Improving Market Analysis in Biogas and Biodiesel for BioGTS Ltd

Development and Testing an Analytical Tool in Latvia and Lithuania

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Description
The growing need to deploy renewable energy sources over fossil fuels is stimulated by social concerns about the ingravescent environmental state. In addition, there are government policies necessitating manufacturers and whole regions, for example the EU, to achieve certain renewable energy targets by a defined time. Therefore, companies offering sustainable bioenergy solutions are welcome to expand their business internationally to have an impact on unprecedented environmental problems. However, prior to making a new market entry decision, a company has to analyse the potential country and the target market to define their favorability. The objectives of this study were (a) to create a market analysis tool for the assignor company to utilize in the future when considering new market entries, and (b) to apply the tool in order to explore the situation of the Latvian and Lithuanian biogas and biodiesel markets.

The theoretical base for the qualitative research includes the key concepts of market analysis and exporting market entry modes. Secondary data was analysed to examine the biogas and biodiesel markets of Latvia and Lithuania. Primary data was collected through semi-structured interviews, and in total, seven informants participated. The group of interviewees was of a versatile nature. The respondents represented different yet relative to the research backgrounds. The interview process ended once data saturation was reached.

The results indicated the extent of applicability of the market analysis tool. Suggestions for further improvement of the tool were provided. An examination of the two markets was performed by utilizing the market analysis tool. Based on the findings, a proposal for the assignor company concerning market entry decisions into Latvia and Lithuania was made.

Keywords/tags (subjects)
Market analysis, market entry, biogas, biodiesel, bioenergy, renewable energy sources, Latvia, Lithuania

Miscellaneous
Appendices 3-8 are confidential until 8.5.2027 (55 pages).
## Contents

1 **Introduction** .................................................................................................................. 3  
   1.1 Context and motivation for the research ................................................................. 3  
   1.2 Research questions and approach ......................................................................... 8  
   1.3 Structure of the thesis and research process ......................................................... 9  

2 **Literature review** .......................................................................................................... 10  
   2.1 Market analysis and assessment ............................................................................ 10  
   2.2 Assessment criteria and characteristics affecting them ........................................ 11  
   2.3 PESTLE analysis as a tool for a market comprehension ....................................... 16  
   2.4 Market entry modes ............................................................................................... 20  
   2.5 Synthesis of theoretical framework for this study ................................................. 25  

3 **Methodology** ................................................................................................................ 27  
   3.1 Qualitative research approach .............................................................................. 27  
   3.2 Primary data collection through semi-structured in-depth interviews .............. 30  
   3.3 Primary data analysis and report .......................................................................... 34  
   3.4 Research ethics and results verification ................................................................. 35  

4 **Research results** .......................................................................................................... 36  

5 **Conclusion and discussion** .......................................................................................... 36  

References .......................................................................................................................... 37  

Appendices ......................................................................................................................... 46
Figures

Figure 1 Research process of this study ................................................................. 9
Figure 2 General and specific assessment criteria .............................................. 13
Figure 3 Example of preliminary screening criteria .......................................... 14
Figure 4 Example of fine-grained screening criteria .......................................... 14
Figure 5 Example of initial level screening criteria .......................................... 15
Figure 6 Summary of PESTLE analysis factors ................................................. 19
Figure 7 Export modes ...................................................................................... 22
Figure 8 Series of actions implemented in the study .......................................... 26

Tables

Table 1 Potential export-related problems ......................................................... 21
Table 2 Summary of indirect and direct export modes’ characteristics .......... 25

A list of tables and figures of this study is partly confidential until 8.5.2027.
1 Introduction

1.1 Context and motivation for the research

The concerns about the ingravescent state of the world’s environment and global resource depletion are increasing annually (von Hirschhauseri, & Kemfer 2016, 371). In order to contribute to the global environmental state, there is, among other things, a strong need to decrease the amount of fossil fuels consumed, slow down the process of climate change, improve the security of fuel, and generate a wider variety of bio-products. Renewable energy is an integral part of the global solution and an imperative alternative to limited energy resources that is accelerating its growth world-wide due to numerous environmental considerations (EREC 2010, 3). The growing investment, capacity and production of renewable energy has been one of the ways to tackle these unprecedented problems (Global Status Report 2016, 19). Utilizing alternative eco-friendly energy sources not only has a positive impact on the environment in general, but it also promotes clean living which will have long-term beneficial consequences.

It is vital to forestall, anticipate and employ the solutions created not only to see the positive impact now, but more importantly, to ensure not to compromise the capability of future generations to satisfy their needs. By pro-acting and promoting renewable energy and related technologies, it is possible to ensure the energy supply protection, tackle climate change deterioration, and develop sustainable economy that is oriented towards the future.

Despite the fact that people have been using renewable energies, such as water, solar, geothermal, wood and wind, for centuries, only a small portion of their potential has been exploited so far. Nonetheless, modern well-established technologies provide secure, clean, consistent and cost-efficient alternatives to cover our energy requirements in a sustainable way, to balance ecological systems and to protect our social and economic livelihoods. (EREC 2010, 3-4.)

In order to control and decrease fossil fuel emissions as well as to constrain climate change impairment, it is essential and useful to apply clean technologies. The latter could be also motivated by the changes in policies and prices which, in turn, affect
the scope of innovations. For example, as proposed by Popp, the higher the energy prices, the greater the level of energy-saving innovations. (Acemoglu, Akcigit, Hanley, & Kerr 2016, 52-53.) Nowadays, biotechnology is one of the innovative and emerging technologies that is applied to many essential aspects of everyday life, including environmental protection (Fulekar 2010, 221). The biologically-engineered solutions have been found an efficient application to environmental issues and have become an alternative to numerous processes in, for example, waste management, manufacturing, pollution control and land remediation (ibid., 1).

The biomass energy consumption has been slowly yet steadily increasing at around two percent annually since 2010 (Global Status Report 2016, 43), and by the end of 2015 bio-power generation increased by around 35 terawatt-hours (TWh) compared to the previous year, and equaled to 464TWh. Among the most common biomass resources are agriculture and forestry residue, manure, as well as waste of various sorts, for example from paper mills. The latter are afterwards used to produce electricity, heat, steam and liquid or gaseous biofuels. (EREC 2010, 40; Fulekar 2010, 62.) Biomass raw materials are widely available, have the capacity to penetrate all energy sectors (power, heating, transport), and produce cost-efficient fuels compared to fossil fuels. Besides, biomass energy creates a valuable use of agricultural and forestry residues and other wastes, since the cost of their disposal and pollution is eliminated. (EREC 2010, 43.)

The aforementioned example of biomass energy production indicates that modern environmental technology is needed to create value from waste, reduce emissions, tackle pollution and contamination, as well as to slow down environmental deterioration in general. In addition to that, governmental support and political frameworks are valuable factors that provide a great incentive to increase energy efficiency and create overall direction towards operational sustainability, for example, regulations imposed in the EU.

In 2009 the European Union introduced the Renewable Energy Sources (RES) Directive that sets a binding national target of 20 percent renewable energy consumption and greenhouse gas emissions’ reduction by 2020. This legislative framework not only promotes the development of renewable energy, but also aims to cover the supply of main technological components inside and outside the EU by European
companies. (European Commission 2017a, 2.) According to the latest progress report, in the final energy consumption RES share for the whole EU reached 16 percent in 2014 (European Commission 2017b, 4). The EU’s energy transition projects have found a lot of interest from private investors as this is considered as the principal and strategic sector in which to invest (European Commission 2017a, 4). The RES targets of 2020 are to be reached soon, hence, a revision of the directive and new goals needed to be set. In October 2014, a further framework was presented by the European Council introducing 27 percent binding target of renewable energy consumption by 2030 (ibid., 2). This way, the EU regulations indicate the importance of renewable energy development, production and consumption, combining the effort to fight against climate change and to induce feasible economic growth.

