive and deductive. Patterns, categories, and themes are built from the "bottom up," by organizing the data inductively into increasingly more abstract units of information. This inductive process involves researchers working back and forth between the themes and the database until they establish a comprehensive set of themes. After that data is analysed deductively to see if more evidence or additional information is needed to support each theme

- Participants' meanings and views are important. During entire qualitative research process, researchers keep their focus on learning the meaning that the participants hold about the problem, issue, or phenomenon. Participants´ meanings further suggest multiple perspectives on a topic and diverse views.

- Emergent research process. The research design and plan may (and is allowed to) change, shift or be modified during the process. This is due to deeper learning and understanding the study or phenomenon.

- Researchers’ reflections. Since researcher is a key instrument, it is natural that researchers background has an influence and may shape the direction of the study.

- Aim of research is comprehensive and holistic understanding from phenomenon to be studied. Researchers try to develop a complex picture of the problem or issues under study. This involves reporting multiple perspectives, identifying the many factors involved in a situation, and sketching the larger picture that emerges. Researchers are bound not by tight cause-and-effect relationships among factors, but by identifying the complex interaction of factors in any situation.

Strauss & Corbin (1998) are also pointing that in qualitative research the aim is holistic and comprehensive approach to the study of phenomena. (Strauss & Corbin 1998, 158).

According to Flick (1998) qualitative research enables in-depth understanding from the phenomenon and gives opportunity for in-depth description and explanation of the phenomena. (Flick 1998, 4-7).

Qualitative research explores sole case or phenomenon. On the other hand, quantitative research explores cases or phenomenon. For the same reason qualitative research cannot be generalized because it is case specific. Also, meanings, the way people experience and see the real world, are important for qualitative research. Direct contact between researcher and subject is typical for qualitative research. (Kananen 2017, 36).

Research strategy is case study. Case study is a detailed exploration of a particular case or cases within a real-world context. Data collection is conducted using multiple methods. The aim of a case study is in-depth understanding of a phenomenon. (Vilkka 2015, 154).

5.2 Data collection methods

Data collection is divided in two parts. The first part was conducted as a summarizing literature review based on existing data from entry into markets, Finnish Defence Industry Markets, and the Commissioner. Existing and available data from entry into markets, Finnish Defence Industry Markets and KDH Design was collected and explored. This data from existing information seeks answers to the question “what do we know now?” and widens researcher´s understanding on the phenomenon (Kananen 2017, 69). This first part is also necessary preparatory face for empirical data collection. Without understanding “where are we now” it is problematic to start for example interviews. In qualitative research data (as result of data collection) steers and fuels further data collection (Kananen 2017, 71; Kiviniemi 2018, 79). Therefore, this first part of data collection facing is important. In practical terms, data was collected from documents available in websites and libraries.

The second part is interviews. In this part, handpicked and selected interviewees were interviewed using different technical means, online or telephone interviews depending on suitability.

In qualitative research, since phenomenon is not known in advance, research sequences are challenging to predict (Kananen 2017, 52-53). Therefore, it is very much likely that these two data collection parts are complementing each other throughout data collection sequence.

Another way facing data collection is dividing data on existing one and specially collected one. Existing data is called secondary data and specially collected one is called primary one. Secondary data or existing data means documents which can be in many forms, such as books, statistics, memorandums, emails, websites, videos and so forth. Primary data is data specially collected for the thesis and using to seek answers and solutions to solve existing research problem. (Kananen 2017, 83).

For primary data collection there are different collection methods. In this research, researcher decided to use collection methods described by Kananen (2017, 83-115). Kananen´s publication is widely used “handbook” for non-experienced researchers in universities of applied sciences using qualitative research strategy.

Primary data collection is divided in three collection methods. The first one is observation. Observation is especially effective way for data collection when phenomenon is hardly known. For example, it would be difficult to start interviewing people if there is no information or understanding on phenomenon. Like in any methods, there are also limitations for using observation as a data collection method. To simplify, phenomenon which is to be researched must be explorable using observation. (Kananen 2017, 84). The Researcher has a professional background nearly thirty years in Finnish Defence Forces. During that time there are observation experiences from Finnish Defence Industry Markets that are used as data collection method for this research.

Another data collection method is interviews, which is also the most used data collection method in qualitative research. Interviews can be categorized in three different ones. If, there is need for specific data, this can be collected using interview where researcher asks specific questions from researched. This type of interview is also called structured one and is not qualitative research data collection method. (Kananen 2017, 88). Therefore, this type of data collection method is delineated from this research.

Two other types of interviews are called in depth and thematic interviews. In depth interview is also called an open interview. This type of interview is used when phenomenon is unfamiliar, there is not enough information (yet) for thematizing interviews or there is interest in giving leverage for interviewee. Thematic interview is based on themes which are formulated from literature review and secondary data. Themes are generalist in nature and could be also called subjects for discussion. (Kananen 2017, 88-92). For this research, the assumption was that there are or will be enough data from phenomenon before starting main interviews and therefore main use of data collection method for primary data is thematic interviews.

Kananen (2017) is exploring in detail technical aspects for thematic interviews (Kananen 2017, 89-115). The Researcher of this thesis has explored these aspects as a guidance for interviews and was following them accordingly when conducting interviews.

The third data collection method is enquiry. This data collection method is mainly used in quantitative research. (Kananen 2017, 83). Since this research is qualitative, this method is not used.

In qualitative research amount of data is not as relevant compared to quantitative research. In qualitative research, amount of data cannot be calculated or prognosed before data collection. Quality and amount of data will be evaluated simultaneously with data collection. Since interviews are the most used data collection method in qualitative research, it is important to select informants accordingly. The quality of informants is more important than their numbers. In other words, the quality of data is more important than amount. Therefore, special attention will be in selecting informants. This is also a challenge since data quality is dependent on informants. Informants will be selected depending on their knowledge which supports research problem solving. (Kananen 2017, 125-129).

Interviewees were selected and handpicked from Finnish Defence Forces and Finnish Defence Industry representatives. Overall, there were six interviewees. In the beginning there were supposed to be more interviewees from defence industry. After the first interview it became obvious that there is not enough information on KDH Design´s aims and interests and researcher of this thesis did not have leverage nor mandate to continue discussions with defence industry representatives on behalf of the KDH Design. Finnish Defence Forces is the primary customer for domestic defence industry. Therefore, primary customer representatives are ideal target group for interviews exploring answer to the second research question; *are there market potential for the products and/or technology KDH Design Possess*. Interviewees were selected representing potential end users: Special Forces, and Army research and development experts, as well as Finnish Defence Forces research and development experts. KDH Design products, at this point, are most suitable for special forces and army purposes. That is why, air force and navy were delineated from the scope of interviews.

For the first and second research questions, *what are possible strategies for a foreign company to enter the markets suitable for this context* and *what are recommendations for a way forward for KDH Design*, Finnish Ministry of Defence and Finnish Defence Industry representative were selected and interviewed. Ministry of Defence is the authority for strategic and political guidance for defence industry. Therefore, it is vitally important to explore whether, to start with, there is willingness to welcome, new and foreign company outside European Union, to enter domestic defence industry markets.

