Fontys University of Applied Sciences

Attracting pharmaceutical companies to attend MAP-Expo 2018

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Preface

The thesis "Attracting pharmaceutical companies to attend MAP-Expo 2018" is made as a completion of the bachelor's degree in International Business and Management Studies at Fontys University of Applied Sciences. I was performing this research and writing the thesis from February 1st to May 28th, 2018.

The graduation assignment was performed at the request of the company NBI International, where I did my internship.

Some people have contributed academically and practically to this bachelor thesis. First of all, I would like to thank my company supervisor Mr. B. Wolters for the given opportunity, his time, helpful input and guidance through the 4-month internship period. Also, I am grateful to NBI International director Mr. Ch. Aelberts for his support and help in solving issues that appeared during my research execution.

Moreover, I would like to express my gratitude to my Fontys supervisor Mr. E. Jansen for his support, feedback, and remarks during the entire internship period.

I would also like to thank my family and friends for being supportive during my time at Fontys University of Applied Sciences and motivating me when I needed it the most.

I hope you enjoy reading this thesis and I hope my work provided value to NBI International!

Karina Markutė

Eindhoven, May 28th, 2018

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Glossary and abbreviations

CEIR	Center for Exhibition Industry Research;
EMEA	European Medicines Agency;
MAP-Business	Matchmaking program, where the appropriate supplier is matched with the right buyer so that they can meet and establish new business relations;
MAP-Expo	Global Marketplace for Medicinal and Aromatic Plants;
MAPs	Medicinal and aromatic plants;
NVF	Nederlandse Vereniging voor Fytotherapie (Dutch Association for Phytotherapy).

Executive summary

This thesis was conducted in response to a request by Dutch company – NBI International, which is organising an exhibition of Medicinal and Aromatic plants MAP-Expo, this year (2018) the second edition will occur on October 3rd and 4th.

During this event, NBI International team will introduce MAP-Business. Thus, an action plan on how to approach companies (operating in the medicinal and aromatic industry) and convince them to participate is needed; also, it is vital to investigate what types of plants companies are looking for at the moment.

The researcher followed the descriptive research. The survey found that pharmaceutical companies mostly contact between 3 – 7 suppliers when looking for raw plants; however, the number varied from one to even 20. Most suppliers were situated across different countries. The research revealed that quality, price, and delivery time were the most mentioned factors by pharmaceutical companies when it comes to selecting the appropriate supplier. Almost 94% of respondents are interested in establishing new business relations. Additionally, online communication is the most preferred method of communication between the pharmaceutical company and the supplier. The most common order quantities fell in the range of 500 – 2,000 kg and 5,000 kg – 10,000 kg.

Last but not least, the researcher proposed the recommendations in the form of a marketing plan. It is recommended to update the e-mailing strategy, to transition from regular pricing to flexible pricing, and to increase the presence on social media. Besides this marketing plan, it is advised to narrow down the focus area and to pay more attention to pharmaceutical companies that operate in alternative medicine (phytotherapy companies), since these companies are more open regarding the participation in this kind of events.

Chapter 1 – Introduction

This chapter will cover multiple aspects of the research project. In the following sub-chapters, the company and the problem have been described, then the problem statement and project objectives of this research are presented. After that, the deliverables, the research objectives, demarcation, and definition of terms follow. Finally, the choice of specific theoretical approach is explained.

1.1 Company and problem background

NBI International is an event management organisation founded in 2011, based in Eindhoven, the Netherlands. The CEO of this organisation is Mr. Chris Aelberts. The company was established with the goal to increase the international trade relations between European countries and to promote their economies. The primary activities of this organisation are: hosting trade-related fairs, seminars, conferences, to name just a few. Moreover, NBI International maintains a worldwide network of 60 countries from which analyses of specific demands are made to generate purchases and investments. The purpose of these evaluations is to realise demand-driven sales processes, on both macro and micro scales. The current events that take place in 2018 are: Limburg Unlimited (a platform to expand individual's connections and to show the full potential of Limburg), Excellent Luxury Living Event (housing exposition), MAP-Expo (Global Marketplace for Medicinal and Aromatic Plants). This project focused on MAP-Expo ("NBI International, Eindhoven, Netherlands, " n.d.).

Worldwide, the demand for herbal drugs, cosmetics, foods and other products in this significant market continues to increase. Being aware of this trend, NBI International organised the first MAP-Expo as the go-to global marketplace for main players in Medicinal and Aromatic Plants related sectors in 2017. NBI International focuses on companies that operate in one or more of the following segments: medicinal and aromatic raw plants, MAP extracts (organic and conventional), MAP cultivation and production, supplements, drugs, and cosmetics. This event, oriented explicitly to B2B segment, is organised to strengthen and integrate links in the supply chain, matching suppliers with buyers (companies that purchase MAPs) and developing new markets in the process ("MAP-EXPO - The Global Marketplace for Medicinal & Aromatic Plants," n.d.).

NBI International needs more information on the buyer-market in the Medicinal & Aromatic Plants industry, pharmaceutical companies, to be more precise. To successfully start the concept MAP-Business they need a list of buyers who are willing to participate in this

Matchmaking-program organised at MAP-Expo 2018. NBI international needs to know what are the buyers' requirements and criteria for selecting the right supplier, and when this is known, the appropriate supplier will be matched with the buyer during the MAP-Expo 2018.

1.2 Problem statement

The problem statement of this project was as follows:

How can the essential buyers in the Medicinal & Aromatic Plants industry be approached and convinced to participate in a matchmaking-program in MAP-Expo 2018 event?

Since its first edition in 2017, NBI International is aiming to arrange an even better and bigger MAP-Expo in 2018. The first event edition invited 50 exhibitors and around 400 – 500 visitors. Based on these results, the goals of NBI International for this year's MAP-Expo are to:

- Double the amount of exhibitors (invite 100 exhibitors);
- Triple the number of visitors attending the exhibition (around 1500 visitors).

Therefore, more extensive research is needed to achieve these goals. This research focused mainly on the buyers' part. In this study, the **buyer** is a pharmaceutical company that uses medicinal and aromatic plants in the medicine production. A clear action plan is needed to convince and invite these companies to attend this event.

1.3 Objective

The objectives of the project were:

- *By 15th of May to provide NBI International with a plan on how MAP-Business needs to be communicated with pharmaceutical companies;*
- *By 15th of May to come up with the list of 30 – 50 essential buyers in the Medicinal & Aromatic Plants industry that can participate in a matchmaking-program. Based on the research outcomes, the execution of sales plan may be adapted if needed.*

1.4 Deliverables

The deliverables of this project were:

- Background information about MAPs (Medicinal and Aromatic Plants) market;
- Analysis of pharmaceutical companies (their supply chain, selection criteria/ requirements of the companies when selecting the suppliers of raw plants;

- The degree of competition in the event industry that serves a similar purpose (events in the Netherlands and outside the country);
- The list of pharmaceutical companies that can be invited to participate in matchmaking-program in MAP-Expo 2018;
- The marketing plan which provides the list of actions on how to approach the drug companies (buyers).

1.5 The research objective and main research questions

This research was descriptive research. The purpose of the study was to describe the Medicinal and Aromatic Plants industry and to find what the most important buyers in this industry are. Lastly, this research was executed to help NBI International to fill in the gap that they identified as follows:

There is a scarcity of plants that pharmaceutical companies are looking for to produce their regular medicine; here the MAP-Expo wants to step in to introduce the appropriate supplier which has these required plants.

Managerial question:

1. How do we get pharmaceutical companies to believe and participate in MAP-Business concept?

Main research questions:

1. What are the current situations in pharmaceutical and MAPs industries?
2. What are pharmaceutical company's selection criteria for selecting an appropriate supplier?
3. What plants are ordered the most?
4. Which plants are in scarcity among pharmaceutical companies?
5. What is the competition among events with the same concept in Europe and the Netherlands?

1.6 Demarcation

The project focused on pharmaceutical companies in Europe and the department involved was the purchasing department.

1.7 Definition of terms

Medicinal Plants – plants that have a characteristic to synthesise a wide range of chemical compounds that are used to perform crucial biological functions ("Medicinal and Aromatic Plants - Open Access Journals," n.d.)

Aromatic Plants – plants that can produce and discharge aromatic materials, and can be used in the perfume-making process, in cooking, and in several industries, including food, pharmaceutical, and liquor industries ("Medicinal and Aromatic Plants - Open Access Journals," n.d.).

MAP-Expo – Medicinal and Aromatic Plants Expo is a sector of events that NBI International is organising and operating in. It is the Global marketplace for Medicinal & Aromatic Plants.

MAP-Business – is a corporation of farmers of raw plants. Together with NBI International, these farmers can provide needed natural plants to the buyers (such as pharmaceutical companies).

Pharmaceutical company – (also called drug company) is a commercial business with the aim to research, investigate, market and distribute drugs, in the healthcare context ("Pharmaceutical company," 2018).

1.8 Theoretical approach

1.8.1 Supply Chain Operations Reference Model

To collect the data about the supply chain of a drug company this research used the Supply Chain Operations Reference Model (SCOR) for developing appropriate survey questions. The SCOR model can be used to address, improve, and communicate the decisions of the supply chain management within the organisation, and with suppliers and customers of the organisation. The model presents the processes of a business that need to be performed to satisfy customers' demands. The Supply Chain Council (www.supply-chain.org) with the help of 70 biggest manufacturing firms created this model. The SCOR model analyses the main five areas of processes: plan, source, make, deliver, and return (Hudson, 2004). Figure 1 illustrates the model and explains each element.

This project focused on the first two areas of this model: Plan and Source. MAP-Business focuses on evaluating how pharmaceutical companies are doing business with their suppliers of raw materials (plants). The main attention points for MAP-Business are the order quantities,

order time, the supplier-buyer relationship, and which plants are ordered the most. Therefore, the questions in the survey are related to these two categories.

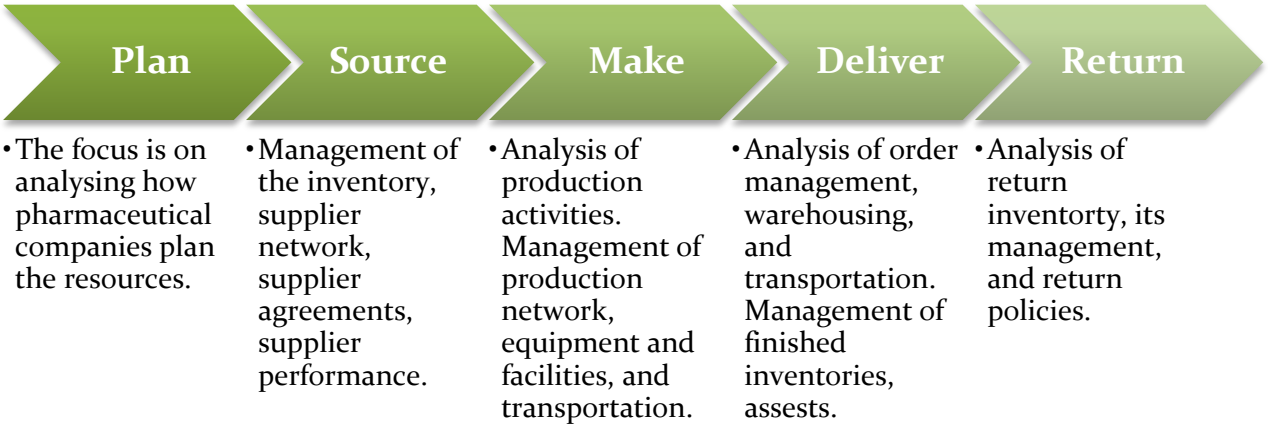

Figure 1. SCOR model (Supply Chain Council, Inc.).

1.8.2 7P's Marketing Mix

The marketing mix is the most significant approach in the marketing area. In the past, it consisted of four marketing variables that a firm applies to reach needed responses from their market. These four variables were: price, place, product (service), and promotion. However, this traditional marketing mix extended in the 1990s, and now it consists of seven marketing elements: product (service), price, place, promotion, physical evidence, people, and process (M. T. Khan, 2017, p. 95-100).

These variables reasonably constitute the core of company's marketing activities. All these items are crucial and depend upon each other, in other words, they are interrelated (see Figure 2). **The product** is a physical item or service that a company can offer to its customers. **The place** is a location where individuals can purchase the item. **Price** is the amount of money an individual has to spend to purchase the product/ service. **Promotion** is activities that company undertakes to make their product/ service known and convince their customer that they need these products which, in turn, will generate sales (Singh, 2012). **Physical evidence** concerns service industries. When a company is offering services, there has to be some physical evidence which indicates the delivery of the service (receipts, documents). **People** refer to the company employees; and finally, **the process** is activities that are needed for service execution ("Marketing Mix Definition - 4Ps & 7Ps of the Marketing Mix," n.d.).

The 7P's Marketing Mix was used to create a marketing plan for NBI International. The description of current strategies comes first, and then the recommended actions are explained. Chapter 5 introduces the marketing plan and strategies.