In the EU, Latvia is the third-highest consumer of renewable energy sources with almost two fifth (37.6%) of its gross final energy consumption originating from renewables in 2015. While Latvia still continues to reach its national target of 40 percent for renewable energy shares of final energy consumption, eleven EU Member States have already achieved their 2020 RES targets. (Latvia the third in renewable energy in the EU 2017; Renewable energy targets already met by 11 EU Members 2017.) Among those countries is Latvia’s neighboring country Lithuania that reached its target of 23 percent yet in 2014 (Renewable energy sources 2017). The aforementioned countries have been indicating a steady renewable energy development, although they are still Liquefied Natural Gas (LNG) export dependent from the third countries (Langer 2017).

The growing need to deploy renewable energy sources over fossil fuels is stimulated not only by social concerns about the ingravescent environmental state, but also by the government policies necessitating manufacturers and whole regions, for example the EU, to achieve certain renewable energy targets by defined time. Therefore, companies offering sustainable bioenergy solutions need to expand their business internationally to have an impact on the unprecedented environmental problems and contribute to the overall reduction of supply dependency from other countries.
Assignor company

BioGTS Ltd is a Central Finland-based company, founded in 2011 in Jyväskylä, that provides scalable biorefinery solutions for organic biodegradable waste treatment. The process is based on patented forerunner technologies that enable converting organic waste into valuable resources. This results in the production of sustainable biogas and biodiesel. As an output, it can be utilized in a variety of ways, for example, as a source of electricity, vehicle fuels, and thermal energy. (BioGTS n.d.)

The company’s turnover was 5,3 million euros in 2015, while net profit amounted to 0,1 million euros (BioGTS Oy Taloustiedot, Yritystiedot [BioGTS Oy Financial information, Company information] n.d.). It was announced by Kauppalehti as the fastest growing company in Central and Eastern Finland with 970 per cent growth over three years (Pietarila 2016). BioGTS operates in the sector that has a huge growth potential all over the world. The company’s patented solutions of dry waste treatment attract new customers and generate new business-to-business sales, in particular in areas with water scarcity. Legislation also supports BioGTS’s business: in many countries the final disposal of organic waste into a landfill is prohibited. In Finland, this ban came into force at the beginning of 2016. (Hietanen 2016.)

One of the company’s competitive advantages is the fact that their technology utilizes the so-called dry process production of biogas and biodiesel. Its benefits include high production capacity, high energy output per reactor volume, and low operating costs. Besides, the reactor’s design is scalable and modular, which makes it perfect for export deliveries. The products provided by BioGTS offer cost-efficiency and short payback time. (BioGTS Oy toteuttanut mittavan 3,8 miljoonan euron kasvurahoituskierroksen [BioGTS Oy carried out a noteworthy growth financing round of EUR 3.8 million] 2015.)

Motivation for the research

Prior making an entry decision, a company has to analyse the potential country and market to define the favorability of an internationalization decision. When talking about sustainable renewable energy solutions, it is implied that business-to-business (B2B) commerce transactions between organizations take place. While conducting a
preliminary research, the author of this study retrieved plenty of business-to-consumer (B2C) market analysis tools. However, it was revealed that no B2B market analysis frameworks or tools are found. It cannot be concluded that no B2B market analysis tools exist. Nevertheless, it might be assumed that such information is considered as private knowledge of individual companies. Hence, it is not transparent and ways to conduct a market research differ from company to company depending on the industry and other variables.

The latter motivated the author of this study to develop a business-to-business market analysis tool for the assignor company’s further use when considering new market entries. Since the assignor company was interested in the market research of two potential countries to enter, i.e. Latvia and Lithuania, it was decided to apply the developed market analysis tool on the aforementioned countries and, hence, produce the market analysis while testing the tool at the same time.

Besides, the author has a personal motivation to develop a study in this specific field. First of all, it is fueled by the preliminary knowledge of the biogas and biodiesel industry gained while conducting a project for the same assignor company concerning a market research in the US. Secondly, the author’s skill of Russian language can be utilized in this study to get more data concerning the market situation of two former constituent republics of the Soviet Union – Latvia and Lithuania. Thirdly, the author is interested in developing a career path in the renewable energy field.

On the broader scale, in the context of nowadays’ importance of renewable energy sources deployment, this research investigates the biogas and biodiesel markets of Latvia and Lithuania. It provides an informative description of the aforementioned markets’ potential and feasibility for contemporary bio-refinery solutions.

With the groundbreaking technologies and respectable reputation, the assignor company, BioGTS Ltd, is aiming to expand to Latvian and Lithuanian biogas and biodiesel markets to contribute to cleaner and healthier environment in those countries by exploring potential customers that will benefit from the company’s solution. The choice of the pursued markers can be also explained by the fact that both Latvia and Lithuania are fast-developing countries with booming market opportunities. They are fueled by the governmental subsidies provided for the advancement of sustainable
deployment. Moreover, a relatively near location of those countries to Finland is beneficial in terms of cost-efficiency of logistics operations. Besides, since the cultural differences between those countries are comparatively inconsiderable, it can be assumed that business negotiations might be less challenging.

1.2 Research questions and approach

To describe briefly, the objectives of the study include:

1. To create a market analysis tool for the assignor company to utilize in the future when considering new market entries, and
2. To apply it in this study to explore the situation of Latvian and Lithuanian biogas and biodiesel markets.

The main research question is:

What is the biogas and biodiesel market situation in Latvia and Lithuania?

The supplementary questions helping to reach the research objectives include:

1. What would be the recommended way for the assignor company to enter Latvian and Lithuanian biogas and biodiesel markets?
2. How could the market analysis tool be developed further for the coming needs of the assignor company across markets?

To answer the research questions and reach the objectives of this research presented above, a qualitative approach is employed as it provides with versatile data and in-depth descriptions. Both secondary and primary data are collected and analysed to enrich the research results. The former is employed to explore the background to the research problem and investigate the biogas and biodiesel markets of Latvia and Lithuania. The latter is required to gather professional opinions concerning the market analysis tool developed in this study to make suggestions for its further development and improvement. Semi-structured in-depth interviews are used in
this study to collect primary data. The wider justification and description of the research approach applied in this study is described in Methodology chapter.

1.3 Structure of the thesis and research process

The second chapter of this study gives a description of the main concepts involved in the research, such as market analysis, assessment criteria and exporting market entry modes, as well as presents theoretical framework modified with accordance to the objectives of this study. The latter displays a series of steps that ought to be implemented to reach the goals of the research. The third chapter provides an in-depth description and justification of the research approach applied in this study to achieve credible results. Besides, the research ethics are considered in the third chapter. The next chapter presents the results of the study and is the principal part of the research. It is followed by the discussion chapter where implications of the current study are considered, suggestions for further research are proposed and trustworthiness of the study proved.