Finnish Defence Industry representative selection was challenging. Basic assumption was that new rivals are not welcomed. With this assumption potential rivalries were delineated. Selected representative was from a company with whom was supposed to be a potential co-operative partner. In addition, representative from Association of Finnish Defence and Aerospace Industries (AFDA) was interviewed. AFDA is an interest group for its defence industry members, and with this in mind could be considered as hesitant against new competitors for its members. However, AFDA also promotes synergies and business opportunities for its members. Therefore, AFDA´s views were worthwhile exploring.

Interviews were made by using telephone calls with four interviewees and online calls, such as Microsoft teams with two interviewees. Before each interview interviewees were called by telephone by the Author in order to agree time of the interview. All selected interviewees agreed to be interviewed and three interviews were conducted with then same call. Open thematic questions were used focusing to research questions. Each interview started with brief introduction on the research aim, questions, and commissioner. The interview questions and their order were the same as the research questions. Interviews lasted between 37 to 62 minutes. Language used in interviews was Finnish. Although, language for this thesis is English, it was decided to use each other’s native language in interviews. By using native language interviews were smoother and possible nuances were captured. In table 2 are Informant´s characteristics. All except one has military background with experience in research and development, procurement and with defence industry.

Informant	Gen der	Education (Using European Qualifications Framework, EQF)	Position	Industry/Military	Years of experience in defence industry or defence forces
1	M	EQF 8	Senior Officer	Military	33 years
2	M	EQF 8	Director, Retired Senior Officer	Industry	12 years
3	F	EQF 7	Senior Management	Industry	16 years
4	M	EQF 8	Senior Officer	Military	24 years
5	M	EQF 8	Senior Officer	Military	22 years
6	M	EQF 8	Retired Senior Officer	Military	39 years

Table 2. Informant´s characteristics.

Thematic interviews were recorded and transcribed. Transcription was not made detailed word to word -way. Special attention was to themes and substance in answers. Written data was explored, and points of interest were marked. These points of interest were thematically organized. Thematization was following three research questions. After this, relevant information was marked, formally written, and reported as part of this thesis. This process, which could also be called filtering, lead answers to each research questions. Translation from Finnish to English was done before reporting. In this way only relevant data for the thesis needed to translate. There are quotations from interviews in the text. This was done to support objectivity and enliven the text.

5.3 Data analysis methods

Collected data was analysed using suitable analysis methods (Kananen 2017, 83). Data collection and analysis were synchronized in a way that collected data was analysed before next collection cycle. There were two reasons for this. Firstly, analysed data was used for adding overall analysis of the research problem. Secondly, analysed data stimulated, in some cases, new questions to be answered. (Kananen 2017, 131-133). This cycle is presented in the following figure.

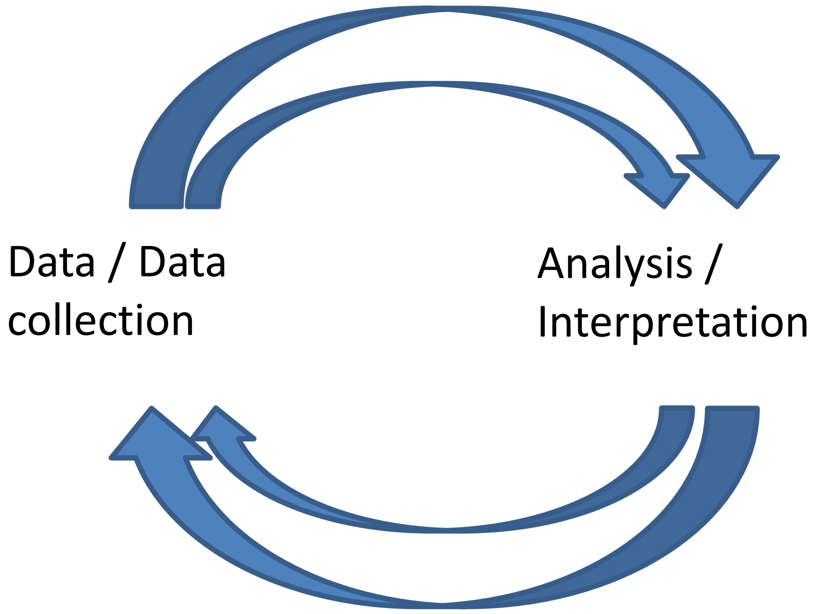

Figure 10. Data collection and analysis are synchronized and are conducted simultaneously (Kananen 2017, 132).

Although, data and analysis methods are presented in chronological order, in practice data collection and its´ analysis happens hand in hand. This is due to a fact that it is challenging or sometimes impossible to know in advance how much data needs to be collected to have it adequate amount for solving the research problem. (Kananen 2017, 88).

Data analysis methods are categorized in three classifications (or filtering). First one is theory-based method. Second one is data-based method and third one is combination of both. (Kananen 2017, 143; Eskola 2018a, 212). Categorization is presented in the following figure.

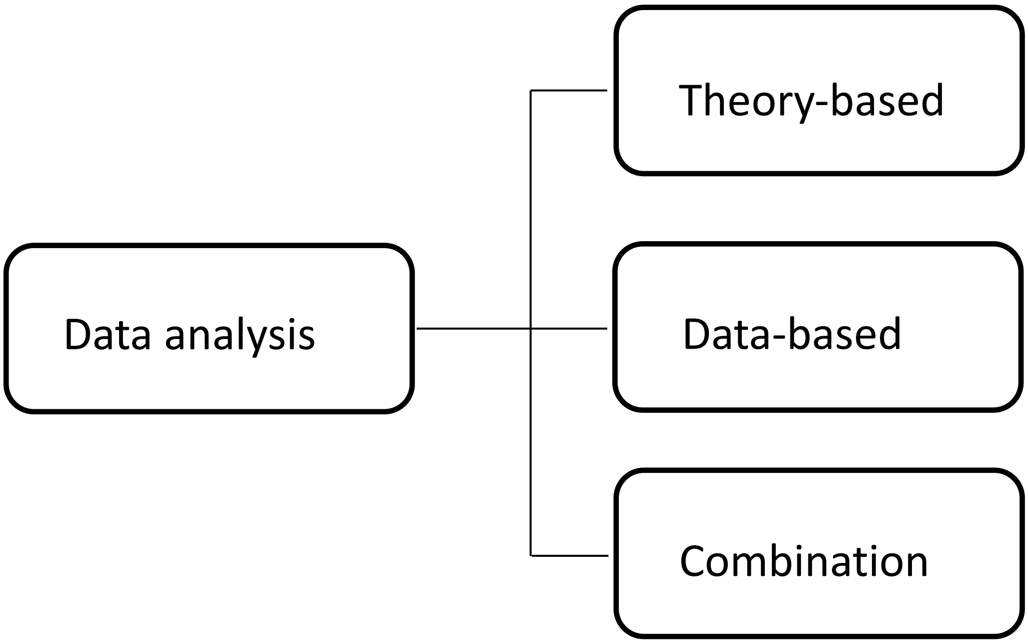

Figure 11. Three data analysis methods (Kananen 2017, 143).