Figure 2. 7P's Marketing Mix.

Chapter 2 – The literature review

This chapter provides an overview of the previous literature on Medicinal and aromatic plants and pharmaceutical companies. It introduces the process that needs to be done to make a herbal remedy. Moreover, the supply chain of pharmaceutical companies is introduced. Last but not least, the concept of exhibitions is explained.

2.1 Medicinal and aromatic plants

Medicinal and aromatic plants have been a valuable tool to cure different diseases all around the world. Currently, the interest in the usage of the medicine made from these plants has increased. The reason for this is mostly the rise in the cost of chemical medicals. Medicinal plants like Ginger, Aloe Vera, and Ginkgo have received attention for the treatment and prevention of many disorders. The influence that journals (containing medicinal plants data) have is growing significantly (Rafieian-Kopaei, 2012).

Rafieian-Kopaei (2012) confirms that more than 70% of physicians in Germany prescribe herbs to their patients; furthermore, Perforate St. John's-wort is used much more than any chemical medicine to cure mild/ moderate depression. Medicinal plants are the source for a wide range of natural antioxidants and are used for the medical care all over the world. There are several areas where medicinal plants are employed; it includes: anti-cancer, antimicrobial, and anti-diabetic. Because of its richness in antioxidants, there is a growing focus on finding the cure to different diseases using natural plants.

Definition of herbal medicine varies across countries. Also, the nations have different approaches when it comes to manufacturing and trading medicinal remedies. Herbal medicines in the majority of European countries are fully licensed, and clinical trials are required to prove their effectiveness. On the other hand, herbal medications in the United States of America are recognised as dietary supplements; therefore, they do not need to fit the drug requirements (Rafieian-Kopaei, 2012).

2.2 From medicinal plants to natural remedies

As was stated by Rao, Palada, and Becker (2004), the process of a new herbal remedy formulation is strictly defined and involves work from different sectors of the company. The process is broken down into stages, and they are completed by executing several vital activities. The extent of new medicine development is influenced by the complexity of the

galenic formulation[1] of that new herbal remedy. All actions are identified in the documents of quality standards and other regulations of the company. Figure 3 illustrates the activities required to launch new herbal remedy prosperously.

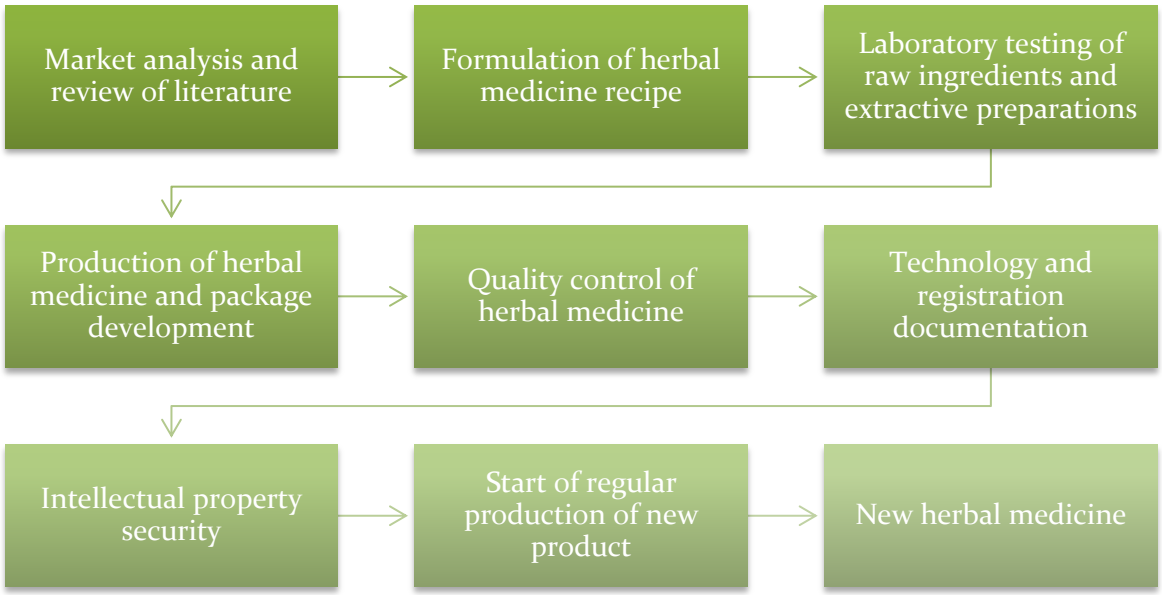

Figure 3. From medicinal plant to herbal remedy (Djordjevic, 2017).

Prior studies have thoroughly investigated the activities concerning the development of new herbal remedy. Djordjevic (2017) stated that the activities follow a systematic procedure. Departments like sales, management, and administrations, as well as demand from patients, may show that there is a necessity for a new medicine. Management gives the order to the pharmaceutical research and development, to assign a team of people to work on the project and project manager to supervise them. The starting point begins with the pre-formulation studies. Market evaluation and the literature review of the specific topic can be very challenging. It includes the actions of the Institution's herbal pharmacies that gather patients' specifications, commercial department, which collects information about herbal medicine from the different markets. Literature reviews investigate all relevant instructions and documents, scientific reports, and others. When the team of experts performs activities mentioned above, they focus on new drug recipe formulation. Laboratories are also involved in the formulation of new medicine. Analysis of active components in raw plants and quality

[1] Galenic formulation – the process that transforms an active component into an available for use medicine and can be dosed as required ("Galenic formulation: How medicines are formulated - EUPATI," 2015).

control is done in this phase. After that, the performance of quality control of semi-final product follows.

Subsequently, the preparation formulation takes place. Additional raw plants are selected and analysed to choose the ones which strengthen the effects of the primary natural ingredients. When the design of the herbal drug is finished, the team performs the laboratory examinations as defined in instructions, such as average capsule weight, ingredients per capsule, dissolution test, and safety. Experts secure the preparation name at the Intellectual Property Office, the decisions of the packaging are carried out, and technological authorisations are done. When the test production of medicine is performed, the herbal remedies are introduced into regular production. The verification of technological processes, equipment, laboratory methods is ensured. Then the registration of appropriate documents, finalising a report and result presentation is arranged (Djordjevic, 2017).

When the herbal medicine is produced and packed, the quality check takes place once again. Together with new drug production, technical documentation writing takes place. It provides information about preparation of the product, expiration date, ingredients and safe dose of preparation. Lastly, the team arranges registration documents. It is different for herbal medicine and dietary supplements. If a new product falls into a category of the herbal remedy, then the procedure of European Medicines Agency (EMEA) documents need to be performed. However, if this new product receives the classification of a dietary supplement, the dose of the medication needs to be below 65% of the therapeutic dose (Djordjevic, 2017).

2.3 Trade of medicinal and aromatic plants

Medicinal and aromatic plants are traded as commodities and as final products. Demand for different species is expanding as these markets grow and new customers are approaching. The highest use of traditional remedies is: 100% in the United Arab Emirates and China, 70% in India and Pakistan, and 70-80% in Africa (Bogers, Craker, Lange, 2006).

There is a wide range of products that are produced from medicinal and aromatic plants (Figure 4, see next page).

The pharmaceutical industry uses medicinal plants for the isolation of single purified medicine. Also, pharmaceutical companies use them as a starting component for the production of other herbal remedies. A significant part of raw plants is used to produce plant extracts. The final product manufacturers or by extract firms perform plant extractions. Additionally, the market for herbal products (health foods, herbal drinks, food supplements,

personal care goods) in developed countries is facing an upward trend. The value of the herbal product market in the world is around US$60 billion, with 7% growth rate (Raw Materials, Tropical and Horticultural Products Service. Commodities and Trade Division. Economic and Social Department. Food and Agriculture Organization of the United Nations, n.d.).

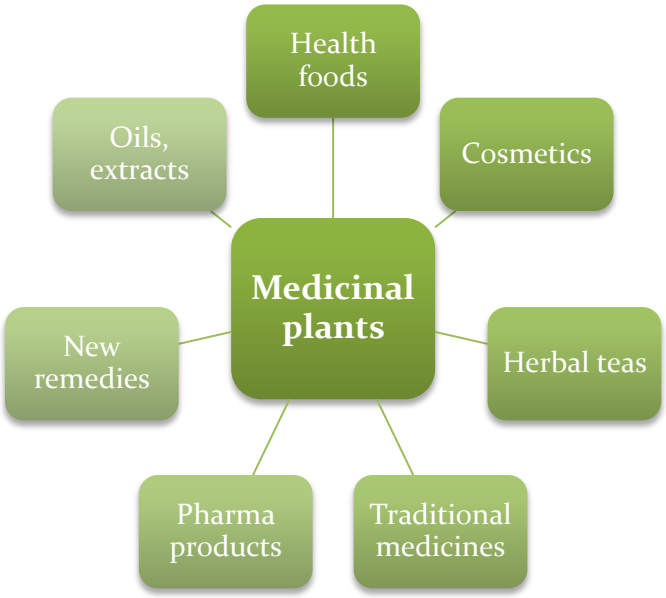

Figure 4. Products made from medicinal plants (De Silva. 1997).

2.4 Importers and exporters of medicinal and aromatic plants

Herbal medicine markets in developed countries, mostly in Europe and USA are highly regulated and very difficult to enter, especially for developing countries, because materials in these countries do not go through tests and checks that are required by pharmaceutical manufacturers in developed countries. For this reason, companies import only unprocessed or lightly processed components from developing countries. For example, imports from India are around 80% and includes dried plants, extracts, and isolated ingredients. The other 20% are imports of finished medicinal remedies, a majority of it being homoeopathic remedies. Developing countries that have deep roots of medicinal plants usage (China, South Korea, Brazil, and Thailand) are big exporters (Raw Materials, Tropical and Horticultural Products Service. Commodities and Trade Division. Economic and Social Department. Food and Agriculture Organization of the United Nations, n.d.).

The key importing countries are: China, the USA, Japan, and Germany. The industry of herbal products is not the same in all countries. Each state has different regulations and rules that need to be satisfied to bring herbal medicine to the country. The categorisation of products can also differ among countries. The product can be defined as a herbal remedy in one country, and as food in another. Moreover, different quality assessments apply to medicine and

food. For food, the hazard analysis, and the critical control points are employed, while for drugs, pharmaceutical good manufacturing practice is employed (Raw Materials, Tropical and Horticultural Products Service. Commodities and Trade Division. Economic and Social Department. Food and Agriculture Organization of the United Nations, n.d.).

2.5 Trends in herbal medicine

According to Gunjan, Naing, Saini, Ahmad, Naidu, and Kumar (2015), around 80% of the population in the world uses herbs; although in the developing countries the number can be much higher. The United States of America experiences significant growth in the usage of herbs. The authors organised a survey in 2007 and found that 17.7% of adults have either used or consumed herbal goods in a term of one year. In addition to that, there is another trend; western countries tend to add herbal components to energy drinks and to nutritional products that focus on weight loss.

2.6 Pharmaceutical industry

According to the European Federation of Pharmaceutical Industries and Associations (2017), the pharmaceutical industry nowadays is evolving and developing rapidly. Medical progress is the key that drives the innovation in this industry. Its goal is to transform fundamental research into the innovative treatment that can be available to all patients. The primary activity of the research-based pharmaceutical industry is to encourage progress by researching, developing and introducing new drugs that can improve people' health and well-being. This industry is the main source of the European economy; it is one of Europe's most dominant high-technology fields. Around €35,000 million was invested in Research & Development in Europe only. This investment led to new workplaces for 745,000 people. Nevertheless, there are some obstacles that this industry is experiencing. Regulatory barriers, increasing costs in R&D are just a few of these challenges.

The main trends that are seen and identified in this sector are as follows. The industry is facing an expeditious increase in the market and research field in emerging countries like India, China, and Brazil. This raise caused a significant migration of economic and research activities from Europe to these growing economies. In 2016, Brazilian market increased by 10%, and Chinese market rose by 6,9%; while the European market grew only by 4,5%. Another trend in this industry is regarding sales. 49% of all pharmaceutical sales happened in North America, which is without a doubt more compared to Europe's 21,5%. Besides that, between 2011 and 2016, almost 65% of sales from new drugs appeared in the United States, while in Europe it

only accounted for nearly 18% (European Federation of Pharmaceutical Industries and Associations, 2017).

It is worth mentioning that the research and development of new medicines require drug companies to perform costly, time-consuming and challenging activities. Usually, when the new drug comes to the market, 12 years on average have passed since the first synthesis of the new active components. The expenses of researching and creating new medicine were recorded to be almost €2,000 million in 2016. Furthermore, from every 10,000 therapeutic substances formed, only 1-2 will be successfully developed and introduced to the market (Dimasi, Grabowski, & Hansen, 2016).

Eurostat has listed the countries that export and import the biggest quantities of pharmaceutical products ("International trade in medicinal and pharmaceutical products - Statistics Explained," n.d). The five leading countries that export the most pharmaceutical products are:

- Germany – €35,634 million;
- Belgium – €19,405 million;
- The United Kingdom – €15,816 million;
- France – €14,282 million;
- Ireland – €13,995 million.