Figure 1 Research process of this study

The most essential steps of the research process are concisely presented above in Figure 1. First, the author received an assignment proposal from the company which was enhanced by the thesis tutor and complemented by the author’s personal interest. As a result, the research topic and objectives were formulated. Afterwards, the literature review search and revision process were started, hence, theoretical knowledge base development was commenced. Based on the latter, the market analysis tool was created. At the same time, the author established a research approach
applied in this study and developed an interview guide to assist in conducting semi-
structured interviews. The chosen approach is reflected in the Methodology chapter.
Afterwards, primary data collection in the form of interviews was started and was
followed by the collection of relevant secondary data. When the interviews were
transcribed, information gathered was analysed and processed. Once the secondary
data collection was ended, the results of the research were presented and further
implications of the study discussed.

2 Literature review

In this chapter the most relevant theories and frameworks to this study are chosen
and described in the scope of several variables: business-to-business commercial
transactions, cleantech industry, specifically biogas and biodiesel, and exporting mar-
et entry modes.

2.1 Market analysis and assessment

Many small and medium-sized firms are aware of the importance of domestic market
research, however, not all of them realize equal significance of international market
analysis when considering export activities. Major success failure lies in inadequate
comprehension of the target market which is resulted from a deficient preparation
and lack of information. (Czinkota, & Ronkainen 2013, 236, 238.) A managerial deci-
sion to enter a new market without preliminary market analysis exposes an enter-
prise to risks and puts at stake company’s assets and entire operations. Thus, for a
company planning to enter an international market it is crucial to conduct an analysis
of potential export countries in order to exclude markets that have unfavorable con-
ditions for an entry or are inconsistent with company goals. Besides, it allows man-
agement to evaluate company’s opportunities in potential foreign markets, as well as
to establish effective market entry requirements. (Hollensen 2017, 187; Kuada 2008,
63.) This can be achieved through a systematic market selection approach that im-
plies formal data gathering and analysis (Kananen 2011, 27).
A market analysis can be described as separate yet interconnected stages of a researcher’s systematic and objective market investigation leading to a strategic decision-making process (Czinkota, & Ronkainen 2013, 236; Kananen 2011, 29; Kuada 2008, 62).

2.2 Assessment criteria and characteristics affecting them

In order to produce the most meaningful results when conducting a market analysis, the assessment criteria of the latter should be mixed and they should include combined measures. This means that applying one variable, for example, economic development of a certain country that is measured by GDP per capita, will give insignificant results, whereas applying more complex measures that include other variables as well, for example, level of technology, education levels, etc. can provide the researcher with more in-depth analysis. In general, the assessment criteria should follow certain characteristics described below that help a researcher to generate sufficient information. (Albaum, & Duerr 2008, 183; Hollensen 2017, 283.)

**Measurability.** This characteristic evaluates the extent to which the criteria can be quantitatively identified and measured. Some criteria are easier to define in terms of measurability, whereas others, such as cultural aspects, might be more difficult to measure. (Albaum, & Duerr 2008, 184.)

**Accessibility.** The extent to which information can be efficiently obtained and served is assessed by accessibility. Different markets might require different approaches and means to be accessed effectively. This, in turn, may entail more resources. (Albaum, & Duerr 2008, 184; Hollensen 2017, 283.)

**Substantiality/profitability.** This characteristic evaluates the extent to which the target market is large and cost-effective enough. If it does not fall under these characteristics, it is not worth considering. An enterprise should estimate both potential costs and profits that are entailed by serving a specific market. (ibid.)

**Actionability.** The extent to which a company possesses necessary resources in order to implement targeted actions is evaluated by actionability. If, as a result of a market analysis, a specific market falls under the aforementioned characteristics, however,
lacks actionability, no further market engagement can be useful unless appropriate resources are developed. (ibid.)

The assessment criteria required for a market analysis differ from company to company, because every enterprise needs to decide the factors valuable for their industry and product that help a company to make a market entry decision. Other factors impacting the difference in assessment criteria among firms include the level of existing international proficiency, management views, and the corporate mission. (Czinkota, & Ronkainen 2013, 239; Kananen 2011, 27.) Nevertheless, according to Kananen (2011, 28), the screening variables of a market analysis can be divided into two categories: general and specific. Kuada (2008, 65) refers to them as initial level screening variables and in-depth screening variables, while Hollensen (2017, 286) introduces the methods as preliminary screening and fine-grained screening.

Kananen, Kuada and Hollensen describe the same principle – the division of screening variables into two categories. However, as it was already mentioned, they refer to it differently. In order to simplify the understanding, the author of the thesis, first, provides descriptions of each principle and then justifies the similarities between them by presenting a brief summary.

**General and specific assessment criteria**

*General* assessment criteria include the factors that always need to be met regardless of the company, market or product/service. This type of assessment criteria helps to determine whether a further detailed analysis is required, as if general criteria are not met, there is no need for deeper market investigation. The approach assists to detect barriers independent of specific market, for example, border control barriers. (Kananen 2011, 28.)

*Specific* assessment criteria refer to company-related or product-related variables (ibid., 28). As seen in Figure 2, that presents examples of both general and specific characteristics, the lower the degree of measurability, accessibility and actionability, the more specific are criteria. Nonetheless, they indicate a high degree of company-specific or product/service-specific characteristics.
Preliminary and fine-grained screening

According to Hollensen (2017, 286-288), *preliminary screening* includes macro-oriented criteria, for example, restrictions in the export of goods from one country to another, political stability, and economic growth (see Figure 3). In contrast to Kananen (2011, 28), Hollensen (2017, 287) states that preliminary criteria vary depending on the market, product or service. As an outcome of the preliminary screening, the number of potential export markets is reduced (ibid., 287).

*Fine-grained screening* is focused on market attractiveness criteria, such as infrastructure, market prohibitive conditions, buying power of customers, etc. (see Figure 4). It also takes into account company’s competitive competences (Hollensen 2017, 290).
Figure 3 Example of preliminary screening criteria (Hollensen 2017, 287-288)

<table>
<thead>
<tr>
<th>Market / country attractiveness</th>
<th>Competitive strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Market size (total and segments)</td>
<td>• Market share</td>
</tr>
<tr>
<td>• Market growth (total and segments)</td>
<td>• Marketing ability and capacity (county-specific know-how)</td>
</tr>
<tr>
<td>• Buying power of customers</td>
<td>• Product's fit to market demands</td>
</tr>
<tr>
<td>• Market seasons and fluctuations</td>
<td>• Price</td>
</tr>
<tr>
<td>• Average industry margin</td>
<td>• Contribution margin</td>
</tr>
<tr>
<td>• Competitive conditions (concentration, intensity, entry barriers, etc.)</td>
<td>• Image</td>
</tr>
<tr>
<td>• Market prohibitive conditions (tariff/non-tariff barriers, import restrictions, etc.)</td>
<td>• Technology position</td>
</tr>
<tr>
<td>• Government regulations (price controls, local content, compensatory exports, etc.)</td>
<td>• Product quality</td>
</tr>
<tr>
<td>• Infrastructure</td>
<td>• Market support</td>
</tr>
<tr>
<td>• Psychic distance (from home base to foreign market)</td>
<td>• Quality of distributors and service</td>
</tr>
<tr>
<td></td>
<td>• Financial resources, access to distribution channels</td>
</tr>
</tbody>
</table>

Figure 4 Example of fine-grained screening criteria (Hollensen 2017, 290)

**Initial level and in-depth screening variables**

Kuada (2008) states that both initial level and in-depth screening variables are to be decided by the management based on the importance of each criterion to the mar-
ket analysis. However, in spite of the choice of variables, each subjective criterion included in the analysis will contribute to an overall market evaluation and cannot be underestimated. (64-65.)

