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Productisation and Commercialisation Plan for Pharmatory Ltd.'s New Service

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ABSTRACT

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The objective of this thesis is to make a productisation and commercialisation plan for the case company Pharmatory Ltd.'s new service. The company is planning to introduce biocatalysis into its service portfolio. The research questions of this thesis are 1) How to productise a service? 2) How to commercialise a service? and 3) How to productise and commercialise biocatalysis service?

The methodology used in this thesis is document analysis and lead user theory. Market studies conducted in the target market were analysed. Also, for the empirical part of the thesis, a lead user method was carried out. The theoretical framework of the thesis is based on the theories of productisation and commercialisation of services.

As a result of the thesis, a productisation and commercialisation plan for Pharmatory Ltd.'s new service was prepared. The suggestions for the productisation and commercialisation of the service were introduced as well as preliminary pricing for the new service. Finally, some future development activities were suggested.

As a conclusion, the case company is suggested to move towards the introduction of biocatalysis service. The addition of the new service will enable Pharmatory Ltd. to explore new business opportunities, increase profitability and competitiveness in the European market.

Chapters 4 Analysis of the Target Market and 5 Productisation and Commercialisation Plan for Biocatalysis are not published in their full length in the Library version because the information in them is classified as confidential. Chapters 4 and 5 are attached in the Appendices in their full length. The Appendices are not published.

Keywords: productisation, productising, commercialisation, commercialising, biocatalysis

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CONTENTS

1 INTRODUCTION

1.1 Motivation and Background

It is said that successful and innovative companies want to work with partners with similar qualities. Companies can improve their position as a desired or preferred partner by improving their service offering and competence. As Feeny, Lacity & Willcocks (2005; cited in Zerbini, Golfetto & Gibbert 2007, 784) state, the key drivers in the supplier selection in business markets are suppliers' competencies and resources. In order to remain competitive, companies have to be able to differentiate themselves from competitors. Pharmatory Ltd is one of the companies aiming at differentiating itself by improving the service offering.

The case company in this thesis is Pharmatory Ltd (henceforth Pharmatory). Pharmatory is a contract service provider in the field of pharmaceutical manufacturing. The company offers services in the field of synthetic organic chemistry. The main services of the company are process research and development, and current good manufacturing practise (cGMP) contract manufacturing of active pharmaceutical ingredients (APIs) and key intermediates. The company can provide services for different kinds of companies: biotech companies, small and medium sized pharmaceutical companies, big pharmaceutical companies, and research institutes. The company's facilities are located in Oulu. The main market area is Europe; the company does not have any sales activities outside of Europe.

My personal involvement in the company is a strong motivational factor in the writing of this thesis, because I work at Pharmatory as International Marketing and Logistics Manager. Also, a lot of the data is originating from my own personal working experience and observations while working for this company.

The starting point and the background for the thesis were to explore how well Pharmatory could take advantage of the existing knowledge and resources within the company in order to create profitable business. Jaakkola, Orava & Varjonen (2007, 3) suggest that companies should actively seek information about the needs of their customers, the situation at the field of business, the trends and competition in the sector

when making strategic choices. The case company wants to be in the frontline among service companies who are offering innovative solutions for the pharmaceutical and biotech industry in solving complex chemical problems.

For the development of biocatalysis in the case company, Pharmatory has received funding for this internal project from the Finnish Funding Agency for Technology and Innovation (TEKES). The project enables the actions necessary for the company to explore the possibilities of the introduction of biocatalysis into its service portfolio.

1.2 Research Objectives and Research Questions

In this thesis, market is studied for the level of demand for this kind of service as well as the level of competition in the field of biocatalysis. This is done with the help of the data derived from the company's own market studies. The general objective of the thesis is to make a productisation and commercialisation plan for Pharmatory's new service product for the chosen target market. The more specific objectives of the thesis is to study the processes of productisation and commercialisation of a service, to study the target market in terms of supply and demand, and finally to come up with a plan for productisation and commercialisation of the new service of Pharmatory.