Key five importers in this industry are:

- Belgium – €14,453 million;
- Germany – €12,092 million;
- The Netherlands – €10,818 million;
- The United Kingdom – €8,048 million;
- Italy – €7,871 million.

2.7 The supply chain in the pharmaceutical industry

Pharma Supply Chain Panel in 2014 researched the supply chain in the pharmaceutical industry. The main challenges that pharmaceutical companies face in their supply chain are product and process complexity (58% of respondents), capacity issues (42% of respondents), quality-related supply obstacles (41% of respondents), and supplier problems (32% of respondents). This research provided participants with a better view to see where and how much they can improve company's supply chain. It was discovered that the most prominent attention is required to the reduction of complexity, optimisation of inventories, segmentation

of the supply chain, and agility growth ("Preparing the Supply Chain Pharma Needs - Paper - A.T. Kearney | Netherlands - A.T. Kearney," n.d.).

According to Mehralian, Zarenezhad and Rajabzadeh Ghatari (2015), the leading factors that influence the process of the supply chain in the pharmaceutical industry are: delivery speed, cost reduction, quality, market research, flexibility, IT tools usage, and environmental pressure. As was claimed by Sharifi and Zhang (1999), the speed of delivery would lead to a quicker supply chain. One of the strategic objectives of any business, the drug company included, is to **decrease costs** inside and outside the company because this influences value and price of the finished products. Moreover, **the flexibility** can undoubtedly boost the supply chain responsiveness. **Quality** is a crucial factor of the manufacturer of pharmaceuticals; it is firmly related to good manufacturing practice (regulations to guarantee that only high-quality products reach customers). Besides, quality is considered to be the most crucial aspect in many countries; therefore, manufacturers of pharma products have to pay attention to it in their supply chain. One of the most critical factors in building efficient supply chain are **market research** and **feedback** from the customers; these factors together with previously mentioned ones create an environment for a responsive supply chain in the pharmaceutical industry. Last but not least, using **IT tools** improves the speed and flexibility of the supply chain (Friedli, Goetzfried, & Basu, 2010).

2.8 Exhibition and its statistics

2.8.1 Exhibition: definition, aspects of the event

According to Herbig, O'Hara, and Palumbo (1997), the exhibition can be described and defined as an event which gathers in one place a group of suppliers, distributors, and companies operating in a specific industry, where they can present their services and products to the visitors. The name of this event has various synonyms: exposition, trade show, trade fair, and convention. Despite this, the nature of this event stays unchanged – exhibitions are an essential marketing event across different industries.

One of the main advantages of an exhibition is that it allows the exhibitors to involve the visitors and to interact with them, as well. Furthermore, like any other event (showrooms, trade shows), exhibitions fall into the two-way communication group of events. This type of communication mostly focuses on sharing experiences with particular target groups, creating a more personal environment, and letting visitors familiarise with the brand. Therefore, for the business that participates in the exhibitions one of the primary objectives is to develop a direct

and personal communication with the target audience, with the intention of building a long-term relationship with them (Kirchgeorg, Springer, & Kästner, 2009).

M. K. Arnold (2002, as cited in CEIR Report #AC33, n.d.), in her book "Build a better trade show image," listed the main reasons why visitors attend events like exhibitions. The most popular ones are: to increase their competitive intelligence, to generate new ideas and plans for projects in the future, to see and examine new products, to communicate with the professionals, broaden knowledge about industry trends, and last but not least, to broaden their network. In addition to these motives, other reasons were found in research "Same Place Next Year… An in-depth analysis of Ongoing Search among Industrial Buyers" (Borghini, Golfetto, & Rinallo, n.d.). The authors reported that people attended trade shows, exhibitions or private events because of the opportunity to gather new and early information, ability to establish and maintain relations with suppliers and to receive confirmations from the current suppliers and other customers.

2.8.2 Trade show statistics

The statistics of the trade shows speak for themselves. Arnold (2002, as cited in CEIR Report #AC27B and AC/RR 1090) found that exhibition visitors spend 9,6 hours, on average, at the event and visits 20 – 25 exhibitors. 70% of all visitors reach purchase decision stage as a result of participating in the event (Arnold, 2002, as cited in CEIR Report #AC/RR 1100).

Semaphore Display Ltd study (n.d., as cited in CEIR report ACRR 1153.12) stated that around 78% of all visitors are willing to travel approximately 645 kilometres to attend the event; this shows that most of the organisers can expect international attendees at their event. A majority of visitors (around 88%) states that trade shows, exhibitions, conferences are an essential aspect of the product sourcing and buying process. Even more attendees (91%) point out that events are comprehensive and are attended to compare different products and meet suppliers (Semaphore Display Ltd, n.d.).

On average, out of all visitors, 67% are new, potential customers for exhibiting companies. This amount shows how beneficial it is for companies to exhibit in trade shows (Exhibit Surveys, Inc., n.d., as cited in Semaphore Display Ltd, n.d.). Moreover, Semaphore Display Ltd (n.d., as cited in CEIR: The Role and Value of Face to Face) presented that the most popular reason why visitors attend the events is to see new products; 92% of visitors referred to this reason. This motive is the most popular one for 25 years.

Semaphore Display Ltd (n.d., as cited in Source: CEIR: The Changing Environment of Exhibitions) claimed that almost all marketers (99%) reported that they obtained a unique

value from exhibitions that they were not able to get from other marketing methods. The most valuable features of an exhibition or a trade show for exhibitors were: the opportunity to see and meet an appreciable amount of potential customers and clients (for 60% of exhibitors). The second was the ability to have face-to-face meetings with potential customers (51% stated this), and 47% of all exhibitors valued a chance to meet key players in the industry: suppliers, sellers, competitors, to name just a few (Semaphore Display Ltd, n.d.).

As Sparrer (2017) has stated in his study, companies that are participating in trade shows and exhibitions choose small trade shows over large events. The author indicated that 92% out of all respondents (marketers) that participated in the study said that small-scale events yield a significantly better investment for meeting with customers, hosting receptions or events with a lower degree of competition, and obtaining a positive media coverage in industry's publications. Besides, an appreciable amount of respondents (around 93%) mentioned Twitter as the most effective tool for exhibitions, while LinkedIn was in the second place (67%).

2.9 Literature review summary

To sum up, medicinal and aromatic plants have been used to treat all kind of diseases all over the world. The popularity of the herbal medicine increased because the price of chemical elements went up. The pharmaceutical company needs to follow an extensive procedure to produce a new herbal medicine. The activities in this procedure were introduced in Figure 3. It was found that the United Arab Emirates, China are countries that use herbal medicine the most. The latter, together with South Korea, Brazil, and Thailand, are the biggest exporters of herbs and herbal medicine. At the same time, the countries that import the most of these products are China, the USA, Japan, and Germany.

The factors that affect the supply chain of the drug company the most are: delivery speed, cost cutback, quality, market analysis, flexibility, the application of IT instruments, and environmental pressure.

Exhibitions are recognised all around the world as the key marketing event in various industries. Two-way communication at the event creates a personal environment and allows the exhibitors to interact with the attendees. Also, it was uncovered that around 78% of all visitors are prepared to travel 645 kilometres, on average, to attend the event, and the most common reason to participate in the exhibition is to see new products. Lastly, the best social media platforms tools for exhibitions are Twitter (mentioned by 93% of respondents) and LinkedIn (mentioned by 67% of respondents).

Chapter 3 – Research methodology

In this chapter, the method of conducting this research is explained thoroughly. First, the research objective and research questions are described, and after that, the research design and strategy are explained. Research population and sample will be highlighted, as well. After that, the research instrument and theoretical perspective will be introduced. The last sub-chapters will deal with validity and reliability, limitations and ethical concerns within this research.

3.1 Research objective and research questions

The research objective was to investigate and describe the industries of Medicinal and aromatic plants and pharmaceutical companies that use these herbs in their drug production and their supply chains.

The managerial question and its sub-questions:

1. How do we get pharmaceutical companies to believe and participate in MAP-Business concept?
    a. What is the goal of the marketing plan?
    b. What tactics/ strategies will be used by NBI International to approach the pharmaceutical companies?
    c. When will the specific activities take place?
    d. How will the results be tracked/ recorded?

The marketing plan will answer this managerial question (chapter 5).

The sub-questions of main questions were:

1. What are the current situations in pharmaceutical and MAPs industries?
    a. What are the key statistics in these markets?
    b. What are the main challenges?
2. What are pharmaceutical company's selection criteria for selecting an appropriate supplier?
    a. How many different suppliers are company contacting when buying medicinal and aromatic plants?
    b. Where are these suppliers located in the same country or distributed among several countries?
    c. What are the approved methods of communication?
    d. What kind of volume capabilities is a pharmaceutical company looking for in a supplier?

3. What plants are ordered the most?
4. Which plants are in scarcity among pharmaceutical companies?
5. What is the competition among events with the same concept in Europe and the Netherlands?

3.2 Research design and strategy

This research followed a universal research design, which is *descriptive* research. The researcher chose this design because this research was performed to get a clearer picture of a situation in pharmaceutical and MAPs industries. This design is applied to justify the current practice, make the assessment, and to formulate theories, as well (Burns and Grove, 1993).

This research covered both: qualitative and quantitative research. Qualitative analysis was performed by researching the existing sources (desk research). This research was done to gain more information and insight into the pharmaceutical and MAPs industries. Desk research involved analysing current sources: industry reports, research reports about medicinal and aromatic plants, and about pharmaceutical companies. Examples of these reports are:

- "From medicinal plant raw material to herbal remedies" by S. M. Djordjevic;
- "International trade in medicinal and aromatic plants" by D. Lange;
- "Marketing trends & future prospects of herbal medicine in the treatment of various disease" by M. Gunjan, T. W. Naing, R. S. Saini, Dr. A. bin Ahmad, Dr. J. R. Naidu, and I. Kumar;
- "Trade in Medicinal Plants" by Food and Agriculture Organization of the United Nations;
- "Pharmaceutical Industry in Figures" by European Federation of Pharmaceutical Industries and Associations;
- "Pharma 2020: Supplying the future" by PricewaterhouseCoopers (PwC);
- "Preparing the Supply Chain Pharma Needs" by ATKearney; and other sources.

Also, qualitative research was performed by having interviews (field research) with company supervisor and NBI International director.

The quantitative analysis was performed to gather information from pharmaceutical companies (field research). It was conducted using survey. The researcher chose this data collection tool since it allowed reaching a large number of individuals and was not costly. The anonymity in the survey allows the individual to be more honest and provide real answers. As well as, the difficulty in analysing the responses was not too complicated. A survey consisted

out of eight questions. The researcher contacted the companies via phone call, and the objectives of these calls were:

1. To reach a person who is in charge of events and exhibitions;
2. To present and explain the MAP-Expo event and the research;
3. To gather e-mail addresses of these contact people to send more information about the event and link to the survey.

To see how each research question and sub-question were researched, please refer to Table 1.

Table 1. The research design for research questions and sub-questions.

Main questions and sub-questions	Strategy/ design
What is the overall picture in MAP and pharmaceutical industries? • **What are the key statistics in these markets?** • **What are the main challenges?**	Desk research (Qualitative research): reports and studies; Field research (qualitative research): interviews.
What is the competition among events with the same concept in Europe and the Netherlands?	
How many different suppliers are company contacting when buying medicinal and aromatic plants? • **Where are these suppliers located in the same country or situated in several countries?** • **What are the approved methods of communication?** • **What kind of volume capabilities is a pharmaceutical company looking for in a supplier?**	Field research (Quantitative research): a survey.
What plants are ordered the most?	
Which plants are in scarcity among pharmaceutical companies?	
Managerial question: **How do we get pharmaceutical companies to believe and participate in MAP-Business concept?** • **What is the goal of the marketing plan?** • **What tactics/ strategies will be used by NBI International to approach the pharmaceutical companies?** • **When will the specific activities take place?** • **How will the results be tracked/ recorded?**	Marketing plan (as an outcome of this project).

3.3 Population and sample

3.3.1 Population

The chosen population was drug companies which produce medicine to treat various illnesses. This population was selected because the researcher wants to understand the perspective of these companies towards their supply chain.

3.3.2 Sample and sampling method

The researcher gathered a database of drug companies located in Europe. As of April 18th, the accumulated database consisted of 190 pharmaceutical companies. Their contact details, location, website address were recorded, as well. The researcher sent the link to the survey to 113 contact people from the companies reached.

The sampling method applied in this research was convenience sampling. In the book "Doing Research in the Real World," David E. Gray (2014a) defines convenience sampling as "a non – probability sampling method that uses the most conveniently accessible people to participate in the study" (p. 223-224). This sampling method was applied because the subjects for the study were easily available for a researcher (mostly received from the company supervisor). Costs required are low; besides, data collection can be performed in a short period of time.