![Diagram of screening criteria]

Figure 5 Example of initial level screening criteria (Kuada 2008, 67)

*Initial level screening* variables are represented in Figure 5. They are divided into seven categories according to certain indicators. Kuada (2008) explains that at the initial level screening some elements are easier to assess than others. For example, legal indicators are considered more difficult to evaluate than macro-economic indicators. (65.) There are plenty of *in-depth screening* variables, for example, under the category of market access fall such criteria as documentation and import regulations, various legal considerations, as well as limitations on trade. The full list of in-depth screening variables is presented in Appendix 1.
Summary

Henceforth in this study, the categories of assessment criteria for a market analysis are referred to as general and specific. To summarize what has been described earlier by Kananen, Kuada and Hollensen, it can be stated that:

a) General (or preliminary, or initial level) assessment criteria are used to introduce and describe the macro-environment of a country or market which helps to determine whether further analysis is needed.

b) General assessment criteria are independent of certain industry, product or service, and can reveal general level barriers, for instance, border control restraints or limitations in the export of goods from one country to another.

c) Specific (or fine-grained, or in-depth) assessment criteria are formulated according to the relevance to the company, industry and/or product and rather describe the micro-environment of a market.

d) Specific assessment criteria are focused on both market attractiveness and company’s competitive competences.

The examples of both general and specific assessment criteria provided earlier help the author to formulate the market analysis tool for the assignor company. The general assessment criteria presented by Kananen (2011), Kuada (2008) and Hollensen (2017) include such variables as political factors, legal indicators, technology, geographic characteristics, social organization, economic growth, etc. These criteria correspond to factors included in PESTLE analysis framework. Hence, in this study PESTLE indicators are used as variables for the general assessment criteria of a market analysis tool.

2.3 PESTLE analysis as a tool for a market comprehension

The world in which enterprises function is volatile, uncertain and dynamic. Hence, it is vital for companies to accurately analyze the external business environment they operate in to recognize and comprehend a wide variety of general factors that impact the organization. Moreover, if a company has operations dealing with interna-
tional markets, it is subjected to physical and social conditions different from the domestic environment. (Capon 2008, 28; Daniels, Radebaugh, & Sullivan 2015, 48, 71.) Such conditions include political regulations, economic forces, cultural factors, technological characteristics, legal practices, and environmental influences. This creates more complex business setting and influences the optimal ways of operating business. (Johnson, Scholes, & Whittington 2005, 64-65.) Besides, these forces affect the management’s strategic decisions and provide managers with the possibility to anticipate threats and opportunities regarding the company’s operations. Thus, for companies it is important to correctly understand the external macro-environment and factors affecting it in order to make adequate conclusions. (Capon 2008, 28, 30-32; Daniels, Radebaugh, & Sullivan 2015, 481.) This can be achieved with the PESTLE framework (Johnson, Scholes, & Whittington 2005, 65).

Many of the separate PESTLE factors are interconnected, for example, technological advancements impinge on living standards and ways of working, which creates a certain degree of complexity in the analysis process. Nevertheless, when performed effectively, PESTLE analysis provides the management with the broad understanding of political, economic, socio-cultural, technological, legal and environmental factors of the macro-environment influencing an organization. (Capon 2008, 30; Johnson et al. 2005, 64-65.)

Political factors. Regardless of the country where a company functions, its operations and possibilities will be contingent on the existing politics and political stability. For example, political controversies, especially those leading to a military confrontation, may interrupt trade and investment. Even though the political environment is extensive, there are key aspects significant for the business setting evaluation and for the development of practical prospects. Among the political factors useful in the analysis are government stability and its role in society, regulatory bodies, such as local government and trade unions, taxation policies, and foreign trade regulations. (Daniels et al. 2015, 63, 134; Johnson et al. 2005, 68.)

Economic factors. The economic environment revolving around businesses and affecting their operations varies from country to country, yet it has some indicating factors that managers focus on when conducting a market analysis. In order to evalu-
ate the potential and functioning of an economy, such aspects as inflation and interest rates, unemployment, disposable income and income distribution, gross national product trends, debt, funding bodies and venture capital are analyzed. These indicators help managers to form a perspective concerning an economic stability, its growth patterns and economic freedom of a certain country. (Daniels et al. 2015, 187-188, 222; Johnson et al. 2005, 68.)

Socio-cultural factors. Demographics as well as cross-cultural matters indeed affect an enterprise’s operations to a certain extent. Hence, such factors as urbanization, corruption, levels of education, language and cultural behavior are considered by management when examining international business processes. (Capon 2008, 48, 51; Johnson et al. 2005, 68.)

Technological factors. Since technology inevitably has an impact on all aspects of business, the assessment of a technological environment has become a natural procedure, especially for companies whose operations are directly linked with the technology field. Therefore, technological advancement of a country can be determined by the government spending on research and industry focus on technological effort, new developments, speed of technology transfer, and rates of obsolescence. (Capon 2008, 53; Johnson et al. 2005, 68.)

Legal factors. Both international and host country’s local laws are an important factor in defining the ways a company can adequately do business abroad. Understanding how agreements, laws, as well as operational and strategic legal issues are developed, interpreted and enforced in a host country safeguards an organization from disputes and trials. Besides, it is risky for an enterprise to operate in an environment where no formal guarantee concerning the legitimacy of contracts, transactions and property rights can be provided. Hence, when analyzing the legal environment, it is vital to examine such primary legal factors as jurisdiction, competition law, intellectual property protection, as well as safety and liability issues. (Daniels et al. 2015, 153-157.)

Environmental factors. It is crucial for organizations, especially whose operations damage the environment, to be aware of the regulations concerning sustainability
and environmental protection. Therefore, management needs to consider such factors as waste disposal issues, energy consumption regulations and environmental protection laws when conducting a market analysis. (Daniels et al. 2015, 456; Johnson et al. 2005, 68.)

The summary of the factors valuable for the purpose of this research in the PESTLE analysis is provided in Figure 6 with amendments made together with the representative from the assignor company. Hence, the figure represents the variables included in the general assessment criteria of a market analysis tool to be developed by the author as an outcome of this study.

![Figure 6 Summary of PESTLE analysis factors](adapted from Johnson et al. 2005, 68)
2.4 Market entry modes

Having conducted a market analysis, an objective picture is gained concerning foreign markets that are favorable for a company to pursue. Hence, the next step is to decide which market entry mode to select in order for an enterprise to successfully enter an international arena. Market entry mode can be described as a strategy to penetrate into a foreign target country that varies by the extent of a company’s engagement, commitment, risk, and control in the target market (Albaum, & Duerr 2008, 270, 276).

Capon (2008, 266) states that there is a wide variety of ways for a company to expand and grow its business internationally. Exporting has become one of the easiest, quickest and most important methods of internationalization, because organizations all over the world strive to provide customers with their services and products outside their domestic market (Keegan, & Green 2017, 267). Besides, export as a market entry mode is often chosen by managers as a first step of a company’s international expansion strategy. Nevertheless, some companies meet the failure when trying to enter a foreign market through exporting which entails the loss of financial resources, managerial time and valuable opportunities. Therefore, managers need to carefully consider exporting as a potential market entry strategy. (Bradley 2005, 225, 237.)

