BENCHMARKING INTERNATIONAL HIGH-TECHNOLOGY RESEARCH LABORATORIES’ MARKETING IN EUROPE
BENCHMARKING INTERNATIONAL HIGH-TECHNOLOGY RESEARCH LABORATORIES’ MARKETING

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Bachelor’s thesis
Autumn 2014
Degree programme in International Business
Oulu University of Applied Sciences
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The thesis studies current marketing conventions of international high-technology research laboratories in Europe and is done for the UNELMA-project. UNELMA is a joint project between Finnish and Swedish universities and institutions funded by the European Union, the Provincial Government of Norbotten, Lapin Liitto and Interreg IV A. The project wishes to create a network of professional services which will benefit companies in the Bothnian Arc between Finland and Sweden.

The study itself intends to give possible examples of how high-technology professional services are marketed internationally and how to apply their practices to Finnish and Swedish high-technology marketing, the UNELMA-project's marketing in particular. Actual high-technology issues or operations in the respective field will not be discussed in this thesis.

The knowledge base of the thesis relies on B2B-marketing, services marketing and digital marketing. The applied research method is benchmarking through case studies. Case studies were chosen as it was the best way of having information about the organizations the UNELMA-project and its managers were interested in. Recommendations of possible marketing practices and operations for UNELMA will be presented.

Keywords: B2B-marketing, benchmarking, case studies
TIIVISTELMÄ

Oulun Ammattikorkeakoulu
Degree Programme in International Business

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Opinnäytetyön nimi: Benchmarking International High-Technology Research Laboratories Marketing in Europe
Työn ohjaaja: Helena Ahola
Työn valmistumislukukausi ja -vuosi: Syksy 2014

Opinnäytetyö tutkii korkean teknologian tutkimuslaboratoirionen nykyistä markkinointia suomalais-ruotsalaisten korkeakoulujen ja laitosten yhteistyötä, UNELMA-projektia, varten. UNELMA on Euroopan Unionin, Norbottenin lääninhallituksen, Lapin Liiton ja Interreg IV A:n rahoittama projektii, jonka tavoitteena on luoda korkean teknologian palvelujen palvelukonsepti, josta hyötyvät sekä korkeakoulut että laitokset Suomen ja Ruotsin välisellä Perämeren alueella.

Tutkimuksen tarkoituksena on antaa mahdollisia esimerkkejä siitä, miten korkean teknologian palveluja markkinoidaan kansainvälisellä tasolla, ja miten näitä käytäntöjä voidaan hyödyntää suomalaisessa ja ruotsalaisessa korkean teknologian palvelujen markkinoinnissa. Varsinaista korkea teknologiaa aihepiiriä tai sen toimia ko. alalla tutkimus ei käsittele.


Avainsanat: B2B-markkinointi, benchmarking, case studies
1 INTRODUCTION

This thesis is going to discuss benchmarking international high-technology laboratories and their marketing in Europe for the purposes of the UNELMA-project. UNELMA is a joint project between institutes and universities in northern Finland and Sweden. The aim of the project is to create a network of services that will benefit companies in the region. This particular network will be able to create an effortless means to these high-tech services and a functioning operational concept, provided by the project partners and the facilities and research devices they have to offer.

The partners of UNELMA are Oulu University of Applied Sciences, Microscopy and Nanotechnology Center of Oulu University, Kemi-Tornio University of Applied Sciences, Division of Polymer Engineering and EISLAB, Luleå University of Technology, and Swerea SICOMP AB. This research paper, among others on the subject, will be done for Oulu University of Applied Sciences as a bachelor's thesis.

The UNELMA project was founded in order to develop a service concept that was jointly operated by the aforementioned parties based on the facilities and equipment of universities and research institutes in Oulu, Kemi-Tornio and Luleå and Piteå. The project focuses on the development of imaging, analysis and other Research and Development (R&D) equipment-related services needed in the development of new materials and products. The aim of the the project in question is to promote economic growth in the area of the Bothnian Arc between Finland and Sweden. This is done through making high-tech services of local universities and research institutes more accessible and relevant for high-tech companies in the area.

After the UNELMA project is finished, the concrete end results include a new joint service concept for local universities and research institutes working in materials imaging and analysis and an increased level of quality and scope of applied research services in partner organizations. The project will also increase mutual knowledge of requirements and practices of the relevant R&D services amongst the partners of the project, but also improve the understanding of future requirements in terms of devices and facility investments. Making the UNELMA partners more familiar to companies in need of this type of services (micro- and nanotechnology) and informing them about the possibility of utilizing these services in their R&D is another concrete end result of
the project. As the project is finished, co-operation and networking between universities and the respective industry is strengthened and the competitiveness of local industries and companies improved. Once the project is carried out, UNELMA will provide a set of ready-to-use packages concerning material, structure and product characterization available for companies. An electronic database is created where a potential customer can find information on the methods and equipment used, and which organizations offer which services.

The purpose of this thesis is to familiarize with current conventions of European high-technology laboratories, their marketing and how to apply those to high-technology laboratories' marketing in Finland, the UNELMA-project in particular. The research method used in the making of this thesis is benchmarking through case studies. Case studies were chosen as the research method due to fact that the project managers themselves hoped for this kind of approach to the information gathering of certain organizations and their marketing practices. Four relevant organizations were presented to the author and were researched in this thesis.

This thesis was conducted in order to find out how international high-tech research laboratories market themselves in Europe and how to apply these marketing methods used to the UNELMA-project's marketing. These were appointed as the research questions this thesis provides the answer to. The research questions are answered through the method of benchmarking and through case studies. Each organization benchmarked for the purposes of this thesis has its own chapter where the organization's marketing is discussed in detail based on B2B-marketing, services marketing and digital marketing. The discussion part of the thesis will provide additional information and suggestions for the project's future marketing practices based on the results found through case studies.
2 MARKETING OF RESEARCH LABORATORIES

2.1 B2B-marketing

“The central idea of marketing is to match the organization’s capabilities with the needs of customers in order to achieve the objectives of both parties” (Frow, P. & McDonald, A. 10/2011, 8). The marketing between organizations and the marketing in consumer markets is not the same: There are several inherently different attributes, marketing strategies and actions which need to be applied when wanting to meet the needs of potential business customers. Business marketing can be separated from consumer marketing by two main characteristics: First, in business marketing, the prospective customer is an organization. Second, the product or service is purchased to support organizational purposes. (Fill, C. & McKee, S. 2011, 18)

The marketing of goods and services to organizations is referred to as business marketing. Business marketing, business-to-business, or B2B-marketing can be separated from traditional marketing on the basis of the emphasis being on the nature of the customer rather than that of the product. (Brennan, R. Canning, L. & McDowell, R. 2008, 18) Instead of concentrating on the mass market, a B2B-seller wants to raise interest in a smaller number of specialists acting as buyers. Organizations working in B2B share a common characteristic: Interdependency. Although the majority of organizations operating in the business market are independent entities they still need to interact and form relationships with others in order to succeed. (Fill & McKee, 2011)

The buyers in B2B are not the ones consuming the product or service, in essence, the individual organizations make the act of consumption their business (Fill & McKee, 2011). Gummesson, E. & Polese, F. (2009) state in their article that “B2B starts and ends in B2C/C2B” as B2B is to be thought of rather as a component of a whole system instead of an independent entity on its own. In a B2B service network, the suppliers’ value proposition supports its customers’ value creation processes as value is co-created in a service process.