3.4 The research instrument

The research instrument used in this research was a self-administered online survey with open-ended questions. A survey consisted of eight questions. The questions in the survey evolved around the supply chain of the company: (1) number of suppliers, (2) location of these suppliers, (3) criteria for selecting a supplier, (4) interest in establishing new business relations with suppliers, (5) communication methods with suppliers, (6) order quantities, (7) types of plants that are ordered the most, and (8) what kind of plants are in scarcity in company's production process. Appendix 1 refers to the survey (the opening screen and questions). The development of a survey started with creating and modifying survey. If the researcher made any modifications to the survey, a pilot test was sent to the researcher and to company supervisor to check if everything was correct, to confirm that the questions were the right ones to ask and to determine whether the respondent understands what the question was asking. The language used was English, and the formulation of questions was at the level that non-native English respondents would not have any difficulties answering the survey (Gray, 2014b).

3.5 Theoretical perspective

The research paradigm applied to this research was *pragmatism*. This paradigm offers a worldview that is the opposite of positivism and constructivism. Pragmatism pays attention to the problem that needs investigation and the consequences of the research. It allows the researcher to choose the methods that are appropriate and help to solve the problems. This research applied two methods (interviews and survey), which in turn helped identify the most appropriate outcomes. Not to mention, application of this paradigm helped the researcher to gather and make use of a valuable source of information, the comments received during the interviews. (Yvonne Feilzer, 2009).

3.6 Validity and reliability

The validity and reliability of a survey were ensured by performing a pilot test. It is one of the best methods to determine if there are any issues in a survey. This approach is straight-forward; the update remarks can be implemented immediately (Lavrakas, 2018).

To ensure the validity of the research instrument the research topic expert reviewed the instrument and agreed that this is a valid tool and it measures what it intends to measure. This type of validity is so-called face validity. It is the most used type of validity in developing countries (Bolarinwa, 2015, p. 195). By having the director of NBI International involved, this type of validity was the most appropriate to use in this research.

3.7 Limitations

During the research execution, the researcher experienced several limitations namely:

- **Measure to collect the data.** During the data analysis phase, the researcher realised that the survey limited the ability to obtain an in-depth data and conduct a proper analysis. It would be advised for future studies to use face-to-face interviews if possible; this way more information could be gathered;
- **Sample size.** Bigger sample size would provide more information and would make it easier to generalise results;
- **Time constraints.** More time allocated to the research would have resulted in a more detailed literature analysis and a more significant the sample size; which would have led to a more substantial response rate;
- **Financial resources.** Some sources required payment to access it, or the access was not possible in some situations; therefore, this led to this limitation;

- **Access.** Some firms did not provide access to their information. The main reason was that 'it is confidential information.'

3.8 Ethical concerns

3.8.1 Gaining participants' consent

The collection of data was done by sending the e-mails with the information regarding the event and the link to the survey. A brief introduction to this study was given so that the respondent could familiarise with the research. The researcher did not directly met and interviewed the respondents; the decision to complete the survey was taken as consent.

3.8.2 Maintaining participants' confidentiality and anonymity

As was stated earlier, participants completed the survey online; as a result, the researcher did not know who participated in the study. In addition to, questions regarding the personal information, which could help to identify the individual, were not asked.

3.8.3 Data collection and confidentiality

All data that the researcher collected will be used only by the NBI International; besides, this study can serve study purposes, as well. The researcher analysed the data to make conclusions and recommendations. After the completion of this research, all collected data will not be transferred to any other organisation, people for any other intentions.

Chapter 4 – Analysis and results

This chapter deals with the analysis and the results. First, the competitors are analysed and assessed based on their performance. Then, the results from the 16 respondents are presented. Lastly, the research conclusions end this chapter.

4.1 Description of competitors

The MAP-Expo is the only exhibition of Medicinal and Aromatic Plants in the Netherlands; thus, there is no competition in this country. However, the competition level increased when competitors outside the Netherlands were identified.

4.1.1 Vitafoods Europe

One of the biggest competitors for MAP-Expo is **Vitafoods Europe**. It is an annual event held in Geneva, Switzerland, where companies from nutraceutical industry gather into one place to do business. The goals of this event are: to develop new businesses and build profitable relations. The Vitafoods official website states that this event is the only one that deals with the industry's four main areas from ingredient to final product. These areas include ingredients and raw materials, contract manufacturing and private label, services and equipment, and branded finished products ("Thinking About Exhibiting - Vitafoods Europe 2018 - The global nutraceutical event," n.d.).

Figure 5. The logo of Vitafoods Europe event ("Welcome - Vitafoods Europe 2018 - The global nutraceutical event," n.d.).

Vitafoods Europe offers a possibility for suppliers and experts to introduce and present the best raw materials, innovations that can contribute to the development of this industry. Moreover, this event provides business owners, sellers, and manufacturers a chance to connect with suppliers to bring existing products to the market or produce new, innovative products to keep up with continually innovating industry. Besides that, Vitafoods Europe invites companies that provide services and equipment to nutraceutical industry. These firms help businesses to create products that improve customer's health. Finally, Vitafoods event gathers buyers, sellers and suppliers to develop profitable and prosperous business relations ("Thinking About Exhibiting - Vitafoods Europe 2018 - The global nutraceutical event," n.d.).

At the same time, one of the downfalls of this event (21st edition in 2017) was that there were 19,951 attendees, 1,034 exhibitors, and it was claimed that during this event exhibitors met 113 new contacts, on average (Vitafoods Europe, 2017, p. 1). This number shows that exhibitor met only 0.57% of attendees. This percentage indicates that when a small or medium company is participating in a well-known event (which is full of famous brands exhibitors), it is very problematic for them to attract their attention and meet new, potential business contacts. At the same time, 91% of exhibitors stated that they met visitors at the time of the event that they would not have had the chance of meeting elsewhere ("Reasons To Exhibit - Vitafoods Europe 2018 - The global nutraceutical event," n.d.).

4.1.2 Biofach

Another competitor in this industry is the event called **Biofach**. It is an annual event held in Nuremberg, Germany. It is one of the biggest trade fairs for organic food and international trade fair for natural and organic personal care. This event serves benefits for various aspects. First of all, it is a place for customers, suppliers, partners to meet and start business relations. It is a place to explore market's wants and needs; this helps companies to serve their clients better. Nevertheless, it gives an opportunity for companies to present themselves which increases their recognition. Knowledge and information are gathered and shared in one place; new trends can be discovered. Nevertheless, this event also attracts professionals from other areas like politics, NGO's, associations and other known people, who can influence further development of this industry (BIOFACH, n.d.).

BIOFACH
into organic

Figure 6. The logo of Biofach trade show (BIOFACH, n.d.).

This event covers more fields than Vitafoods Europe (discussed earlier). The areas presented in Biofach are: fresh food, frozen food, grocery products cooking and baking, snack and sweets, drinks, other grocery products, non – food, technology and technology, raw materials and equipment, raw materials and supplies, and media, service providers (BIOFACH, n.d.). In this year's edition (29th edition), there were almost 3,000 exhibitors and around 50,200 visitors. According to the Biofach 2018 show report, 91% of exhibitors built new business relationships (NürnbergMesse GmbH, 2018).

4.1.3 In-cosmetics Global

Another competitor is **In-cosmetics Global**. It is an event that concentrates on personal care ingredients. This exhibition attracts personal care ingredients supplier companies to exhibit their products and services and invites manufacturers of finished products to visit this event. The objectives of this event are: to allow visitors and exhibitors to increase their network, increase their knowledge about trends in the industry and find new products. The event is arranged every year and takes place in different cities across Europe. This year's edition took place in Amsterdam, the Netherlands, while last year's edition was in London, the United Kingdom ("About the show – in-cosmetics Global," 2016).

Figure 7. In-cosmetics Global logo ("Global Home - in-cosmetics Global," 2017).

The visitors can visit 12 different areas: formulation lab, innovation zone, sensory bar, sustainability corner, make-up bar, technical seminars, workshops, marketing trends, new R&D Tours, fragrances, testing and regulation zone, and lab zone ("Show features - in-cosmetics Global," 2018). Last year (27th edition) it was recorded that, 16,319 visitors visited the exhibition and 780 exhibitors were present there. Out of all visitors, 72% came from outside the United Kingdom (Reed Exhibitions, 2017).

4.1.4 Cosmofarma

Exhibition **Cosmofarma** held in Bologna, Italy is an annual event for companies from healthcare, beauty care and for companies operating in pharmacy ("Who we are," n.d.). The visitors can visit different areas during this event: pharmaceutical, para-pharmaceutical[2], healthcare, dermo-cosmetics[3], natural products, nutrition, dieting, and services for pharmacies. The last year's exhibition invited around 32,000 visitors and 780 exhibitors ("Exhibition sectors," n.d.).

[2] Para-pharmaceuticals – non-pharmaceutical goods that provide benefit to health, such as food supplements, novel foods (Biagi et al., 2016).

[3] Dermo-cosmetics – a type of dermatology which uses cosmetics to cure various skin disorders (Dreno et al., 2014).

Figure 8. Brand mark of Cosmofarma exhibition ("Home," n.d.).

One aspect that this event is different from the rest of exhibition is their "International Buyer Program." This service allows companies to plan meetings to expand their business network and recognition. Besides that, it offers an opportunity for the drug companies to meet with product manufacturers ("INTERNATIONAL BUYER PROGRAM," n.d.).

4.1.5 CPhI Worldwide

Another big exhibition that is well-known in the pharmaceutical industry is **CPhI Worldwide**. It is an annual event, which will take place in Madrid, Spain on October 9-11, 2018. The exhibition invites companies that operate in pharmaceutical ingredients industry. Different areas of this industry are represented in the event: active pharmaceutical ingredients, pharmaceuticals, custom manufacturing, excipients, fine chemicals and intermediates, general floor, natural extracts, North American pavilion ("About the Event | CPhI Worldwide," 2018). According to the CPhI Worldwide Post Show Report (2017), there were around 44,900 visitors and 2,598 exhibitors in last year's exhibition in Messe Frankfurt, Germany.

Figure 9. CPhI worldwide event brand mark ("CPhI Worldwide," n.d.).

4.2 Assessment of competitors

Based on the overview and analysis of the five main competitors, the following factors were chosen to assess each competitor:

1. **Price to visit.** This factor speaks for itself; it represents the amount of money a visitor has to pay to attend the event. The event which sells tickets for free (before the specific deadline) will gain more attention, compared to the event which starts selling tickets for a particular price.
2. **Experience (number of years organised, recognisability).** This factor represents the number of years the event takes place. The longer it is held, the higher popularity, assurance, and trust the event has amongst other competitors.

3. **Amount of visitors per 1 exhibitor.** This criterion is a ratio calculated as follows: the number of visitors divided by the number of exhibitors. It shows how many visitors visit each booth, on average. Each exhibitor wants this number to be as high as possible.
4. **The number of visiting countries.** The more international the event is, the more attention the event will receive from foreign exhibitors and attendees.
5. **Sectors/ areas represented.** This factor shows the number of different sectors present in the event. When various aspects of the industry are present at one location, visitors can visit and meet market players from raw materials area and all the way to the experts of finished products.

Table 2 shown below, highlights the numbers of each factor concerning the competitor. The researcher extracted the numbers from official websites and event review reports.

Table 2. Performance factors of each competitor.

Competitor / Factor	*Vitafoods Europe*[4]	*Biofach*[5]	*In-cosmetics Global*[6]	*Cosmofarma*[7]	*CPhI worldwide*[8]
Price to visit	Free (at the time of the event - 150.00€).	38,00€ before the event (42.00€ at the event).	Free (at the time of the event - 60.00€).	Free (for professionals. General public cannot visit the event).	Free (price on-site was 140.00€).
Experience	21	28	28	22	28
Amount of visitors per 1 exhibitor	19,951/1,034 ≈ 19	50,200/2,962 ≈ 17	16,319/780 ≈ 21	32,000/400 ≈ 80	44,900/2,598 ≈ 17
The number of visiting countries	108	134	105	54	150
Sectors/ areas represented	4	10	12	8	8

[4] Tables 1 and 2 represent the 2017's edition of Vitafoods Europe.

[5] Tables 1 and 2 represent the 2018's edition of Biofach.

[6] Tables 1 and 2 represent the 2017's edition of In-cosmetics Global.

[7] Tables 1 and 2 represent the 2017's edition of Cosmofarma.

[8] Tables 1 and 2 represent the 2017's edition of CPhI worldwide.

According to the findings outlined in Table 2, the appropriate scores (from 1 till 5, 1 – is the least favourable, 5 – the highest score) was assigned to each competitor. Table 3 represents the scores. It is worth to mention that all factors have equal weight when calculating the average.

Table 3. Results from table 2 converted into scores.

Competitor / Factor	*Vitafoods Europe*	*Biofach*	*In-cosmetics Global*	*Cosmofarma*	*CPhI worldwide*
Price to visit	2	1	4	5	3
Experience	3	5	5	4	5
Amount of visitors per 1 exhibitor	3	2	4	5	2
The number of visiting countries	3	4	2	1	5
Sectors/ areas represented	2	4	5	3	3
Total average	***2,6***	***3,2***	***4***	***3,6***	***3,6***

The highest total score was assigned to In-cosmetics Global event, while Vitafoods Europe received the lowest score out of all five competitors (see Table 3). Figure 10 shows the visual representation of the ratings given to the competitors.