Theory-based method needs a theory, against which data is reflected. This method also makes it possible to evaluate that theory. (Kananen 2017, 143). Theory-based method is also called Deductive analysis (Tuomi & Sarajärvi 2018, 95-99). In this research, there is no theory to be evaluated and therefore this method is not used.

Data-based method is used by filtering data based on findings (Kananen 2017, 141-142). This data analysis is also called Inductive analysis. Inductive analysis is used, besides filtering data based on findings, but also when there is limited data on phenomenon or subject. In Inductive analysis starting point for researcher are individual findings from which step by step “bigger picture” is created. (Eskola & Suoranta 1998, 83). In this thesis there is some data on phenomenon and therefore this data analysis method is not used in this research.

Combination of both above mentioned methods still needs a theory to be evaluated (Kananen 2017, 143). Link between theory and analysis exists but is weaker in theory-based method (Eskola 2018a, 213). This analysis method is also called Abductive analysis (Tuomi & Sarajärvi 2018, 99). This data analysis method is used in this research.

5.4 Credibility and validity

Credibility and validity of research and results are vital, but also challenging in qualitative research (Kananen 2017, 175). There is no unequivocal guidance for qualitative research credibility (Tuomi & Sarajärvi 2006, 135). Kananen (2017, 176) lists credibility criteria as follows:

- Respondent validation
- Triangulation
- Documentation
- Internal validity
- Saturation
- Criterion validity.

Respondent validation means that data and interpretation is given to informant for one's verification. This process may be conducted once research results are finalized or during an interview. (Kananen 2017, 177).

Triangulation in qualitative research means using multiple data source, evaluation if this data supports itself and increases evidence for results. In general, multiple data sources are welcomed in research. (Kananen 2017, 177-178).

Documentation needs to be adequate throughout research process. Researcher is forced to make selections during research process. Such selections and steps with rationale and justification must be documented. With this documentation the research is transparent, and credibility may be evaluated afterwards. (Kananen 2017, 178; Kiviniemi 2018a, 84-86).

Internal validity is a credibility criterion where conclusion from data is consistent regardless from researcher (Kananen 2017, 179). One could say that this credibility criterion is also quite evident in every research.

Saturation is mostly used in quantitative research but is also usable credibility criterion in qualitative research. Data is collected from diverse sources till results recur. (Kananen 2017, 179).

Criterion validity means that in previous research there are similar outputs and results. Usually, this credibility criterion is embedded in every research since in theoretical part such literature review exists, supposing there is previous research from the similar phenomena. (Kananen 2017, 179).

6 Results and recommendations

In this chapter results and considerations for three research questions with quotations from interviews are introduced. Results and recommendations for the first and third research questions are presented in a following sub chapter. This is because of the clear linkage with these two questions. The order in market entry strategies is the same as in chapter two. The next sub chapter focuses on the second research question.

6.1 Results on Market Entries with recommendations

There are variety of market entry strategies. Learning and understanding such strategies with differences, caveats, and benefits, are essential for a company to consider entering new markets. For a small company finding and choosing a most suitable strategy improves expectations to succeed. It is essential for a small company to find the best market entry strategy to enter a target market, since business failures may jeopardize the future of the company. Every entry mode has its advantages and disadvantages. (Hollensen 2014, 320-321). Therefore, KDH Design capability and available resources, besides aims and goals, needs to be carefully considered.

Results for the first research question "what are possible strategies to a foreign company to enter the markets suitable for this context" from the interviews were unclear.

> *"It is difficult to say…I do not know the company, its goals nor ambitions and available resources. It would be wrong to suggest suitable strategies with such limited information." (Informant 2).*

Informants felt uncomfortable answering the first interview question and considering market entry strategies to the KDH Design. Informants would have needed more detailed information on aims, goals, and ambitions to enter Finnish Defence Industry Markets. With this information possible strategies could be better considered. In addition, If, KDH Design already has certain entry strategies which the company prefers or not, this information would have helped informants to narrow the list of possible entry strategies. KDH Design´s available resources and investment capabilities to enter new markets also interested informants. Such information would have also helped informants to narrow the list of possible entry strategies and to give possible recommendations.

Direct Exporting

Direct Exporting is commonly used entry strategy when a company has its own production capacity. Finnish Defence Forces, as many others, are procuring most of its Commercial Off-The-Shelf (COTS) products directly from the manufacturers (Wikipedia 2022). COTS products are not just low-tech products, like ammunitions, but could also be high tech ones, such as laser guided missiles or communication devices. However, requisite is that product is ready to be used without or with limited modifications within armed forces. Direct exporting is also suitable option in Defence Industry Markets since there are very few customers, usually only one, in the target markets. Therefore, there is no need for establishing or organising distribution networks, because nature of the business is more like business to business (B2B). On the other hand, product(s) needs to be promoted and sold to the customer which means direct contacting. This could mean needing a local agent or consultant for establishing contacts and opportunities to promote products. In addition, Taipei Representative Office in Finland could also assist supporting KDH Design’s business promotion. In any case, the customer needs to be convinced that the product is meeting all necessary requirements and is ready to be used without or with minor adjustments.

In KDH Design case, direct exporting may not be the optimum market entry strategy. If Augmented Reality Military Helmets, as the one sold in Taiwanese Armed Forces, are considered, there is, most likely, the accessories that are interesting for Finnish Defence Forces. FY-Composites is a Finnish company specialised for helmets and protective armour. The company has delivered helmets for Finnish Defence Forces more than twenty years and is frequently conducting research and development with Finnish Defence Forces. Most likely it would be challenging to entry into markets with military helmet and it´s accessories.

> *“It is politically challenging for Finnish Government to buy something from Taiwan. I can´t remember any defence industrial deals with Taiwanese companies. Most likely it would be waste of time for both parties trying to sell something from that origin to our defence forces.” (Informant 3).*

Finland as well as many other European Union countries are hesitant with their contacts with Taiwan. China is an important business partner for European Union member states and monitors carefully other countries contacts (and contracts) with Taiwan. This sensitiveness applies especially in security policy issues and trade with defence and dual use material. Direct exporting would not be recommendable market entry strategy for KDH Design.

Licensing

Licensing could be an option for KDH Design to enter Finnish Defence Industry Markets. Foreign policy issues could be avoided, and investments would be minimal. In licensing there are at least two entry barriers to be tackled. Firstly, to find a company, licensee, which is willing and capable for producing products in demand. It would be beneficial if such company already has contacts and/or business relations with Finnish Defence Forces. The bigger player the company is in local defence industry markets, the better. To find such a company there is a need for short listing potential companies and arranging direct contacts for negotiations. Secondly, there is a risk that technological innovations could be revealed, and advantage in technology lost. Patents for important technological innovations needs to be in place. In Europe, there is European Patent Convention (EPC) with nearly forty signatories. By using EPC mechanism, a company will have a patent with only one patent application. However, after receiving a patent a company needs to decide to which signatory countries patent should be valid. Validation needs to be conducted in each country separately and there is also a fee for each country. In addition, legally binding and detailed contracts needs to be finalized with a company and a licensee. Licensing could be an option for KDH Design to enter Finnish Defence Industry Markets. It is not known if KDH Design has considered licensing as an option in its previous market entries (Chen 2022). That information could have helped further considerations for licensing as an option. Therefore, above mention recommendation is rather generic.