Pharmatory is planning to introduce a new service product, biocatalysis, into its service portfolio. Biocatalysis is an environmentally friendly and cost-effective way of manufacturing chiral, complex compounds. The introduction of biocatalytic reactions and the usage of enzymatic catalysts in the manufacturing of active pharmaceutical ingredients and intermediates would offer the customers a faster synthesis route for their complex compounds and provide an alternative method of chemical synthesis. By adding this service into the service portfolio of the company, it would help the company to serve a wider range of customers, and to utilise the existing infrastructure and equipment more efficiently.

European companies working in the field of contract services for the pharmaceutical industry have widely similar services palettes in terms of technology, size and chemical capabilities. In the tight market situation, the companies have to be innovative and differentiate themselves from their competitors. This is possible through widening the

service offering to niche areas and special technologies. The companies might have good ideas about how to do this, but another process is to turn the good ideas into successful products and services. In literature discussed below, the process of turning an idea into a sellable product is called productisation.

Simula& Lehtimäki & Salo (2008) describe the process of productisation, in other words the formation of a product/service, as well as the relation between productisation and commercialisation. There are two types of activities within productisation: inbound and outbound activities. The inbound activities consist of activities inside the organisation, and the outbound activities are to improve the visibility and concreteness of the offering for the customers. (Simula et al. 2008.) Finally, the practical activities related to the processes of productisation are studied and the theories of marketing competence will be incorporated in the commercialisation part in this thesis.

The term commercialisation is, according to Lehtimäki, Simula & Salo (2008, 3) used in situations where the sole purpose is to discuss how to bring novel technologies into profit making position: technology might already have some applications or just being in search of ones. Commercialisation means introducing a new technology or product to the market, and it is broader and more marketing related concept than productisation that, in turn, concerns both marketing and engineering. (Simula et al. 2008). In this thesis, commercialisation is discussed in the point of view of marketing, sales and launch activities.

The research questions below are put forward in line with the objectives of this thesis. Consequently, the research questions are formulated as follows: 1) How to productise a service? 2) How to commercialise a service? and 3) How to productise and commercialise biocatalysis service?

The methodology in this thesis is mainly based on document analysis and lead user method. With the help of the document analysis, the target market, competitive situation and market opportunity will be studied. The lead user method will be used in order to have an insight to the views of the potential customers for the productisation and commercialisation processes. The theoretical framework in this work is based on the theories of productisation and commercialisation of professional services, as well as managing service innovation and new product development.

The objective of the thesis is to create a productisation and commercialisation plan for the new service product of Pharmatory for the selected market: Germany and the United Kingdom. The selection criteria are the size of the market and the level of activities of Pharmatory in the selected countries. The companies to be targeted are categorised in three groups: 1) small biotech companies, 2) medium-sized pharmaceutical companies and 3) big pharmaceutical companies. The logic behind the division to groups mentioned above is the same as the case company uses when segmenting its potential customers. The purpose of the thesis is to introduce a productisation and commercialisation plan for the new service that enables the synthesising of complex compounds with the help of enzymatic processes.

1.3 Structure of the Thesis

In chapter 2, the methodological decisions and techniques are explained. The theoretical framework and the key concepts are presented in chapter 3. Chapter 4 is concentrated on the current situation at the target market and analyses the environment the company is acting in. The actual findings of the research, the productisation and commercialisation plan for Pharmatory's new service is presented in chapter 5. Finally, chapter 6 concludes the thesis.

The chapter 4 includes information about the target market, competitive environment and market opportunity. Chapter 5, as the title states, includes the productisation and commercialisation plan for the new service and is regarded as intra-company knowledge that is not public knowledge. Therefore, the topics in chapter 4 and chapter 5 respectively are written out in Appendix 1 and Appendix 2, and the appendices are separated from the thesis. Due to the issue of confidentiality, they are not published through the Kemi-Tornio University of Applied Sciences Library database.

2 METHODOLOGY

In the following chapters, the methods of data collection and analysis, as well as the lead user method are defined in detail.