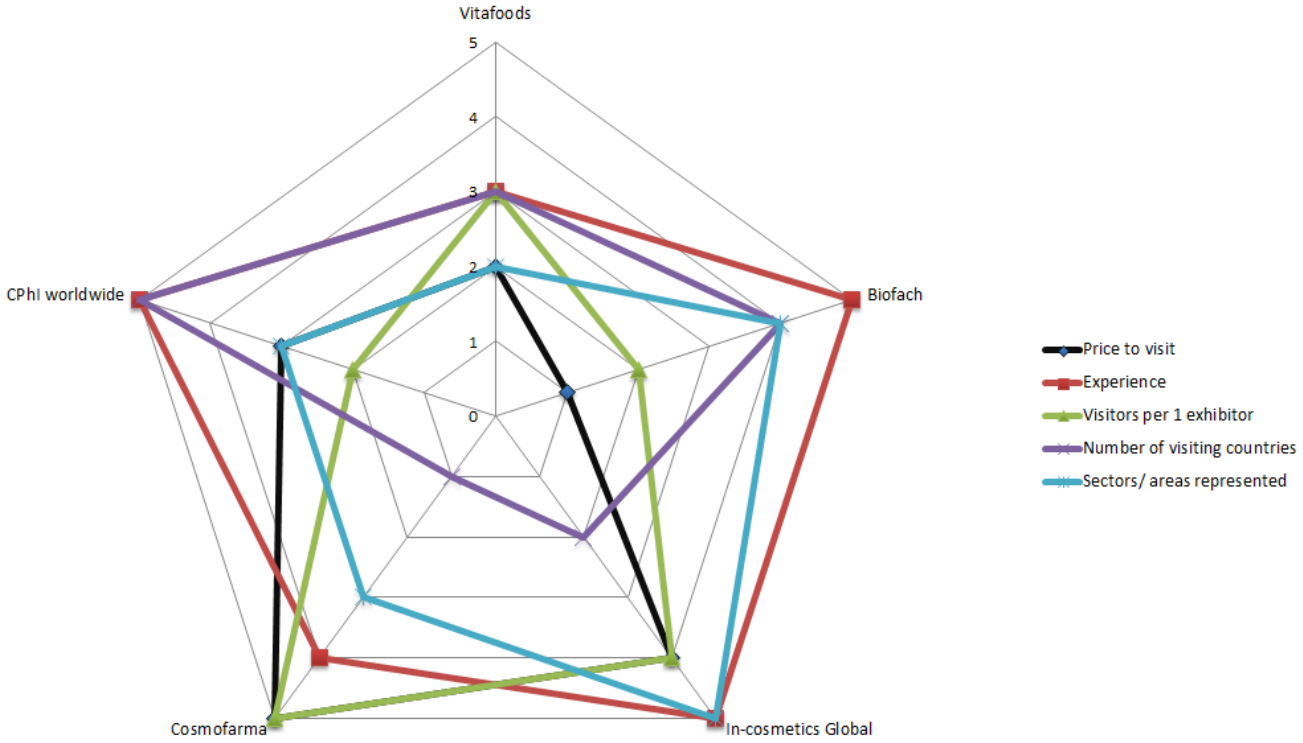

Figure 10. Competitors' scores metric.

4.3 Results

Out of all contacted companies, 113 companies provided an e-mail address to send a survey link, and out of 74 companies which clicked the survey link, 16 completed the survey. This amount represents almost 22% response rate. Unfortunately, 65 companies showed no interest either to the event or the research. Drug companies that operate in alternative medicine area like phytotherapy[9] were more open and interested in the event compared to the companies that use chemical components and plants. Table 4 demonstrates the results of a survey. Appendix 2 illustrates the frequencies of the responses. Complete data is available in Appendix 3.

[9] The use of herbal medicine to treat the illness (Meuss, 2000).

Table 4. Results of the survey.

Factor	Response
A number of suppliers	Various numbers, ranging from 1 to even 20 different suppliers a company approaches. The most common number of supplier a company has is 3 – 7.
Location of suppliers	3 out of 16 responded companies have suppliers that are located in the same country, while suppliers of other companies are situated among several states.
Selection criteria	'Quality' **only** – 9 responses; 'Quality and price' – 5 responses; 'Quality, price, delivery time' – 2 responses.
Establishing new business relations	15 companies indicated that they are interested in developing new business relations with new suppliers, while one respondent hesitated and answered 'maybe.'
Communication methods	The majority of the respondents mentioned: online communication methods: e-mails, Skype calls. Phone calls fall right after online communication. Personal, face – to – face meetings are planned if possible. However, they were not very popular among the responses gathered.
Order quantities	The order quantities vary significantly: The minimum order quantity responded was 500 – 2,000 kg. The maximum order quantity recorded was 15,000 – 30,000 kg. There were order volumes that fall in between these ranges: 1,000 – 5,000 kg, 5,000 – 7,000 kg, and 10,000 – 15,000 kg.
Plants ordered the most	Here is the list of the most ordered plants that were mentioned in the responses: • Ginger, Cranberry, Taraxacum; • Ashwagandha, Water Hyssop, Shatavari; • Cranberry, Ginger, Ashwagandha; • Acai, Chamomile, Echinacea; • Aloe Vera, Skullcap, Euphorbia; • St. John's wort, Aloe Vera, Agrimony; • Echinacea, Chamomile, and Symphytum; • Perennial, Kurai, Bahada (Beleric); • Woodruff, Common Marigold, Ginseng; • Lemon Balm, Verbena, Parietaria; • Arnica, Vetiver, Elderberry; • Nettle, Red Clover, Common Mullein; • Sambucus Nigra, Bitter Gourd, White Nettle; • Asana, Guduchi, Anamirtta Cocculus.
Plants that affect the production process	Here is the list of plants companies lack that affects the speed of the production process:

	• Ginkgo Biloba, Spearmint; • False Daisy, Sandalwood, Flame Lily; • Verbena, Inch plant; • Lungwort, Rose Periwinkle; • Agrimony, Himalayan Mandrake, Hemp Agrimony; • Moringa, Bloodroots; • Valerian, Great Mullein, and Elderberry; • Shatavari, Ashwagandha; • Ginkgo Biloba, Juniper Fructus, Wood Sanicle; • Coltsfoot; • Common Chickweed; • Hyssop; • Spearmint, Centella; • Eryngo, Herb-Robert.

It is important to mention that this research did not provide focus on the question 'WHY these plants are affecting the company's production process?' The possible reasons for this were: location (suppliers are very far to reach), cost, delivery time (takes too long to deliver), differences in quality (growing plants in different soil affect plant's condition), quantities (suppliers cannot provide such significant quantities that a pharmaceutical company needs), harvesting times (this research was conducted in February-April, and most of the plants are harvested in spring, summer and autumn; therefore, it could have affected the company's responses regarding the questions about plants that affect their production process). Table 5 lists the types of plants that were mentioned more than once. For the visual representations of these plants, please refer to Appendix 4.

Table 5. Types of plants mentioned more than once.

The most ordered plants	Plants that are ordered the most and that affect production	Plants that affect the production process
Ashwagandha, Ginger, Cranberry, Chamomile, Echinacea, Aloe Vera.	Verbena, Agrimony, Elderberry.	Ginkgo Biloba

4.4 Research conclusions

To conclude, this research discovered that Medicinal and Aromatic Plants industry is continuously growing, due to the increase in the costs of chemical medicine. The events like trade shows and exhibitions regarding MAPs are held all over the world; the competition in

this area is high. The main competitors identified were: Vitafoods Europe, Biofach, In-cosmetics Global, Cosmofarma, and CPhI Worldwide. This paper concluded that In-cosmetics Global is the strongest competitor out of all five mentioned, mostly because it is organised for almost 30 years. Thus it is recognisable among industry players. Equally important is that the number of areas presented and covered in this event is the largest (12 areas) compared to other competitors. As a result, the organisers can invite a broader range of exhibitors and visitors to attend this trade show.

However, the explicit point that MAP-Expo has and can offer to its visitors is a very close and personal relationship, because this event is smaller compared to its competitors. NBI International is using MAP-Business as a tool to help visitors and exhibitors to establish new business relations. Hence, by organising an event in a smaller scale allows NBI International to evaluate each exhibitor and visitor in more detail to determine what kind of plants, equipment or plant extracts are needed, which in turn helps to match a proper exhibitor with the right visitor.

This research helped to identify what types of plants drug companies are ordering the most and which plants are affecting company's drug production at the moment (because of not finding an appropriate supplier). According to the data gathered, when buying raw plants, pharmaceutical companies are looking at as many as 20 different suppliers, indicating how extensive a supplier network can be for some businesses. Moreover, the research revealed that most of the times the suppliers of drug companies are located in several countries. 15 responses showed interest in building new business relations, while one was hesitant and stated 'maybe' regarding this subject. The majority of the respondents stated that the main priority when a pharmaceutical company is selecting a supplier is quality, followed by price and delivery time. These aspects are usually discussed using online communication methods (e-mail, skype calls) and phone calls. Lastly, the most common order quantities are between 500 – 2,000 kg and 5,000 – 10,000 kg.

Chapter 5 – Recommendations

As was stated before, one of the deliverables that this graduation research provides is the marketing plan which is recommended for NBI International to implement. This chapter explains the recommendations and the marketing plan that evolved from this research. This chapter is concluded with the final remarks.

5.1 Phytotherapy area

Drug companies that use chemical ingredients only or chemical ingredients and medicinal plants were much closed and not communicative compared to the companies operating in phytotherapy area. The latter showed more interest in the event and were willing to share contact details to provide more information about MAP-Expo. Therefore, the first recommendation for NBI International is to focus more on pharmaceutical companies that are active in producing alternative medicine.

5.2 Focus area

As was mentioned earlier, travel distance is one of the aspects a company is taking into account when deciding if the event is worth visiting. It was stated that companies located no further than 645 kilometres around event location would likely attend the event. For this reason, it is recommended for NBI International to contact drug companies located around 645 kilometres from Eindhoven. For a detailed review of the pharmaceutical companies operating in herbal medicine situated in this area please see Appendix 5.

5.3 Why attend MAP-Expo?

The following are the benefits that a pharmaceutical company can obtain by visiting MAP-Expo 2018 and participating in MAP-Business:

- Networking opportunities with key-suppliers in the MAP-industry;
- Access to raw materials on an international level;
- Generating long-term business relations through personalised matchmaking-program;
- The presentation of new information on the latest developments in the MAP-industry.

5.4 Marketing objectives

The marketing objectives of MAP-Expo 2018 are:

1) To attract in total 2,000 visitors, of which, 1,500 are expected to attend the event only, and remaining 500 will attend NVF-Congress and the event on 3rd and 4th October 2018;
2) To invite 100 companies to exhibit at MAP-Expo 2018 on 3rd and 4th October 2018.

5.5 Marketing strategy

5.5.1 Product (Service)

MAP-Expo 2018 is a global marketplace for Medicinal and Aromatic Plants. The companies from different sectors (medicinal and aromatic raw plants, MAP extracts, MAP cultivation and production, supplements, drugs, and cosmetics) are invited to exhibit at the event. Eventually, the companies that require or need products/ raw materials from any of these sectors are invited to attend this event. This event will bring all parties involved in MAP industry in one location, making it easier for visitors to see new products and developments in the industry and to meet suppliers, which in turn could translate into new business opportunities between two parties.

5.5.2 Price

This marketing plan focuses on attracting visitors. Therefore, the *price* category refers to the amount of money the visitor has to pay.

Current situation

Visitors can buy two types of tickets. Attendees that want to attend only the event MAP-Expo 2018 have to pay 35,00€. However, if a company want to participate in the event and NVF-Congress have to purchase a ticket for 250,00€.

The recommended strategy

The strategy that is recommended to adapt is called 'flexible pricing.' As J. Khan (2017) claimed, it is a strategy that allows the company to change the price of an item or a service in response to the actual supply and demand. For instance, Amazon is one of the companies that apply this strategy. The website updates the prices of products every 10 minutes. Furthermore, Jerath, Netessine, and Veeraraghavan (2010) indicated that airlines and hotels use this tactic to sell the unsold capacity. Based on the situation (more or less demand), companies can increase or decrease the price. Therefore, there should be two types of tickets that could be offered to visitors:

- '**Regular ticket**' – this ticket will be offered when NBI International starts selling tickets till there are 3-4 weeks left to the event. The access to the regular tickets would be limited. It was discovered that offering something that is rare, usually is valued much more (Walker, 2017). Thus, by mentioning that regular tickets are available for a limited time can portray the event as an exclusive one. This type of ticket would be

offered for 35€ and 250€, no discounts apply. Table 6 shows the revenue that can be received using this strategy.