Business marketing differs from consumer marketing due to differences in the market structure and buying behavior. (Brennan, R. et al., 2008)
2.2 Services marketing and the IHIP characteristics

Marketing in itself comprises of the task of determining the needs and wants of a market in question and efficiently producing a set of products and services better than the competitors' (Viardot, E. 2004, 2). “A service is an activity which typically has some element of intangibility associated with it. It involves some interaction with customers or property in their possession, and does not result in a transfer of ownership” (Frow, P. et al. 2011). Services marketing relies on the original basis of marketing and in time has developed according to the philosophy of customer orientation (Gilmore, A., 2003, 11). A services marketing approach relies on the fact that differences between services are just as worth mentioning as the differences between products and services (Dacko, S. 2007, 532). The success of a professional service organization relies on its quality, value and the skills, abilities and personal characteristics of the people inside the organization. Simply put, people are the lifeblood of the professional service organization. (Danyi, S., 2008, 175)

As the emphasis on product marketing is shifting towards services the importance of marketing planning for services becomes more relevant. When discussing services marketing, a certain emphasis should be put on a few main characteristics as there are fundamental differences between product marketing and service marketing. Grönroos (2000) highlights a certain classification for high-tech services: They depend on physical resources, such as IS&T (Information Systems and Technology) when concerning delivery (Fill & McKee 2011, 39). These before mentioned characteristics for service marketing are commonly known as the IHIP characteristics. The abbreviation comes from the first letters of descriptive characteristics as Intangibility, Heterogeneity, Inseparability and Perishability, all of which will be discussed in succession. (Frow et al. 2011, 41)

As services are usually abstract and intangible, intangibility is a great description of a service, and acts as a clear feature in services marketing. This means that a service usually cannot be physically touched or purchased like an actual product can. Today, the intangibility of services has been questioned as many services are augmented by a tangible element. The benefits of buying
a service come from the nature of its performance as opposed to the benefits received from buying a product are based on its physical features. (Gilmore, A. 2003, 15)

Fill & McKee (2011, 39) refer to Grönroos (2000) in their text when giving an example of consultancy services: A tangible report is given as evidence of the service at the end of the consultancy process. Services can also be described as heterogeneous: Professional services and services in general are a vast group which includes different types of companies and organizations from A to Z. They are variable and non-standard. (Frow, P et al. 2011, 41)

Another difference that distinguishes a service from a product in terms of marketing is the fact that a service is purchased and consumed both at the same time. A product can be purchased at one moment but consumed at another. The main common factor is the consumer participation in between the actual transaction and consummation. This characteristic is referred to as inseparability. The fourth main characteristic to keep in mind when dealing with services marketing is perishability: The fact that services are usually intangible means there is no inventory on services, no storage to put the product into nor a means to store something that is intangible. (Frow, P. et al. 2011, 41) These characteristics need to be understood when developing new service strategies and marketing plans (Dacko, S. 2007, 532).

2.3 Digital marketing

Digital technology has revolutionized marketing by offering consumers a huge array of information on products and services with simply one click. Digital marketing has many names that refer to it: Some call it Internet marketing, some prefer the term e-marketing, others use web marketing. All these terms are basically used to describe the same form of marketing. “In practice, digital marketing includes managing different forms of online company presence, such as company websites and social media company pages...” (Chaffey, D. 2012)

Digital marketing stands for achieving marketing objectives through digital technologies. (Chaffey, D. 2012) As the world and the Internet are changing rapidly, planning a certain approach to a marketing issue is challenging: Once a plan has been completed it can become obsolete in no time. This means that a company needs to have a marketing plan that can be changed and modified quickly according to the current wants and needs of customers. (Wind, J., Mahajan, V.
Digital marketing is a force that complements traditional marketing and its operations. It acts as a complementary element to marketing but can also be an entity driving companies towards awareness, leading sales and increasing the value of a customer. (Leake, W., Vaccarello, L., Ginty, M. 2012, 30) Leake et al. (2012) state that “Online needs to be integrated into all facets of your marketing program, with everything you do to market your products: events, lead generation, advertising, PR, corporate communications, community, campaigns, and brand.”

Although digital marketing does not take a lion's share out of an organization's financial expenses, it still is a powerful and growing force: Complementing general marketing, digital marketing is a marketing vehicle not only driving awareness and leading sales, but increasing customer value. (Leake, W. et al. 2012) According to Jones (2008), Internet marketing is marketing in its most direct form. In her book, Jones divides the business-to-business market into two: The consumer world and the business-to-business world, of which the latter will be discussed more precisely in succession.

The business-to-business world consists of consumers who are not only regular consumers but have an “added value” to them. They are responsible for the evaluation and purchase of products and services for a business of their own or for a business they work for. The importance of these “worlds” is valid as they have different marketing rules and a business-to-business marketer needs to know how to reach and communicate with their respective field, e.g. “world”. (Jones, S., 2008, 28) Jones (2008) states print advertising in general business publications or trade press, telemarketing and direct mail as the most common means of media marketing.

Lessons learned in consumer marketing also apply to business-to-business marketing and its digital forms: Basically all digital marketing concepts are adaptations of previously existent, proven concepts of general marketing. There are special requirements of business-to-business direct marketing concerning one’s product or service, according to Jones (2008): The product or service can only be obtained or consumed by an audience with previous, already existent information and knowledge; the product or service is focused on a more specific solution; and for that, has an audience much smaller than a more general product or service does; the product or service in question is more expensive than the average, and the product or service requires a longer sales cycle as a result of multiple individuals concerned with evaluating and purchasing.

During an evaluation process concerning one’s business ventures, a potential customer can look up the organization online and do research and comparisons against others in the same field. If
one’s organization claims to be, e.g. a “pioneer in microscopy and nanotechnology” and a potential customer hits the search button on Google and does not find the organization in the search results can turn out to be a problem not only for the marketing team but also for the sales team inside an organization. (Leake, W. et al. 2012) Therefore, online visibility is key. Leake, W. et al. (2012) encourage organizations to look up their own business online to see what the search results entail and continue from there. Establishing digital brand confidence through positive online public relations is vital: articles in the respective industry's publications, blogs, and social media are recommended.

According to Jones (2008), Internet marketing has its roots planted deep in the principles and known practices of direct marketing. “Internet marketing is interactive, responsive marketing – marketing that engages an individual, encourages interaction, and elicits a response, as does direct marketing”. (Jones, S. 2008) Internet marketing was mostly researched for the purposes of this thesis as it provided the most valid and useful information about the benchmarked research laboratories’ marketing practices.

3 RESEARCH FRAMEWORK

This chapter discusses the research framework used for this thesis. The framework as a base for the theory was used to find out information on the laboratories benchmarked. This information was further utilized in the succeeding chapters to present findings and results.

3.1 Business Models and the Business Model Canvas

The term “business model” has been described in several different ways: Revenue generation, structure of organization, core competence of an organization, and way of creating value are just a few of the descriptions existing. As many as there are descriptions and definitions of a business model there are business models applied in practice. According to Jansen, Steenbakkers & Jägers (2007), there is no single dominant model. “A business model lays out the strategy – what should be done, and how, to create value.” Strategy deals with the overall vision, strategic goals and values a company wishes to provide. (Jansen, W. et al. 2007, 29)
Although a business model is a sustainable way of doing business, it does not mean that it is static and always stays the same. Continuous development of the model is necessary in order to obtain success in an organization’s respective field. “A business model describes the coherence in the strategic choices which makes possible the handling of the processes and relations which create value on both the optional, tactical and strategic levels in the organization”. (Beckmann, J.A., 2011, 49) In order to be profitable in the long term, a platform of resources, processes and supply of a service combined is needed by the company. The most important identified performance measures in a business model are related to value creation. A business model is concerned with the value proposition of the company which is supported by several parameters and characteristics (Beckmann, J. 2011). Value proposition, its definition, determination and delivery are discussed more in detail later on in this thesis.