2.1 Data Collection and Analysis

As the thesis studies productising and commercialising of a service, this thesis is a qualitative case study. According to Ghauri (2004, 109), a case study is both the process of learning about the case and the product of our learning. Additionally, Ghauri (2004, 111) states that case studies are used for many 'how', 'why' and 'what' questions. According to Yin (2003, 22) the questions 'how' and 'why' still do not justify the usage of a case study as a research method, as they do not point out what to study. The fact the researcher is meant to deliver some propositions determines the type of evidence to be collected in the study (Yin 2003, 22). As the research questions of this thesis are 'How to productise a service?' 'How to commercialise a service?' and 'How to productise and commercialise biocatalysis service?' a case study approach is a well suited research method for researching those questions.

Case studies also involve data collection for multiple sources (Ghauri 2004, 109). As the thesis is based on information from multiple sources such as market studies and information derived from the lead user method, the data is collected and analysed throughout the whole thesis process. The data to be analysed will be primary, when derived through the lead user method and observation, and secondary, as the market information will be gathered through documentation.

Yin (2009, 101) lists six sources of evidence in a case study: documentation, archival records, interviews, direct observation, participant-observation and physical artefacts. Yin (2009, 103) considers the following types of documentation as source of evidence in a case study: letters, email correspondence, agendas, reports and other internal records, formal studies, news clippings and articles. In this thesis, the sources of evidence used will be documentation and both direct and participant observation.

The types of documentation used in this thesis are market reports, articles, newsletters, company brochures, and other related documentation. The market reports will be compiled for Pharmatory and the information in the market reports are from the chosen market areas specified in chapter 1 Introduction. The information is hence detailed and accurate. The articles and newsletters handle biocatalysis in general and its applications in the present and in the future. The articles also discuss the attitude and future trends in biocatalysis and its' application in the manufacturing of complex chemicals as intermediates or pharmaceutical ingredients.

Yin (2009, 109) differentiates the two forms of observation as follows: "observations can range from formal to casual data collection activities" and direct observation can involve "observations of meetings", "through a field visit" or the like. Participant observation "is a special mode of observation in which you are not merely a passive observer". In fact, the researcher can have a variety of roles within or participate in a study situation. (Yin 2009, 111.)

The data derived through both direct and participant observation is the data gathered in meetings, conferences, workshops and other situations of interaction. More precisely, the situations where direct observation occurs in the case of this thesis are conferences and exhibitions, where one can be a neutral observer. Participant observation is used in meetings with industry professionals and other representatives of companies working in the field of pharmaceuticals. The method of observation was chosen instead of recorded interviews, because it was thought that the outcome of the discussions in the meetings would be richer and more reliable. According to Zerbini et al. (2007, 786) in the Latin cultural context conversations may become rich and confidential, but only within the boundaries of the oral tradition.

In this thesis, the data to be collected through observation is to find out the general opinions about biocatalysis among companies, and to have further knowledge about the current competition. According to Yin (2003, 92) the data collection through direct observation can occur in formal or in less formal way. Less formal observation can occur in situations when other evidence is being collected or when the purpose of the situation in question is not primarily the observation (Yin 2003, 92).

The analysis of the documents will be analysed by using the strategy of relying on theoretical propositions. This approach suggests that it is the theoretical orientation that guides the case study analysis. (Yin 2009, 130.) Hence, the design of this case study is that of a critical case study as it is following and testing a well-established theory (Yin 2003, 40). The theoretical framework is defined in chapter 3 Theory of Productisation and Commercialisation.

According to Eriksson & Kovalainen (2008, 130) there are several different analytic techniques in case studies, including the following: content analysis, critical incident analysis, conversation analysis and (rhetoric, narrative and) discourse analysis. On the other hand, Yin (2003, 116-137) discusses the following five different specific analytical techniques: pattern matching, explanation building, time-series analysis, logic models, and cross-case synthesis. In this thesis, the analytical method is explanation building, the goal of which is not to conclude a study but to develop ideas for further study (Yin 2003, 120). Since the aim of the thesis is to present a productisation and a commercialisation plan for the company's new service, it is a topic that – in order to remain competitive in the future, too – has to be developed continuously as the market changes and as the company develops its skills in the field of biocatalysis.

2.2 The Lead User Method

The methodology chosen for the productisation in this case is the lead user method by Churchill, von Hippel & Sonnack (2009). As biocatalysis as a means of manufacturing complex chemicals in the pharmaceutical industry is fairly new, the lead user method was chosen to be the framework for the productisation part of the thesis. The analysis of the environment and the market will be the starting point for the productisation and commercialisation plan.