Franchising

Franchising is another low investment market entry strategy. Although, a brand protection and promotion, is important and needs resources. To be successful entry strategy there is a need for a strong brand recognition in the markets. In addition, franchising is not commonly used in defence industry markets. KDH Design nor its products are not well known in Finnish Defence Industry Markets (Informant 3). Jarvish motorcycle helmets might be familiar with some bikers, but that is not enough. Defence procurement for most products is not continuous. Assumption is that KDH Design products are purchased in some hundreds and rarely. It could be particularly challenging to find franchisors for Finnish Defence Industry Markets for KDH Design products. Therefore, franchising as market entry strategy cannot be recommended.

Partnering

Partnering in general, could be an optional market entry strategy. Suitable partner which has Finnish Defence Industry Markets, and preferably EU as well, presence and contacts with the customer, would be ideal for KDH Design´s market entry. Previously mentioned FY-Composites could be one potential partner candidate. FY-Composites is known company in the markets with longstanding co-operation with Finnish Defence Forces. The company is focusing on helmets and protective gear. Accessories for helmets are manufactured and delivered elsewhere. The company itself is not a competitor for KDH Design. On the contrary, by joining efforts, both companies could bring added value for themselves and the customer. Patria is another potential partner candidate. The company is the biggest one in Finnish Defence Industry Markets and well-known company from Finland in EU Defence Industry Markets. Patria is known for its armoured mechanized vehicles. Crews' situational awareness is an issue with all armoured troops. Patria is constantly seeking an edge in the global markets as a small company. KDH Design´s innovations could be one of those company is looking for. Patria has also similar business model option than KDH Design (Patria 2022).

KDH Design has shift its focus on B2B, invested in product development and reduced marketing budget. The company also recognises its limited capital flexibility in entering new markets. With a partner, with financial resources, market entries are possible. Therefore, searching suitable partners from new markets is in KDH Design´s focus. (Chen 2022).

In partnering there are many different methods and variations. This means that if there is interest in both parties for partnering, there needs to be intensive negotiations before partnership is established. For the clarity, there has not been any contacts with FY-Composites or Patria when conducting this research. As the Researcher, I have not given a mandate to contact any companies on behalf of KDH Design. And for such contacts there should be more information from aims, interests, and offers from KDH Design. Partnering is one of the most serious market entry strategy recommendations for KDH Design in this research.

Joint venture

Joint venture as a market entry strategy is close to partnering. If, two or more partners would establish a separate independent company there should be a reason for that. In this case it is difficult to find such reasons. Markets in generally, but especially in defence industry markets, recognisable brand is an asset. Building a brand needs time and effort. By establishing a new company brand benefit is lost. Sharing burden, risks, and profits could be another reason for a joint company (Hollensen 2014, 366-367). All these could be arranged also with contracts with partners. The most likely reason establishing a joint venture company could be for a certain project or target markets. KDH Design is aiming, if possible, to the Finnish Defence Industry Markets, as a first step. Finnish markets are not final target markets or a project. Therefore, it is difficult to see any benefits for a new company establishment. Even though if the purpose would be fade out KDH Design´s Taiwanese origin. Joint venture would be unnecessary action for market entry strategy, and it would mean extra effort and costs.

Buying a Company

Buying a Company is considered as on straightforward way to enter new markets. Buying an existing company KDH Design would be automatically in Finnish Defence Industry Markets as well as European Common Markets. One option is to buy a Finnish company operating in the same field. Lumineq could be one possibility (Lumineq 2022). It has similar technology and product innovations. However, there is no indication in open sources on head wear products and military innovations such as KDH Design has. If, this is the case, then Lumineq would not be competing in the same market segment and could deliver added value and cash flow to KDH Design. Lumineq is not a new company meaning that it is relatively well known in the markets, the company understands how markets are functioning, is connected to customers, and potential customers. Lumineq is part of Beneq Group which has its presence also in Taiwan. Beneq Group participated this autumn in OPTO Taiwan 2022 Fairs (Beneq 2022). Most likely Lumineq as part of Beneq Group is not that sensitive for collaborating with Taiwanese companies and customers.

FY Composites as a military helmet manufacture for Finnish Defence Forces could also be potential company to be bought. Integration with helmets and accessories should be easy with existing knowhow from both companies. KDH Design could bring its innovations directly into markets.

Overall, there are many benefits using buying a company as a market entry strategy, even though this strategy is considered one of the costliest one. To find a suitable company to be bought, which could be for sale is another story. Suitable companies are to be explored, considerations and calculations carefully made and potential companies contacted. The caveat for KDH Design is lack of capital funds (Chen 2022). This would mean that possible investment needed to be financed with credit. In addition, merging two companies is an effort and not always a success story. Although, there are many unanswered questions, buying a company is recommended market entry strategy for KDH Design to consider further.

Piggybacking

Piggybacking is considered as one of the low-cost market entry strategies. It is used by a new or small companies that does not have enough financial resources to enter the target markets or there is not enough data about its target market audience. Therefore, piggybacking type of collaboration with a local company is one market entry option. There are several advantages for this type of market entry. Easy access to target markets is usually the main one. Piggybacking is also a learning experience for both parties. Their learn from each other how to operate in their respective target markets. Besides getting access to target markets there is also easier access to the target audience. (Terpstra & Yu 1990, 52-53). This is especially beneficial when operating in defence industry markets. Cost reduction and sales increase are also potential advantages in piggybacking. Target audience is reached without additional market campaigning and new markets are promoting sales.

There are also several challenges in piggybacking. The most important is how to find a company operating in the same business. The company in the target markets should have complimentary products with high reputation (Terpstra & Yu 1990, 56). It should also have fair share in the target markets and willingness to establish complimentary arrangement with KDH Design. Timing is important. Companies that are eager to increase their business activities are the one to look for. Currently demand in Finnish and European Defence Industry Markets are high for years to come. Therefore, window of opportunity for right timing exists. Brand reputation is key factor and credibility loss in defence industry markets are difficult to patch up. On another hand positive joint-reputation are benefiting both parties. In addition, Piggybacking as a low-cost market entry strategy could be affordable for KDH Design. With these conclusions piggybacking as an entry strategy is among three recommended ones based on this research for KDH Design to consider.

Turnkey project

Turnkey project is considered as a market entry strategy, although it could be argued that it is also a type of project management. In this case, this type of entry strategy could be in question if KDH Design would decide to invest in production plant to Finland. In such case KDH Design would hire a contractor to build a plant and make everything based on contract with KDH Design. Investing to such an installation would mean that there are substantial and long-term markets for KDH Design´s products and innovations. It would also mean that business environment is considered favourable in Finland by KDH Design. However, Turnkey project type of market entry strategy is not according to business model KDH Design favours (KDH Design 2022). KDH Design’s business model is more based on transfer of technology with partners. Turnkey project is also a high investment market entry strategy, and such investment may be exceeding KDH Design´s available financial resources (Chen 2022). Therefore, it is not likely market entry strategy for KDH Design and not recommended to consider.