A good business model shows the organization what to do in terms of strategy, and directs how it should be employed. A business model is also a communication tool: It facilitates communication between the organization and its customers, employees and partners. (Jansen et al. 2007) Simply put, a functioning business model articulates how to create value and for whom. One needs to think about the problem they wish their business model should solve, what unmet market need does it fill, what imperative customer experience does it generate, and what is one’s company’s promised value? (Kaplan, S. 2012)

A business model canvas is a tool which helps in developing new or documenting already existent business models. It is a visual element descriptive of a company’s value proposition, customers, finances, and infrastructure. Figure 1 (see below) depicts a common model of a Business Model Canvas. When creating a business model canvas, Key Activities are the most important elements in creating a company’s value proposition. Key Resources are considered as assets to a company as they support the business and therefore help in creating value for a customer. Key resources can be human, financial, physical and intellectual. Key partners and their maintenance is vital to a company as they help in optimizing operations and reduce risks, e.g. a trustworthy buyer-supplier relationship is worth gold. A value proposition in a business model canvas comprises of those products and services a company offers to meet the needs of its customers. Value propositions tend to be either quantitative or qualitative, based on e.g. price or customer experience. (Wikipedia, date of retrieval 4.5.2014)
A company needs to decide and realize who their customers actually are: Who to target? Customer segmentation is a common way to figure out the different needs and wants of potential customers and how these meet the company's own corporate strategy. There are several different channels a company can use to reach out to its potential customers and deliver value. What one needs from an effective channel is speed, efficiency and attention to cost efficiency. Customer relationships are something a company needs to consider in depth: What kind of a relationship it wants to have with its customer segments? (Wikipedia, date of retrieval 4.5.2014)

Cost structure and revenue streams make up the Finances part of a business model canvas. A company’s cost structure is all the expenses that must be taken into account when producing a good or providing a service. There are mainly two types of cost structure: Cost-driven and Value-driven Cost structure. The cost-driven cost structure obviously concentrates on minimizing all costs and having nothing extra added. The latter goes for companies that are more concentrated in offering their customers value with being less concerned about costs. The means by which a company makes income from each of its customer segments is called a revenue stream. It is a method that an organization uses to earn money from users of their product or service. (Wikipedia, date of retrieval 4.5.2014)

**FIGURE 1** illustrates the Business Model Canvas. ([http://www.businessmodelcompetition.com/uploads/5/1/5/7/5157318/_5650743_orig.png](http://www.businessmodelcompetition.com/uploads/5/1/5/7/5157318/_5650743_orig.png) . Date of retrieval 14.5.2014)
3.2 Value propositions

“The purpose of marketing exchanges is to create value for all parties to the exchange” (Brennan, R. et al. 2008). This is probably one of the simplest definitions on how to create value for a product or service between two parties. A value proposition is what distinguishes a company from its competitors (Wikipedia, date of retrieval 14.5.2014).

3.2.1 Defining the market and understanding the concept of value

Marketing in general is considered a process: A definition of the market in question is crucial when conducting marketing practices. Figure 2 (see below) illustrates the process of defining the market and understanding the concept of value. Dividing the market into separate segments according to the customer groups’ different characteristics and needs is referred to as segmenting. Once the needs of these segments are investigated and defined, a company can determine its value proposition which meets these particular needs of the potential customers. It is important that value propositions are clear to the company as a whole, and that everyone involved in the marketing actions within the company gives their own input to the matter. The marketing process of a company also consists of delivering these aforementioned value propositions to the chosen market segments, and analyzing the value actually created in the process.

In order to understand the process of delivering value the factors inside the process should be dealt with in more depth. When discussing the process of delivering value, defining the markets and understanding value is vital. Having an understanding of the company’s mission and objectives is a good determinant of which markets the company finds interesting and wishes to pursue. Market research is also a process of great importance when external data on the issue of market definition and value understanding is relevant and needed. As opposed to external data, such as market research, a company needs internal data from possible ongoing operations to address the process of delivering value. (Frow, P. et al. 2011, 13)

3.2.2 Determining a value proposition

As organizations determine their value proposition it is crucial to prioritize the target market in question. When a company understands how to implement the aforementioned definition of markets and grasps the concept of value, it acts as a basis for an analysis which is affected by the customers’ needs and the appeal of customer segments. (Frow, P. et al. 2011)

First, companies start their value proposition determination by investigating the value they hope to obtain from a segment. Marketing objectives are defined, for example, in terms of market share and value according to segment. Secondly, the organization working on their value proposition has to define what kind of value they wish to offer their customers. This can be done by using the ‘Four C’s’: Cost, Convenience, Communications and Consumer wants and needs. These are factors which indicate what the organization is willing to do in terms of the ‘marketing mix’ to what the customer is interested in. There usually is repetition of the previous stages in determining value proposition as figuring out the actuality of value via marketing strategy is inevitable. After these stages, a company is able to have an estimate of the outcomes of the marketing strategy. All these stages are linked to one another and affect each other. The process of determining the value proposition acts as an early stage of a strategic marketing plan. (Frow, P. et al. 2011, 16) – Below, Figure 2 presents a model for the determination of a value proposition.

3.2.3 Delivering the created value proposition and monitoring it

The strategic marketing plan from the previous stage is the main input of this stage when discussing value propositions. By designing, implementing and monitoring marketing communication programs the communication of a value proposition is accessible. Suggestions of an effective marketing communication program include e.g. a direct mail campaign and an advertising campaign. (Frow, P. et al. 2011)

After defining the market, understanding value, and creating a value proposition, the company is faced with several succeeding phases of communicating value: Both parties, the company and the organization it wishes to do business with, need to be aware of each others' credibility for common exchange of value and be prepared for interaction and dialogue. According to Frow et al. (2011), the beginning of a dialogue between a potential customer and the organization is not tied to turns: As the use of Internet has become more and more popular either party can initiate dialogue. Learning about the potential customer as much as possible is only of advantage as it helps in providing the products and services tailored to the customers' needs. An organization needs to be ready and willing to negotiate with its customers to make sure that the services the organization offers are of value to the customer. Frow et al. (2011) state that mutual commitment
to the transaction is vital, and having after-sale service in any of its form is recommended as it can be considered a fundamental part of the value being delivered.