Exporting implies selling products or services to foreign customers from a domestic or third country market. This mode of market entry is characterized by relatively low levels of risk, capital expenditure and commitment compared to other alternatives. (Capon 2008, 248, 267.) According to Bradley (2005), exporting is chosen over other market entry modes in certain conditions. First of all, it is generally chosen by small-sized companies that lack resources for more intensive market entry modes. Secondly, it is preferred when considerable commitment is inexpedient due to possible market-related risks. Thirdly, export is chosen if there is no economic or political enforcement to run the production abroad. (225-226.)

There are benefits for both exporting organization and the target market. According to Bradley (2005), Czinkota (1992) states that the latter receives employment, possi-
bility for vertical integration of organizations, international resources, foreign exchange, and increased standard of living. Moreover, the exporting firm increases its competitive advantage and usage of plant and equipment, as well as improves its financial position and the technology base. Besides, when deciding to export, a company pursues to expand its operations geographically, increase sales while reducing unit costs, and dispose the surplus production. (226.)

Nevertheless, many organizations, even those with high level of experience, might encounter export-related challenges concerning logistics and servicing exports. The most common problems are listed in Table 1.

Table 1 Potential export-related problems (Keegan, & Green 2017, 268)

<table>
<thead>
<tr>
<th>Logistics</th>
<th>Servicing Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arranging transportation</td>
<td>Providing parts availability</td>
</tr>
<tr>
<td>Transport rate determination</td>
<td>Providing repair service</td>
</tr>
<tr>
<td>Handling documentation</td>
<td>Providing technical advice</td>
</tr>
<tr>
<td>Obtaining financial information</td>
<td>Providing warehousing</td>
</tr>
<tr>
<td>Distribution coordination</td>
<td>Sales promotion</td>
</tr>
<tr>
<td>Packaging</td>
<td>Advertising</td>
</tr>
<tr>
<td>Obtaining insurance</td>
<td>Sales effort</td>
</tr>
<tr>
<td>Legal procedures</td>
<td>Marketing information</td>
</tr>
<tr>
<td>Government red tape</td>
<td>Foreign market intelligence</td>
</tr>
<tr>
<td>Product liability</td>
<td>Locating markets</td>
</tr>
<tr>
<td>Licensing</td>
<td>Trade restrictions</td>
</tr>
<tr>
<td>Customs / duty</td>
<td>Competition overseas</td>
</tr>
<tr>
<td>Contract</td>
<td></td>
</tr>
<tr>
<td>Agent / distributor agreements</td>
<td></td>
</tr>
</tbody>
</table>

The aforementioned problems can be mitigated if relationships between an exporting company and foreign customers, agents and distributors are maintained on a proper level. According to Albaum and Duerr (2008), Leonidou et al. (2002) claim that
it is crucial to establish and endorse trust, as well as develop mutual understanding between a firm and an importer. This is achieved when a person with proficient skills is in charge of maintaining relationships, and both direct and indirect ways of communication are practiced. It is said to contribute to a decrease in business uncertainty. (343.)

Exporting as a market entry strategy can be divided into two main modes – indirect and direct export. The main difference between both entry modes lies in the way an organization executes operations with a foreign importer (see Figure 7). The descriptions of both modes are discussed below.

Figure 7 Export modes (adapted from Hollensen 2017, 367)

**Indirect export**

When a company utilizes exporting services of an independent intermediary located in the domestic market or a third country in order to sell its products or services to a foreign importer, it is referred to as an indirect export mode. According to Daniels et al. (2015, 576), an intermediary can be represented by export management company and export buying agent. Moreover, Hollensen (2017, 368) adds that exporting services can also be delivered by broker and trading companies, while Albaum and Duerr (2008, 308) also mention merchants as independent intermediaries in an indirect exporting. The main function of an independent intermediary involves exporting
manufacturing firm’s products to agents in the foreign target market, who, in turns, sell products to the customer (see Figure 7). This process usually occurs without a company’s active engagement in the international sales operations, because the exporter entrusts an intermediary with, for example, terms of sale, distribution and packaging. (Albaum, & Duerr 2008, 308; Daniels et al. 2015, 576; Hollensen 2017, 366.)

Nonetheless, managers should be aware that the latter might entail certain risks for an exporting company. First of all, when a firm uses services of an intermediary organization in indirect exporting, it cannot be secured from inappropriate marketing of a product or service abroad, because it has little or no control over international sales activities. They might be sold through improper channels, with unacceptable promotion, low-quality servicing and inadequate pricing, as well as with inefficient effort to improve company’s international market position. The aforementioned can negatively affect an organization’s reputation. Besides, since an enterprise is not able to create proper connection with the target market, it lacks information capacity concerning the market potential and customer’s feedback. Hence, a company acquires insignificant practical knowledge about the product experience and the key people, such as sales agents and distributors, abroad. (Hollensen 2017, 368, 381.)

Despite of the risks and disadvantages it entails, indirect export mode is an appropriate option for those companies that possess limited amount of resources to commit to international expansion, because language skills and command of exporting is an experienced intermediary’s responsibility. What is more, a company is secured from a currency risk. (Kananen 2011, 47-48.) Besides, it is a suitable exporting mode for firms whose aim is to enter target markets rather progressively (Hollensen 2017, 368). First, they evaluate in practice market’s appropriateness for further business and afterwards, if suitable, management is ready to invest significant resources for further exporting development. Furthermore, since customer specific product development is difficult due to lack of direct feedback, indirect exporting is advisable for products that do not require to be tailored for importers. (ibid., 381.)
**Direct export**

When a producing company exports its products or services directly to the importer or the first intermediary, such as agent or distributor, located in the target market abroad, Hollensen (2017, 366) refers to it as a direct export mode (see Figure 7). This export mode is applied by firms that are confident and experienced enough to manage market entry operations independently, for example, to establish contacts in the target market (see Table 1), manage documentation and marketing, as well as to deal with logistics and servicing-related problems (ibid., 372). Hence, Daniels et al. (2015) refer to it as an “ambitious approach”. Therefore, resources, managerial commitment and language skills are required in order to maintain direct exporting activities. (576.)

According to Albaum and Duerr (2008), Katsikea and Morgan (2003, 470) provide certain characteristics that define direct export mode. For example, there exists a company’s consolidated control, direct feedback and access to potential customers, because this export mode implies having one middleman (an importer, agent or distributor) in the target market, whereas in an indirect export there are several members involved in the exporting chain. (329.) The latter also provides more flexibility and a financial benefit for a firm, because with fewer intermediaries involved no additional costs are spent. Another characteristic is product customization possibility, which is linked with company’s improved responsiveness due to received feedback. With direct export mode a company enhances its business knowledge of the target market and increases its rate of internationalization. (Kananen 2011, 46-47.)

However, when deciding on a market entry mode, managers need to consider issues and drawbacks of direct exporting as well. First of all, since exporting operations involve at least one intermediary abroad, there is no absolute distribution control. Besides, depending on the target market, not only tariffs can restrict a company from having control over a market price, but also other trade restrictions can be of a hindrance in exporting. Moreover, in order to maintain contact with middlemen in the target market, an enterprise needs to invest into a sales organization. In addition, if unprepared, direct export might entail communication challenges for a management due to cultural dissimilarities. (Hollensen 2017, 381.)
The summary of advantages, disadvantages and requirements, or factors affecting suitability, for a company regarding both direct and indirect export modes are presented in Table 2.