Greenfield investment

Greenfield investment has similarities with Turnkey project. The difference is that a company is establishing a subsidiary to another country and building everything itself from beginning. This is also considered as a direct foreign investment. As a market entry type this is costly, needs great deal of involvement and is time consuming. It would also mean that KDH Design has made a strategic decision to establish a long-term presence to Finland for several reasons. With the same reasons than in Turnkey project, this market entry strategy is not according to business model KDH Design favours. KDH Design's business model is more based on transfer of technology with partners (KDH Design 2022). Therefore, it is not likely market entry strategy for KDH Design and not recommended to consider.

Recommended or not recommended entry strategies are presented in table 3. Licensing is among recommended ones, although further considerations by KDH Design are still needed before it could be actually recommended.

Entry Strategy	**Recommended**	**Not recommended**
Direct Exporting		X
Licensing	x	
Franchising		X
Partnering	X	
Joint Venture		X
Buying a Company	X	
Piggybacking	X	
Turnkey Project		X
Greenfield Investment		X

Table 3. Recommended or not recommended entry strategies.

Other Market Entry Strategies

Outsourcing in this thesis is not listed as a primary market entry strategy. It not likely the only entry strategy to be used. It also raises immediate question: what is outsourced? Today companies are focusing on their core businesses and everything else could be outsourced if it is beneficial. I would assume that KDH Design would not be interested in outsourcing its display manufacturing. High quality displays are the core for its business and failure in quality would jeopardize KDH design´s business prospects in the future. There would also be risk for loosing technological knowhow to competitors. Product promotion, marketing, distribution, and resales could be outsourced. But then again, KDH Design should then consider more like partnering. With this consideration it is farfetched that KDH Design would explore outsourcing as a market entry strategy and therefore it is not recommended.

Countertrade is another not listed primary market entry strategy in this thesis. Countertrade in practise means that if I am buying from you then you are buying something from me. Especially in former days countertrade in major defence material sales was commonly used method. Today in European Union Common Markets, including defence industry markets, this method is not allowed. However, if the other country is not a member of European Union, this method is possible, even though not that usual as before. One of the latest examples is when Finland will be procuring combat aircrafts (F-35) from United States. There are arrangements between defence industry companies from these two countries that resemble countertrade. In KDH Design´s market entry case it is difficult to see how this market entry strategy could be implemented as in the example both countries are favouring their domestic companies. To avoid artificial considerations this entry strategy is not considered nor recommended.

For KDH Design one additional market entry strategy that is not listed in chapter two is so called **technical innovation** strategy. This strategy is based on perceived and demonstrable superior product or technology. With such superiority market entry could be implemented in many ways explored in this chapter. The key thing is that markets are eager to welcome such products or technology. KDH Design´s experts are to consider superiority of company´s technology and end user products compared to what is currently on the market. But then again there is most likely need for a partner.

6.2 Results and recommendations for way forward

Results for the third research question "what are recommendations for way forward to KDH Design" from the interviews were unclear.

"It´s up to the company to decide what to do." (Informant 5).

Informants felt uncomfortable answering the third interview question and considering recommendations for way forward to the KDH Design. Informants would have needed more detailed information on aims, goals, and ambitions to enter Finnish Defence Industry Markets. With this information possible recommendations for way forward could be better considered. In addition, If, KDH Design already has certain idea´s for way forward which the company prefers or not, this information would have helped informants to narrow the list of possible way forward recommendations. KDH Design´s available resources and investment capabilities to achieve their goals also interested informants. Such information would have also helped informants to narrow the list of recommendations for way forward.

There is a need for careful considerations and calculations when comparing different market entry strategies. Thorough analysis on various aspects in the markets is necessary. (Agarwal & Ramaswami 1992, 1). In figure 12, there presented an example from factors to be considered. This is just an example, and these factors are explored in above listed market entry strategies.

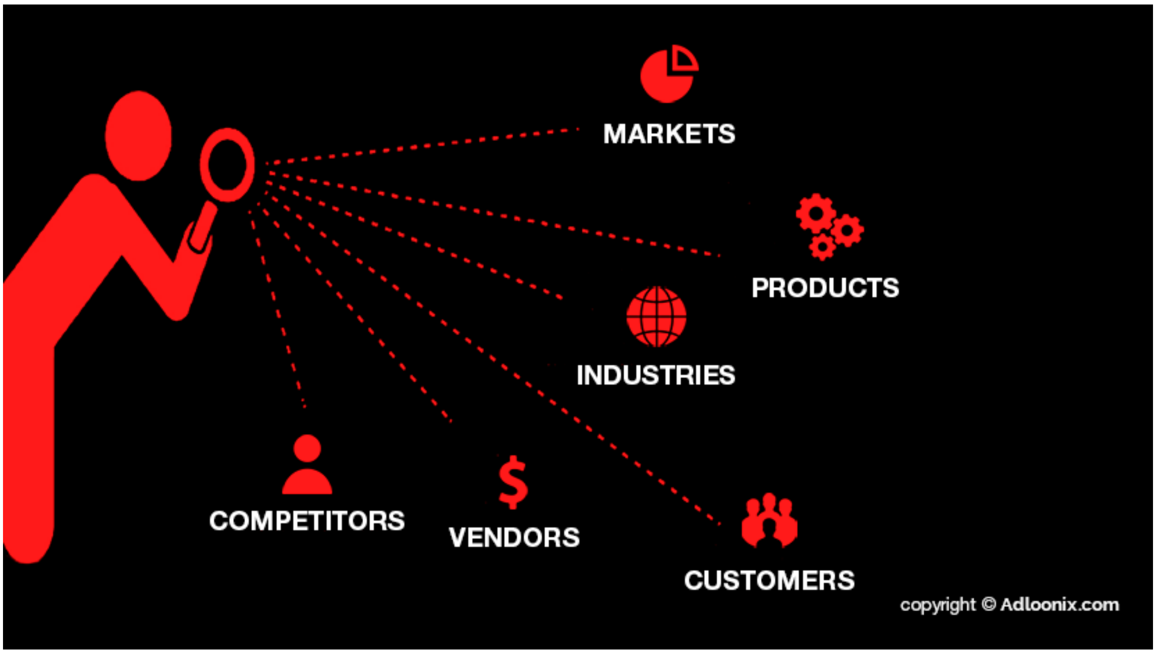

Figure 12. Set clear goals (Adloonix 2020).

The ways to enter to markets needs to be analysed. The KDH Design business model is based on partnering. To find a partner or buy a partner is another question. It is advisable to find and use a local consultant to assist establishing contacts. There is at least one potential competitor in the Finnish Defence Markets. Lumineq corporation is offering similar technology with similar solutions. Lumineq has sixty-five personnel with approximately nine-billion-euro net sales annually from which most received from exports. (AFDA 2022).

Recognizability in the markets is also vital. KDH Design, nor its products are not well known in Finland. There are very few fairs for defence industry in Finland. Therefore, it is better to consider to be present in European fairs. In Finland, due to small markets, direct contacting to potential customer is normality. (Informant 3). Once the company in known, possibility to receive invitations to research and development projects, request for information or contacts from potential customer increases. (Salonen 2022).