The lead-user theory is based on product development by a chosen group of lead users. Hence, the lead user method is an alternative way for concept development. Therefore, a group of lead users, who would become involved in the concept development, will be identified. The lead user method (Churchill et al. 2009) has four stages: 1) selection of the project focus and scope, 2) identification of trends and needs, 3) collection of needs and solution information from lead users, and 4) concept development with lead users.

The data derived from the market studies of the case company and the data derived from the lead user theory will determine the commercialisation and productisation plan.

During the first stage, the management of the company are to define the target market and the target product/service to be developed with the lead user method. Also, the goals of the project are set. The team for the project is also appointed in the first stage. The more varied the expertise is within the group, the better the end result will be since the information will be acquired from and applied in different fields. (Churchill et al. 2009, 29-30.)

In the second phase, the team investigates the market and the trends in-depth, in order to be able to choose the exact target trend / phenomenon / need to be investigated further in the study. During the second phase, the team might identify some key experts to be interviewed about the market trends and their need to obtain the needed information. (Churchill et al. 2009, 33-35.)

The third phase is about acquiring deeper understanding about the needs and solutions of lead users and creating preliminary concepts regarding the identified needs and preliminary solutions. Moreover, the purpose of the third phase is to verify that the need and the intended solution mean a good business opportunity. This idea is then introduced to the management to make sure that the proposition is in line with the business interests. (Churchill et al. 2009, 38-39.)

In the fourth and the final phase of the lead user method the ideas and solutions are refined in order to be able to present a product or service proposal. The proposal should include the following items: the design of the new product/service, the data confirming the commercial potential of the concept, and an idea how the product/service will be developed and produced. In order to achieve these goals, a lead user workshop can be held. (Churchill et al. 2009, 39-40.)

According to Von Hippel (1988; cited in Churchill et al. 2009, 9), lead users have new product or service needs earlier than the bulk market, and usually they want to develop them themselves before they become available commercially, because they expect to benefit from it significantly. However, the lead users are categorised in different types,

as sometimes the lead users are not active in the target market, but in related markets or even outside the industry. (Churchill et al. 2009, 10-11.)

The advantages in the usage of the lead user method are that gives access to valuable inside information possessed by the lead users and an insight to what the lead users really value and think about the new idea/innovation/product prototype. All in all, the lead user method allows the company to gain a more accurate understanding of the market and the needs of their customers than other methods, as the users themselves are involved in the development of the new product or service (Churchill et al. 2009, 5-6, 24.)

3 THEORY OF PRODUCTISATION AND COMMERCIALISATION

The theoretical framework in this work is based on the theories of productisation and commercialisation of professional services, as well as managing service innovation and new product development. In the Introduction chapter, the concepts of productisation and commercialisation were introduced. In the following paragraphs the theoretical framework and other related concepts are defined and made relevant from the point of view of this thesis work.

According to Trott (2002), innovation is the management of all activities involved in the idea generation. These include technology development, manufacturing and marketing of a new (or improved) product, manufacturing process or equipment. If the new ideas within the company are not commercialised, they will not benefit the company. (Trott 2002, 12.)

Bessant & Davies' (2007) suggestions about managing service innovation will be used in this work in order to define how to turn an innovation in to a service. For an innovation to become a successful product, it has to be both innovative as well as responding to customers needs. According to Bessant & Davies (2007, 65), in the context of service innovation the search for and use of demand side knowledge is critical. When creating and developing a new product, the end-user knowledge is vital in order to help the product's adaptation in the market. Bessant & Davies (2007, 65) state that end-user understanding and empathy are essential to success.

Innovation in services can take many forms. Bessant & Davies (2007, 66) divide the innovation in to different categories: product innovation, process innovation, position innovation and paradigm innovation. When thinking about biocatalysis, one could categorise it in to product innovation, since it is anticipated to be the new service product of the case company. On the other hand, it is a process innovation, as the same end result – manufactured pharmaceutical ingredient – is achieved by using a different method and a different process. In this particular case company, biocatalysis is a merge of both product and process innovation.