Table 2 Summary of indirect and direct export modes’ characteristics (adapted from Hollensen 2017, 381)

<table>
<thead>
<tr>
<th></th>
<th>Indirect export</th>
<th>Direct export</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>Utilizing services of an experienced intermediary (solid knowledge of exporting,</td>
<td>More control over export operations. Direct customer contact and feedback. Less</td>
</tr>
<tr>
<td></td>
<td>language skills) allows for greater market diversification. Limited investment</td>
<td>costly due to fewer middlemen (compared to indirect export). Practical</td>
</tr>
<tr>
<td></td>
<td>and commitment. Minimal currency, market and political risk.</td>
<td>knowledge of the market and internationalization experience acquired.</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>Little or no control over export operations. No direct customer access. Limited market knowledge gained. Can be costly due to several members in the distribution chain.</td>
<td>Limited control over market price and distribution. Cultural dissimilarities can lead to communication challenges. Investment in sales organization needed.</td>
</tr>
</tbody>
</table>

2.5 Synthesis of theoretical framework for this study

Theoretical framework used in this study can be presented as a sequence of actions adapted from Kuada (2008, 66) and modified with accordance to the objectives of this thesis (see Figure 8). In order to provide adequate answers to the research questions, following steps are implemented.
The first step of the process implies selecting a list of countries to be examined in the market analysis. In this study countries of interest were chosen by the assignor company. They include two neighboring biogas and biodiesel markets of Latvia and Lithuania.

The second step includes establishing both general and specific market analysis assessment criteria. As it was described in details in chapter 2.3., the general assessment criteria include factors adapted from a PESTLE analysis, which are adjusted to meet the requirements and objectives of both the assignor company and this study. The specific variables of a market analysis are formulated according to the characteristics affecting assessment criteria (chapter 2.2.) that include, inter alia, measurability, accessibility, sustainability or profitability, and actionability (Albaum, & Duerr 2008, 183; Hollensen 2017, 283).

Figure 8 Series of actions implemented in the study (adapted from Kuada 2008, 66)

The third step involves developing a market analysis tool to explore the market opportunities in the selected countries. According to Kuada (2008), due to managerial time constraints and resource limitation, the market analysis tool should be designed based on three key characteristics: simple, clear and providing feasible results. International managers opt for tools and processes that deliver quick and credible results with little resource investment. (30.)

The next step consists of conducting a market analysis and scoring selected countries based on the pre-defined evaluation criteria. Not only does this procedure help to
determine whether chosen countries have favorable conditions for a market entry, but it also indicates if one country is more advantageous for international operations than the other (Hollensen 2017, 187).

The final step implies choosing an appropriate market entry mode to enter into countries that revealed promising results in the previous step, i.e. as an outcome of the market analysis.

3 Methodology

3.1 Qualitative research approach

When a researcher has determined to collect primary data, he or she needs to choose a proper research approach suitable for the purpose and objectives of the research (Ghauri, & Grønhaug 2002, 85). According to Kananen (2015, 54), while there exist different sophisticated approaches, for simplicity reasons a junior researcher’s choice lies between two: qualitative and quantitative. It is explained by Eriksson and Kovalainen (2008, 5) that a quantitative research is rather related to statistical analysis, hypothesis testing and verification, while a qualitative approach focuses on understanding of a phenomenon and its interpretation in non-numerical way.

Qualitative research

Holloway (1997, 131) describes a qualitative research as an “inclusive” and “wide-ranging” research approach, and McGivern (2006, 58) states it to provide a profound and thorough description and insight of a phenomenon. According to Davies (2007), Denzin and Lincoln (2003, 4) declare that qualitative research approach involves a researcher to interpret phenomena that occur in an authentic setting. The reflection is based on people’s thoughts concerning a phenomenon. Information collected through the qualitative research is applied to generate theoretical ideas. (10, 135.)

Adams and Brace (2006, 21) agree that the goal of a qualitative research is to reveal information concerning thoughts, behavior, opinions, reactions, and to discover patterns.
The objectives of this study include a market analysis tool creation and its application in this study in order to explore the biogas and biodiesel market situation in Latvia and Lithuania. For the author to reach the goals of this research, it is crucial to obtain a versatile primary data, in-depth descriptions and profound understanding of a market analysis tool creation, its practical applicability and further development based on people’s explicit thoughts and professional opinions. Hence, in this study the qualitative research approach is applied.

Qualitative research can be characterized by relatively small number of research participants, since rigorous study is rather difficult to implement with multiple observations without losing a research focus. The methods used in the qualitative research are versatile and less structured compared to quantitative research. They include, for example, historical review, case study, group discussion, and are conducted using such qualitative techniques as unstructured and semi-structured interviewing, focus groups, accompanied visits, conversations and observations. Through these qualitative techniques primary data is collected. (Ghauri, & Grønhaug 2002, 88; McGivern 2006, 58.)

There exists plenty of qualitative research data at a researcher’s disposal to be utilized and synthesized in the qualitative business research. The relevance of information for a specific research depends on its ability to ensure the adequate answers to the research questions through examination. There are two types of empirical data sources that can help a researcher to achieve the objectives of his or her study: secondary and primary data. (Eriksson, & Kovalainen 2008, 133.)

**Secondary data**

Data that already exists in both textual and visual formats and was originally gathered for objectives different from the current research is called secondary data (Eriksson, & Kovalainen 2008, 77; Ghauri, & Grønhaug 2002, 76; McGivern 2006, 60). Adams and Brace (2006, 20) state that most researches are commenced with secondary data analysis, because it helps to define the research area, problem, approach and planning, as well as to present a context for primary data examination (McGivern 2006, 175). Ghauri and Grønhaug (2002, 78) add that sometimes secondary data can provide enough information to reach the research objectives, hence, primary data
collection, which can be costly and time-consuming, might not be necessary (Adams, & Brace 2006, 31).

Nevertheless, when collecting secondary data, a researcher should keep in mind that this data was originally gathered for purposes different from the current study. Hence, the information found might not completely suit the current research problem. Therefore, it has to be thoroughly analysed for the relevance to the research before being applied in it. (Ghauri, & Grønhaug 2002, 78-79; McGivern 2006, 149-150.) Adams and Brace (2006, 31) agree that the usefulness, quality and relevance of secondary data need to be assured by the researcher.

For the purposes of this study, the author uses secondary data to examine the background to the research problem, to acquire greater understanding of the concepts involved in the research, such as market analysis and market entry, and to define the theoretical framework applied in this study. Besides, secondary data is used to collect information that helps to answer the research questions and describe the biogas and biodiesel market situation in Latvia and Lithuania.

Ghauri and Grønhaug (2002, 78) suggest that often the combination of both secondary and primary data provide the researcher with the best answer to a research question, while McGivern (2006, 149) alleges that data combination allows to acquire more valuable information of wider application.

**Primary data**

Empirical data that reveals information for the first time and is collected by a researcher is called primary data (Adams, & Brace 2006, 20; Eriksson, & Kovalainen 2008, 77; McGivern 2006, 60). Primary data collection implies information generation for a specific research problem (McGivern 2006, 61), and, therefore, it is considered by Ghauri and Grønhaug (2002, 81-82) more coherent and relevant to a particular research. Primary data is collected when secondary data is not accessible, does not exist or is inadequate to contribute enough information to answer research questions. It helps to reveal specific information, such as people’s opinions, experiences, attitudes, behavior, intentions. (Ghauri, & Grønhaug 2002, 81-82.)
Nevertheless, primary data collection can require certain financial resources, as well as dedication of time. Besides, it might be complex to access the target respondents as people can be reluctant to cooperate for various reasons, for example, business, indifference to the research topic, or sensitivity of issues covered in the research. (Ghauri, & Grønhaug 2002, 82.)