- '**Last-minute ticket**' – if the interest in the event is significantly higher than expected (10% - 15% tickets left one month before the event), a 15% and 10% respectively increase in price could be recommended (charging 40€ instead of 35€, and 275€ instead of 250€). On the other hand, if the interest is lower than expected (around 40% tickets left one month before the event), the price could be lowered by 15% and 10% for these two types of tickets. The trade of last-minute tickets should start when there are 3 – 4 weeks left before the event begins. Moe and Fader (2009) proved that as an event is approaching, the sale of tickets start to increase and reaches its peak at one week before the event. It goes hand in hand, as was stated by Hindman (2013) who analysed an enormous amount of events, around 90% of these events experienced that 70% of the tickets were sold in the last two weeks. Table 7 outlines how much revenue could be collected if NBI International would implement this strategy, while the change in percentage is listed in Table 8.

Table 6. Regular ticket strategy.

Only regular tickets	
The expected amount of visitors	**Sales**
1,500	1,500*35€ = 52,500€
500	500*250€ = 125,000€
Total	**177,500€**

Table 7. Last-minute ticket strategy.

Last-minute strategy			
The expected amount of visitors	**70% of visitors that buy in the last two weeks**	**30% of visitors that buy tickets early**	**Sales**
1. 1,500 (event only)	1,050	450	1,050*40€ + 450*35€ = 57,750€
2. 500 (event and congress)	350	150	350*275€ + 150*250€ = 133,750€
Total			**191,500€**

Table 8. Revenue change based on ticket strategy.

Regular ticket	Last-minute strategy	Change
177,500€	191,500€	≈+8%

5.5.3 Physical evidence

The physical evidence is the environment and surroundings where the service is offered (Abidemi, Halim, & Alshuaibi, 2017). The tangible pieces of evidence of MAP-Expo are Beursgebouw venue where the event will take place and all its decorations related to MAP-Expo, tickets, NBI International team, and its appearance.

5.5.4 Promotion

Communication is critical here because it helps to send the particular message which can reach a significant amount of potential visitors and exhibitors.

Current situation

- NBI International team sends MAP-Expo brochure to potential exhibitors and visitors:
- Website. Where all relevant information, articles are available;
- Phone calls;
- E-mails;
- Social media. MAP-Expo has accounts on Facebook, Twitter, and LinkedIn. However, the activity on these social media platforms is weak and not regular;
- NBI International team contacts associations related to MAPs industry to promote the event among its members.

The recommended strategy

- Continue using and distributing MAP-Expo brochure, contacting associations;
- Continue updating website more frequently. As soon as a new exhibitor or a speaker is known, the NBI International team should publish it on the website and social media (visual with key information, a quote). New articles should be released every month to keep the engagement rate constant and increasing;
- E-mails. Introducing subscription lists, where every new visitors/ exhibitor is included in, so they can receive new information and updates of the event. Furthermore, it is recommended to use a website which makes e-mail marketing smoother and more professional (an example is www.mailchimp.com). This website helps to keep track of

the performance of the e-mails sent, average open rate, average click rate. One of the advantages that this website offers is a 'free' option. This option allows the company to create a list of 2,000 subscribers and send 12,000 emails per month (illustration of e-mail layout template is available in Appendix 6);

- Social media. Increase the activity on social media platforms, start using a hashtag in all posts published on social media; a hashtag of *#MAPExpo2018* is a possible example.

The possible marketing planning can be found in Table 9 and explanation of numbers is in Table 10.

Table 9. Marketing planning.

Month	June				July				August				September				October			
Week number	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Activity																				
Use hashtag #MAPExpo2018																				
Visuals of speakers and quotes	As soon as a new speaker is agreed to speak at the event																			
Introduction of new exhibitor	As soon as a new exhibitor is agreed to speak at the event																			
E-mail to potential visitor	2																			
Testimonials of previous event																				
New article		1				2				3				4						
More information about the location			1				2				3				4					
E-mail updates				1				1				1				1	3	1		
Event preparations															5	5				

Table 10. The explanation of colours and numbers in table 9.

Method[10]	Activity details	Track of results
Website	1. Harvesting and management of MAPs in the Himalaya; 2. Medicinal plants that grow in the Netherlands; 3. Herbal medicine facts that you did not know; 4. The rarest medicinal plants in the world. *Share the link on social media accounts, as well.*	• Visitor frequency; • Return visits; • Bounce rate.
Facebook, LinkedIn, Twitter	1. Information about Eindhoven city; 2. Places to see; 3. Places to eat; 4. Places for fun; 5. Photos of preparing for the event, venue, exhibiting booths.	• Social media engagement; • Social media mentions.
E-mail	1. Any new information, updates; 2. As soon as a new visitor agrees to receive more information about the event, introducing the subscriber's list; 3. Thank-you e-mails.	• Open rate; • Click-through rate; • List growth rate; • Amount of emails received showing interest in the event.

5.5.5 People

People behind MAP-Expo event are NBI International team.

5.5.6 Process

The potential visitors who want to attend the exhibition can purchase the tickets on www.map-expo.com website. Once the purchase happens, the visitor receives the ticket which will allow them to visit the show on both days. If the company wants to exhibit at the event, it contacts NBI International. They will provide the potential exhibitor with all required information and will help to come up with the best decision.

5.5.7 Place

The purchase of tickets happens online (event website). The exhibition will take place on Beursgebouw Eindhoven, the Netherlands. The visitors will have the opportunity to visit

[10] Font colour indicates the colour meaning in Table 1. Blue for the website, purple for Facebook, LinkedIn and Twitter (social media accounts), red is for e-mail.

different booths. The exhibitors can choose between two stands: bare stand and furnished stand.

5.1 Touchpoints of MAP-Expo visitors

Customer touchpoint is any direct and indirect moment a (potential) customer has with the particular company or a brand (Verhoef, Kannan, & Inman, 2015). Like any other product and service, an event has its main touchpoints. Table 11, presented below, shows the main customer touchpoints NBI International faces during the whole process of MAP-Expo (preparation, execution, and post-event). The touchpoints are categorised based on their time of occurrence. The touchpoint can appear before the event, during the event, or when the event has finished. The most substantial amount of touchpoints appears before the event, then, during the event and after it, the number of touchpoints decreases.

Table 11. Touchpoints of MAP-Expo visitors.

Before event	During event	After event
• Event website; • E-mails; • Phone calls; • Social media; • Marketing; • Ticket/ registration procedure; • MAP-Expo brochure; • Testimonials; • Word of mouth; • Advertising in other websites.	• The venue (Beursgebouw); • NBI International team; • Social media; • Evaluation/ reactions; • Word of mouth.	• Thank you e-mails; • Evaluation results; • Social media; • Newsletter; • Word of mouth.

5.2 Finances

According to Ch. Aelberts (personal communication, May 3, 2018), the total costs for MAP-Expo are around 80,000€ (see Table 12). 90% of event profit is gathered from the exhibitors and the fees these exhibitors have to pay to NBI International. The basic participation fee at MAP-Expo is 150€/m². To break-even, the organisers of the event need to sell 534m² (for calculation, please see Table 13). Finally, Table 14 demonstrates how the revenue can change if the company applied recommendations.

Table 12. Costs to organise MAP-Expo (roughly).

Category	Costs
Venue rent	20,000€
Personnel	20,000€
Marketing	20,000€
Other expenses	20,000€
Total	**80,000€**

Table 13. Break-even point.

Total costs	Participation fee	Break-even point
80,000€	150€/m²	$\frac{80{,}000€}{150€/m^2} \approx 534m^2$

Table 14. Revenue change based on recommendations.

Category	Now	Based on recommendations
Tickets sold	177,500€	191,500€
Booths rented[11]	135,000€	135,000€
Costs	-80,000€	-80,000€
Total	**232,500€**	**246,500€**

5.3 Final remarks

For the final remarks, this study is conducted in 2018, during the time that NBI International is organising the second edition of MAP-Expo. It is advised for the organisation to carefully consider the reliability of the research results if they want to use this data for any future activities. Moreover, it is recommended for future researchers to pay more attention and investigate the concern regarding why specific plant species affect the pharmaceutical company's drug production process.

[11] Based on 100 exhibitors target, minimum booth space is 9m², and the fee is 150€/m². This leads to the amounts presented in the Table 14.

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Epilogue

Final evaluations

Fontys
University of Applied Sciences

COMPANY MENTOR

FINAL EVALUATION GRADUATION PROJECT	
Student:	Karina Markutė
Company:	NBI International
Company Mentor:	Bart Wolters
Date:	15 - 05 - 2018

EVALUATION END RESULT	Excellent	Good	Average	Poor	Cannot say
The problem background, the problem definition, objectives and deliverables are clear, realistic and feasible.	X				
Research design is appropriate, the research was properly executed and the conclusions are relevant and in line with the research results	X				
Recommendation and solutions are effective and feasible and in line with the expectations of the company.	X				
Thesis is well written, to the point and concise, lay-out and design are well cared for.		X			
Overall Evaluation End result:	X				

REMARKS:

(PTO)

1

Evaluation Professional Behavior:

	Excellent	Good	Average	Poor	Cannot say
Knowledge & Understanding: The student demonstrates a solid theoretical background; is able to choose adequate theoretical models and tools.		X			
Research skills/critical thinking: The student is able to ask the relevant research questions and to design a research.		X			
The student is able to come up with informed judgments; keeps a focus on the core issues, reviews the situation from different angles.		X			
Communication: The student can speak and write business English proficiently.	X				
The student is able to professionally participate in meetings and presents ideas and results in a professional way.	X				
Creativity/problem solving: The student demonstrates originality and inventiveness in his approach and puts forward his own solutions to the problem.		X			
The student identifies creative but plausible solutions and takes financial and organizational consequences into account.		X			
Project management/pro-activity: The student is able to organize his work in a planned and well-structured manner and is always well-prepared.	X				
The student takes initiative, is pro-active and works independently, reacts adequately to feedback.	X				
Organizational sensitivity/collaboration: The student has an adequate overview of the problem for the organization, is sufficiently critical towards the organization.		X			
The student understands the formal and informal culture of the company, asks support and input from others.		X			
Learning skills: The student is able to set personal learning objectives and can be self-critical. Asks for feedback and is willing to learn.	X				
Overall score:	X				

REMARKS:

We are happy with the results. Karina understood our problem and our situation and therefore provided us with an excellent research. We will use her recomendations and we know now how to better introduce MAP - Business

2

Fontys
University of Applied Sciences

IBMS SUPERVISOR

FINAL EVALUATION GRADUATION PROJECT	
Student:	Karina Markutė
Company:	NBI International
IBMS supervisor:	Ewoud Jansen
Date:	May 16, 2018

	Excellent	Good	Average	Bare Pass	Fail
OVERALL ASSESSMENT OF STUDENT PROJECT MANAGEMENT PERFORMANCE **(code: 2263IP8PRO):** **8.0**		V			

REMARKS/SPECIAL CIRCUMSTANCES

Initially, the assignment looked very operational. However, Karina turned that around and based on useful market research came up with a more strategic and at the same time very practical and specific marketing plan. Well done!

(Please turn over for detailed assessment)

Evaluation Professional Behavior:

	Excellent	Good	Average	Poor	Cannot say
Knowledge & Understanding: The student demonstrates a solid theoretical background; is able to choose adequate theoretical models and tools.		v			
Research skills/critical thinking: The student is able to ask the relevant research questions and to design a research.			v		
Research skills/critical thinking The student is able to come up with informed judgments; keeps a focus on the core issues, reviews the situation from different angles.		v			
Communication: The student can speak and write business English proficiently.		v			
Communication: The student is able to professionally participate in meetings and presents ideas and results in a professional way.		V			
Creativity/problem solving: The student demonstrates originality and inventiveness in his approach and puts forward his own solutions to the problem.		V			
Creativity/problem solving The student identifies creative but plausible solutions and takes financial and organizational consequences into account.		v			
Project management/pro-activity: The student is able to organize his work in a planned and well-structured manner and is always well-prepared.	v				
Project management/pro-activity The student takes initiative, is pro-active and works independently, reacts adequately to feedback.	v				
Organizational sensitivity/collaboration: The student has an adequate overview of the problem for the organization**,** is sufficiently critical towards the organization.		v			
Organizational sensitivity/collaboration: The student understands the formal and informal culture of the company, asks support and input from others.		v			

Learning skills: The student is able to set personal learning objectives and can be self-critical. Asks for feedback and is willing to learn.		v			
Overall score: 8.0					
REMARKS:					

Logbook

During this graduation internship, I had several contacts with my school supervisor Mr. Jansen. The table below describes the overview of all communication and meetings.

Table 15. Contacts with school supervisor.