When monitoring value, the company needs to investigate if the value created corresponds to the earlier studies made on their customers' wants and needs. This information can be obtained from the process of delivering service value proposition or by conducting a market research. The delivered value acts as a basis for comparison for the value proposition created in the process of determining the service value proposition. As the company defines their marketing objectives in the process of determining service value proposition, those objectives can be used as a platform which helps in monitoring the value received. Monitoring the value delivered to the customer is crucial for a company as financial results technically are results of customer satisfaction. This process is also one of the best indicators on how to improve an organization's current situation. (Frow, P. et al. 2011)

3.3 Revenue models

A description of financial flows, revenues and costs concerning a business are referred to as a revenue model. The process of figuring out how an organization makes money is done by specifying how – and how much – the organization is going to charge for its products and services is created through the revenue model. The revenue model exists because it informs the execution of a business model strategy: In order to induce cash flow, what needs to be done in terms of value creation? Revenue models concentrate on new business concepts that become available, e.g. the potential of the Internet. (Jansen et al. 2007)

A revenue model is closely related to a company's business model. “It outlines a profit formula for the business based on the required operating cost structure in relation to revenue as well as the capital requirements to finance both fixed assets and working capital to support ongoing operations and growth”. (Kaplan, S. 2012) Basically, revenue is created by supporting the business model of a company. First, a company must describe its revenue sources. According to Kaplan (2012), the one who pays the bill is not necessarily the one who receives the value. This means that the the correlation between the seller and the buyer is not always so straight-forward. Not only is it important to know how the revenue is created, the company needs to think about what is the customer paying for? Whether the revenue is a function of the amount of time it takes
to deliver a service or based on delivering a certain outcome, is something Kaplan (2012) points out as an important part of defining a company's revenue model. Revenue models represent an architecture which provides financial fuel to the business model itself to facilitate constant value creation and delivery. (Kaplan, S. 2012)

3.4 Service offerings

As stated earlier in this thesis, services have their own unique characteristics that need to be considered when coming up with a service offering: Intangibility, inseparability, heterogeneity, and perishability. Shortly, these can be referred to as the IHIP-characteristics, the abbreviation coming from the first letter of each characteristic. As a service is not that easy to specify before the purchase, the use of a physical product, for example, can illustrate what the actual service offering is or what the customer will get after receiving the service. (Gilmore, A. 2003) “The success of an offering will be measured by the extent to which it provides a complete solution to the customer's problem. It is only then that the core benefit of an offering is completely delivered” (Brennan, R. et al. 2008).

In service business, the perceived value to the customer is not necessarily determined by the actual product offered but more by the service rendered. (Gilmore, A. 2003) According to Brennan (2008), the offering must adapt to changing needs if the marketer wants to continue to meet their customers' needs. In addition, Gilmore (2003) informs that services offered in similar fields of operation may not be so different judging by the core of the service. The difference is in adding secondary aspects and characteristics to the core service in order to offer something different than the competitor.
3.5 Target customers

In B2B marketing, finding out a company's target customers relies on segmenting. (Fill & McKee, 2011) Segmentation is a technique which helps in dividing large customer groups into smaller ones based on the needs and wants of the people within those segments. This helps in determining how the customers can be satisfied. According to Fill & McKee (2011), it is mainly about dividing the mass market into separate groups with common qualities and needs, and who react similarly to stimulation in terms of marketing.

First, when beginning to work with segmentation, one needs to identify the mass market. Only after that it is reasonable to concentrate on the segments a variety of criteria has produced. Secondly, the organization needs to choose and target those segments in particular which appear to possess the best marketing opportunities and also go together with the resources the organization has available. The next step is to position the service on the market in such a way that it differs and stands out from the sea of competitors' offerings. For every market segment selected there can be a distinct marketing program made. Fill & McKee (2011) refer to earlier studies made by Bailey et al. (2009) when stating that a large part of literature concerning segmentation has its focus on the segmentation bases instead of the importance of knowing how those segments actually work in practice. Another reference to earlier studies to which Fill & McKee (2011) point out is one by Boeijgaard & Ellegaard (2010): Implementing market segmenting plans is a challenge, and in industrial markets in particular implementing those plans is even harder.

According to Fill & McKee (2011), segmentation is done because it is profitable: “...Selection of submarkets concentrates activities”. It is a lot cheaper and easier to target certain markets instead of the mass market because it enables organizations to use their resources more efficiently and meet their customers' needs more precisely. Contemporary B2B market segmentation should be about fulfilling customer needs and concentrating on relationship requirements. (Fill & McKee, 2011, 124) The segmentation process varies depending on the conditions and needs of the parties involved. Fill & McKee (2011) give an example of a situation where “...an analysis of the relationship potential and buyer attitudes towards the supplier might provide a useful means of segmenting a market to the advantage of all relevant stakeholders”. In target marketing, specific segments are chosen and based on that information marketing
programs are created. This is done both to satisfy the needs of potential customers but also those of stakeholders in the chosen segments. (Fill & McKee, 2011)

3.6 Marketing communications activities

Nowadays, marketing communications is everywhere. Within the past few years, the amount of marketing communications has increased significantly and its range diversified due to the growth of different medias. (Kuluttajavirasto, 1.6.2014) According to Businessdictionary.com, marketing communications are delivered through several different channels, such as print, radio, television, direct mail, and personal selling. These are referred to as coordinated promotional messages towards a market. Marketing communications can refer to the promotion part of the 4P's or to a strategy a company uses to reach its target market. (Wikipedia, date of retrieval 21.5.2014) As services do not have the same qualities as products, e.g. tangibility, service firms have to be sure to provide marketing communications about their company's services through several channels.

When a company sells their products or services, it is vital to communicate those to potential customers in terms of what the actual product or service is, where and how one can buy them, and what do they cost. Marketing communications are based on the company's marketing strategy which determines how to succeed compared to competitors and what to put the most effort in concerning future operations. This is referred to as marketing communications, which is targeted to reach consumers and retailers. The reason why a company should have marketing communications as part of their marketing strategy is because through marketing communications the company can let their potential customers know about the product or service offered. Marketing communications also helps in getting the customers' attention: After this, the customer becomes aware of their need of the product or service in question. This leads to the customer possibly purchasing the product or service in question.
3.7 Case studies

A case study is a descriptive, exploratory or explanatory analysis of a person, group or event. Case study as research can concern single and multiple case studies, it can possess quantitative evidence, rely on several sources of evidence, and it can benefit from development of theoretical propositions made earlier on. (Wikipedia, date of retrieval 20.5.2014) According to Rowley, J. (2002), there has been criticism about case studies as a research method as they have previously been characterized as inaccurate and lacking objectivity. Despite certain scepticism, case studies are commonly used because of their potential to give insight to matters other approaches cannot. Case studies are often viewed as a useful tool for the earlier stages of a research project: Case studies act as a basis for the more structured and precise tools used in surveys and experiments.

Case studies answer the questions “How?” and “Why?”, and can be used for exploring, describing and explaining a piece of research. First one needs to decide whether case studies are of use for a certain kind of investigation. According to Rowley (2002), there are three factors which determine the best research methodology: The types of questions to be answered, extent of control over behavioral events, and the degree of focus on events. Rowley (2002) thinks that questions like ‘who’, ‘what’ and ‘where’ are questions to which one finds the answer to through documents, archival analysis, surveys and interviews. As said before, case studies are a supportive tool when dealing with deep and more detailed investigation of a matter.

As opposed to surveys, the number of units in a case study is smaller than in a survey, but the extent of detail for each case is broader. In a case study, the objective is to compare or replicate the organizations studied in a systematic way. (Rowley, J. 2002) According to Yin (1994), a case study can be defined as an empirical inquiry that studies a current phenomenon in its actual context when the boundaries and limits between the phenomenon and the context are not obvious. The strength of a case study is the fact that it does not need to be replicated in an experimental setting in order to understand the phenomena examined.
4 METHODS

The data was collected through benchmarking as support to the topic of the thesis itself. The organizations benchmarked were researched by studying their websites, sending emails (unreplied) and going through brochures, newsletters and some social media activity. Each organization was considered as a case of its own. The research relied on the knowledge base of B2B-marketing, Services marketing and Digital marketing. Business models, Value propositions, Revenue models, Service offerings, Target customers and Marketing communications were studied in terms of services marketing. All these attributes were benchmarked in terms of conducting case studies.