In this study, primary data is an integral part of the research results. It helps to answer one of the research questions and is collected to generate information concerning the applicability and improvement of the market analysis tool developed by the author of this study for further needs of the assignor company. Primary data is required in this research to gather authentic opinions, thoughts and experiences of professionals to help the author make appropriate suggestions for further market analysis tool improvement.

3.2 Primary data collection through semi-structured in-depth interviews

Observation and interviewing are considered the most common ways of gathering qualitative primary data (Kananen 2011, 48; McGivern 2006, 232). In this study interviews are utilized to collect empirical data to help provide answers to the research questions. According to Lindlof and Taylor (2011, 172), Bingham and Moore (1959) define a qualitative interview as a “conversation with a purpose”, while McGivern (2006, 184) also describes it as a “guided conversation” in which an interviewer seeks to acquire an interviewee’s attitudes, emotions and insights on the research subject (Davies 2007, 152; Holloway 1997, 94).

One-to-one qualitative interviews aiming to explore the research subject in depth are referred to as in-depth interviews. They are not used as an alternative to group discussions. In-depth face-to-face interviews are conducted when a researcher needs to acquire detailed information on personal perspectives and attitudes, when the research subject is sensitive, or when potential interviewees are not easy to find. In-depth interviews require a researcher to be fully aware of the research problem, its objective and the type of information sought. (Adams, & Brace 2006, 38-39; Ghauri, & Grønhaug 2002, 100-102; McGivern 2006, 185-187.) In-depth interviews provide
the research with relatively rigorous and reliable results regarding interviewees’ attitudes and opinions, because respondents are given an opportunity to answer freely in an open-ended way (Ghauri, & Grønhaug 2002, 102; Kananen 2011, 52). Nevertheless, Ghauri and Grønhaug (2002) emphasize that in-depth interviews can be time-consuming in terms of their implementation and following analysis. The latter might be complicated by the researcher’s subjective approach. The success of an interview is determined by the skills and cautiousness of the interviewer. (102.)

Variations of in-depth interviews

According to Holloway (1997, 94), qualitative interviews can be unstructured, structured or semi-structured. Unstructured interviews imply having guided questions and no predefined answers, hence, both interviewee and interviewer have liberty to move the discussion in any direction within the particular issue. Structured qualitative interviews include standardized ‘what’ questions allowing for minor flexibility in the wording for a researcher and less open-ended answers for a respondent. (Eriksson, & Kovalainen 2008, 80-82; Ghauri, & Grønhaug 2002, 100-101.)

In semi-structured interviews a researcher has a predetermined set of subjects, problems, or areas to cover. However, in each interview the researcher can alter the wording and sequence of questions to receive more comprehensive responses from interviewees who are free to describe the issue in their own words, as well as to share their thoughts and attitudes. Researchers rely on rather systematic outline of questions to ensure that they cover all the topics and gather essential information, while keeping fairly informal tone of the conversation. (Eriksson, & Kovalainen 2008, 82; Ghauri, & Grønhaug 2002, 101; Holloway 1997, 95.) McGivern (2006, 188) claims that semi-structured interviews are typical in business-to-business and industrial studies.

In this study primary data collection is narrowed down to explore issues concerning the market analysis tool development, application and its further improvement. The author of this research requires professional opinions regarding the tool developed as one of the objectives of this study. Therefore, the theme and interview questions are predetermined. Nonetheless, to collect more in-depth responses that would
provide the research with valuable information, the interviews are kept informal, which allows the interviewer to alter the order of questions and probe for more thorough answers. Thereby, in this study semi-structured in-depth interviews are the most relevant type of interviews to use to collect qualitative primary data.

**Interview planning and implementation**

Before starting to collect primary data through in-depth interviews, a researcher needs to ensure he or she has analyzed the research problem, has got the comprehension of the type of information that needs to be collected and has realized who would be the appropriate interviewees bringing valid and valuable information to the research (Ghauri, & Grønhaug 2002, 102).

In this study the researcher had a clear understanding of the research problem, as well as the type of information needed to enrich the research results. In total seven interviewees were selected based on their professional experience and relevance to the field of research. They included:

- Business development expert with more than 25 years of experience, in charge of growth programs towards international markets;
- Co-founder and CEO of a business development company with experience in sales and marketing in the area of bioenergy;
- Program Director with special knowledge about cleantech industry, bioenergy and internationalization strategies;
- Program Manager from a large corporation, an expert in waste management and bioenergy solutions;
- Business development expert in the field of technologies, an engineering expert;
- Program Manager in the field of energy and cleantech industries with experience of assisting companies in their internationalization strategies;
- Sales Director building internationalization strategies for an environmental technology business.

Respondents were invited to an interview through emails, LinkedIn and telephone calls. They were presented the topic of the research, the purpose of the study and
information sought from interviewees. The interviews were conducted both face-to-face and through Skype for Business with those interviewees who reside in a different location. The length of the interviews varied from forty minutes to an hour and a half depending on the business of interviewees and their aspiration to talk. The interviews were recorded and necessary notes taken during the interview process.

According to Adams and Brace (2006, 38-39), it is essential to have an interview guide that contains the list of open-ended questions, necessary issues or topics to be covered in the interview, as well as some prompts for the interviewer. The interview guide creates a framework and assists the researcher in managing the flow of discussion to reduce the dross rate (Holloway 1997, 95).

The author of this study employed an interview guide (see Appendix 2) to ensure that the similar type of information is gathered from all interviewees, as well as to save time. The interview guide was formed based on a funnel technique: from general to specific. The author conducted a pilot interview during which the interview guide’s usefulness was tested and necessary amendments were made. Besides, the pilot interview helped to determine the approximate time required to conduct an interview.

It is essential for a researcher to have a clear and logical interview structure. It should start with an introduction, continue to the main part of the interview and finish at a distinctly signaled ending. (McGivern 2006, 197-199.) In this study interviews begun with the introduction to the topic and research purpose, the reasons why the interviewee was chosen, the approximate length of the interview, the permission to record the interview and assuring interviewee’s confidentiality. The main part of the interview commenced with general questions that helped to establish rapport and open up the research topic. The conversation was smoothly narrowed to specific questions concerning the market analysis tool developed by the author of this study. At this point of the interview stimulus material in the form of the aforementioned tool was used to present visual material that would help respondents to generate ideas and express opinions. Due to confidentiality reasons the incomplete version of the market analysis tool was presented to interviewees (see Appendix 4). The interviews included follow-up and reflective questions to create an interaction with interviewees, receive more thorough information and ensure interviewers’
understanding about a certain response. In order to bring the discussion to a close, interviewees were asked to give final comments or present clearing questions, as well as to mention if they want to add or change the information provided during the interview. Besides, respondents’ permission to use direct quotations from interviews in this study was requested.

Interviews were transcribed within the same day they were conducted. This helped the author to get the brief pre-analysis of collected information and follow data saturation level.

3.3 Primary data analysis and report

In order to introduce meaning and structure to the multitude of collected data, it needs to be analysed. According to Ghauri and Grønhaug (2002), Miles and Huberman (1994) state that data reduction is an essential component of qualitative data analysis. It means that the data retrieved from, for example, transcriptions has to be selected, simplified, transformed and abstracted to be meaningful and manageable. (137-138.)