Contact	Date	Description
1st meeting at Fontys University of Applied Sciences	February 2nd, 2018	During the first meeting I introduced myself to my supervisor, described the company and graduation assignment;
The first meeting at the company	February 26th, 2018	During the first meeting my school and company supervisors and I talked about research assignment and research plan, what should be included in the research, and how it should be arranged;
E-mails	March 15th, 2018	Mr. Jansen gave the points for improvement. I took them into account, and the project plan was adjusted accordingly;
E-mails	April 23rd, 2018	The draft of the thesis was sent to Mr. Jansen asking for his feedback. The main issue was that the recommendations were too superficial. Based on this, the recommendations part was edited, it required more time to make it acceptable;
2nd meeting at Fontys University of Applied Sciences	May 7th, 2018	During the second meeting at Fontys. My school supervisor approved the updated recommendations part. The whole thesis report looked quite decent;
Final draft sent to Mr. Jansen	May 15th, 2018	The final draft was sent to Mr. Jansen. Based on his remarks, the final improvements were implemented. Mainly, the issues were concerning the executive summary and the synthesis of the literature review.

Critical reflection

Part 1: Critical reflection on the project

During the execution of the project, several things went very well. First of all, I believe that I was good enough at writing a research report, sticking to the guidelines, and producing an understandable piece of work. Second, researching existing literature went well; that said, it was challenging to find the literature that deals with the topic. Moreover, I believe I performed non-thesis related activities well. These tasks include: e-mailing, writing articles, etc.). I think these tasks helped to take some time off of writing a thesis which helped to look at thesis with a fresher view afterward.

There were several things that I would have done differently in my research. It is gathering and analysing the background information much earlier. There were times when I found out information later which I supposed to know already. Therefore, for future internships and the work position, I will work on my ability to communicate more and be more open. Also, I found it challenging to convince drug companies to participate in the research by filling in the survey. I realised that it is not enough to call and send an e-mail, I need to contact with pharmaceutical companies constantly to remind of the research and try to get what I was asking for.

Part 2: Critical reflection on learning goals

The goals that I stated in my pre-paper were:

1. I will gain more insight into Marketing and Communications tools;

This research was executed in marketing and sales department; therefore, I believe this internship certainly contributed to this particular goal. Creating compelling and convincing e-mails and phone call transcripts are just a few examples of this.

2. I will develop necessary communication skills needed to become a successful manager. Use all opportunities to practice communication and teamwork skills;

I think I improved regarding this objective; however, there is still plenty of room for improvement. I believe that this internship helped me in moving forward this goal because I had many opportunities to communicate with pharmaceutical companies. In the beginning, I was nervous to start doing this, but when I got more and more comfortable with it, I think I got better at it.

3. I will be able to give and receive constructive feedback. It helps to hone student's skills and become more professional.

During my graduation internship, I was able to accept the feedback I received from my company and school supervisors. As a matter of fact, I was continually trying to see and suggest ways on how I could improve my work and be a better researcher.

Part 3: My ambition

My ambition for the future is to graduate from Fontys University of Applied Sciences successfully and to get accepted to Maastricht University to obtain a master's degree in Strategic Marketing. I believe that these studies will help me to finalise my career path. This graduation internship proved me one more time that marketing is the field that I like and admire. I can see myself working in this field; however, I hope to find an industry where feel comfortable and can show my full potential. During this internship, I discovered again how crucial it is to communicate and to make yourself present, so people that surround could know what kind of person you are and what value you can provide to them.

Appendixes

Appendix 1: Survey

Figure 11. The opening screen of a survey.

1 When buying raw materials, how many suppliers do you contact? *

2 Are these suppliers located in one or several countries and in which countries?

3 What are your company's requirements/ criteria while selecting a supplier of raw plants? *

4 What are the approved methods of communication with suppliers? *

5 Is your company interested in establishing new business relations with suppliers? *

6 What kind of volume capabilities is your company looking for in a supplier? *

7 What are the top 3 plants that your company orders the most? *

8 What are the top 3 plants that your company is lacking of, that affects the company's production process? *

Submit

Figure 12. The survey.

Appendix 2: Frequency of the responses

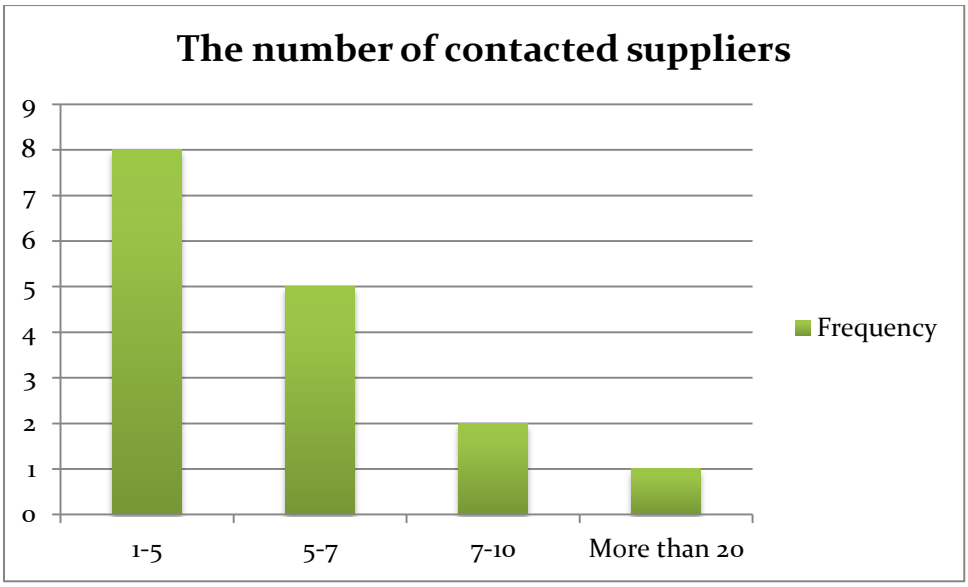

Figure 13. The number of contacted suppliers.

Figure 14. Location of suppliers.

Figure 15. Company's criteria when selecting suppliers.

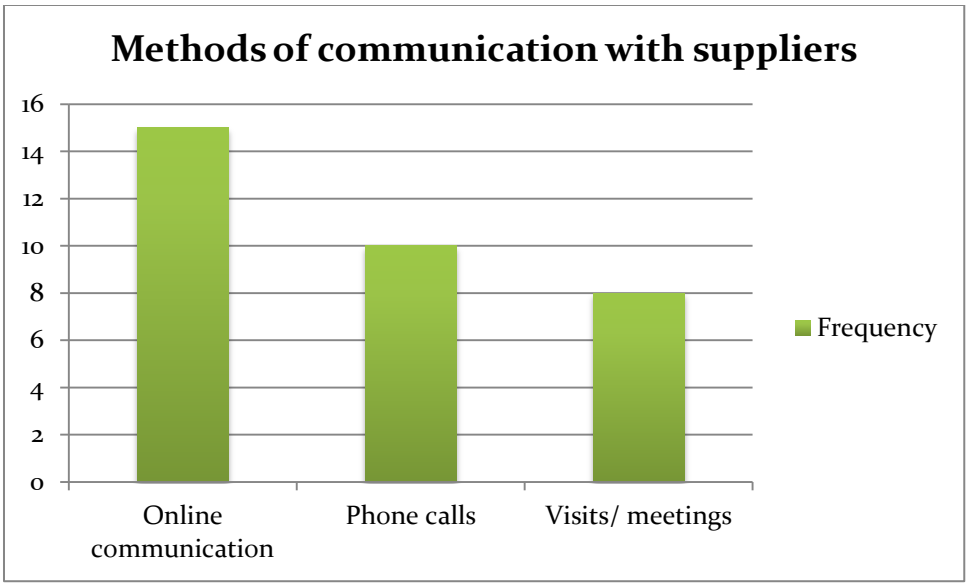

Figure 16. Approved methods of communication with suppliers.

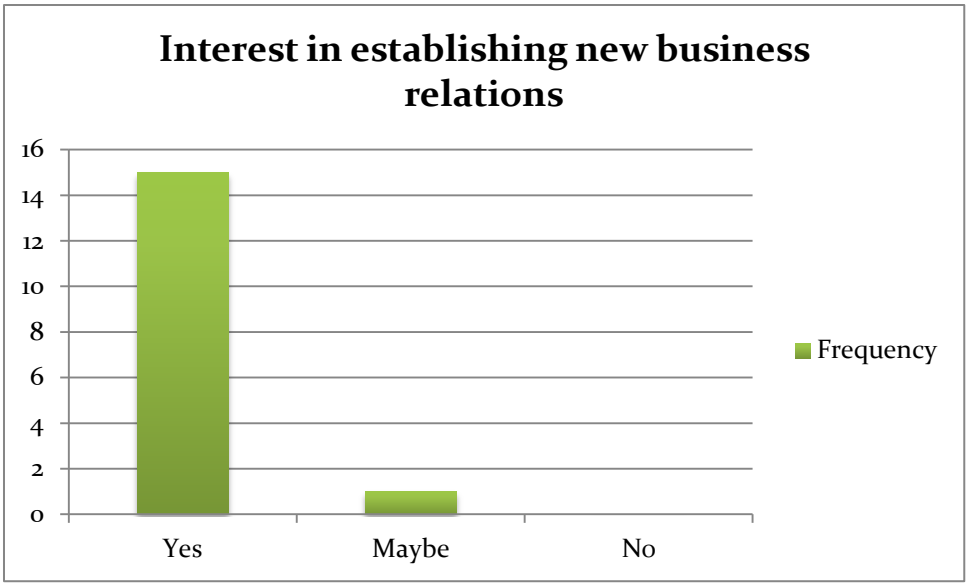

Figure 17. Interest in establishing new business relations.

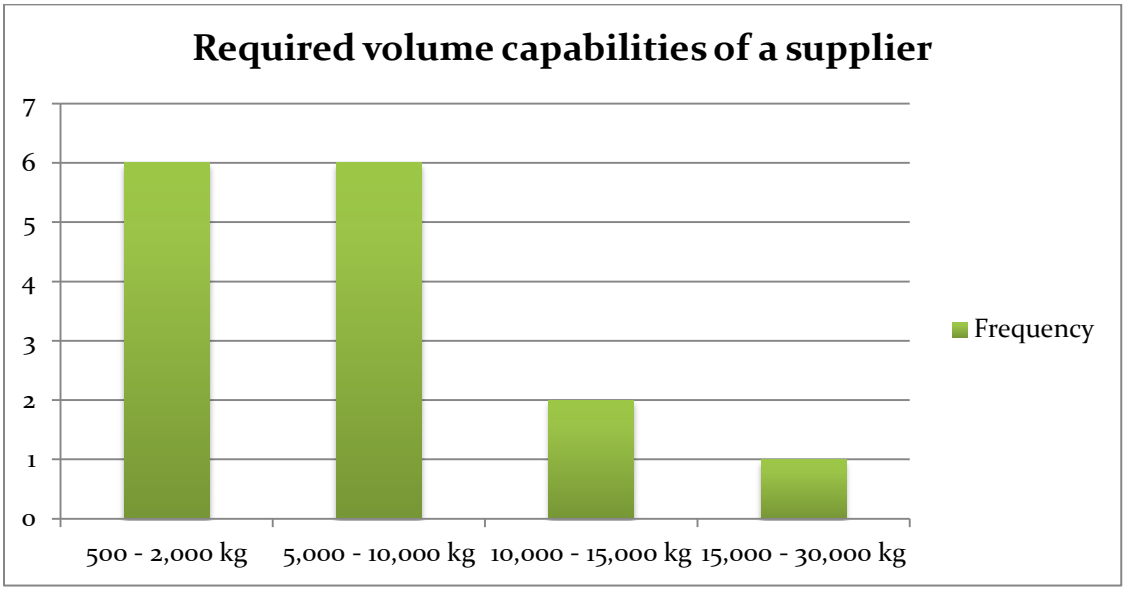

Figure 18. Required volume capabilities of a supplier.

Appendix 3: Survey responses

Table 16. Survey results (raw data).