4.1 Benchmarking

"The essence of benchmarking is measuring, managing and satisfying customer requirements and expectations, assessing your strengths and weaknesses, finding and studying the best practices wherever you find them, and adapting what you learn to your circumstances." (Patterson, Keppler & Mapson, 1995)

Benchmarking is a practice suited for all companies no matter what field they are operating in, and it is encouraged as a means of investigating how to be the best of the best in one's own particular field. Once important and relevant information is gathered with benchmarking, it can be adapted to a company's own practices as improvement. Strengths and weaknesses of a company must be recognized as part of evaluating the processes the company is involved in before identifying, studying and adapting those issues which need to be benchmarked. (Patterson et al. 1995)

A company can basically choose from two different types of benchmarking: Experimenting with new methods and techniques and learning from those experiences is one way of conducting benchmarking, but another, more advantageous means of benchmarking is learning from the experiences of others. (Ghobadian, A., Woo, H.S., Gallear, D., Viney, H. & Liu, J. 2001)

Ghobadian et al. (2001) suggest that benchmarking can be divided into two different categories: internal and external benchmarking, which can be further subdivided. As internal benchmarking is
conducted within an organization, the actual benchmarking happens in an organization’s subsidiaries, divisions or departments. Here, the goal is to learn from within and from previous experiences. Internal benchmarking has its risks: Instead of looking outside the box, a company might be prone to having outdated practices, being guilty of self-conceit and passive innovation. In turn, internal benchmarking can encourage healthy internal competition within an organization and increase sharing of ideas. External benchmarking can be divided into competitive, parallel and generic benchmarking (Ghobadian et al., 2001). Out of these three, competitive benchmarking will be discussed for the purpose of this thesis. The rather new idea of formal business benchmarking involves analysis and action and has a scope much broader than informal benchmarking. Business benchmarking focuses on the level of excellence, not the measure of movement. (Ghobadian et al. 2001)

What are the most important factors that give benchmarking its distinctive character as a means of research? According to Ghobadian et al. (2001), there is a combination of qualitative and quantitative analysis in benchmarking. When combining these two types of analyses one is able to cover both verbal and numeral results in their research. Conducting a research on peer and parallel organizations makes it possible to compare one’s own business elements to those of organizations in the same or different industry, and it gives an idea on how to improve the organization’s own operations regardless of their respective field. Benchmarking also allows a comparison to be made “…against the best practice either within the organization or in peer organizations located anywhere in the world”. (Ghobadian et al. 2001) Benchmarking is an effective business tool due to its ability to offer improvements as breakthroughs and also, improvements that will benefit the organization in the long-run.

In this thesis, a mix of competitive, shadow and functional benchmarking was used to demonstrate the common qualities and differences between the laboratories. To sum up, a table of the benchmarked companies and their practices can be found in Appendices.
4.2 Why benchmark?

Companies today find benchmarking to be an excellent means to see how their company is doing, not just by measuring its own performance but measuring that performance against the best in the industry. (Ghobadian et al. 2001) Ghobadian et al. (2001) state some reasons for benchmarking: Instead of always looking inside one's own company and looking for ways for matters to be improved from within, benchmarking allows one to learn from other organizations. Adopting the best practices and ideas originating from elsewhere is not considered a bad thing if those ideas and practices actually work regardless of the respective industry. Benchmarking can also decrease the old mindset of not-invented-here as it is now acceptable to adopt and use ideas of others in one's own company. As a company looking for ways to improve their business goes through market-leading companies by benchmarking, it also learns about the competitive companies strengths, weaknesses and business behavior. Benchmarking encourages focusing on actual data and information rather than personal opinion which can be biased. As benchmarking not only accelerates the rate of improvement, it helps companies to identify the best practices in their field of business. (Ghobadian et al. 2001)

4.3 Competitive benchmarking

In competitive benchmarking, a key product or process is the main point of interest when making competitor-to-competitor comparisons. Certain criticism is needed when doing competitive benchmarking as competing organizations aware of being benchmarked can provide false and misleading information as no organization particularly wants to hand out information to other organizations operating in the same industry. (Patterson et al. 1995, 32) A company can investigate and analyze other organizations in the same business sector and its direct competitors' performance, products, and services and compare them them to its own (Ghobadian et al. 2001, 18). The main goal of competitive benchmarking is to find out what your competitor is doing, how they are doing it and how one can implement those successful strategies into their own organization.
In order to achieve results in competitive benchmarking, co-operation is key. If the competitor is not co-operative, another means to obtain information is to rely on indirect data, which can be less valuable and therefore less reliable. (Patterson et al. 1995, 32)

According to Patterson et al. (1995), when gathering direct information from a company through the means of competitive benchmarking, the targeted company must not perceive itself as a direct competitor operating in the same field. Relying on the information given by the competitor is not recommended but rather encouraged to be combined with the data obtained from public sources. When gathering up information about competitors there are several channels that can be used: Newspapers and magazines where the benchmarked company is mentioned can offer some valid information, competitors’ press releases, the Internet, literature, interviews, databases etc. are also viable sources of information. (Patterson et al. 1995, 43)

4.4 Shadow benchmarking

When a company looking for ways to improve its business is benchmarking another organization without the other party knowing about it is called shadow benchmarking. “The types of processes that are best improved by shadowing are those that you have in common with the partner...” (Patterson et al. 1995, 45)

With shadow benchmarking there are no benchmarking partners, e.g. there is no dependency on the competitor and the information they choose to give to outsiders. Not all ideas obtained are applicable to one's own organization but they might help prevent investment errors and redirect resources. (Patterson et al. 1995, 45)

Due to the fact that data obtained through shadow benchmarking might be incomplete, the risks in adapting the information are somewhat higher. In turn, shadowing makes it possible to collect new data that can be useful in the future concerning the improvement of processes in one's respective company or possibly creating market growth without alerting one's competitors. (Patterson et al. 1995, 45)
4.5 Functional benchmarking

Comparing one's company's own processes against similar, but not exactly identical, processes of a company operating in the same industry, or those of industry leaders' is referred to as functional benchmarking. This form of benchmarking is about coming up with new ideas that have already shown good results in a compatible area. In this case, the potential number of benchmarking partner-organizations is greater compared to other types of benchmarking, but due to the fact that there is no direct competition between the respective organizations the exchange of data is done more willingly. (Patterson et al. 1995)

Functional benchmarking, as any other form of benchmarking, has its risks: As one has gathered the necessary data the adaptation of that can be tricky because possible changes in the future of the organization are to be made. Then again, these risks are manageable because the benchmarker himself is in charge of the gathering and analysis of the obtained data. Possible benefits can be high, too: Basing future changes in the operations of other organizations that are not in direct competition with the benchmarker organization could facilitate overtaking one's competitors and becoming better than others. (Patterson et al. 1995)
5 RESULTS

In this chapter, the results of the case studies conducted through benchmarking are presented. The reason why these four organizations were chosen for benchmarking in this thesis is because the commissioner thought they were the most suitable ones to study in terms of their marketing. These organizations are internationally some of the biggest laboratories working in a similar field as the institutions in the UNELMA-project so benchmarking their practices was certainly beneficial.