Coding is known as a way to classify and dissect information (Ghauri, & Grønhaug 2002, 123). Kananen (2011) emphasizes that every bit of data collected might comprise a vital message that needs to be uncovered. He suggests that it is done through information compression. (59.) The categories, patterns and themes are generated to divide and label the data collected. Throughout this process, the researcher starts to understand the phenomenon studied. Nevertheless, he or she must be critical, because alternative interpretations are typically possible. (Ghauri, & Grønhaug 2002, 138.)

In this study, to analyze the data collected through interviews, the author first transcribed the interviews, carefully read them through along with notes to identify some themes and patterns, and then applied coding technique using Excel. Thus, the data was categorized in a meaningful and clear way which helped later in the process to make links between pieces of information and develop the bigger picture. Question areas from the interview guide were used as general codes, and afterwards, they were broken into sub-codes to provide the author with more
thorough categorization. While working through transcripts, relevant sections of text were cut and pasted under the corresponding code in Excel with necessary labels to identify the author of the citation and refer back, if needed. In each category key words were highlighted to analyze the frequency of their appearance throughout all interviews. Seven transcripts were scrutinized at least three times to reach the data saturation level.

Once the necessary data is collected and analysed, a consistent report including the research problem, data gathered and results has to be produced. It needs to remain logical and persuasive, keeping in mind the purpose of the research and the target audience. (Ghauri, & Grønhaug 2002, 183.) Since this report is a thesis, it is presented in a systematic, argumentative and detailed yet concise way. The guidelines and structure of the educational institution and the supervisor are followed. The readers of this report include business specialists and academic audience, as well as the representatives from the assignor company.

3.4 Research ethics and results verification

Ethics in research imply moral standards, principles and values that affect the execution of all research activities and people involved. The relationships between a researcher and a respondent are one of the most delicate aspects of research ethics. The research should be by all means harmless and risk-free to participants. Only voluntary participation in the research is considered ethical. This, in turn, is linked with participants’ informed consent regarding the purpose of the research and other relevant information. To act ethically in a research also means to respect people’s anonymity, confidentiality and privacy. (Eriksson, & Kovalainen 2008, 62, 64-65, 70-74; Ghauri, & Grønhaug 2002, 18-20; Holloway 1997, 55-57.)

Moral responsibility of researchers also involves plagiarism and silencing issues. One should act according to ethical rules and acknowledge the adopted publications, ideas, etc. of other people by giving them the credit in the own research. (Eriksson, & Kovalainen 2008, 74-75.)

In this study ethical issues are considered at every stage of the research process, not only during the empirical data collection. The author is aware of her responsibility
towards research participants and, therefore, conducts the research with rigor, accuracy and uprightness. All ideas, notions and concepts mentioned in this study that did not originate from the author are cited, original authors are referenced and acknowledged. None of the participants is subject to hazards nor any negative consequences. Individuals are acknowledged of the research topic, its objectives and access required for the research. Interviewees have given verbal agreement for voluntary participation in the recorded semi-structured in-depth interviews conducted by the author of this study. The researcher ensures that their anonymity is maintained throughout the whole research and their confidentiality is not subject to disclosure to the third parties not involved in the research. Participants are informed that only the author of this study has an access to recorded materials and transcripts. Interviewees have given a permission to use direct quotations from their interviews in the current paper. Citations in this study, however, are not profiled in order not to compromise the identities of the respondents.

4 Research results

Confidential until 8.5.2027.

5 Conclusion and discussion

Confidential until 8.5.2027.
References


nas_201204/3%20Mikolaj%20Krupinski.pdf


palehti.fi/uutiset/vuoden-kasvaja-biogts-kasvoi-kerralla-usean-lasikaton-
lapi/RVmNcWCU


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most-innovative-economies


X
## Appendices

### Appendix 1. List of in-depth screening variables (Kuada 2008, 68)

<table>
<thead>
<tr>
<th>Market Access</th>
<th></th>
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<tbody>
<tr>
<td>Limitations on trade: tariff levels, quotas, etc.</td>
<td>Documentation and import regulations</td>
</tr>
<tr>
<td>Local standards, practices and non-tariff barriers</td>
<td>Preferential treaties</td>
</tr>
<tr>
<td>Legal considerations: taxation, repatriation, investment, employment regulations</td>
<td>Conditions for local manufacture - e.g. availability of qualified labour force</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Potential and Distribution</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Customer needs and desires</td>
<td>Local production, imports, consumption</td>
</tr>
<tr>
<td>Availability of complementary products</td>
<td>Attitude of products of foreign origin</td>
</tr>
<tr>
<td>Availability of intermediaries</td>
<td>Regional and local transportation facilities</td>
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<table>
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<tr>
<th>Sales Volume Forecasting</th>
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<tbody>
<tr>
<td>Size and concentration of customer segments</td>
<td>Projected consumption statistics</td>
</tr>
<tr>
<td>Competitive pressures</td>
<td>Expectations of local distributors/agents</td>
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<tr>
<th>Landed Cost Estimates</th>
<th></th>
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<tbody>
<tr>
<td>Costing method for export</td>
<td>Domestic distribution cost</td>
</tr>
<tr>
<td>International freight and insurance</td>
<td>Cost of product modification (if required)</td>
</tr>
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<table>
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<tr>
<th>Cost of International Distribution</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tariffs and duties</td>
<td>Value added tax</td>
</tr>
<tr>
<td>Cost of local packaging, assembly and storage</td>
<td>Margins/Commissions allowed for the trade</td>
</tr>
<tr>
<td>Local distribution and inventory costs</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2. Interview guide

Permission to record the interview

Introduction into the research

Job title and responsibilities

General questions about market analysis:

When a SME wants to internationalize, what are the first steps to do?

How does a company analyse a country that it wants to enter? How does an organization analyse the market prior making an entry decision? How long does it take? Who is typically responsible for conducting the market analysis?

What are the important criteria/factors to research when analyzing a potential foreign market?

What are the main favorable country and market factors that will convince a company to make an entry decision? What are the red flags, or the factors that will make a company to reject an entry decision (both on country and market level)?

How does a company make a distinction between favorable markets (showing positive aspects for a market entry), promising markets (neutral) and unsuitable markets (with negative aspects)? / How are countries and markets categorized? Where lies the border between “suitable” and “unsuitable” markets?

How different countries and markets are compared to each other to find the best option for a company to pursue and internationalize?

Questions about the market analysis tool:

Tool description

How applicable and useful do you find this tool?

Is there something incomprehensible?

What professional suggestions for the tool development / improvement would you give?

Any comments, questions? Something to add, change?

Permission to use direct quotations from the interview

Can you recommend/propose some other key professionals whose voice should be heard and could be useful in my research?
Appendix 3. Market analysis tool (3 pages)
Confidential until 8.5.2027.

Appendix 4. Market analysis tool for interviews (1 page)
Confidential until 8.5.2027.

Appendix 5. Market analysis of Latvia (3 pages)
Confidential until 8.5.2027.

Appendix 6. Market analysis of Lithuania (3 pages)
Confidential until 8.5.2027.

Appendix 7. Research results (39 pages)
Confidential until 8.5.2027.

Appendix 8. Conclusion and discussion (6 pages)
Confidential until 8.5.2027.