The drivers for innovation can be various, but Bessant & Davies (2007, 88) present the following three drivers: servicisation, customisation and outsourcing, regarded as core trends. The trend of outsourcing in different fields of industry has been increasing. By outsourcing various operations companies can either benefit through transactional outsourcing or strategic outsourcing. Transactional outsourcing can occur in cases where standard operations are outsourced for less that it would be in-house. Strategic outsourcing occurs with more complex operations. According to Bessant & Davies (2007, 91) strategic outsourcing can produce innovations because the operations might require the creation of novel solutions that often are "co-created with end-users".

Biocatalysis is a rather new method of manufacturing complex chemical compounds, and it has not been widely adapted in drug development companies. Neither is it seen as an option for the traditional chemistry. Therefore productisation and more over, having an end-user view in the developing of the new service is essential. For this particular reason, the lead user method by Churchill & von Hippel & Sonnack (2009) will be used both as a theoretical framework and as a research method and a data collection tool in the productisation of the new service.

Being able to keep customer satisfied also means offering services that they need. Trott (2002, 172) states that products / services are the vital ingredients of a company's market offering and they are in fact the vehicles for providing customer satisfaction. Therefore it is essential to have services / products that the customers feel are useful and worth buying (Trott 2002, 172).

In view of the terminology used in the thesis, the offering, in this case a service, biocatalysis, can be referred to as service or a service product. According to Ojanen, Salmi & Torkkeli (2007, 6), productisation of professional services means "services and their production processes are more specific and more carefully designed, so that services can be seen as service products". Instead of using the term "service product", Lusch, Vargo & O'Brien (2007, 6) refer to service as "a stand-alone variable" and "primary focus of exchange".

The article by Bessant & Davies (2007) also makes a difference between the language used when discussing either a traditional manufacturing or a service innovation.

According to Bessant & Davies (2007, 65), the terminology used in the context of innovation taking place within services is less familiar. Table 1 below illustrates these differences.

Table 1. Language differences between manufacturing and service innovation

Core innovation concept	**Manufacturing**	**Services**
Search for new possibilities	R&D, laboratories, prototyping, test-beds, pilot plants, simulation etc.	User-needs analysis, empathic design, concept testing, pilot studies, ethnography
Strategic selection and resource allocation to projects	Portfolio tools, bubble charts, risk/reward matrices	Business case development
Implementation of innovation projects	Stage gate models, NPD systems, heavyweight project management, concurrent engineering, design for manufacture and assembly, CAD/CAM, etc.	New service development systems, test marketing, beta testing, market development teams
Process innovation tools	Lean production and supply, kaizen, total quality management, Six Sigma, etc.	Business development, process excellence

As it can be seen in Table 1 above, the demand side information is emphasised more in the service innovation process than in the traditional product manufacturing process. The end user knowledge in service innovations is vital in order to succeed. (Bessant & Davies 2007, 65.)

Even though productisation and commercialisation are interrelated concepts, they are separated in the theoretical and in empirical part of this thesis for clarification in the discussion to follow in the sub-chapters 3.1 and 3.2 respectively.

3.1 Theory of Productisation

In literature, productisation is described as "a transformation of research results into a technology with an application purpose and/or a transformation of a technology into a product" (Fontes 2003, 343). In this case study more precisely, the result is a service, "which is then brought to the market" (Fontes 2003, 343), in order to deliver the service to the customer more efficiently (Cusumano 2008, 26).

According to Simula, Lehtimäki & Salo (2008, 5), productisation is packaging the offering, technology or service into an understandable format. Also, it is about defining, describing, improving and continuously developing the offering. Hence, productisation is used in a situation where a service company wants to "modify its intangible service promise towards a more clearly defined outcome" (Simula et al. 2008, 4). Moreover, Parantainen (2007, 11) defines productisation as a process the result of which is know-how or expertise is turned into a marketable and sellable product. This is what Pharmatory is aiming at achieving with biocatalysis.

Simula et al (2008) discuss the two types of activities within productisation: inbound and outbound activities. As explained in the introduction part, the inbound activities mean activities inside the organisation, and the outbound activities are the visibility and concreteness of the offering for the customers. (Simula et al. 2008.)