5.1 EAG

EAG, or Evans Analytical Group, is an international organization with several ISO- certificates, based primarily in the United States of America, but has divisions in Europe, e.g. France and the United Kingdom. The company offers materials characterization, microelectronics test and engineering, environmental testing services, and scientific solutions. EAG is divided into five divisions: Materials characterization, Microelectronics Test and Engineering, ChemEco (environmental testing services), Chemir, which provides scientific solutions, and SEAL Laboratories, which concentrates on failure analysis, solutions to complex engineering problems and support in the areas of metallurgy, electronics and chemistry.

EAG’s website states that the company is “...committed to excellence in [our] professional practices, offering world-class analytical testing services, continuously improving [our] quality management system.” EAG takes a customer oriented approach to its quality policies: Measurement and monitoring client satisfaction, product conformity and process efficiency are important while they make proactive improvements to eliminate causes of problems and address potential risks, based on their customer feedback. EAG declares that their efficient operations respond to their customers’ needs, expectations and requirements.

EAG discusses their concept of delivering value to its customers: With over 30 years experience in their field, EAG “...aim to provide the best possible value by having the best capabilities, the best protocols, the best staff and the best instrumentation available.” According to their official
website [www.eag.com](http://www.eag.com), the organization has Facebook, Twitter and Linkedin accounts, and a possibility to subscribe to an E-newsletter. EAG attends several fairs every year in the United States, Europe and Asia.

EAG's key partners in materials characterization are SEMI, a global industry serving the manufacturing supply chain for micro- and nano-electronics industries, AVS, a professional society that supports networking among industrial professionals in chemistry, physics, mathematics through common interests in science, technology etc., ASM International, a global information sharing network, Surfaces in Biomaterials Foundation, an organization dedicated to finding solutions for technical challenges by engaging in education and cooperation among industrial, academic, clinical, and regulatory communities, Minor Metals Trade Association and The American Ceramic Society.

### 5.2 Lucideon (before: Ceram)

“Lucideon is an international, independent materials technology company that applies its materials expertise in ceramics, metals and polymers to a range of sectors including healthcare, construction, ceramics, aerospace and power engineering”. ([www.ceram.com](http://www.ceram.com), Date of retrieval 12.4.2014) The company changed its name from Ceram to Lucideon in February 2014 in order to bring the separate companies in the group under one identity. The company has divisions in the United Kingdom, the United States, and the Far-East, all providing customized materials solutions for those in need.

Lucideon offers its customers value by providing independence as the organization is not tied to any other organization but itself; confidentiality, quality, promise of added value to the customer's product or service, speed of service, expertise in the field through competent, renowned professionals, the latest technology and state-of-the-art equipment, global presence by having several divisions based around the world, innovation by investing in their own R&D, and mutual trust.

The company has many large, well-known brands and companies part of its clientele presented on their website which are illustrated in Figure 4, below.
During the year 2012, Lucideon informs its group sales to be £13.53M, from which the biggest part is played by services such as testing and analysis, materials development, resource efficiency and assurance. Lucideon is active in the social media as it has Facebook, Twitter and LinkedIn accounts. An extensive brochure can be found on their website, www.ceram.com, and subscribing to the company’s newsletter is possible through the website. The company also does a fair share of charity: They have publicly stated a charity of their choice for 2014 which they will support financially.
5.3 Nanolab Technologies

Nanolab Technologies is based on both the East and the West Coast of the United States. The company offers Knowledge Based Analytical Services for Advanced Microscopy, Chemical Analysis, Electrical Failure Analysis, Materials Analysis, FIB Circuit Edit, and Defect Analysis in support of several industries, e.g. electronics, solar, nanotechnology and medical devices.

Nanolab Technologies offers its customers value by providing “...timely, accurate and useful information, utilizing the most optimum, cost effective, knowledge driven, problem solving methodologies...” The organization takes special pride in their work force: All employees working in materials analysis and other specific areas of the industry are of higher education and possess an experience of up to 40 years with several publishings in the industry.

The company has brochures about their specialties up for downloading on their website and they take part in conferences around the world. Unlike other companies benchmarked in this thesis, such as EAG and Lucideon, Nanolab Technologies is not yet active in the social media. ([www.nanolabtechnologies.com](http://www.nanolabtechnologies.com), date of retrieval 15.4.2014)

5.4 Solvias

Solvias is a privately held Swiss laboratory involved in pharmaceuticals, agrochemicals and fine chemicals' sector for a long period of time. This experience gives Solvias the opportunity to offer “unparalleled experience and state-of-the-art services”. Today, Solvias offers its clients “unique technology and know-how in the areas of analytical, biopharmaceutical and chemical development...” According to their official website, [www.solvias.com](http://www.solvias.com), Solvias has a service palette which offers clients Analytical Services, Analysis of Biopharmaceuticals, Catalysis Solutions, Chemical Development, Polymorphism, Salt and Co-crystal Screening and Process Analytical Technology.

Solvias takes pride in having effective and efficient project management where their project managers take responsibility for the clients and their projects from day one to finish. Typically, the project managers working in the field are of higher education and experienced in natural
sciences. An important added-value according to the Solvias website is the effective and timely communication between parties. The company website declares that Solvias’ aim is “...to fulfill comprehensively all the contractual and project-specific requests of our customers according to the guidelines of the authorities.” Having continuous quality management, the company makes sure that their efficiency concerning their activities is not compromised and the improvement of their processes, services and products is an ongoing process. Solvias has also established Quality Agreements with several companies to better describe the service relationship’s responsibilities, restrictions and other aspects.

According to a press release in 2013, the company achieved a total revenue of 46 million Swiss francs in 2012, which meant a 3% increase compared to the previous year. There was also a slight increase in sales in 2012, despite of the ongoing challenging market conditions. On their website, Solvias introduces a possibility to subscribe to the company’s newsletter, and offers its clients downloads, e.g. a customer magazine, product folders, and publications. Latest news and press releases are also mentioned on the website as well as events and fairs Solvias is taking part in.

As mentioned earlier, a table to help make benchmarking theory more concrete was created based on the companies benchmarked. The table illustrates each company’s value proposition, revenue model, service offering, target customer and marketing communications. The table can be seen in full in Appendices.
6 CONCLUSIONS

The purpose of the thesis was to familiarize with current conventions of international high-technology laboratories and their marketing in Europe. After benchmarking the best companies in a similar field as UNELMA, the author came across ways to apply the marketing practices of others to the high-technology laboratories' marketing in Finland, especially to the marketing practices of the UNELMA-project. Therefore, there were basically two research questions the author wanted to answer in this thesis throughout the process.

1. How do international high-technology laboratories currently market themselves?
2. Which practices are recommended for UNELMA-project's marketing?

As stated earlier in this thesis, a business model lays out the strategy for a company. According to Jansen (2007), strategy deals with the overall vision, strategic goals and values a company wants to offer its customers. All the laboratories studied stated their own excellence in their field of operation. Evans Analytical Group (EAG) clearly declares its purpose on their website: Delivering innovative analytical services for the past 30 years, EAG is one of the leading high-tech laboratories on a global scale. Lucideon wants to fill their customers' needs by creating an atmosphere of trustworthiness as the organization is independent and not tied to any other organizations. Nanolab Technologies takes specific pride in its work force and their experience: All people working in materials analysis and testing are people of higher education and have a work experience of up to 40 years. Solvias also possesses a long period of high-technology experience: This gives Solvias the opportunity to offer “unparalleled experience and state-of-the-art services” to its customers.