Responder	When buying raw materials, how many suppliers do you contact?	Are these suppliers located in one or several countries and in which countries?	What are your company's requirements/ criteria while selecting a supplier of raw plants?	What are the approved methods of communication with suppliers?	Is your company interested in establishing new business relations with suppliers?	What kind of volume capabilities is your company looking for in a supplier?	What are the top 3 plants that your company orders the most?	What are the top 3 plants that your company is lacking of, that affects the company's production process?
671c55220382ae10a9c64ccbfc04ba54	5 - 8	they are located across several places	Quality is the most important factor for us	Online communication, e-mails, phone calls	Yes, we are interested in finding new suppliers	10,000 - 15,000 kgs	ginger, cranberry, dandelion	Ginkgo biloba, spearmint
c7f46cdba47c6f32ab673256da05df1b	3-5	several	quality and price	visits if possible and needed, online communication too	yes	15000-30000kg	aswagandha, waterhyssop, shatavari	false daisy, sandalwood, gloriosa superba
8ac45c5157a3252a6836f3c3db0b4a88	7-10	Several	Quality, price, delivery time	Phone calls, emails, face-to-face meetings	Yes	5000 - 7000kgs	Cranberry, Ginger, Ashwagandha	Verbena, Inchplant
d07e0c775c9df0d19a01dee7471277c2	3-5	several	Quality	Online, e-mails	Yes	1000 - 3000 kgs	Acai, Chamomile, Echinacea	Lungwort and Periwinkle
8e22a81aa14bacbba106963f930e7f55	2-5	several	Price and quality	E-mails and calls	Yes	10000-15000kg	aloe vera, skullcap, euphorbia	agrimonia, himalayan mandrake, hemp agrimony
3daa65bad115206159dde1ca2bff18c5	1 - 3	they are distributed in several countries	Quality and price of these plants	e-mails, phone calls	Yes	1000 - 3000 kg	St. John's wort, aloe vera, agrimony	mostly moringa and bloodroots
a40a5bb0d8ae124b742aaf406b2752c9	8-10	Several countries	Quality of plants	Online communication, as well as, Phone calls, visits (if possible)	Yes, we are	5.000 - 10.000 kilograms	Echinacea, chamomile and Symphytum	Valerian, verbascum thapsus and elderberry
a8466edccf1b96867efa7f2dfecd1fe1	3	several	quality	online and offline communication tools	Yes	around 5000 kg	Dalchini Perenial Shrub, Kurai, Bahada	Satavari and Aswagandha
92562b37f57f75aa11d98cd0fab03af6	4-7	Different countries	Quality and price	Visits, calls.	Yes	1000-3000 kilograms	Woodruff, Calendula officinalis, Ginseng	Ginkgo biloba, Iuniperi Fructus, Sanicula europaea
4ecd441d0063f5c07bd5b7b1dfa9ff67	2	Same country	Quality	Online, calls, meetings	Yes	5000kg-10000kg	Lemon balm, verbenae, parietariae	Farfarae
825efa813f88abfe2fcd2dec418781b3	5 - 7	Several countries	Quality is the most important factor for us	Online communication (mails, Skype calls), meetings	Yes	Start with the sample : 1 Kg, if everything is good, then we order 1000 - 2000 kg.	Arnica, Vetiver, Elderberry	Common chickweed
ad3a79a14d1e70d5512f5b9ee4006d0a	6	several countries	Quality and costs	E-mail, Phone calls	Yes	5000 - 10000 kilograms	Nettle, red clover, common mullein	Right now we are lacking of Hyssop. We are looking closely while deciding how to get this herb.
9d317b52a11be2493eeb0268c8c69abc	2	They are both in the same country	Quality	Online communication	We are	1000kg - 5000kg	Sambucus Nigra, Momordica Charantia, Lamium Album Herb	Mentha spicata, Centella Asiatica
cb722e97c47d437e70b10c653b5f70fd	5	In several countries	Quality, price, delivery time	E-mail, calls, visits (if necessary)	Yes	Depends, 500kg - 2000kg	Asana, guduchi, Anamirtta Cocculus	Eryngium Billardieri Herb, Geranium Robertianum.
c735eb9abde1c92481d06d050c1547c3	3	Spain	Quality	E-mail	Maybe	5000-10000	Bondersurf NL28E Tegobetain FKB5 Rebopoll SBFA	-
4436fbdb19d2a14ef13560c28a430cf1	more than 20	yes. around the world	Quality	mailing	yes	it is different	--	---

Appendix 4: Plants mentioned more than once

Figure 19. Echinacea (Martin, n.d.).

Figure 20. Chamomile (Lee, 2011).

Figure 22. Ashwagandha (NutritonReview.org, 2017).

Figure 21. Verbena (Larum, 2017).

Figure 24. Ginger (Durrani, 2016).

Figure 23. Cranberries (Edwards, 2014).

Figure 26. Aloe Vera (Clark, 2015).

Figure 25. Elderberry (Cassis, 2010).

Figure 28. Agrimony (OrganicFacts, 2017).

Figure 27. Ginkgo biloba (Carole Anne Tomlinson, 2011).

Appendix 5: Pharmaceutical companies

The pharmaceutical companies that focus on alternative medicine. They are informed in about MAP-Expo.

Company	Country	Website	Contact
1) TRADIPHAR	France	www.tradiphar.com	+33 3 20 97 13 70
2) Unda Boiron	Belgium	www.unda.be	+32 4 384 43 09
3) Will Pharma	Belgium	www.willpharma.com	+32 10 24 38 38
4) Biohorma B.V.	The Netherlands	www.biohorma.nl	+31 0525 68 72 00
5) Bional Nederland B.V.	The Netherlands	www.bional.nl	010 476 45 66
6) Linnea SV	Switzerland	www.linnea.ch	+41 91 850 5050 HQ
7) Activ'Inside	France	http://www.activinside.com/en/	+33 535 541 560
8) Anklam Extrakt	Germany	www.anklam-extrakt.de	+49 3971 24110 0 HQ +49 911 247901 11 Sales office +49 911 247901 10 Sales Office
9) C. Hedenkamp GmbH & Co. KG	Germany	www.hedenkamp.de	+49 5257 9890 0
10) Trenker	Belgium	www.trenker.be	+32 2 374 02 53 Head Office +32 49 75 35 057 Philip Luyten (Sales)
11) Pedersen Biotech	Denmark	www.pedersenbiotech.com	+45 7585 9044
12) Herbamed	Switzerland	www.herbamed.ch	+41 71 791 80 50

13) Pukka Herbs	The United Kingdom	www.pukkaherbs.com	+44 845 375 1744
14) Laboratoire homeopathique Schmidt-Nagel SA	Switzerland	www.schmidt-nagel.ch	+41 22 719 19 19
15) Bionorica SE	Germany	www.bionorica.de	+49 9181 231 90
16) MediHerb	The United Kingdom	www.mediherb.co.uk	+44 1608 65 8862
17) SatiMed Ltd	The United Kingdom	www.satimed.eu	+44 20 328 902 78 (UK) +3706 98 88978 (LT)
18) Ospapharm GmbH	Germany	www.ospapharm.com	+49 30 3454 0316
19) Dynarop	Belgium	www.dynarop.be	0032 56 488 522
20) Lehning Laboratoires	France	www.lehning.com	+33 3 87 76 72 24
21) PhytoSwiss Pharma LLC	Switzerland	www.phytoswisspharma.ch/	+41 265340332
22) Tilman S.A.	Belgium	www.tilman.be	+32 84 320 360
23) Arkopharma	France	https://www.arkopharma.com	00 33 4 93 29 11 28
24) SwissLabnat Sarl	Switzerland	www.swisslabnat.com	00 41 21 791 66 52
25) Provera	Belgium	www.provera.bio	+32 67 22 27 61
26) HRI Herbal Medicine	The United Kingdom	www.hriherbalmedicine.co.uk	00 44 1932 854825
27) Potter's Herbals	The United Kingdom	www.pottersherbals.co.uk	00 44 1202 449752
28) Herbal apothecary	The United Kingdom	www.herbalapothecaryuk.com	+44 1947 602346

29) Phynova House	The United Kingdom	www.phynova.com	+44 1993 880 700 (Head office) +44 207 398 7700 (For media enquiries)
30) PEKANA Naturheilmittel GmbH	Germany	www.pekana.com	+49 75 63 91 160
31) Hevert-Arzneimittel GmbH	Germany	www.hevert.com	+49 6751 910 0
32) Oce Bio	The Netherlands	www.ocebio.nl	+32 3 366 21 21 (Office) 0031 613 08 1488 (Marketing manager Mr. Pattiwael)

Appendix 6: Templates of e-mail marketing

Figures 29 and 30 represent templates that can be used for communicating with potential visitors and with first-year visitors, respectively.

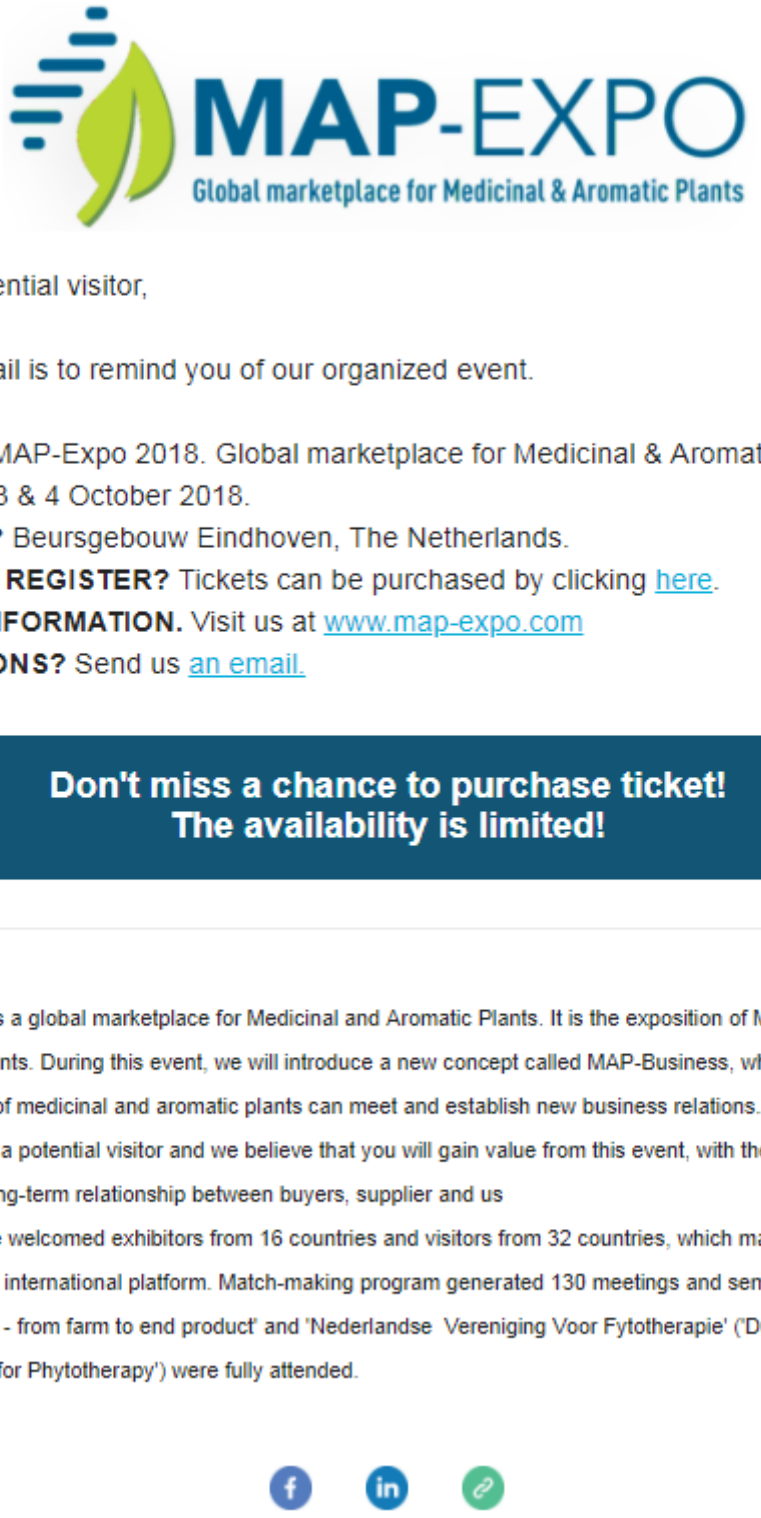

Figure 29. Template to communicate with potential visitors (version 1).

MAP-EXPO
Global marketplace for Medicinal & Aromatic Plants

Dear potential visitor,

Last year you enlightened our event with your attendance. We hope that you found the event informative and beneficial. Therefore, we would like to invite you to our second edition of MAP-Expo 2018.

WHAT? MAP-Expo 2018. The global marketplace for Medicinal & Aromatic Plants.
WHEN? 3 & 4 October 2018
WHERE? Beursgebouw Eindhoven, The Netherlands.
HOW TO REGISTRATE? You can purchase tickets by clicking here.
MORE INFORMATION. Visit us at www.map-expo.com.
QUESTIONS? Send us an e-mail.

Purchase the ticket now!

In 2017, MAP EXPO welcomed exhibitors from 16 countries and visitors from 32 countries, enabling the event to be a proven international platform. The Match-making program generated 130 meetings, which is 2600 minutes of meeting time. "CANNABIDIOL – FROM FARM TO END PRODUCT" (which will be organized this year, as well) and "Nederlandse Vereniging Voor Fytotherapie" (Dutch Association for Phyto-therapy) were fully attended.

This year's edition will welcome even more exhibitors which are present in following sectors:

- Medicinal and Aromatic raw plants;
- MAP Extracts (organic and conventional);
- MAP Cultivation and Production;
- Supplements, Drugs and Cosmetics.

The themes present in the event:

- Plant-based therapy for human health;
- Investments in MAP sector;
- Halal cosmetics and medicines;
- Cannabidiol.

MAP-Expo has been established as the go-to marketplace for the key players in MAP-related sectors.

We are honoured to introduce you some of our exhibitors.

This is just a glimpse of what to come. So, do not hesitate and purchase the tickets now!

BUY TICKETS

Figure 30. Template to communicate with potential visitors (version 2).