The inbound activities include all the activities within the organisation for making the product. Inbound activities could be for example designing the service or product, engineering activities related to it or testing the prototype. All these activities can be summarised as an ability to make. (Simula et al. 2008.) In the thesis, the inbound activities mean the activities related to the research and development of the new service in both theory and practise. In the case of Pharmatory, the testing of the chemical reactions and the training of personnel to work with the new kind of chemical reactions are examples of inbound activities that the company has to take.

The outbound activities are about the ability to sell. Activities such as branding, pricing, advertising, marketing, sales tools and logistics are outbound activities. Many of those can be categorised under the commercialisation part of the theoretical framework, as the purpose of the outbound activities is to make the product or service commercially

available for a company's clientele. However, the outbound activities of productisation enable the product or service to be made commercially available, and therefore are classified as part of productisation. (Simula et al. 2008.) The outbound activities in this thesis are mostly related to marketing, productising and commercialising of the new service, hence all the activities that are necessary that the service can be made available and sellable to Pharmatory's clientele.

Figure 1 illustrates Jaakkola, Orava & Varjonen's (2009, 15) perception of the inbound and outbound activities as a service process. According to Jaakkola et al. (2009), service process means the activities – both the intra-company processes and the external communication process with the customer – related to the productisation of services. The inbound activities are referred to as the back office activities in Figure 1 below. Similarly, the outbound activities are described as front office activities.

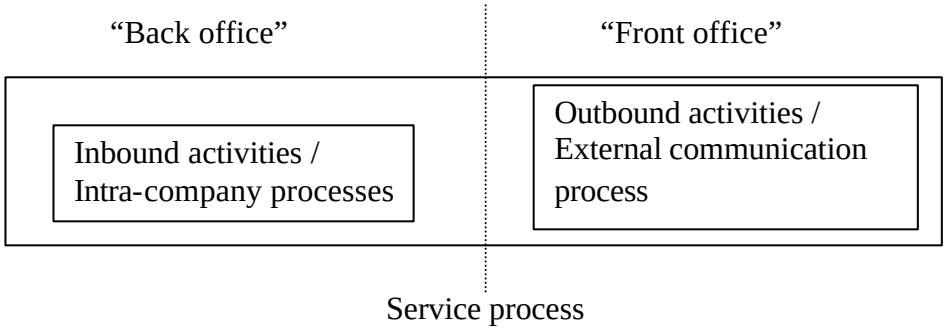

Figure 1. Service process as an entity

Jaakkola et al. (2009, 15) state that not all the processes related to productisation are visible to the customer. Both inbound and outbound activities are equally important in the productisation process.

3.1.1 Product Development Process

According to Ulrich & Eppinger (2008, 13-15), there are six stages in the product development process. These stages are planning, concept development, system-level design, detail design, testing and refinement, and production ramp up. Even though these stages are mainly used for the product development of an actual, tangible product, these can also be applied to the development of services.

In the first phase, planning, the assessment of the technology development and market objectives is done with the purpose of preceding the project approval and the launch of the whole development process. (Ulrich & Eppinger 2008, 13.)

The second phase, concept development identifies the target market's needs, and the preliminary testing of concepts is done in order to find the most feasible one. One of the key aspects of the second phase is to come up with a concept that can be brought forward by the company. (Ulrich & Eppinger 2008, 15.)

The third and the fourth stage are system level design and detail design respectively. The two stages consist of product architecture, functional specification of the product and complete specification of the product and a process plan. (Ulrich & Eppinger 2008, 15.) These phases can also be applied to the development of services, just bearing in mind the differences of the content in the activities.

The fifth stage, testing and refinement phase, should answer the questions about performance and reliability. According to the test results, the product – or service in this thesis – can still be refined and altered. (Ulrich & Eppinger 2008, 15.)

The last stage, production ramp up, is the final stage where both inbound and outbound activities of the productisation are culminated: the work force is trained, the final errors in the processes are solved, and in most cases the service is only produced to preferred customers. In this case study it means the lead users involved in the concept development. The marketing and commercialisation activities also kick off in this stage in the form of launching the product or service, to make it available for the clientele. (Ulrich & Eppinger 2008, 15.)