High-technology organizations' target customers include a large variety of companies and industries. For example, according to their website, EAG is the chosen analytical provider for several scientifically demanding and challenging industries, such as electronics, pharmaceuticals, fine chemicals, automotive and defense, only to name a few. EAG is a laboratory that wants to offer its clients the highest possible value: In their website they clearly state they have “the best capabilities, the best protocols, the best staff and the best instrumentation available for its customers". EAG also informs that their efficient operations respond to their customers' needs,
expectations and requirements. As discussed earlier, Lucideon made some of its biggest and most well-known clients available to be seen by anyone visiting the website. Marketing-wise, this is a smart move because brands like Unilever and Speedo are brands familiar to basically everyone.

Interaction and relationship forming is important: Out of the companies researched for this thesis, EAG and Lucideon both were active in the social media. Willingness to interact with others indicates that the company has an understanding of the importance of forming relationships: Being listed on Facebook, Twitter and Linkedin is rather an effortless way of being noticed nowadays and keeping potential and existing customers up to speed on things happening in the organization.

It is obvious that the kind of services these laboratories studied in this thesis provide are not for the mass market. The services are high-technology professional services which are targeted towards special industries like pharmaceuticals, automotive, defense etc. There is a big difference between these special industries and regular retail. As stated earlier in Chapter 2.1, “instead of being agreeable to the mass market, a B2B-seller wants to raise interest in a smaller number of specialist buyers”. According to Danyi (2008), the success of a professional service organization is highly dependent on the quality, value, skills, abilities, and personal characteristics of the people inside the organization. All companies benchmarked for this thesis offer obvious quality and value their customers.

These services of the organizations studied in this thesis offer a good example of a service’s intangibility, as it cannot be physically touched or purchased like a regular product: The client sends in a piece of metal, for example, and wishes it to be analyzed for whatever purposes the customer has in mind concerning their line of work in automotive, for example. The piece of metal is analyzed, and the results sent to the customer. The result from the analysis for the customer is not necessarily tangible: They get the results on a piece of paper but their input in the actual process of analyzing the product is not that existent. Frow et al. (2011) state that services are heterogeneous and therefore variable and non-standard. As said earlier in this thesis in Chapter 2.2, inseparability and perishability are also defining characteristics of a service: This means that there is no real consumer participation in between the actual transaction and consummation nor can the service be stored on inventoried like an actual product can (Dacko, S. 2007).
Leake et al. (2012) state that “Online needs to be integrated into all facets of your marketing program, with everything you do to market your products: Events, lead generation, advertising, PR, corporate communications, community, campaigns, and brand.” Online marketing, or digital marketing, should complement and support traditional marketing and its operations. Leake et al. (2012) remind the reader that digital marketing is a marketing vehicle which increases customer value, not only drives awareness and leads sales. For this thesis, digital marketing offered a large basis for the studying of the benchmarked companies.

In the previous chapters, business models were studied for the purposes of this thesis: A business model lays out the strategy of a business. It communicates what should be done, and how, to create the wanted value. According to Jansen et al. (2007), strategy is the act of dealing with vision, strategic goals and values a company wishes to provide and achieve. A business model canvas is a tool which helps in developing new or documenting already existent business models: When conducting this thesis, the business model canvas proved to be of the utmost advantage in understanding how the companies’ business models actually work.

Value creation is based upon the definition of value and understanding the actual concept of value. As value is created it is important to realize marketing practices: Dividing the market of interest into separate segments based on customer groups’ different characteristics is referred to as segmenting. Once the needs of potential customer groups are defined a value proposition clear to the business as a whole can be determined. Delivering a company's value proposition to their chosen market segments and analyzing the value actually created in the process are also part of the marketing process. The delivered value acts as a basis for comparison in terms of the value proposition created in the process of determining the service value proposition. (Frow et al. 2011) As discussed earlier, a description of financial flows, revenues and costs concerning a business are referred to as a revenue model. The revenue model informs the execution of a business model strategy: It translates what needs to be done in terms of value creation in order to induce cash flow? (Jansen et al. 2007) Kaplan (2012) summarizes revenue creation for a business: Revenue is created by supporting the business model of a company.

As mentioned in Chapter 3.4 in this thesis, services have their own unique characteristics that need to be considered when designing a service offering. Those certain defining characteristics were discussed in detail earlier in the course of this thesis. Brennan et al. (2008) stated that “…the success of an offering will be measured by the extent to which it provides a complete
solution to the customer’s problem. It is only then that the core benefit of an offering is completely delivered.” Brennan (2008) also states that the offering must adapt to changing needs if the marketer wants to continue to meet their customers’ needs. Services offered in a similar field of operation might not be so very different by the core of the service: The main difference is in adding aspects and characteristics to the already existent service in order to offer something different than the competitor (Gilmore, A. 2003). In B2B-marketing, finding out a company’s target customers relies on segmenting. (Fill & McKee, 2011) When dealing with target customers and defining who they are it is important to pay attention to the fact that contemporary B2B market segmentation should be about fulfilling customer needs and concentrating on relationship requirements. (Fill & McKee, 2011, 124) As discussed previously, within the past few years, marketing communications has become an important part of any company’s marketing operations: The amount of marketing communications has increased significantly and its range diversified due to the growth of different medias. Marketing communications are based on the company’s marketing strategy which determines how to succeed compared to competitors and what to put the most effort in for the future.

For the purposes of this thesis, case studies through benchmarking were chosen as the method of study. According to Rowley (2002), case studies answer the questions “How?” and “Why?”, and can be used for exploring, describing and explaining a piece of research. The answers to these types of questions can be found through documents, archival analysis, surveys and interviews. As said before, case studies are a supportive tool when dealing with deep and more detailed investigation of a matter. Yin (1994) reminds the reader that the strength of a case study is the fact that it does not need to be replicated in an experimental setting in order to understand the phenomena examined.

In theory, benchmarking can roughly be divided into two groups: Internal and external benchmarking. From there onwards, benchmarking can be subdivided into several types of benchmarking which are discussed more in detail in correlation with this thesis in Chapter 4. A combination of competitive, shadow and functional benchmarking practices were used in the research for this thesis, all of which are discussed earlier in the theory part of this report. Lastly, all of the laboratories benchmarked shared a distinct appreciation for professionalism: EAG, Lucideon, Solvias and Nanaolab Technologies all stated their excellence in high-technology research and expertise in the ever-changing, ever-developing fields of electronics, solar, nanotechnology and medical devices. It also seems that having an excellent, clear and well-
managed website of the company and its services is crucial in order to be noticed and found by potential clients. Like the companies benchmarked in this thesis, as the services offered in the field of high-technology are not targeted towards the mass market, the use of specialist vocabulary is encouraged.

Based on the research made and benchmarking conducted, further recommendations for the UNELMA-project and the marketing of the service network are presented in the succeeding chapter.
7 DISCUSSION

This thesis was conducted in order to familiarize with and research current marketing conventions of international high-technology research laboratories in Europe. All of the benchmarked companies operate in a similar, if not the same, field as the companies and participants of the UNELMA-project. The process of benchmarking certain companies for the purposes of this thesis gave an idea of how to implement the marketing practices of international laboratories to the ones in Finland and Sweden, and especially to the service network the project is set to create. The propositions and suggestions made in this chapter have been roughly based on the Business Model Canvas as it proved to be one of the most efficient means of clarifying the author's ideas.