Importance of networking with customers, possible partners and other players cannot be underestimated. In a small country and limited markets, personal relationships do matter. It is relatively easy to identify key persons and establish contacts with them. (Informant 3).

KDH Design has its references in place. A particularly important reference for a company is to have a national defence force as a customer. In practice, this could be considered as a prerequisite for further dialogue with potential customer. In many cases, defence attaches are supporting national companies to enter markets by establishing connections and seeking information for procurement opportunities (Salonen 2022). KDH Design´s contract from last year with Taiwan Armed Forces to deliver Augmented Reality Military Helmets to the Special Forces with potential contract value 250 billion USD in next five years is a valuable reference (KDH Design 2022). In figure 13 is the Military Helmet for Taiwan Special Forces.

Figure 13. Military helmet for Taiwan Special Forces (KDH Design 2022).

KDH Design business model is not unique. Patria, the biggest defence industry company in Finland, has a similar business model for its armoured modular vehicles. When a country chooses Patria products, production and needed technology is transferred to that country. (Patria 2022). Such similarity is an advantage in Finland since Patria business model is well known in Finland. Patria is also one potential partner for KDH Design. KDH Design´s business model is illustrated in figure 14.

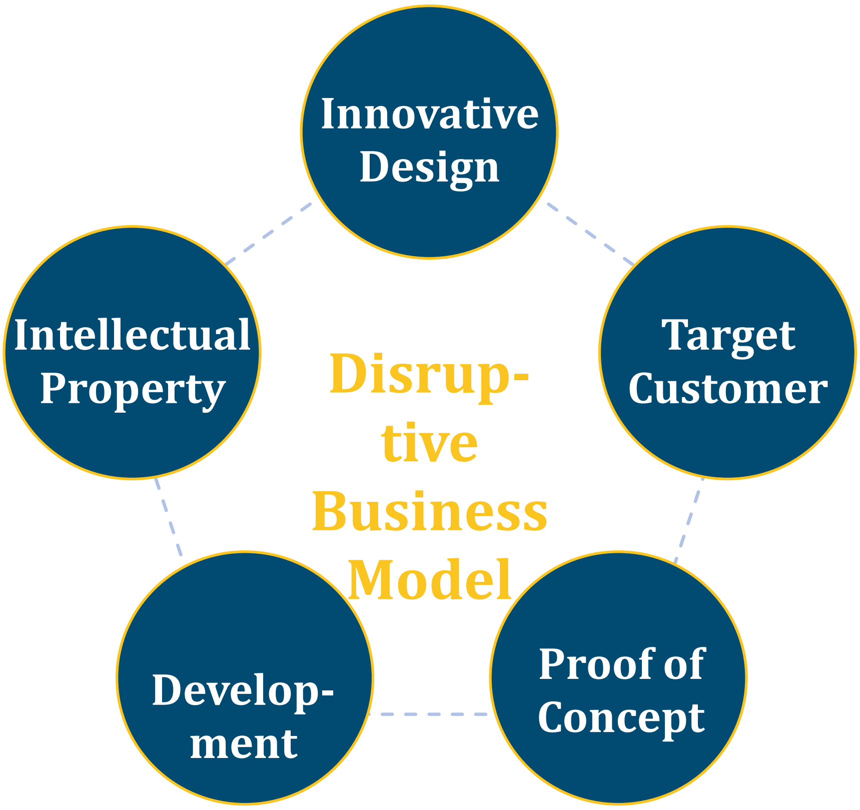

Figure 14. KDH Design Business model. (KDH Design 2022).

This business model may be easily adopted in different countries with different customers. It is also easy to understand and implement. In addition, it is a low-cost business model.

The priority to defence procurement is national defence and its needs. This priority is understood and accepted among defence industry. (Kuivaniemi 2022). Therefore, it is necessary to have a presence, in one way or the other, to understand what is needed and when, by the national defence forces. To start with, Association of Finnish Defence and Aerospace (AFDA) is a valuable organization for networking and exploring information.

Association of Finnish Defence and Aerospace is an organization that is advocating on behalf of the companies operating within defence, aerospace, and security. Association has around 130 member companies. Annual turnover for companies associated to AFDA is approximately 1,8 billion euro and direct employment is around 7 900 persons. AFDA has a close cooperation with the Finnish Ministry of Defence, the Finnish Defence Forces and other security authorities in Finland. Association is nearly 30 years old; it was founded in 1994 and is part of the bigger advocacy group named the Technology Industries of Finland. As the Finnish Defence Industry Markets are relatively small, companies are looking for customers and partners from abroad. The export volume varies annually from 40 to 60 %. Assisting member companies in their networking and export activities is amongst AFDA's priorities. Association is affiliated in Europe both in EU and NATO. (AFDA 2022).

Association of Finnish Defence and Aerospace membership is open only for companies operating in Finland. Membership fee is linked to company´s annual revenue and is between 2500 – 7000 euro annually and could be considered reasonable. Membership application form consists detailed information from the applicant such as listing products, annual revenue, number of personnel, contributions to Finland´s comprehensive security and so forth. In AFDA`s informative webpage there is also useful list of association members with introduction and contact details. However, most information in webpage is in Finnish, but member information is mostly in English. (AFDA 2022).

European Union is promoting free flow of goods and services. European Commission is promoting the same principle in Defence and Security Industry Markets. There are some studies that are exploring ways and means in navigating European Defence and Security Industry Markets, such as Brandt (2021). It is advisable to a company considering market entry for these markets to make full use of such studies. Progressively this will open new opportunities to entry into markets and to operate in the markets. However, to maximize opportunities, companies need to be present and have a presence in European Union Common Markets.

Defence material and its procurement is normally a long-lasting process. Production and procurement are based on needs. Production starts after procurement process is closed. Defence industry is not keeping material available in stock. There are surplus material markets for defence material. However, in current and near future availability is exceptionally low due to Russian-Ukraine war and armament in Europe. Surplus material in massive quantities in Europe is only available in defence forces. This material is usually not ready to be used by another defence force. Modifications and adjustments are needed before material interoperability is achieved. (Kuivaniemi 2022).

Finnish Defence Forces is a trusted, loyal, and predictable customer. Defence Forces are advocating for strategic partnerships. Such partnership is also advantage for companies. With strategic partnership possibilities for mutual research and development program and government financing increases. However, process achieving such a status may be a long lasting. Decision to enter needs to be strategic one. Most likely there are no quick profits available. KDH Design needs to be ready for capital investments for some years.

As Finland becomes a full member for North Atlantic Treaty Organization (NATO) in near future, international co-operation in Defence Industry Markets increases. The membership creates new opportunities as co-operation among members is natural and favoured. NATO is also an organization with standards. NATO member countries are committed to develop and produce defence material that meets NATO standards. Defence material with NATO standards is a selling point around a globe.

Barriers to enter to the Finnish Defence Industry Markets are universal. Protectionism is universal feature for national defence industry markets. National companies are favoured, and procurement processes are politically steered. Although, national legislation is evolving towards openness and transparency due to European Commission Directives, progress is slow. On another hand, once a company is entered in the European Union Common Markets, operations there are positively controlled, and opportunities increased for years to come.