The product development process needs some alteration when used in the development of a service. Hence, the product development process is more intended for the development of a product rather than a service and its technicalities. Moreover, compared to the lead user method, the conventional product development process is a less informative process, in view of the opinion of the users of the service themselves. As mentioned before, in chapter 3 Theory of Productisation and Commercialisation, the service innovation process emphasises the demand side knowledge. In terms of productising a service, the service has to be packaged into an easy-to-sell concept.

According to Parantainen (2007, 39) the first three issues to consider, when starting a productisation process, are to determine how to distinguish from the competitors in a way that the customer finds it easy to choose you. Secondly, one must determine how to pack one's services into entities, and thirdly, how to remove the feeling of risk that the customer might have. (Parantainen 2007, 39.)

In order to succeed in productisation, the following determinants have to be defined early on: the price, the content of the service itself, and the person responsible for the service. These basic features are the basis of the process, and if these are not clearly defined, there is a risk that the productisation process will fail (Parantainen 2007, 25.)

On the other hand, despite that the corner stones of the new service have to be in place before the selling and commercialisation can start, the productisation process does not have to be finalised. As the lead user method is used in the productisation process, the commercialisation and sales can already start. According to Parantainen (2007, 33) one good way of starting the commercialisation before productisation is finished, is to offer a prototype or a pilot project – as in the case Pharmatory in this thesis – to the customer. In practise this would mean that the customer provides a real life problem to be solved by the company and gets something in return, whether it is extra services, or concept development for a more interesting fee.

3.2 Theory of Commercialisation

In business life, the innovation has to be turned into a product. The process of turning an idea or an innovation into a product is productisation. The product or service can then be commercialised, which means it can be made commercially available for a company's clientele. In this chapter, the process of commercialisation of a service is investigated.

Commercialisation is a broad term, but as mentioned in chapter 1.2 Research Objectives and Research Questions, in this thesis, commercialisation is discussed in the point of view of marketing, sales and launch activities. The term commercialisation is often mixed with the term launch, as they are both used in literature in the context of new

product (or service) introduction. The term launch is currently often used to cover a broad range of marketing activities, whereas its' actual meaning would be related to commercialisation. Commercialisation is a term that is more related to new service introductions, it describes relatively longer time frame than launch. (Lehtimäki et al. 2008, 2, 6.)

In this thesis, the term commercialisation consists of all the activities that are related to making the service or product commercial. These activities include the launching of the service, and all marketing and sales activities. A company has to plan how and where to market it, but also how to sell the competence. Pharmatory already has established marketing and sales channels, and therefore there is no need to change them. The most important aspect in the future commercialisation of the new service is the marketing and selling of competence. According to Borghini & Rinallo (2003, 1), during purchasing decisions, customers consider the supplier's resources and competencies to be more important than the product characteristics themselves.

The key of all commercialisation is communication. The decisions about the marketing and sales strategies are dependable on communication. Borghini & Rinallo (2003, 2) explain the concept of competence-based-communication (henceforth CBC) approach. This approach means that the companies should develop communication processes focused on communicating a set of resources and capabilities that can create added value for the customer. In other words, the communicating of competence can also be seen as marketing of competence. Marketing of competencies looks into tools and processes that firms can use to promote and sell competencies in business-to-business relationships (Gibbert, Golfetto & Zerbini 2006; cited in Golfetto & Gibbert 2006, 906).

The most important aspect of CBC, according to Borghini & Rinallo (2003, 13) is the role of sales personnel in business-to-business marketing communication and selling, whether it is through personal visits or presence at the exhibitions or trade shows. The direct communication with the service providing company is important in creating a successful and useful pre-purchase experience for the customer.

Additionally, in heavily scientific fields of business – like the case company operating in the contract services for pharmaceutical and medical industry – the scientific references and support increases the reliability and reputation of a supplier. A strong

scientific background and know-how is the most important proof of the supplier's scientific competence. (Borghini & Rinallo 2003, 14.)

As was mentioned above, in addition to the direct communication to the customer in the form of personal meetings, also trade shows and exhibitions are an important place for communication for companies. Borghini & Rinallo (2003, 1) use the term "experiential" tools for marketing activities that allow the customer to test and anticipate a supplier's services.