The actual research and study part of this thesis was conducted through benchmarking. The information for benchmarking was mainly taken from the companies websites, as well as from publishings on the Internet, brochures and newsletters. Emails concerning marketing operations, business models etc. were sent to all benchmarked companies with no comment or no reply at all. Case studies proved to be advantageous due to their effectiveness in putting relevant information about the benchmarked laboratories into one and the same structure. As finding current and accurate information about the laboratories studied in this thesis was challenging, the case study approach was taken into use as it could provide a clear basis for the research. In this thesis, each laboratory benchmarked is one case study in itself. The information gathered from benchmarking was qualitative.

Using a version of a Business Model Canvas the UNELMA-project can figure out its value proposition: The laboratories benchmarked in this thesis had clearly stated their value propositions in their websites by addressing their excellence, experience in the field and the solutions they offer. UNELMA should think about the 'problems' their future potential customers face and address those accordingly. A clear statement of the actual services the service network provides is important: EAG, Lucideon, Nanolab Technologies and Solvias all had listed their fields of expertise and the type of services they, whether it be very technical vocabulary-wise, offer to their chosen segments and future clients. Moreover, the UNELMA service network needs to be clear which customer needs the service concept is set to satisfy.
Another issue to be given thought to is the Customer Relationship part of UNELMA’s business model: What type of a customer relationship do the service network’s customer segments expect to have with the organizations involved in the project? Keep in mind, the potential customers are specialized companies and organizations with possibly several people working in one department. The flow of information, customer service and the possibility to contact partners of UNELMA is important when establishing and maintaining a customer relationship. All the companies benchmarked in this thesis were clear about the importance of information, feedback from their clients, offering customer service – even by phone – and contact possibility through ready-to-use contact sheets on their websites. Nowadays sending in feedback is quite effortless and therefore should be paid attention to in order to develop current practices and services based on clients’ wishes. When trying to get a hold of new potential customers, UNELMA should not forget to maintain their already existent customer relationships as they are just as important as the ones to come. Integrating the customer relationships into the rest of the business model needs to be a priority. As important as customer relationships are, a certain attention should also be given to their costs: Are the customer relationships obtained productive and lucrative enough or are they too costly in the long run?

The author suggests that UNELMA should find out through which channels their chosen customer segments want to be reached and how they are reaching their target customers at the moment. As well as in customer relationships, the integration of chosen channels is vital and the project should be aware of which channels work the best. A certain emphasis should also be put on the cost aspect of the already existent and future channels. Which channels are the most cost-efficient and how are those integrated with customer routines? Channeling comes in phases which can offer help: Raising awareness about UNELMA, its products and services is important and the way it is done is up to the project and its marketing management itself. Secondly, the clients’ evaluation of the project’s value proposition is something that can be affected through existing and future channels. Another issue worth putting time and effort into is the way the project allows its clients to purchase these high-technology services offered by the service network. From there onwards, one needs to think about the delivery of the service: How to deliver the promised value of the service in question to the client?

Once the customer segments are established, the UNELMA project needs to know for whom they are actually creating value. It is vital for any organization offering services to know who the value proposition of the company’s services is targeted to. In addition to this, knowing one’s most
important clients is extremely important as they are the life of a company by bringing in the company revenue.

When dealing with a future business model, cost structures need to be defined as well. The people working with the UNELMA project's marketing should be familiar with the most important costs that are natural to the business model created. Key resources and key activities of the future service network's business model need to be defined in terms of cost: Which key resources and key activities are the most costly and why? Revenue streams should also be taken into consideration when figuring out what is the actual value current and future clients are willing to pay for when doing business with the service network. The current situation could also be monitored in terms of what the clients are paying now, how they are paying for the service and also, how they would like to pay for the actual service. Each revenue streams' contribution to the overall revenue created by the service network should be investigated as well.

As said earlier, having a well-managed, up-to-date website of the service network and what it has to offer is crucial. Today, everything can be found on the internet and people turn to Google in all situations imaginable. The companies benchmarked in this piece of research all had excellent websites and sufficient and accurate information put up on their website. The author suggests that UNELMA-project puts a significant amount of effort into and a special sense of care on the design and execution of the future website.

The process of writing the thesis has given me an in-depth opportunity to learn about B2B-marketing and its various forms. My own interests towards marketing in general, benchmarking and studying the marketing methods of 'the best of the best' have motivated me in writing this thesis. Having more information about business models, revenue models and issues related to them was advantageous and I found learning about them to be beneficial in the future. I found the Business Model Canvas in particular to be extremely helpful in realizing and understanding the concept of a business model. I also hope the UNELMA-project's management find the Business Model Canvas to be helpful in having a clear idea of the business model they wish to create. For me, having a simple image of a business model was truly beneficial in writing this discussion as well as it helped create a more concise, structured text. Finding information about the companies benchmarked was not always easy but I feel that my research skills developed during the process of writing this thesis. Communicating in English has always been rather effortless to me so the actual writing part of the thesis was not hard for me at all. What I did find challenging at times was the fact that I had never actually written a report the
size of this on my own. After completing this report, I am proud of the work I have done and what I have accomplished.
REFERENCES


www.wikipedia.com

<table>
<thead>
<tr>
<th>Value proposition</th>
<th>EAG</th>
<th>Lucieon (formerly Ceram)</th>
<th>Nanolab Technologies</th>
<th>Solvias</th>
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<td>Experience of over 30 years, the best capabilities, the best protocols, the best staff and the best instrumentation available</td>
<td>Confidentiality, quality, promise of added value, speed of service, expertise, renowned professionals, the latest technology and state-of-the-art equipment, global presence, innovation by investing in their own R&amp;D, and trust.</td>
<td>Timely, accurate and useful information, utilizing the most optimum, cost effective, knowledge driven, problem solving methodologies.</td>
<td>Unparalleled experience and state-of-the-art services, effective and efficient project management, effective and timely communication</td>
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| Revenue model | Financial flows, revenue nor costs are not mentioned on the website. Prices etc. are negotiated. | The company published its group sales of 2012, 13.53M £, from which their services are the largest source of income. | No financial information, costs etc. are not mentioned. Prices for services upon inquiry. | Company is privately held, so no public financial information is available. Prices for services are negotiated as well. |

| Service offering | Materials characterization, microelectronics test and engineering, environmental testing services, scientific solutions | Expertise in ceramics, metals and polymers to a range of sectors in healthcare, construction, ceramics, aerospace and power engineering | Knowledge-based analytical services for advanced microscopy, chemical analysis, electrical failure analysis, materials analysis, FIB circuit edit and defect analysis in support of several industries, e.g. electronics | Analytical services, analysis of biopharmaceuticals, catalysis, chemical development, polymorphism, salt and co-crystal screening, process analytical technology |

| Marketing communications | Facebook, Twitter and Linkedin accounts, and a possibility to subscribe to an E-newsletter. EAG attends several fairs every year in the United States, Europe and Asia. | Active in social media: Facebook, Twitter and Linkedin accounts. An extensive brochure on www.ceram.com, subscribing to the company’s newsletter is possible through the website. | Brochures about their specialties up for downloading on their website, participation in conferences around the world. Not yet active in the social media. | Company newsletter, clients are offered downloads, e.g. a customer magazine, product folders, and publications. Latest news and press releases are also mentioned on the website as well as events and fairs. |