6.3 Results on Market potential

Results for the second research question “are there market potential for the products and/or technology KDH Design possess” from the interviews were clear.

> *“There is definitely need for this kind of technology. Situational awareness is a key in modern battlefield.” (Informant 4).*

All the informants shared the view that there is market potential for KDH Design´s technological innovations and products in Finnish and European Defence Industry Markets. In addition, there is continuous and increasing demand in European Defence Industry Markets for years to come. Therefore, also the timing for the market entry is optimal for KDH Design.

A company considering entering new markets, especially, to a foreign country, needs to seek information how markets are functioning. Market analysis is one approach to better understand markets. There are two ways to analyse markets, do it yourself or to buy it from specialized company or consultant. The depth of such analysis comprises the cost of it. If prospects are positive, next step is to be considered. There are, based on superficial and tentative interview, interest in the markets for technology and products KDH Design possess.

Finnish and especially European Defence Market expenditure will increase in near future. Russian invasion in Ukraine has launched an armament race that Europe has not experienced since Cold War era. For companies operating in Defence Industry Markets business opportunities will increase.

This increase in demand has become public during this autumn even though many countries were preparing for war in advance. The biggest newspaper in Finland published news in first September on steep curve in demand for Finnish Defence Industry Markets. (Kukkonen 2022).

Two days later Finland´s publicly owned radio and television broadcasting company interviewed European Defence Agency Secretary-General Šedivý who visited Finland. Secretary-General stressed that European Union Defence Industry must increase its production capacity. European Union countries are supporting Ukraine also with defence material, and at the same time are increasing their own defence budgets and defence material procurement. Secretary-General gave compliments to Finnish Defence Industry capabilities especially in land force material and equipment. In addition, he sees lot of potential in dual-use material production for Finland. (Husu 2022). KDH Design products are falling into this category.

Less than three weeks later Finnish Defence Minister expressed his disappointment to Finnish Defence Industry´s slow respond to demand. As also mentioned earlier in this thesis, Minister pointed out that ready to be used type of material is rarely in stock waiting to be bought. Defence equipment are typically type of material that will be produced after order. Therefore, delivery takes time. (Vesala 2022).

A week later Finnish Defence Industry “replied” to Defence Minister´s remarks by stating that production capacity is in full use, and it is anticipated to stay that way for years. However, this does not affect to our national defence needs, those needs will be secured. (Rajala 2022).

A week from that Finnish Ministry of Defence and Finnish Defence Forces published parliamentary approval for 1,7 billion euros increase in this year’s Defence Budget. Money will be spent for defence material procurement during years 2023-2027. In generic terms this means that customer has besides demand, but also financial resources to buy merchandise. Material list for procurement consist also equipment for individual soldier. (Halonen 2022). Situational awareness innovations that KDH Design produces are equipment for individual soldiers. A week later the major newspaper in Finland published an article on how war increases demand in armament and at the same time European Defence Industry is not capable of increasing their capacity satisfying sudden demand. The key problem is that European Defence Industry has adjusted its production and supply capacity according to peace time demand. The war in Ukraine continues with no ending in sight and armament demand continues to increase. Quoted arms manufacturers (in Europe) are insisting that governments and European Union should act in coordinating defence material procurement. Situation where individual countries are promoting only their own interests needs to be avoided. Existing challenges in defence material demand are to be solved at the European level. Defence Industry representatives are complaining that they are asked to deliver more, faster, and immediately. One existing challenge is shortage in skilled labour. European Union should act to fix this challenge. (Huhtanen 2022).

At the very same time NATO's Defence Ministers in their meeting in Brussels decided to promote especially European Defence Industry production and member states armament supply. This is necessary to support member states defence capabilities and Ukraine in a long run. (Valtioneuvosto 2022).

These findings from major Finnish news agencies in limited time are witnessing a drastic change in European Defence Industry Markets. There is huge and increasing demand in the markets. European Defence Industry companies have difficulties to integrate their production and supply in changing environment. In past two decades European Defence Industry had to adapt to demising defence budgets. In past two years, COVID 19 has interrupted production and supply chains. Russian invasion to Ukraine increased these difficulties. And at the same time there is huge increase in demand.

There is an increasing demand in European Defence Markets and that will remain for years. This demand is covering also dual-use products. Supply shortage usually accelerates innovations. Timing for KDH Design to enter European Defence Industry Markets are favourable.

“This is what we need.” (Informant 1).

Figure 15. Military helmet (KDH Design 2022).

Situational awareness and capability to operate in all kinds of weather conditions, day, or night, is a standard requirement for special forces. So far Finnish Special Forces have not offered similar smart helmet that KDH Design is delivering to Taiwan Special Forces. (Informant 1). In figure 15 is prototype on military helmet with accessories.

"That kind of solution is what we are waiting for!" (Informant 6).

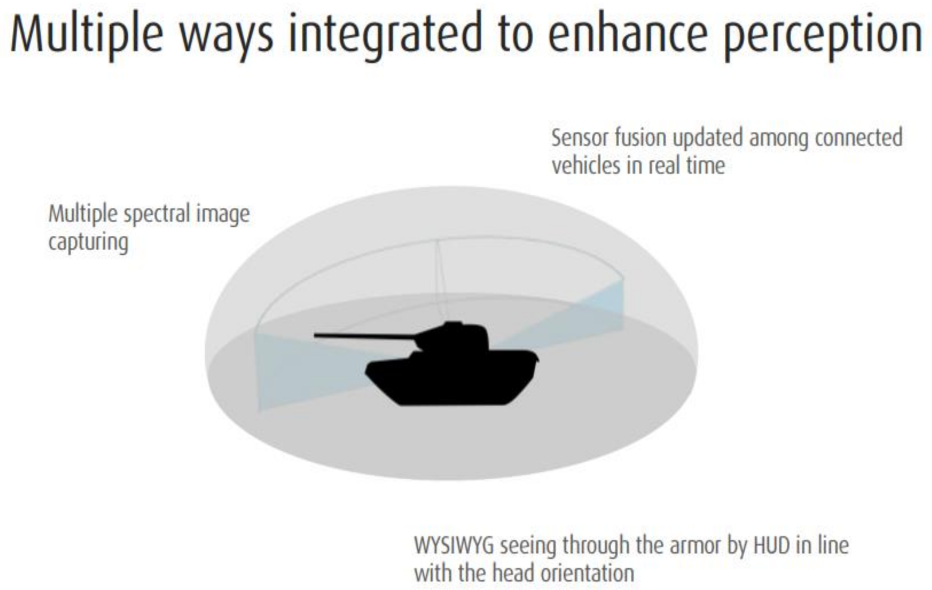

Figure 16. Situational awareness concept for armoured vehicles (KDH Design 2022).

Dilemma with armoured troops is how to protect the crew and give them maximum situational awareness. (Informant 6). In KDH Design´s innovation Head Up Display (HUD) system in crews head gear is integrated in sensors outside the vehicle. With Augmented Reality HUD the crew can have a visual 360 degrees that could be compared like driving a convertible. In figure 16 is illustrated situational awareness concept for armoured vehicles.