4 ANALYSIS OF THE TARGET MARKET

Biocatalysis, the planned new service of Pharmatory, will be described in this chapter, in order to clarify the advantages related to the use of biocatalysis. The advantages listed in this chapter are backing up the interest of Pharmatory to move towards this technique. The competitive environment is analysed, as well as the target market is defined. Finally, the market opportunity for Pharmatory in the field of biocatalysis is analysed.

In compliance with the case company's instructions, the findings and results of the analysis of the target market are regarded as confidential information. Deriving from this requirement, the findings and the analysis are written in Appendix 1, which is not published through the Library databases of Kemi-Tornio University of Applied Sciences.

5 PRODUCTISATION AND COMMERCIALISATION PLAN FOR BIOCATALYSIS SERVICE

In this chapter the background for this process is clarified. Additionally, the progress of the lead user method is presented up to date. The productisation and commercialisation plan for Pharmatory's new service is presented with suggestions on the service packages and pricing techniques, and finally an action plan regarding the commercialisation activities is introduced.

The full productisation and commercialisation plan is written out in Appendix 2.As the plan is regarded as confidential information it is not made public through the databases of Kemi-Tornio University of Applied Sciences.

6 CONCLUSIONS

The objective of the thesis was to introduce a productisation and commercialisation plan for Pharmatory Ltd.'s new service, biocatalysis. Biocatalysis is seen as a fast and environmentally friendly way of producing chemical compounds, enabling the synthesising of complex compounds with the help of enzymatic processes. Pharmatory wants to be among the first service providers in the market offering this service. In addition, the adoption of biocatalysis into the service portfolio of the company would give the possibility to enlarge the customer base. Moreover, the company is able to work with biocatalytic reactions with the existing equipment and reactors. Hence it would not require any specific investment on new equipment.

The chapters 4 Analysis of the Target Market and 5 Productisation and Commercialisation Plan for Biocatalysis, added as appendices 1 and 2 are regarded as confidential information. Therefore, the conclusions in this chapter are dealt in a rather general level. More detailed analysis about the results, discussion and suggestions can be found in the Appendices 1-3.

The method used for achieving the goal of this thesis were to analyse the market studies done for the case company and other documents related to biocatalysis, in order to find out whether there is demand for biocatalysis, and what the stage of competition is. Also, the lead user theory was used in order to first gain information about the needs of the customers, to outline the future service offering. Secondly, it was used to gain expertise in the field of biocatalysis to be able to adopt the usage of enzymatic reactions in the service portfolio of the case company.

As a result of the thesis, the market studies were analysed and an environmental analysis was carried out. The outcome of the analysis was that there is market opportunity, and that the company should initiate commercialisation of the service. The productisation and the commercialisation plan were made for the target market, Germany and the UK. However, as the market in Europe at the particular field of business is rather homogenous, the same plan can be utilised also when entering other markets within Europe.

As a result of the lead user method, the company started discussion with a customer to initiate a pilot project. The preliminary feedback was positive and it seems that the customer companies are in need of biocatalysis services and willing to try the technique, once they feel that the risk involved is no different from that related to the traditional ways of chemical manufacturing.

The addition of the new service product will allow the company to explore new business opportunities, increase profitability and competitiveness. The new service product enables Pharmatory to serve a wider range of customers. Moreover it ensures that the company would be among the first service providers to offer this kind of service to the clientele, as it is seen that biocatalysis is a futuristic way of manufacturing complex molecules, and the usage of it will increase in the future.

6.1 Limitations and Further Development

The limitation in completing this thesis was that the lead user method was not finalised by the time of finalising the thesis and therefore the final result for productisation is still in progress. For the same reason, the financial implications of the introduction of the new service were not calculated, e.g. the estimated market share or the evaluation of turnover generated by biocatalysis.

The future development will still revolve around the final form of the packaging and pricing of the service. This will be realised once the lead user method is finalised and the company is able to take advantage of the results gained throughout the internal development project.

As was mentioned earlier, the internal development project in collaboration with Finnish Funding Agency for Technology and Innovation will still continue in 2011. This will enable the company to improve the intra-company know-how of the new service and to ensure the expertise of the personnel.

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