Figure 17. Sensor Pod at the top of the battle tank (KDH Design 2022).

This modification can be integrated in any vehicle or vessel, such as fire truck, bulldozer, or tug-boat. (KDH Design 2022). In figure 17 is the Sensor Pod at battle tank turret, the Pod enables enhanced situational awareness. Focus for KDH Design´s products and innovations are not only narrowed to military purposes. Fire departments, rescue services, construction works, and mining are some potential end users for these innovations. It is also good to remember that everything started from civilian use – motorcycle helmets.

7 Discussion

Qualitative research approach with a case study as a research strategy was appropriate option for this research. Data collection and analysis was following qualitative and case study research guidance. Structure of the thesis was also quite standard for this type of research.

Chapter one is an introductory part of the thesis and a topic with aim, objectives, and research questions. The idea is that reader understands why this thesis is written, has a broad understanding how research is conducted and what to expect from it. Most sources used for this chapter were in Finnish. During translation period correct terminology for abstracts and definitions were checked. However, it is possible that there are mistakes in scientific language. In such cases responsibility lays with yours truly, not because of the source.

In chapter two various entry into markets approaches were explored and introduced. This chapter also contributes answering the first research question, *what are possible strategies for a foreign company to enter the markets suitable for this context*. List of market entry approaches was not meant to be exhaustive. There are numerous books, studies, articles, and blogs exploring means and ways to entry into markets. Some of them are quite philosophical in nature and some others detailed for specific markets with specific products. However, there were not material or data for precisely matching for this specific case. Overall, there were limited material for market entry strategies for defence industry. List of market entry strategies is generic which also helps readers to differentiate them. In real life, it is probable that different strategies will be used simultaneously, in sequences or even in mixed way. Source material used was mainly in English and there were no translation issues.

Chapter three focused on Finnish Defence Industry Markets. Most used sources were in Finnish and there might be minor translation issues, but clarity and findings are not affected. This chapter presents overview on these specific markets and serves its purpose in this thesis. In addition, this chapter also contributes answering the second research question, *are there market potential for the products and/or technology KDH Design possess*.

Chapter four introduces the Commissioner – KDH Design. There are several pictures from KDH Design´s products. This is justified because, besides *a picture is worth a thousand words*, but also to introduce to a reader variety of KDH Design products which are not widely known. Exploring data and writing this chapter was one of the challenging parts of this thesis. From open sources there were limited data from the company in English and company itself was introduced quite briefly. If, we compare the way Finnish Defence Industry companies are introduced in their websites, there are differences in openness and transparency. Based on my own experiences, if there is vagueness for example in company´s ownerships and financial figures, there is a risk to be ignored in the markets. The Commissioner shared their marketing and briefing material with researcher for this thesis, which was helpful. However, more information for KDH Design´s aims and interests entering Finnish Defence Industry Markets would have been useful as a guidance for this research. In addition, previously used market entry strategies with lessons learned would have helped focusing research aspects. In this respect, KDH Design introduction is quite generic. This genericity is also affecting conclusions, which are, in some respects, generic ones as well.

In chapter five research strategy and methodology for data collection and analysis are introduced. In addition, empirical part, thematic interviews, and way those were conducted and reported are also introduced. Interviews were conducted in Finnish as both parties were native ones. Later transcriptions were translated in English. During translation there is a risk of losing or missing nuances and interpretations which could affect analysis and conclusions. The decision to conduct interviews in Finnish was done with the aware of previously mentioned risks. The risk was considered low as interviews were focused on three research questions which are easily translated into Finnish. In addition, it was anticipated that interviewees would be more willing to engage with the interview situation by using native language. And lastly, it would have been quite artificial for two native speakers, acquainted with each other, to use non-native language when interacting. During translation it was carefully checked that the message and inputs from interviewees were correct in order not to affect analysis and conclusions. This chapter promotes openness and transparency for research and allows reader to conclude credibility and validity of this research. This chapter also contributes justification for conclusions.

Chapter six introduces results and recommendations for this research. This is the essence for the thesis and for the Commissioner. Chapter answers especially research questions two and three and with these answers also to the research problem. With these conclusions and recommendations, the Commissioner may decide their way forward. As mentioned before, specificity of conclusions and recommendations vary. Some are more generic than others. This means that more research is needed if specificity is not at the adequate level for the Commissioner.

The intension was that interviews with selected experts would deepen the understanding from the markets and to evaluate suitable market entry strategies. However, interviewees were avoiding clear answers for this specific subject. Although anonymity and Chatham House rule were in use answers are not contributing identifying market entry strategies.

Feedback from interviewees compliments conclusions with this researcher, there were not enough information from the Commissioner´s intents to enter the markets. In addition, in support answering to the first research question, it was intended to explore examples for successful entries into similar markets with similar company in comparable situation. And if, there would already exist non-Finnish companies into markets, their successful entry ways would also be explored. Literature review and neither interview was not supportive for this contribution. Therefore, answers to the first research question remained generic.

Because of this genericity, linkage on KDH Design´s previous attempts and efforts to enter new markets is to be explored. Such information is important for future recommendations and decisions. If, KDH Design has a record of attempts and efforts to enter new markets, that knowledge could be utilized for future endeavours. That information was not available for this research.

The second research question was straightforward. Feedback from interviews were clear.

KDH Design´s technology and products raised an interest among interviewees, especially military ones. Therefore, answer to the second research question was positive and achieved. However, since question was generic so did the answer. There is need for exploring possible partners, contacting customer for demand and timing and for research and development for innovations.

The third research question was not well complimented in interviews.

The challenge was the same as in first research question, there were not enough information, to start with, from the Commissioner´s intents to enter the markets and therefore also the follow up – recommendations what to do – could not be concretized. Conclusions and recommendations are mainly based on literature review and researchers own experiences.

In this chapter, chapter seven, other chapters are characterised. Credibility and validity are also explored. In addition, recommendations for further research are suggested.

Credibility and validity were considered at the beginning of this research, and it was also considered throughout the process. This was a recommendable decision. Respondent validation was used during and at the end of every interview. This way it was guaranteed that data is continuously solid. Triangulation was also used. However, there were availability challenges to collect multiple data for answering all the research questions due to specificity of the subject.

Documentation throughout research process was kept at prominent level. Internal validity was conducted with the help from fellow student researcher. Saturation was the most challenging from all named credibility criteria´s. The reason was the same than in triangulation, there were limited number of sources. Criterion validity was also used. Credibility and validity considerations in data collection, ensured that data is solid for analysis. This was repeated during data analysis and finally with conclusions. Although there were doubts on triangulation and saturation due to limitation of sources in the beginning, this did not affect on conclusions.

To sum up, this thesis was able to answer its research questions and research problem was solved. However, there are need for further research. Thorough market analysis is needed before KDH Design can decide whether to enter Finnish Defence Industry Markets. In a same market research or separately, information and timing for Defence Forces development programs is needed. As concluded before, timing is a crucial element for entering into markets. Procurement processes are long and time consuming, if a company and products are not considered in it, window of opportunity is lost for a long time. In addition, since KDH Design´s business model is favouring partners, such partners are to be explored.

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